PROCEEDING

1st AL-INSYIRAH INTERNATIONAL SCIENTIFIC CONFERENCE ON HEALTH

AISCH

November 24, 2018
Pangeran Hotel, Pekanbaru, Indonesia
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::: **Theme** :::

*Exploring the Responsibilities and
The Roles of Health Institution to Improve the Quality
Of Publich Health Through Multidisciplinary Approach
(Human High Risk in Stunting)*

PROCEEDING

1ˢᵗ AL-INSYIRAH PEKANBARU SCIENTIFIC CONFERENCE ON HEALTH (AISCH)

Thema : Exploring the responsibilities and the roles of health institution to improve the quality of public health through multidisciplinary approach (Human High risk in Stunting)

Conference committee 1st al-insyirah international scientific conference on health

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OPENING SPEECH

Assalamu'alaikum Wr.Wb.
Peace for all of us.

Thanksgiving is always delivered to Allah, the Almighty. The salutations and the best regards to our prophet Muhammad peace be upon him as rahmatan lil alamin……

Al Insyirah Pekanbaru School of Health Sciences always moves forward with every innovation and commitment in implementing tri dharma of higher education. Beside doing routine activities as educators, researchers and partners in community empowerment, civities of Al Insyirah Pekanbaru School of Health Sciences also create some innovations by doing scientific event such as seminar activities in both national and international scope.

In this occasion, the whole officials of Al-Insyirah are conveying the highest compliment to all of guests, keynote speakers, seminar participants and committee for the 1st Al-Insyirah International Scientific Conference on Health (Human High Risk In Stunting), the importance of giving in experience, knowledge and mechanism of problem solving to solve and prevent the defect of child, the child born incompatible with growth, and the child born with stunting, those become a threat for the development of nation.

Therefore, thank you for all the contribution of parties, to our God we hope for reward, and hopefully the activities we conducted will be the great contribution to develop science in various fields especially for the knowledge advancement in health.
Wassalam,
With all compliment,

Dr. Ns. Hj. Rifa Yanti, S.Kep, M.Biomed
Dean of Al-Insyirah School of Health Sciences

PREFACE

Praise to Allah the Almighty for all the grace and guidance that has been given to all of us, so Proceeding of the 1st Al-Insyirah International Science Conference Health (AISCH), on 24 November 2018 at the Pangeran Hotel Pekanbaru, can be realized. The Proceeding contains a number of research papers of Public Health, Nursing, Midwifery, Environment and Science that have submitted by many researchers, lecturers as well as practitioners in the relevant fields from various countries.

On this occasion the committee would like to express their grattitude to:
1. The Dean of Al-Insyirah School of Health Sciences, Dr. Hj. Ns. Rifa Yanti, S. Kep, M. Biomed, who has facilitated all the activities of the 1st AISCH 2018.
2. The Organizing Committee of 1st AISCH 2018, who have contributed their time, effort, and thoughts for the success of this activity.
3. The authors and presenters who have contributed and shared their excellent ideas.
4. And also to all sponsors that support this event.

Hopefully this Proceeding can give benefit for all of us, in particular, for the development of the science especially in health field.

At the end, the committee would like to apologize if there was inconvenience related to the event. Suggestions and constructive criticisms are expected for the improvement of the conferences and proceedings in the future.

Sincerely,

Riski Novera Yenita, SKM, MKL
Chairperson

CONTENT

PROGRAM

1ST AL INSYIRAH INTERNATIONAL SCIENTIFIC CONFERENCE ON HEALTH (AISCH)

November, 24th 2018 Pangeran Hotel, Pekanbaru, Indonesia

"Exploring the Responsibilities and The Roles of Health Institution to Improve the Quality Of Publich Health Through Multidisciplinary Approach (Human High Risk in Stunting)"

Date / Day	Venue	Time	Rundown	Information
November 24th 2018 / Saturday	Hotel Pangeran	07.30 am – 08.30 am	Registration	Committee
		08.30 am – 08.35 am	Greetings	MC
		08.35 am – 09.00 am	Opening Ceremony • Qur'an Recitation • Prayer Recitation • Singing the National Anthem "Indonesia Raya" • Traditional Dedication Dance	
		09.00 am – 09.30 am	Welcome Remarks	• The Dean of Al-Insyirah School of Health • The Advisor of Al-Insyirah Foundation
		09.30 am – 11.30 pm	Keynote Speeches : • Prof. Mei-Feng Lin, PhD,RN (National Cheng Kung University, Taiwan) • Prof. Dr. Hj. Mohd. Taib bin Hj. Dora (University College of Islam Melaka, Malaysia) • Prof. Noel Judson Chrisman (University of Washington, USA) • Dr. dr. Dedi Affandi, DFM, Sp.F (University of Riau, Indonesia) Question and Answer Session	Keynote Speakers; Moderator
		11.30 am – 12.00 pm	- Souvenir Submission - Taking Pictures	Committee
		12.00 pm – 01.00 pm	Break	
		01.00 pm – 03.00 pm	Oral Presentation	Committee
		03.00 pm – 03.15 pm	Coffee Break	
		03.15 pm – 04.15 pm	Poster Session	Committee
		04.15 pm – 04.30 pm	Award Announcement of Poster and Oral Presentation	Committee
		04.30 pm – 05.00 pm	Closing Ceremony	Committee

Keynote Speaker & Plenary Session Summaries

City Volunteers, Public Health Nurses and Pscychiatric Nurses Work Together to Reduce Suicide Rate

Prof. Mei-Feng Lin, Ph.D, RN
Departement of Nursing,
College of Medicine, National Cheng Kung University

Abstract

The crisis level in the worldwide suicide rate has revealed a severe suicide problem in Taiwan that is now well above the world average of 16 per 100 000 individuals. Many countries have relied on suicide care volunteers training programmes to conduct suicide prevention programmes. However, there is a dearth of research evaluating the effect of volunteers on psychological distress and the impact of volunteer experience level. An evaluation of the impact of experienced and novice volunteers in alleviating psychological distress of suicide survivors was conducted. A supervised programme trained 15 volunteers at Years 1 and 2. Year 1 volunteers completed 400 h of service with continuing education. Programme evaluation occurred after Year 2 volunteers had completed training. Eighty-two suicide survivors were recruited. With 60 suicide survivors completing 3 month of volunteer care, a significant group difference with time interaction in suicide survivors who exhibited moderate to severe distress between the veteran care and novice care groups was found. Compared with novice volunteers, veteran volunteers with at least 1 year of experience are more effective with suicide survivors reporting higher psychological distress.

CURRICULUM VITAE

Prof. Mei-Feng Lin, Ph.D, RN
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Position/ education
Professor/PhD., Guidance and Counseling Department, Changhua University of Education.
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Major
Oncology care, Chronic Illness Care, Psychosocial Intervention, Music therapy, Health communication studies, Group psychotherapy

Education

School	Degree	Year	Field
School of Nursing, University of Washington, Seattle, USA	Fulbright Fellow	2015	Family-Child Nursing
School of Nursing, University of Washington, Seattle, USA	Visiting Scholar	2006	Family-Child Nursing
Guidance and Counseling Department, Education College, National Changhua University of Education, Taiwan.	PhD	2001	Doctor of Philosophy
National Taiwan University	MSN	1992	Psychiatric Nursing
National Taiwan University	BSN	1988	Nursing

Professional Experiences

2017.8- present	Professor	Department of Nursing, Medical college, National Cheng Kung University, Tainan, Taiwan, R.O.C.
2017.8- present	Professor	Institute of Allied Health Sciences, Medical college, National Cheng Kung University, Tainan, Taiwan, R.O.C.
2013.2-2017.7	Associate Professor	Institute of Allied Health Sciences, Medical college, National Cheng Kung University, Tainan, Taiwan, R.O.C.
2009.8-2017.7	Associate Professor	Department of Nursing, Medical college, National Cheng Kung University, Tainan, Taiwan, R.O.C.
2005-present	Staff Development Supervisor	Cheng Kung University Hospital, Tainan, Taiwan, R.O.C
2001-2009	Assistant Professor	Department of Nursing, Medical college, National Cheng Kung University, Tainan, Taiwan, R.O.C.
1992-2005	Staff Development Head Nurse	Cheng Kung University Hospital, Tainan, Taiwan, R.O.C.
1992-2001	Lecturer	Department of Nursing, Medical College, National Cheng Kung University, Tainan, Taiwan, R.O.C.
1990-1992	Research Assistant	"Family function of schizophrenia in Taiwan", Grant of National Science Council, Principle Investigator: S. J. Shiao; School of Nursing, National Taiwan University, R.O.C.

1988-1990	Staff Nurse	Neurosurgical & Psychiatric Ward, Veteran General Hospital, Taipei, Taiwan, R.O.C.

Awards

1. Senior Fulbright Grant, 2014-2015
2. Research Award, Psychiatric Mental Health Nurses' Association Republic of China, 2014
3. Senior Nurse Award, The Nurses' Association of Tainan City, Taiwan, 2013
4. Innovative Teaching Outcomes/ Projects Innovative Teaching: Team Work, College of Medicine, NCKU, 2009, 2012
5. Nursing Research Excellence Award, The National Union of Nurses Associations, R.O.C., 2012
6. Teaching Excellence Award, NCKU, 2009
7. Mentor Excellence Award, NCKU, 2009
8. Mentor Excellence Award, College of Medicine, NCKU, 2008
9. Minster of Health, Grant for Clinical Research, 2006

STUNTING IN GLOBAL PERSPECTIVE: FACTORS AND RECOMMENDATIONS

Prof. Datuk Dr. Haji Mohd Taib Dora
Faliza Erylina Rameli
Farrah Wahida Mustafar
Mohd Shafiq Mohd Maidin
Kolej Universiti Islam Melaka

Abstract

Incidence of human stunting have an impact on health and nation development. Human stunting events have an impact on the health and productivity of the country. It gained global attention including World Health Organization (WHO) and this issue is discussed in the World Health Assembly (WHA) 2012 in Geneva. WHO reported that 254.8 million children under 5 years of age suffered from stunting and by looking the statistic from 2013, case of human stunting globally was 161 million. It shows some improvement but the its movement is slow whereas WHA targeting that this stunting issue will be reduce to 100 million in 2025. This number is quite alarming furthermore in 2013, half of the 161 million children who suffer from stunting, is made up of children who live in Asia. Stunting causing a long term effects including diminished cognitive and physical development, reduced productive capacity and elevate the risk of having non communicable diseases such as diabetes. Some of the key points that need to be addressed in preventing this from continuing as well as to achieve the WHA goals namely nutrition, socioeconomic and educational levels. These three things require entities that become a strong driving force and a high level of readiness among the community itself as it involves modifications in lifestyle practices and customs. Since almost half the number of stunting events occur in Asia and Asia is known for its diversity races and custom. In order to make sure that the measures and roles in handling this incident, we can see the actions of countries that have managed to reduce the number of stunting like Japan, Brazil and Peru.

Keywords: Children stunting, health, education & socioeconomic.

INTRODUCTION

Stunting prevalence has gained global attention. This situation has also become as the best overall children's well-being gauge and as the reflection of the socioeconomic status. In World Health Assembly (WHA) that took place in 2012 at Geneva, they has been discussed and reiterated about the issues of women's and children's health. As a result, they endorsed a Comprehensive implementation plan on maternal, infant and young child nutrition, which specified six global nutrition targets for 2025 with the principal target to reduce the number of children under-5 who are stunted to 40% globally. WHO (2018) defined stunting as a children with height for-age is more than two standard deviation below WHO Child Growth Standards median. And in the same general article by WHO as well, it was highlighted that stunting is the impaired growth and development that children experience from poor nutrition, repeated infection, and inadequate psychosocial stimulation. Most articles reviews, generally stated and discussed about the major factors that lead to stunting such as environment, socioeconomic, nutrition, healthcare and cultural practices.

According to Shazaeffa, (2015), community health is one of the key issues that needs to be emphasized as an effort to empower the nation's development as a good level of community health can contribute to the country's economic, social and political development. In addition to that, community is an agent of change and development for a country and the level of health and factors affecting health is very important. Among the factors that affect a person's health is the health of the inherited at birth, genetic factors and the level of access to health services, as well as socio-economic factors. Meanwhile, Rahimah and Mohamed Yusuf (2002) said that the level of community life has improved significantly as a result of a positive economic growth rate. The increase in socio-economic indicators such as per capita income, health, education, social welfare and housing.

In addition, based from World Bank collection, (2006), stunting can cause a child to lose and IQ of 5 -11 points and will turns to weak cognitive abilities and IQ scores assumed by learning ability and achievement in school. Mattorell, (2010) was defined that a weak cognitive ability will have an massive impact on achievement in school and low productivity at later stages of life.

In this respective paper, the discussion is focus more on socio economic and culture, education and healthcare approach in order to explore the contribution of health institution to improve public health specifically in human stunting issue.

HEALTHCARE

Stunting among children is sometimes difficult to identify. This is because the size of the child is small compared to adults and if the growth and development of children are not monitored as a whole, stunting will be considered as common and genetic. The actual human stunting affects the individual in particular and society in general because stunting reduced growth rate in human development. Apparently stunting is a manifestation of under nutrition and low level of healthcare status. According to Onis and Branca (2016), growth faltering often begins in utero and continues for at least 2 years of post-natal life. The early years of life are very important in the growth and development of children. Even the health and lifestyle of mothers during pregnancy also affects the development and growth of the baby in the womb. According to the report of The State of The World's Children (2013), stunting has long-term effects on individuals and societies, including: diminished cognitive and physical development, reduced productive capacity and poor health, and an increased

risk of degenerative diseases such as diabetes. Stunting conditions will limit the development of important internal organs such as the brain and the lungs. Indirectly, this situation will lead to the impaired organ function and lead to complications including in terms of physical appearance of the child. Related with the above statement and as referred to Black et al (2013), conversely, stunted children who experience rapid weight gain after the age of 2 years have an increased risk of becoming overweight or obese later in life. Such weight gain is also associated with a higher risk of coronary heart disease, stroke, hypertension and type 2 diabetes. In addition, the condition of stunting that occurs among children will affect their future development. The level of productivity of a country will be affected by the implications of human stunting. Onis and Branca (2016), also stated that stunting is a scourge that has early beginning and far-reaching consequences. Of the world's 161 million stunted children in 2013 about half lived in Asia and over one-third in Africa. Stunting's impact on neurocognitive function has devastating consequences. Stunted children have stunted brains and live stunted lives, hampering the development of entire societies. A report released by WHO in Reducing Stunting Children (2016), stated globally in 2016, 22.9% or 154.8 million children under 5 years of age suffered from child stunting. Therefore, further investment and action are necessary to the 2025 WHA target of reducing that number to 100 million. As we can see from the comparison, from 2013, the number of children with stunting decreased from 161 million to 154 million. But this development is not progressive.

Generally nutritional factors play an important role in influencing this stunting condition. Apart from that, an infection that occurs as a result of the imperfections of the environment also causes stunted growth of a child. When mentioning the environment,

indirectly socio-economic factors are also involved. According to American Psychological Association (2018), socioeconomic status is the social standing or class of an individual or group. It is often measured as a combination of education, income and occupation.

As mentioned before, the disorders associated with this stunting usually occur from within the womb until the child is two years old. Therefore, poor maternal health and nutrition before, during and after pregnancy are the issues that need to be emphasized seriously. Beal et al (2018) revealed that under household and family factors, the WHO framework includes the sub elements maternal factors and home environment. There are eight identified maternal factors: poor nutrition during preconception, pregnancy, and lactation; short maternal statue; infection; adolescent pregnancy; mental health; intrauterine growth restriction (IUGR) and preterm birth; short birth spacing; and hypertension. Of these, poor nutrition during preconception, pregnancy and lactation; short maternal stature; IUGR and preterm birth; and adolescent pregnancy have been demonstrated to be associated with child stunting in Indonesia.

Another issue that related to nutrition is inadequate infant and young child feeding practice. Refers to Beal et al (2018), inadequate feeding practices includes infrequent feeding, inadequate feeding during and after illness, thin food inconsistency, feeding insufficient quantities and non-responsive feeding. This element includes breastfeeding and WHO framework includes delayed initiation of breastfeeding, nonexclusive breastfeeding, and early cessation of breastfeeding. While under clinical and subclinical infection, WHO framework includes enteric infection, respiratory infections, malaria, reduced appetite due to infection and inflammation. However, only respiratory infections and one type of enteric infection

which is diarrheal disease were found to be associated with child stunting.

When it comes to measures to help the problem of stunting among children, the government plays an important roles. This stunting issue has already received WHO's attention and main conference has been held to discuss these things. Few important goals set up with the strategies which been disseminated through media to every health institutions in every part of the world. Health institutions are usually controlled by governments.

The WHO has also outlined several measures to help the problem such as improving optimal breastfeeding practices to ensure a child's healthy growth and development. As refers to WHO (2018), The Baby-friendly Hospital Initiative (BFHI) was launched by WHO and UNICEF in 1991, following the Innocenti Declaration of 1990. This initiative is a global effort to implement practices that protect, promote and support breastfeeding. Since its launching, BFHI has grown, with more than 152 countries around the world implementing the initiative. In 1995, first BFHI has been launched in Malaysia and all hospitals in the Ministry of Health have been declared Baby Friendly status in 1997. The main goals for BFHI are to empower women to make right choices on feeding their babies and to create conducive conditions in hospital and thereafter for women who wish to breastfeed. The Ministry of Health of Malaysia has also set 10 steps that must be followed by hospitals recognized as BFHI to ensure that the goals can be achieved effectively. The ministry of health will help mothers who are breast-feeding in terms of health and practical advice so that the high quality breast milk will be produced and also an effective way of giving milk to the babies. Indirectly babies will consume a good balanced nutrition in the early period of life.

In Malaysia, the monitoring of children's health is done start from the mother's womb. Ministry of Health has set up a Maternal Health unit since 1964 and also known as Unit Maternal and Child Health. The Unit providing services for mother within reproductive age which are focuses on prenatal care, pregnant mother, birth and post natal care. This service is available in all the facilities of the Ministry of Health at the Health Clinic, Mother and Child Health Clinic and the rural clinic. The target group under the Maternal Unit service is not only among women in reproductive age and babies but also to the female partner. Health screening will take place as early as the couples who plan to marry until the couple gave birth to a baby. Even the health screening will continue until the child goes to school. The responsibility of health team in this unit are to take care in the prevention, early diagnosis and treatment of any complications, provide health support, advice and counselling to the mother and the implementation of child immunization. This is included the advice regarding the nutrition to the mother and child. Therefore, any changes that occur in child growth will be identified and appropriate action can be taken. In addressing such health issues, the health ministry also regularly conducts health campaigns and identifies customary and cultural practices of society to adapt the recommended healthy lifestyle practices. Besides that, the government also assessing the affordability of the hygiene tools and nutrition among the society and will channel the relevant assistance according to the needs of community such as free immunization and the government policy is mandatory for every individual born in Malaysia.

SOCIOECONOMIC AND CULTURE

The level of social welfare for the community can be identified based on the aspect of reducing poverty and infant mortality, increasing life span of the population, literacy rate, the net enrolment ratio, health and economy. Good health level can guarantee the quality of life of the

community, thus contributing to the country's growth. Abdul Manaf, Zurinah dan Hamidi (2002) defined the quality of life as the environment (nutrition, housing conditions, health facilities, sewerage and others) that affect life. Country development is not merely depend on economic factors alone but the quality of life of the society as well play an important role.

Rahimah (2001) revealed that according to international benchmark, Malaysians are able to meet their basic needs such as shelter, food and clothing as compared to some of the countries which are located on the African continent. The development of developing countries, especially in terms of eliminating poverty is considered as the most important and urgent socio-economic challenges that faced by human. Meanwhile Mohd, Risalshah dan Wan (2011) were said that street children who mostly come from poor families and some homeless are said to be due to political, economic, social, educational and health factors. Political factors contributed to the turbulence of wars and the process of urbanization that implicated the existence of street children. While economic inequality of the country has also made the child as street labourer to help increase their family income and indirectly lead them to become a street children. Furthermore, the unstable family institution also is a contributing factors as this phenomenon will encourage the children to seek a safer life outside and of course will increase the number of street children. These things will indirectly expose the children to an unhealthy and neglected environment which will enhance social and health problems.

Shamzaeffa (2015) stated that, in terms of economy, health determination is known as 'health demand' which depends on various factors including socioeconomic, lifestyle and nutrition factors as well as the use of health care goods or services. Good socioeconomic

levels can ensure the community to have an access to healthy food sources that can prevent complications on health and quality of life. According to Nor Aini & Chamhuri (2003), poverty issue can cause a person to remain in the circle of not being able to dominate the environment, especially in the convenience and economic opportunities. Material poverty affects the poor of attitude, perception, motivation and aspiration of the individual. Norhasmah (2013) also says that Poverty is the most important factor that can lead to scarcity of resources for basic needs, such as food, basic education, health, clothing, housing, clean water and social life. Shamzeefa (2015) also mentioned high-income groups are said to have high access to health services and are able to provide better diet to their children. Pradeep, Nirmalya dan Amol (2013) are also saying that fathers with low incomes and related factors such as the level of education and type of work are very important in determining the issue of stunting. As the head of the family, the education of the father becomes very important in determining the nutritional intake and disease prevention. This study clearly show that poor unemployment parents with low education can give impact and a negative influence on the social development of children. Norhasmah (2013) stated that the negative implications of no guarantee of food availability among children could be divided into three main effects which are to health, psychosocial and behaviour, as well as academic and learning. The health of children with no guarantee of healthy eating is more risky than children who have no problem getting food.

Besides the issue of difficulty getting healthy food, Noor Aini, (2018), have said that, generally, the poor tend to have many children as a source of cheap labour and to guarantee their future life. The number of family members of the poor is aimed at releasing themselves from the shackles of poverty in the future. Indirectly, the large

number of family members contributed to greater population growth, high dependency burden, low savings, investment shortages, slower economic growth and eventually creating a widespread poverty problem due to huge spending. Noor Aini (2018) also has suggested that population growth can be control by creating a systematic family planning program to enable large-sized families to use safe and inexpensive tools to reduce the size of the family. Therefore, the most influential organization in developing this system is the government. As mentioned by Lifang et al (2015), the government should formulate policies in controlling population growth and improving the level of education knowledge. Here we can see clearly that the poverty factor has an impact on stunting issues in terms of difficulty in achieving access to nutrition and education levels and perfect healthcare facilities.

The theory of vicious circle of poverty can often be translated into a poverty-stricken community that has formed or inherited the 'poor soul'. It has indirectly created a self-capacity development. This can happen in large scale that starts with communities, villages, districts, states and countries, which can affect the country's economy. Delay in overcome this problem, it can infect and affect other aspects of life and require more allocation of resources overcome it (Asnarulkhadi, 2013). Indirectly, this circle of poverty lead to the ignorance of knowledge that affects society and the nation. This imbalance will encourage the incremental stunting issue among children who will replace our future role in the future. The problem of poverty can cause housing problems that often cause homelessness, living in dirty areas, sanitation problems and so on. Hence, limited socialization, low aspiration leads to low education due to lack of motivation and encouragement to improve the well-being and quality of life. Ungku (1965)

explains the relationship between protein and poverty as a mutually affecting effect. His research finds that malnutrition is associated with high levels of poverty. Anthropometric measurements indicate that there is a high rate of retarded growth among pre-school children.

Studies on socioeconomics, social behaviour and eating habits of Orang Asli show that over 50% of Orang Asli take tapioca (ubi kayu) at least once a week. Compared to the Malays, Orang Asli took less fat content (Osman, Zarina & Khalid 1991). In a comparative study of nutritional status between Malays and Orang Asli there was a high nutritional problem among Orang Asli compared with the Malays. Prevalence of stunting among Orang Asli is between 66-80% (by area) and very significant among Orang Asli living in urban areas (Osman 1992; Osman & Zaleha 1995). Nutrition practices are often influenced by family economic factors. Thus, the type of food selection and family lifestyle are taken into account. According to Indah et al. (2014) found that foods often taken by some Indonesians are the main foods such as nasi pecel, rames, meatballs and chicken noodles. For snacks, cakes, onde-onde, fried bananas and others, while in terms of drink, they like to consume cendol, ice cream, ice tea, fruit juices and fresh fruits. The government of Indonesia is also carrying out a nutrition-building program and provides exposure on the importance of breakfast, bringing home-cooked food, healthy snack selection and sanitation. Unbalance nutrients, especially from the aspect of mineral and vitamin content, can also be a major contributor to human stunting among children.

Between the birth cohorts of the 1880s and 1980s, the average height of Japanese adult men increased by 13.9 cm (Baten and Blum, 2012). And according to Schneider (2017), the average WHO height-for-age Z-score of Japanese six year olds in the period 1929-39 was -2.0, suggesting a stunting rate of around 50 per

cent whereas the average in 2016 was -0.46 with a much lower stunting rate. In the late nineteenth century, Japanese men were shorter than their other East Asian counterparts and 10 cm shorter than men in the UK. However, there was a strong secular increase in height in Japan so that men born in 1980 were nearly 14 cm taller than those born in 1880. In the same study, they revealed that reductions in child morbidity were important for increasing stature during the interwar period in Japan. They also have tentative evidence that the expansion of clean water and other health infrastructure could improve child health.

EDUCATION

Jodith and Stand, (1996) in her research in the Phillipines showed that Mother's education affects the incidence of wasting and stunting. Maternal education is a determinant of stunting events in Asia especially in Indonesia and Bangladesh. Some research from researchers showed mothers do not finish primary school has greater chance of having stunting children compared with mothers whose education graduated from elementary school and above. Other earlier researchers such as Ramli et al. (2009) who said that the level of formal education and mother's nutirional knowledge significantly influence the chance of stunting and maternal education is positively associated with a better nutritional status of children. Maternal education will influence knowledge of child health and nutrition practices so that children are in a good nutritional status. Hadad and Smith,(2000) said children with highest chronic malnutrition occurred in illiterate mothers. The study was conducted in 63 developing countries for over 25 years to identify the determinants of chronic malnutrition. Of the six factors that cause one of them is mother education.

Futhermore, the prevalence of working mother who has a fixed income has a toddler stunting of 42.5 percent of healthy children. Working parents will affect family income and adequate income will support the development of children because parents can meet all the needs of primary and secondary children. Mulyona, (2000) identified in infants indicating a significant relationship between maternal work with nutritional status ini which working mothers have small children more in comparison with mothers who are not working. Proper nutritional fulfilment is also influenced by the economic status of the family and this scenario shown that proper education especially family education and jobs background as a determinant of stunting.

Meanwhile, President of Indonesia is declaring war on the issue and commiting to boost its response to the challenge following a World Bank publication that says percent of Indonesia's children were stunted in 2013, a rate on par with some far more impoverished nations. Thus, health and education ministry have been battling to address the problem for years and Jokowi Widodo has now elevated the issue to be a national priority. The connection and access stucked as there is a lot of district in Indonesia could not get enough information regarding stunting. The poorest parts especially schools suffered the highest rates of stunting, even among the richest proportion of Indonesians stunting is as high as 29 percent.

Dr. Brian Sriprahastuti, a senior advisor to the office of the President of Indonesia on the issue of stunting, said the reasons for Indonesia's stunting problem today go beyond the traditional factors of poverty and limited access to education and public services.

Environmental factors likes hygiene and sanitation awareness also contribute to stunting. Children unsanitary environments are at greater risk of exposure to germs and intestinal parasites, which disrupt nutrient absorption and weaken the immune system. The students could not get an enough approachment regarding hygiene and sanitation at schools. They were in a

risk condition that may turns to stunting as they were not well-knowledge about this matter. The school also does not play a full role in providing awareness especially this poor approachment happened at poorest area.

For a variety of reasons, stunting is associated with lower school achievement. Recent studies have found that stunted children are more likely to begin school later than non-stunted children, possibly because stunted children seem less mature. This kind of children will do not perform as well at school because they have greater difficulty concerntrating and develop behavior problems more often. They also tend to have comparatively lower test scores. Hence, since stunted children are particularly susceptible to illness, they are more likely to be absent from school.

In Malaysia, governments have a responsibility to take all available measures to make sure children's rights and welfare are respected, protected and fullfiled. An integrated and comprehensive Children Wellbeing and Welfare Roadmap was drawn up to address various solution including stateless children and healthcare awareness. This roadmap was created due to some on-going initiatives and proper coordination is needed as the plans are fragmented. Malaysia government had to change the practise of providing welfare to one that provides sustainable aid for the people. Therefore, its directly showed that the government of Malaysia is focusing about children healthcare and life awareness.

RECOMMENDATION

This issue of human stunting was taken into account by WHO. Meaning that, this issue has been viewed globally. Few strategies was disseminated from WHO to every part of the world in order to manage this issue because it will bring a negative impact to the nation. Here we can see that the government plays a very important role in bringing and expanding strategies shared by WHO. The government needs to take a more robust step to ensure that all levels of society receive the benefits of action. Research needs to be done to identify weaknesses and strengths in implementing strategies in addressing this human stunting issues. Not only that, the government should look at the appropriate approach to be used to ensure that the goals can be achieved. Perhaps we can see the actions or strategies used by developed countries to reduce the incidence of stunting human, such as Japan and might be Brazil. As refer to You et al (2010) in the last three decades, Brazil has made significant progress in socioeconomic development, with marked improvements in the living conditions and health status of its population, including a substantial decline in child under nutrition. Brazil's success was also driven by political leadership, effective decentralization, active civil society involvement and conditional and targeted funding. Not only has the Government of Brazil demonstrated strong political will to combat malnutrition, it has also invested strategically in policies and programmes to improve access to social services. You et al also reported that in Peru, under the Prime Minister's leadership, the strategy was implemented at national, regional and district levels and involved various sectors including health, education, water and sanitation, housing, agriculture and nongovernmental partners. Stunting among children aged under 5 years dropped from 22.9% in 2005 to 17.9% in 2010. This explains the role of the most influential party, the government is very important in addressing this issue.

Apart from that, the government should also identify effective measures appropriate to the environment and local community life practice. This may be related to lifestyle practices, belief in customs, culture and religion in the community itself. As according to Dewey & Adu-Afarwuah (2008), as the stunting results from several household, environmental, socioeconomic and cultural

factors, reduction of stunting requires that direct nutrition interventions are integrated and implemented in tandem with nutrition-sensitive interventions. For example, prevention of infections requires household practices such as hand-washing with soap, the success of which depends on behaviour change to adopt the practice (culture), the availability of safe water (water supply), and the affordability of soap (socioeconomic status). Clearly here, there are interventions that require the effort to implement a healthy lifestyle practice in the customs and beliefs of a community in society.

Nutritional modification should also be emphasized as the issue of nutrition is the main factor in the stunting human. Ijarotimi & Ogunsemore (2006), nutrition education of mothers is necessary to improve the quality of the diet during the process of gradually introducing foods to the infant and can be incorporated into primary health-care programmes. Taking into account differences in socioeconomic status such as educational level and income group, health workers and nutritionists can educate mothers about the importance of breastfeeding, quality complementary food items and good hygiene when preparing the young child's food.

Apart from the role of the government, the level of community readiness also needs to be identified to determine their understanding and awareness on this human stunting issue. Onis & Branca, (2016) was stated in their article that stunting often goes unrecognized in communities where short stature is the norm. Therefore, it is important to convey information pertaining to the community about the occurrence of human stunting. They need to be aware about the implication on health and productivity due to the condition of human stunting. Whenever the community has an awareness of this issue, their level of readiness will increase as well and this absolutely can facilitate the delivery of

information and action to prevent stunting. It is very clear here that, the important role that the government need to carry out and the level of community readiness in preventing and managing this human stunting issue.

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CURRICULUM VITAE

Mohd. Taib bin Hj. Dora, was born in Tanjung Bidara Village, Melaka. He received bachelor degree (B.A), master degree (M.A), and doctor of philosophy (PhD) in Urban Sociology from University of Malaya. He is a professor in the field of *Sociology* and *Human Development* in Universiti Teknikal Malaysia Melaka. Currently, he is Vice-Chancellor of University College of Islam Melaka since 2015. Previously, he worked as Chairman of Chinese-Malay Studies, Beijing Foreign Studies University, China. He was also Deputy Head of Cluster, Cluster of Social Development and Wellbeing, National Council of Professors (MPN). He was appointed as Research Fellow at Kyoto University, Japan (1999) and visiting Professor at Beijing Foreign Studies University, Beijing, China (2011). He has extensive experience in teaching and learning from Diploma level to Post graduate level. Significant contribution in university management as Head of Human Resources Development Department, Operation Manager of Centre for Technology and Policies for International Studies, Dean of Faculty of Management and Human Resource Development at UTM (2000-2004), Dean of Institute of Postgraduate Studies, UTeM (2004-2007) and Dean of the Language Center and Human Development (2007-2011) at UteM. He is also productive in the field of research and consultation at various levels, agencies, and ministries.

He is also productive in writing and presenting papers at national and international levels. Currently, he had produced 12 original books, more than 25 journal articles and 87 proceedings at national and international levels. His original masterpiece entitled *Kecermalangan Kerja Berpasukan /The Work Team Excellence* (2015), *Idea Perniagaan Mikro/ Micro Business Ideas* (2013), *Jejambat Sutera/ Silk Gliding* (2014), *Eksplorasi Pengajian Melayu China/ Exploration of Chinese Malay Studies* (2014) and Achieving Professor's Proficiency Professor (2013). He is also Chief Editor of Journal of Human Capital Development (JHCD), published by UTeM Publisher (2008 to present) and Chairman of The University Publishing Committee in Social Science.
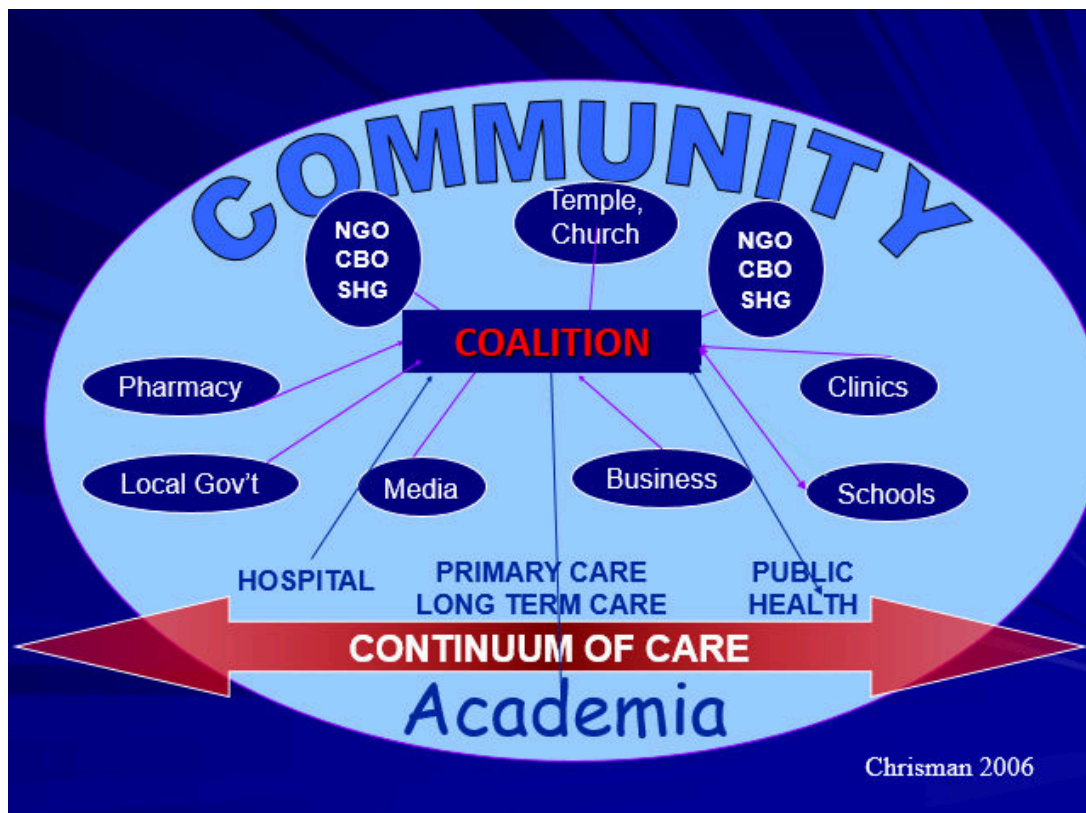
I. Types of Partnerships

Chrisman et al. 2002

Organization	Definition	Structure
Types of PARTNERSHIPS	Agencies possess equal power over decision making.	Can include any of the structures below.
Network	Loose linkages among organizations. Effective for sharing information.	Perhaps an initial step toward other structures.
Coalition or Advisory Board	Diverse organizations that work together to achieve a common goal.	Greater organizational strength and longevity.
Collaborative	A coalition that extends its work to multiple goals.	A well organized, differentiated structure with great longevity.

Wellness and Spirituality: Encouraging Pap Smears Among Women of the Yakama Indian Nation

Noel J. Chrisman, PhD, MPH
School of Nursing, University of Washington

C. June Strickland, PhD, RN
School of Nursing, University of Washington
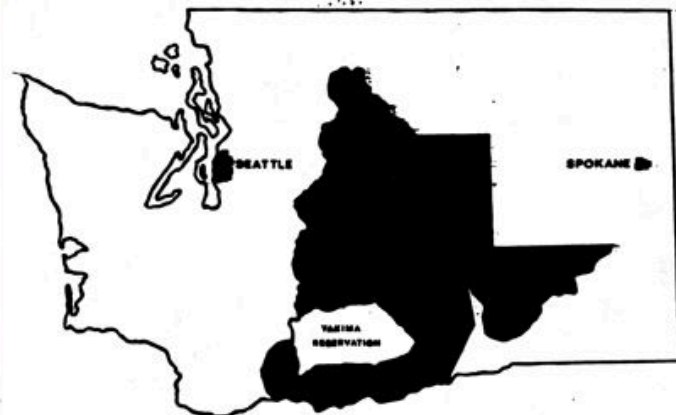
That part of the original territory of the Yakimas which they ceded away to the Federal Government by Treaty in 1855, now constitutes 25.4% of the State of Washington.

Participatory Action Research

"Action research is a joint effort between the researchers and community people, a collaborative effort; it involves the integration of research, participation, and political actions. Action research builds capacity and gives community residents access to information and the opportunity to identify information needed for local decision-making and social change, thus contributing to community empowerment." Flynn et al., 1994

Clinic Cancer Committee

- *Community Health Professionals*
- *Lay Employees*
- *Community Members responding to advertising*

Outcomes

- *Community Wide Planning*
- *Wellness and Total Community Interventions*
- *Changes in Clinic Policy and Structure*
- *Community Education*
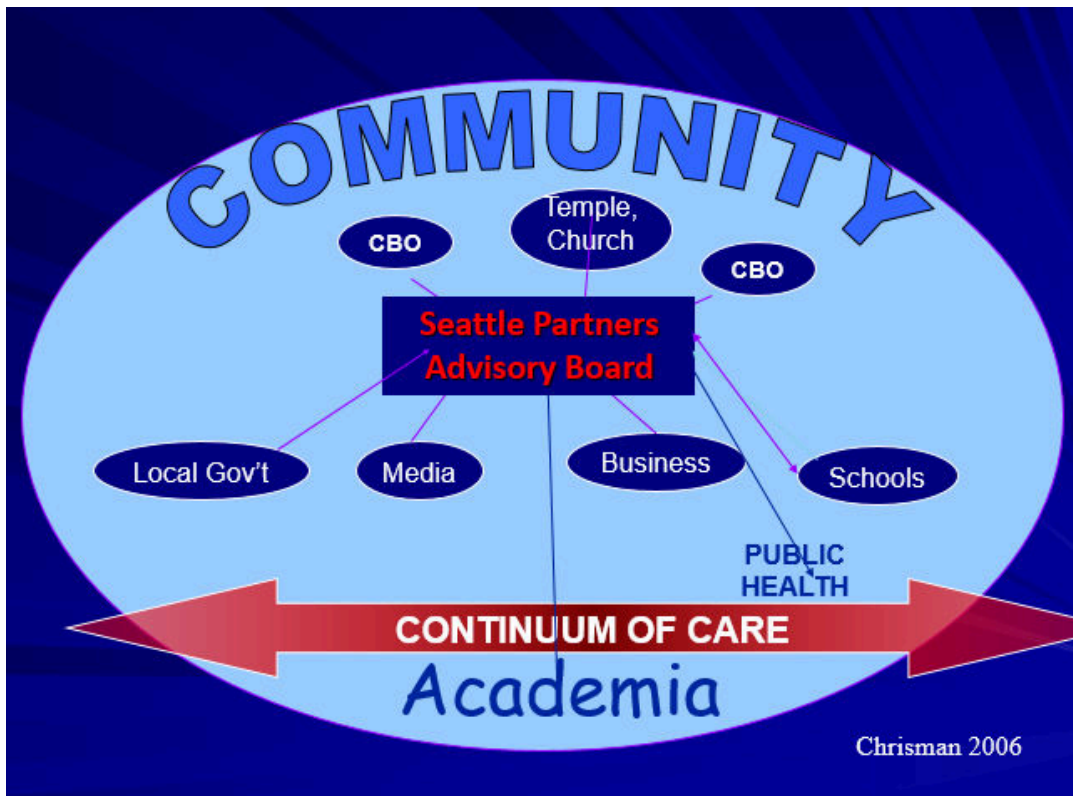
REACH

Racial and Ethnic Approaches to Community Health

1999-2007

Funded by the Centers for Disease Control and Prevention Grant # U50/CCU022163-03

Key Principles of Community-Based Participatory Research

- Collaborative Partnership
- Community takes the lead
- Work with assets not deficits
- Community members as active participants
- Knowledge, skills, capacity, and power are shared.

Israel et al., 2000

Chrisman 2006

CURRICULUM VITAE

Noel Chrisman, Ph.D, MPH

Professor Emeritus
President, Board of Directors, Pike Market Senior Center
Adjunct Professor, Department of Health Services, UW School of Public Health
Adjunct Professor, Department of Anthropology
Adjunct Professor, Department of Family Medicine, UW School of Medicine

My work focuses on research, education, and practice related to anthropological and public health approaches to culture and community. I lecture and consult on community participatory practice for health promotion among multicultural populations in the U.S. and in Asia (Thailand, Japan, and Taiwan). In addition, I work nationally and internationally to develop and teach the knowledge, attitudes, and skills required for appropriate cross cultural care of patients and families (e.g., Transcultural Nursing).

Teaching classes
Partnerships in Community Health; Advanced Practice in Community Health Systems Nursing; Clinically Applied Anthropology; Transcultural Nursing Practice; Program Planning and Health Systems in Multicultural Communities

Interest fields
Innovative and community oriented research, education, and practice.

Department
Psychosocial and Community Health

Research Areas
1. Health Equity
2. Lifespan Health
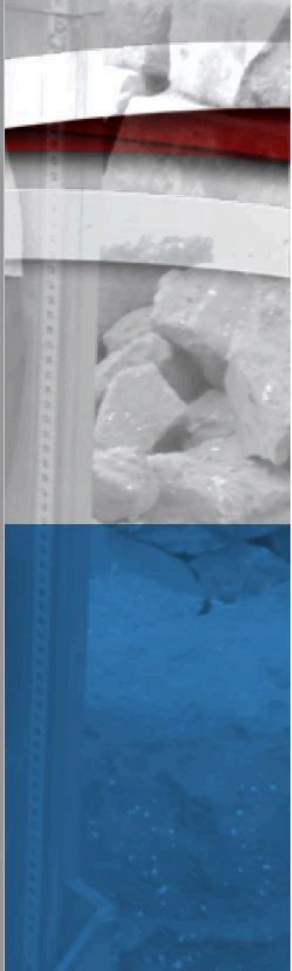
Publications
See PubMed list (leaving the School of Nursing web site)

1. **Chrisman NJ**. (2007). Extending cultural competence through systems change: academic, hospital, and community partnerships. Journal Of Transcultural Nursing : Official Journal Of The Transcultural Nursing Society, 18:68S-76S; discussion 77S-85S

2. **Chrisman NJ**, Senturia K, Tang G, Gheisar B. (2002). Qualitative process evaluation of urban community work: a preliminary view. Health Education & Behavior : The Official Publication Of The Society For Public Health Education, 29:232-48

3. Chen R, Carrillo M, Kapp J, Cheadle A, Angulo A, **Chrisman N**, Rubio R. (2011). Partnering with REACH to create a "diabetes-friendly" restaurant: a restaurant owner's experience. Progress In Community Health Partnerships : Research, Education, And Action, 5:307-12

Health and Human Right, Medicolegal Aspect of Stunting: Indonesian Perspective

Reducing health inequalities and leaving no one behind is part of the Sustainable Development Goals and the 2030 Agenda for Sustainable Development

Objectives

1. it aims to underscore the relevance of **social determinants**, **health equity**, **gender** and **human rights in malnutrition**, and the need to further advocate for their inclusion in nutrition actions at global, regional and national scales.

2. it aims to provide policy-makers and program and project managers with practical and useful examples of evidence on nutrition interventions that face and address **inequalities in nutrition**.

What is child stunting ?

Stunting is measured by a height-for-age z-score of more than 2 standard deviations below the World Health Organization (WHO) Child Growth Standards median, showing a restriction of a child's potential growth

Fig. 1. Age-standardized prevalence (%) of stunting in children under 5 years of age, comparable estimates, latest prevalence available
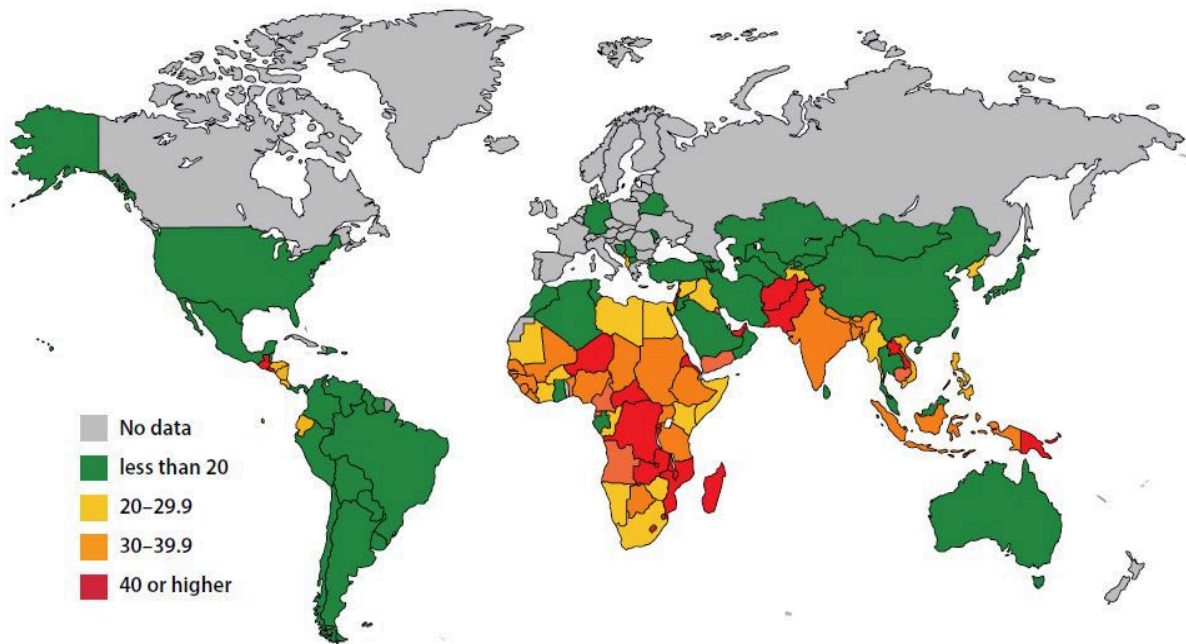
No data
less than 20
20–29.9
30–39.9
40 or higher

Magnitude of Problems

1. Globally in 2016, 22.9% or 154.8 million children under 5 years of age suffered from child stunting, defined by a low height-for-age.

2. In 2016, 87 million stunted children lived in Asia, 59 million in Africa and 6 million in the Latin American and Caribbean regions

3. Five subregions have child stunting rates that exceed 30%:

    a. western Africa (31.4%),

    b. middle Africa (32.5%),

    c. eastern Africa (36.7%), southern Asia (34.1%) and Oceania (38.3%; excluding Australia and New Zealand

Trends of stunting prevalence in Southeast Asia
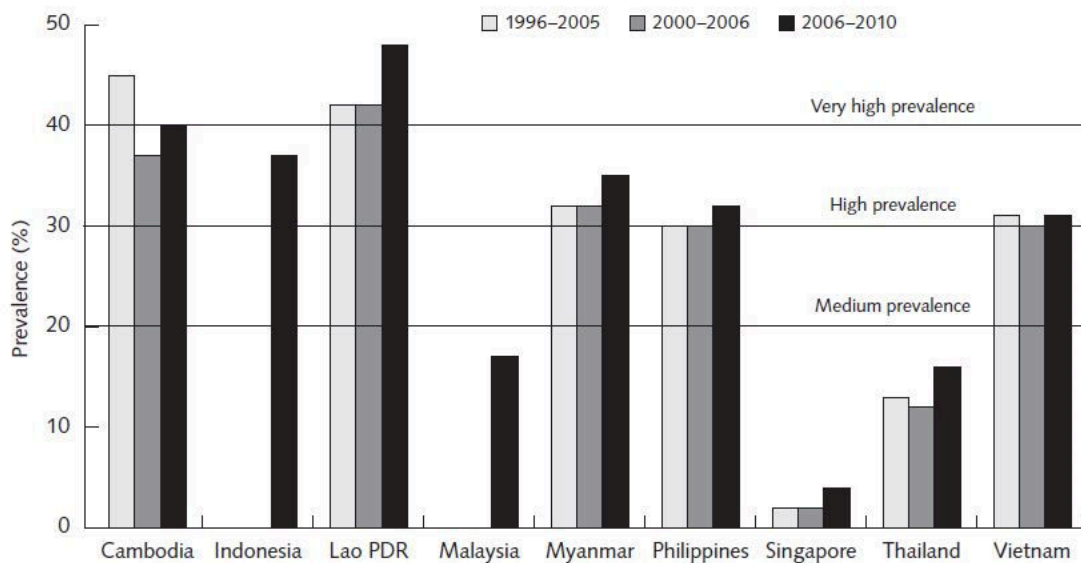
FIG. 1. Changes in stunting prevalence between 1996 and 2010 in Southeast Asian countries [7] with cutoffs indicating public health problem [8]

Prevalence in Indonesia (RISKESDAS)

- 2007: 36.8 %

- 2010: 35.6%

- 2013: 37.2

Bloem et al. Key strategies to further reduce stunting in Southeast Asia: Lessons from the ASEAN countries workshop. Food and Nutrition Bulletin, vol. 34, no. 2 (supplement) © 2013, The United Nations University

15 Kabupaten/Kota dengan Prevalensi *Stunting* Tertinggi Riskesdas 2013

D.I. ACEH
Aceh Tengah **59.3%**

RIAU
Rokan Hulu **59%**

MALUKU
Seram Bagian Barat **60.7%**

PAPUA
Tambrauw **59.3%**

PAPUA
Intan Jaya **68.9%**

PAPUA
Dogiyai **66.1%**

PAPUA
Lanny Jaya **60.9%**

NUSATENGGARA BARAT
Lombok Utara **65.8%**

NUSATENGGARA TIMUR
Manggarai Timur **58.9%**

NUSATENGGARA TIMUR
Ngada **62.1%**

PAPUA
Sorong Selatan **60.7%**

NUSATENGGARA TIMUR
Timor Tengah Selatan **70.4%**

NUSATENGGARA TIMUR
Sumba Barat Daya **61.2%**

NUSATENGGARA TIMUR
Sumba Tengah **63.6%**

NUSATENGGARA TIMUR
Sabu Raijua **62.5%**

Effects of undernutrition on brain development

Well-nourished infant

Undernourished infant
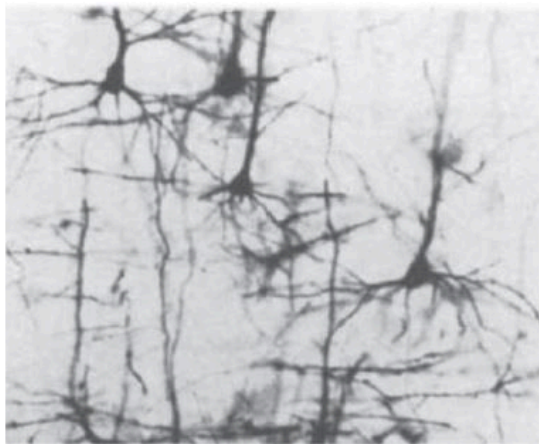
Typical brain cells
Extensive branching
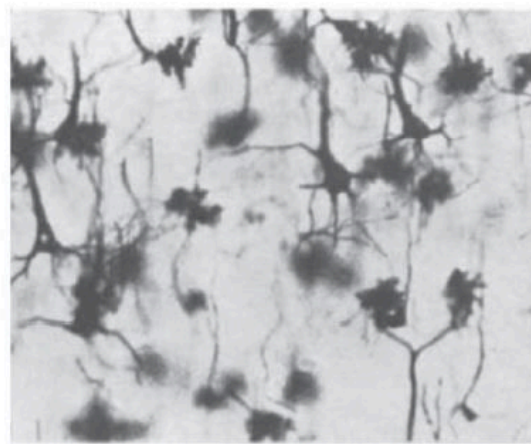
Impaired brain cells
Limited branching
Abnormal, shorter branches

UNICEF conceptual framework for the cause of malnutrition
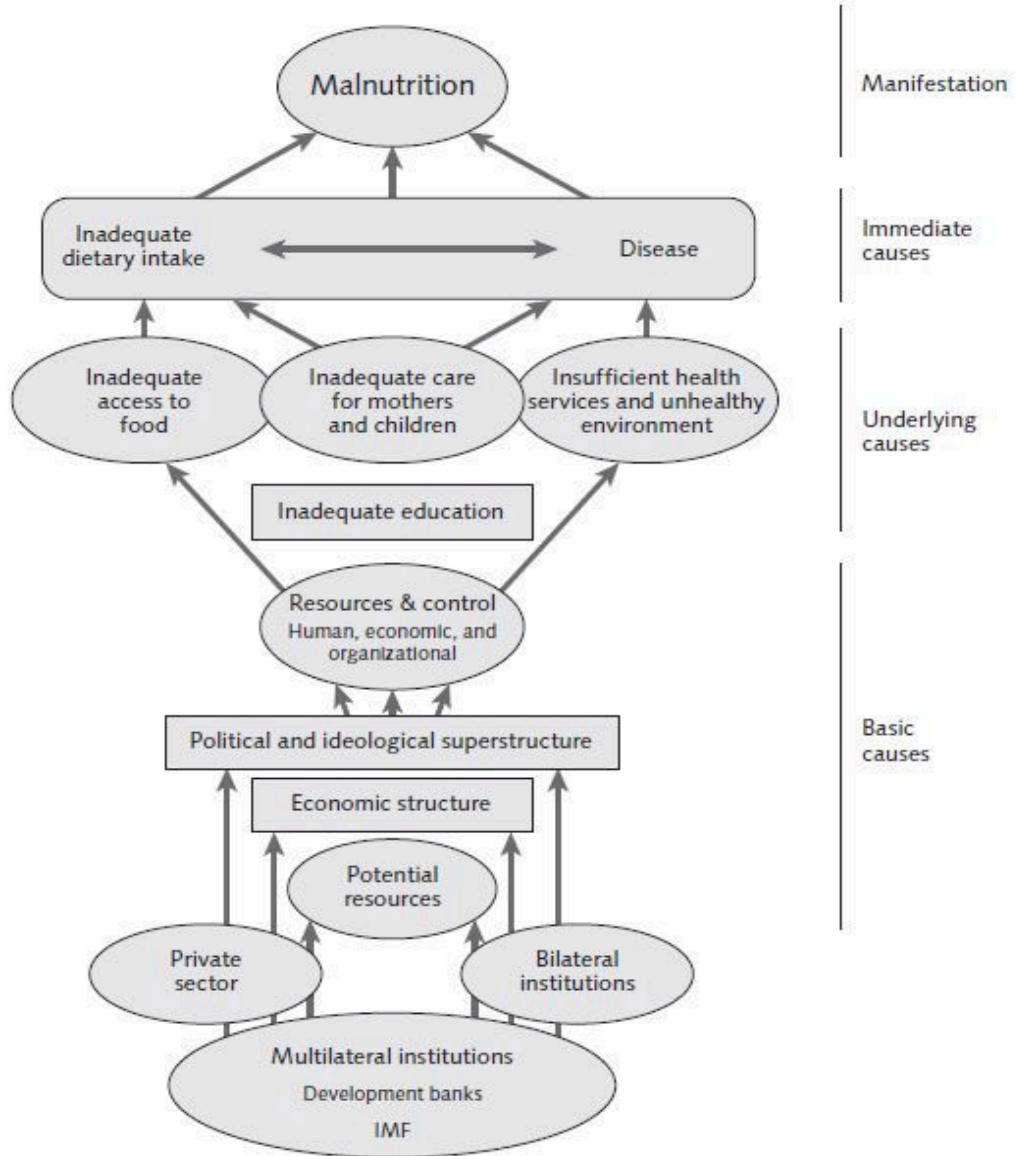
CONCEPT HEALTH AND HUMAN RIGHT

International Covenant on Economic, Social and Cultural Rights
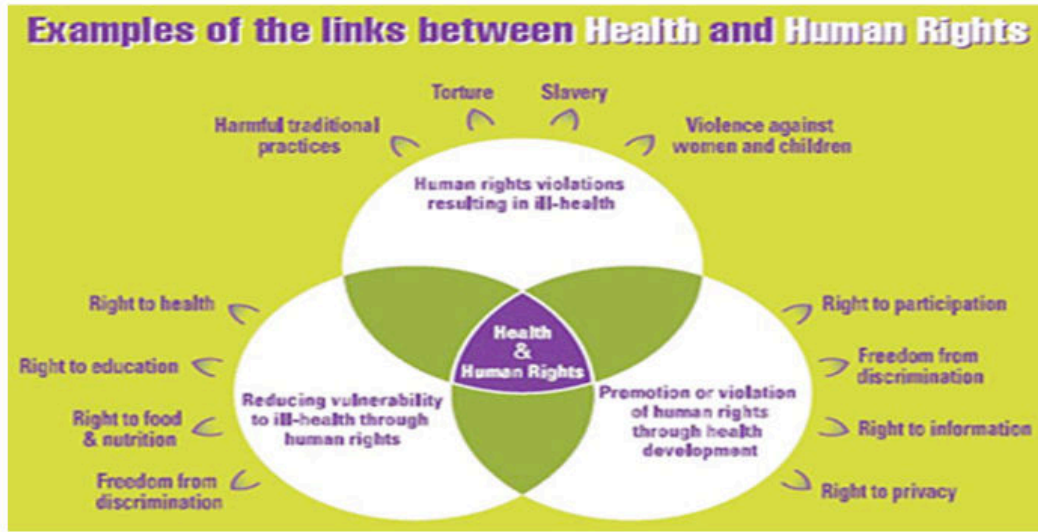
Article 12

1. The States Parties to the present Covenant recognize the right of everyone to the enjoyment of **the highest attainable standard of physical and mental health**.

2. The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for:

   a. The provision for the **reduction of the stillbirth-rate and of infant mortality and for the healthy development of the child**;

   b. The improvement of all aspects of environmental and industrial hygiene;

   c. The prevention, treatment and control of epidemic, endemic, occupational and other diseases;

   d. The creation of conditions which would assure to all medical service and medical attention in the event of sickness.
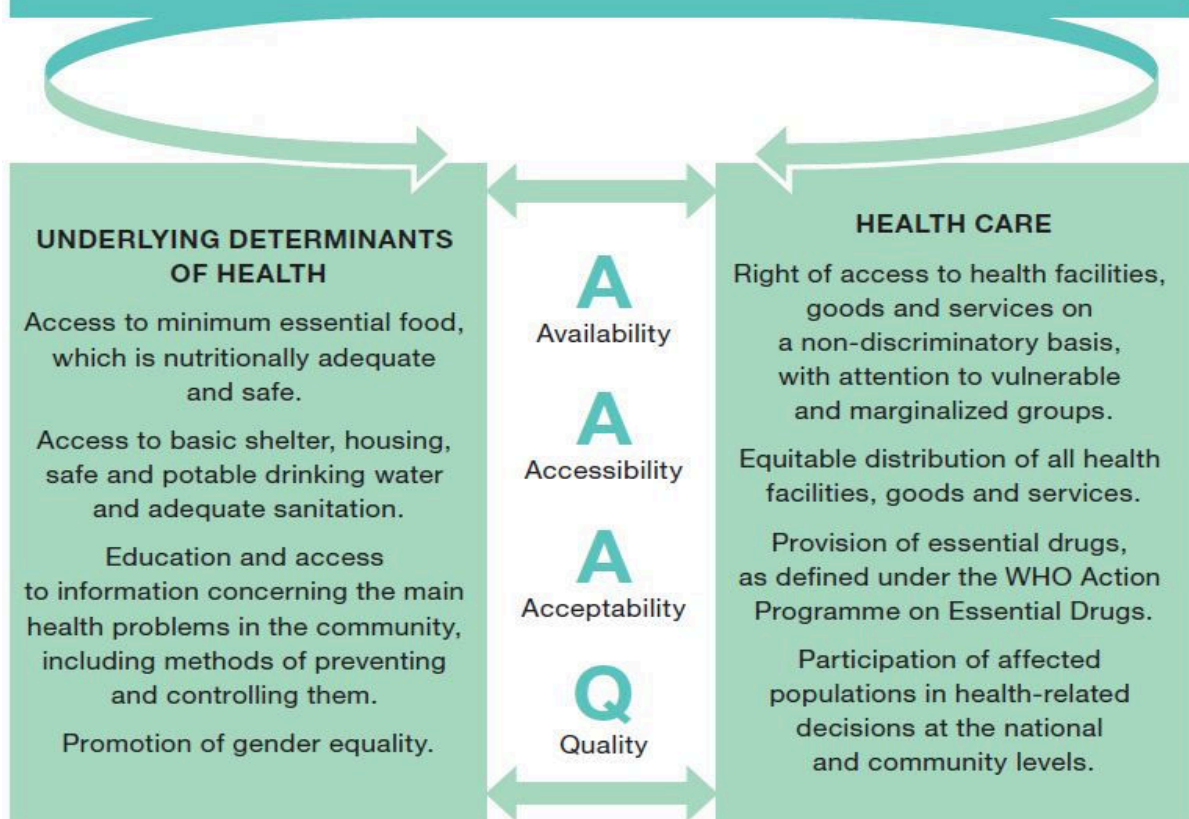
3 levels of obligations on States parties

1. To respect

   requires States to refrain from interfering directly or indirectly with the enjoyment of the right to health

2. To protect

   requires States to take measures that prevent third parties from interfering with article 12 guarantees

3. To fulfil

   requires States to adopt appropriate legislative, administrative, budgetary, judicial, promotional and other measures towards the full realization of the right to health

Regulations

1. Ratification International Covenant Certification on Economic, Social and Cultural Rights Law No. 11 Year 2005.

2. The Children Rights Protection Law No.23 Year 2002 → amended → Law No. 35 Year 2014.

3. Health Law No. 36 Year 2009.

4. Health Worker Law No. 36 Year 2014.

5. Government Regulation Number 33 of 2012 on Exclusive Breast Feeding.

6. Presidential Decree No. 42/2013 on National Movement to Accelerate Nutrition Improvement.

5 Pillars The National Strategy to Accelerate Stunting Reduction

1. Commitment and vision of the country's supreme leader

2. National campaign focuses on understanding, change, behavior, political commitment, and accountability

3. Convergence, coordination, and consolidation of national, regional and community programs

4. nutrition policy and food security

5. Monitoring and evaluation

Campaign "isi piringku"

Law No. 35 of 2014 Amending Law on Child Protection (No. 23/2002)

1. Child Protection is all activities to guarantee and protect children and their rights so that they can **live**, **grow**, **develop**, and participate optimally in accordance with human dignity, and receive protection from violence and discrimination.

2. The State, Government and Regional Government are obliged and responsible to respect the fulfillment of the Rights of the Child regardless of ethnicity, religion, race, class, gender, ethnicity, culture and language, legal status, birth order, and **physical and / or mental condition**.

3. The Government and the Regional Government must provide facilities and conduct **comprehensive health efforts** for Children so that every Child has an **optimal degree of health** since in the womb.

Health Law No. 36 Year 2009

Government to ensure availability of personnel, facilities, equipment and drugs in the management of **maternal health services** in a safe, quality, and affordable.

Every baby is entitled to a mother's milk **exclusively from birth for 6 (six) months**, except for medical indications.
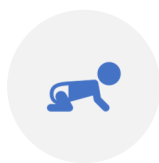
During breastfeeding, the family, Government, local government, and society should support mothers with babies fulltime and the provision of special facilities

Government responsible for setting policies in order to guarantee the right baby to get breast milk exclusively

Government Regulation Number 33 of 2012 on Exclusive Breast Feeding

The regulation on the exclusive breastfeeding is aimed:

a. To secure the fulfilment of the baby's right to receive exclusive breastfeeding as of the time of birth until the age of 6 (six) months by considering the baby's growth and development.

b. To provide protection to the mother in breastfeeding her baby exclusively; and

c.   To increase the role and support of the family, the society, regional government and the government in administering exclusive breastfeeding

d.   Each mother at delivery shall exclusively breastfeed her baby she has given birth to.

e.   The health worker and the organizer of health services facilities are obliged to conduct initiation for early breastfeeding to the new-born Baby for a minimum period of 1 (one) hour.

f.   The initiation for early breastfeeding, as referred to under paragraph (1) is done by putting the baby in the position of prostrating on the chest or stomach of the mother so that its skin touches that of its mother

g.   Each health worker is prohibited to give the infant formula and/or other baby products which may hamper the exclusive breastfeeding program, except in cases such as referred to under regulation
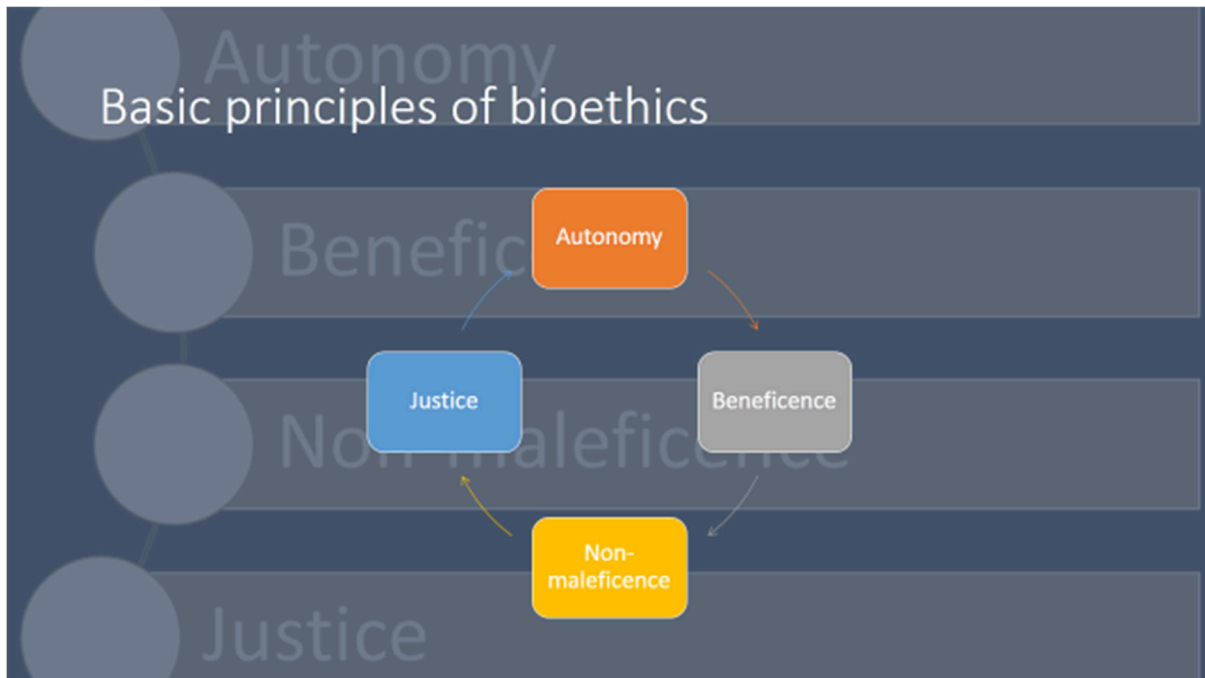
Conclusions

a. Stunting is still an important problem in Indonesia and still requires more serious handling.

b. Reducing of stunting in Indonesia carried out through a multi-sector and multi-program approach.

c. Decrease in stunting rates in order to fulfill right to right concerning to health and human right.

d. Health workers must support and comply with existing regulations and policies regarding stunting reduction.

Curriculum Vitae

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		Sp = SpFM, Fakultas Kedokteran Universitas Indonesia, 2005.
		S3 = Doktor, Fakultas Kedokteran Universitas Indonesia, 2010.
		S2 = Master in Bioethics and Global Public Health, American University
		Sovereign Nation (AUSN) 2016 – sekarang
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		2018.

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Formal	2. Pelatihan Mediasi, IICT-MA, 2007.

3. Postgraduate Dipl Biomedical Ethic, SIUT, Pakistan, 2012.

4. Medicolegal Expert Witness Course on Clinical Negligence, London,

September 2015.

5. Ethic's Teacher Training Course, UNESCO, 2016.

6. Sertifikat Advokasi dan Hukum Transplantasi Organ, RSCM-Kemkes

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2005-sekarang	Anggota IDI
2005-sekarang	Anggota PDFI
2007-sekarang	Wakil Sekretaris Pengurus Pusat PDFI Tim Identifikasi Korban Mati Pada Bencana Massal
2007-sekarang	(Disaster Victim Identivication/DVI) Propinsi Riau
2007-2010	Sekretaris II IDI Wilayah Riau
2009-2012	Anggota Bidang Hukum, Pembinaan dan Pembelaan Anggota (BHP2A) IDI Cabang Pekanbaru
2012-2015	Wakil Ketua Biro Biro Hukum Pembinaan dan Pembelaan Anggota, IDI Wilayah Riau.
2012-2015	Koordinator Seksi Pembinaan, Pembelaan Anggota dan Hukum Etika Kedokteran IDI Cabang Pekanbaru
2013-2016	Bidang Etik dan Advokasi Pengurus Pusat PDFI
2013-2016	Ketua PDFI Cabang Riau-Sumbar-Kepri
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2016-2019	Ketua Bidang Hukum Pembinaan dan Pembelaan Anggota (BHP2A) IDI Wilayah Pekanbaru
2016-2019	Dewan Penasehat IDI Cabang Pekanbaru
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KEANGGOTAAN INTERNASIONAL

1. Asian Bioethics Association
2. Global Ethics Observatory UNESCO
3. American Society for Bioethics and Humanities
4. Institute of Medical Ethics
5. Law and Society Association
6. The Association for Medical Education in Europe
7. World Association Medical Law

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1. Prosedur Medikolegal Visum et Repertum Korban Hidup Di RSUPN Cipto Mangunkusumo. Departemen Forensik dan Medikolegal FKUI , 2002

2. Kelalaian Pencatatan Rekam Medis. Dirjen Yan Medik Departemen Kesehatan RI, 2002.
3. Infanticide by Blunt Head Injury, Smothering and Strangulation, Followed by Post Mortem Sharp Injury (case report). 8th Asia Pacipic Association of Societies of Pathologists Congress-2003.
4. A Man without Head: The Role of Tattoo, Nevus, Pimples and Crowded Teeth in Personal Identification (case report). 8th Asia Pacipic Association of Societies of Pathologists Congress-2003.
5. Profil Kekerasan Dalam Rumah Tangga (KDRT) yang Diperiksa di Pusat Krisis Terpadu (PKT) RSCM Periode Juni 2000 – Juni 2004. Kongres Nasional III Persatuan Dokter Forensik Indonesia (PDFI), Semarang, 22-25 Juli 2004.

6. Temuan Otopsi Malaria Berat Dengan Ketidak-spesifikan Gejala dan Kesulitan Diagnosa. Kongres Nasional III Persatuan Dokter Forensik Indonesia (PDFI), Semarang, 22-25 Juli 2004.
7. Tata Laksana Persetujuan Tindakan Medik di Rumah Sakit. Simposium dua hari "Trilogi Rahasia Kedokteran, Malpraktek dan Peran Asuransi" Jakarta, 28-29 Agustus 2004. RS Mitra Keluarga Kelapa Gading

8. Persetujuan Tindakan Medik Pasien Kompeten Pada Tindakan Bedah Elektif Di RSUPN Cipto Mangunkusumo Jakarta. (Tesis)

9. Aspek Medikolegal Trafficking. Training of Trainer (TOT) "Aspek Medikolegal Trafficking" International Organization for Migration-RS Sukanto POLRI, 12 Mei 2005.

10. Aspek Etik dan Hukum Praktik Kedokteran. Pelatihan Kedokteran Keluarga Paket A dan B, RS Puri Cinere, 21 Mei 2005

11. Etika Bencana. Seminar "Health care in conflict situation : Medical Ethics Consideration" International Committee of the Red Cross (ICRC) – Palang Merah Indonesia (PMI) – The Provincial Health Office in Nanggroe Aceh Darussalam, 24 Agustus 2005

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1. Hak atas Kesehatan dalam Perspektif HAM. (Jurnal Ilmu Kedokteran, Maret 2008, Jilid 2 Nomor 1). ISSN 1978-662X.
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5. Autopsy Findings in Severe Malaria-Case Report. Medical Journal Indonesia (Med J Indones, July 2008, Vol 7 No.3).

Oral Publication

No	Nama Pertemuan Ilmiah / Seminar	Judul Artikel Ilmiah	Waktu dan Tempat
1	Pendidikan Kedokteran Berkelanjutan II	Visum et Repertum Pada Kasus Trauma	September 2008, FKUR
2	10th Asian Bioethics Conference	Association Between Cognitive of Principles Based of Bioethics with Ability of Moral Judgment Among Medical Students at Faculty of Medicine University of Riau	26 – 29 April 2009, Tehran, Iran
3	1st Iranian International Forensic Medicine Congress	Contemplation Clinical Forensic Medicine in Indonesia	25-27 May 2009, Tehran, Iran
4	Pelatihan Visum et Repertum Korban Hidup	Aspek Medikolegal dan Penentuan Derajat Luka	4 Juni, 2011
5	13th Asian Bioethics Conference	Making a Movie as Methods To Improve Cognitive of Informed Consent in Bioethics Teaching	27-30 Agustus 2012, Kuala Lumpur
6	16th Asian Bioethics Conference	Bioethics Curriculum Development at Faculty of Medicine University of Riau: From Conventional to Integrated Approach	4-8 November 2015, Manila

Book

1	Visum et Repertum : Tata Laksana dan Teknik Pembuatan	2011	74	UR Press

2	Publikasi ilmiah guna meningkatkan kreativitas dosen	2012	287	UR Press
	Politeknik Kesehatan dalam melaksanakan penelitian			

Research Articles for Oral Presentation

TABLE OF ORAL PRESENTATION TITLE AND PRESENTERS

No	No Abstract	Title	Author(s) presenter	Institution
1	**AISCH-1 03-01**	Factors relating with hypertension incidence on patient productive age who visits in Sail Public Health Center Pekanbaru	Alhidayati, Beny Yulianto, Zulmeliza Rasyid, Windra Maulana	Hangtuah School Of Health Sciences
2	**AISCH-1 02-01**	Differences in the active labor phase duration on birthing mother with and without endorphin massage	Siti Nurkhasanah	Al Insyirah Pekanbaru School Of Health Sciences
3	**AISCH-1 01-01**	Comparison of the effectiveness of patient safety cultural training with mirror method and case study on nurse understanding about aplication of patient safety in pmc hospital pekanbaru	Awaliyah Ulfah Ayudytha Ezdha, Silvia Nora Anggreini, Dwi Elka Fitri	STIKes Pekanbaru Medical Center, Pekanbaru Riau
4	**AISCH-1 02-02**	Effect of soy milk and pepaya consumption on mild anemia among pregnant mothers in the Tenggayun Public Health Center Bengkalis	Rika Ruspita Nurwanda Ega Mulyani	Al Insyirah Pekanbaru School Of Health Sciences
5	**AISCH-1 03-02**	Implementation of immunization with malcolm baldrige to education criteria for performance excellence (mbecfp) in Public Health Center	Asruddin,Dian Ayubi	University of Indonesia, Depok, Indonesia
6	**AISCH-1 01-02**	The relationship of parents role in families communication toward incidence early-age marriage in hulu teso logas taluk kuantan	Destria Efliani, Nurjanah , Ika Permanasari	Al Insyirah Pekanbaru School Of Health Sciences
7	**AISCH-1 01-03**	The influence of guided imagery on the pain level of children aged 7-13 years old undergoing the intravenous therapy in royal prima jambi hospital	Margareta Pratiwi, Devi Arista	Akademi Keperawatan Prima Jambi Universitas Adiwangsa Jambi
8	**AISCH-1 02-03**	Difference of breastmilk production in postpartum mothers who perform marmet technique and oxytocin massage	Yeni Aryani, Fatiyani Alyensi, Okta Vitriani	Polytechnic Ministry of Health Riau
9	**AISCH-1 02-04**	Effectiveness of giving decoction of red ginger (zingiber officinale of varieties of rubrum) and brown sugar on decreasing dysmenorrheal	Citra Dewi Anitasari, Rizka Mardiya	Al Insyirah Pekanbaru, School Of Health Sciences

		pain in students of tri bhakti middle school		
10	**AISCH-1 01-04**	Blood group toward incident of hypertension	Murni, Fitra Mayenti	Al-Insyirah Pekanbaru School of Health Sciences
11	**AISCH-1 03-03**	Perception of active family planning users toward intra uterine device (iud) and implant of regional technical implementation unit (uptd) in melur public health center pekanbaru	Riski Novera Yenita, Jufenti Ade Fitri, Gilang Putri Astriani	Al-Insyirah Pekanbaru School of Health Sciences
12	**AISCH-1 04-01**	Insyira box: internet-in-a-box using raspberry pi for improving education quality to prevent stunting disorder in rural area	Rino Ferdian Surakusumah	Al-Insyirah Pekanbaru School of Health Sciences
13	**AISCH-1 01-05**	Effectiveness of belimbing wuluh's leaf to decrease blood pressure on elderlies hypertension in rantau kopar public health center rokan hulu	Suci Amin, Sulastri	Al-Insyirah Pekanbaru School of Health Sciences
14	**AISCH-1 02-05**	Influence of work stress, organizational commitment toward work productivity of midwives in jatinegara health center	Yesi Septina Wati	Al-Insyirah Pekanbaru School of Health Sciences
15	**AISCH-1 01-06**	Family Socioeconomic Status with the Level of Intelligence of Malnutrition Children in Bululawang District, Malang	Ririn Muthia Zukhra, Roni Ardian	Al-Insyirah Pekanbaru School of Health Science, Postgraduate Program, University of Sebelas Maret, Surakarta
16	**AISCH-1 03-04**	Contribution of cadre support toward posyandu visit mother of a toddler	Rika Mianna, Rika Puspa Ayu	Al-Insyirah Pekanbaru School of Health Science
17	**AISCH-1 01-07**	Relationship verbal violence with adolescent self - esteem in the junior high school padang	Meri Neherta, Basmanelly, Mutila Anggun Wardana	Nursing faculty Andalas University, Psychiatric hospital HB Saanin Sumatera Barat
18	**AISCH-1 02-06**	Effectiveness of smoothness production techniques marmet breastfeeding postpartum women at self practice midwife ms. ernita pekanbaru	Fajar Sari Tanberika	Al-Insyirah Pekanbaru School of Health Science
19	**ASICH-1 02-07**	The effectiveness of breast care on the breast fluency milk among postpartum mother in the siak public health center	Lisviarose, Elviana	Al-Insyirah Pekanbaru School of Health Sciences

20	AISCH-1 04-02	The study of the electrical properties fresh cow's milk	Yeni Pertiwi Irmansyah , M.Rahmat , J.Juansah	Al Insyirah Pekanbaru School of Health Sciences FMIPA, Bogor Agricultural Institute
21	AISCH-01 01-08	The Association of Mother's employment status on nutrition status of under-five children in Jayabaru Village, Siak	Ika Permansari, Aulia Alwahidatul Husna, Rohmi Fadhli	Al-Insyirah Pekanbaru School of Health Sciences
22	AISCH-1 03-05	Dominant factor of percent body fat in women adolescent	Devieka Rhama Dhanny, Siti Arifah Pujonarti	University of Indonesia
23	AISCH-1 02-08	Influence mid upper arm circumference (muach) and gestational weight gain toward the infant's birth weight in the general hospital of dumai	Rizki Natia Wiji Imelda Fitri	Al-Insyirah Pekanbaru School Of Health Sciences ,Abdurrab University Pekanbaru
24	AISCH-1 03-06	Suku akit (*aborigin people*): utilization of mangrove wood, problem, and empowerment	Zulfan Saam, T. Nurhidayah, and Zulkarnaini	University of Riau
25	AISCH-1 02-09	Sexuality education in elementary school children in tampan district of pekanbaru	Silvia Anita Yuningsih	Al-Insyirah Pekanbaru School Of Health Science
26	AISCH-1 03-07	Factors Associated with Low Birth Weight (LBW): A Review of Articles	Revita Susanti, Fitria Siswi Utami	Aisyiyah University of Yogyakarta, Indonesia
27	AISCH-1 02-10	Analysis of factors to know the reason of mother choosing labor at home by bidan in public health center of jambi lubuk	Fatma nadia	Al-Insyirah Pekanbaru School Of Health Sciences
28	AISCH-1 01-09	Comparison of the patient's safety champion role at the government hospital and private hospital in Pekanbaru	Yulia Febrianita, Roni Saputra	Abdurrab University Pekanbaru
29	AISCH-1 02-11	Effect of 1.25 dihydroxy vitamin d on blood glucose levels during pregnancy in white rats (rattus novergicus)	Julita	Al-Insyirah Pekanbaru School Of Health Sciences
30	AISCH-1 03-08	Child birth weight based on characteristics of household and environment in indonesia (ifls 5 data analysis)	Onetusfifsi Putra, Milla Herdayati	Universitas Indonesia
31	AISCH-1 01-10	Qualitative analysis of borax and formalin on snacks of elementary	Fitri Mairizki, Sumandar	Al-Insyirah Pekanbaru School

		school students in bukit raya sub-district, pekanbaru		Of Health Sciences
32	**AISCH-1 01-11**	Health behaviors modification program for cardiovascular disease prevention: evidence based nursing intervention in practice	Feni Betriana, Punam Gauro, Maimuna Sungkhao	Fort de Kock Health Science College, Bukittinggi, Indonesia Prince of Songkla University
33	**AISCH-1 01-12**	Binahong leaves (anredera cordifolia) leaf water consumption on reduction high blood pressure on elderlies pstw khusnul khotimah pekanbaru	Muhammad Firdaus	Al-Insyirah Pekanbaru School Of Health Sciences
34	**AISCH-1 02-12**	The influence of acupressure to reduce disminore on youth daughters in satu atap private vocational school bekawan mandah indragiri hilir	Wira Ekdeni Aifa' Rini Astuti	Al-Insyirah Pekanbaru School Of Health Sciences
35	**AISCH-1 01-13**	The relationship of physical activity with overweight on children in the elementary school 33 rawang south padang	Yonrizal Nurdin, Dilgu Meri, Windy Freska, Yara Agustin	Andalas of university, Al Insyirah Pekanbaru School Of Health Sciences
36	**AISCH-1 02-13**	The effect of oxytosin massage on colostrum at the maternal room purihusada hospital tembilahan	Rifa Rahmi, Noplizer Helen Andria	Al Insyirah School Of Health Sciences, Puri Husada Hospital Tembilahan

TABLE OF POSTER PRESENTATION TITLE AND PRESENTERS

No	No Abstract	Title	Author (s)/Presenter	Institutions
1	**AISCH-1 P-01**	Analysis of factors associated with diet compliance with diabetes melitus	Ardenny	Nursing study Program, Poltekkes Kemenkes Riau
2	**AISCH-1 P-02**	Nursing students' knowledge and attitude in pekanbaru about respond time triage before clinic practise at the emergency room	Andalia Roza, Putri Wulandini	Abdurrab University
3	**AISCH-1 P-03**	Effect of health education with self instructional module on attitude about diabetes mellitus in type 2 diabetes mellitus patients in rsup dr. m. djamil padang	Rola Oktorina NE	Fort De Kock Health Sciences
4	**AISCH-1 P-04**	Maternal macronutrient status and gestational weight gain in correlation pregnancy outcome	Imelda Fitri , Rizki Natia Wiji	Al Insyirah Pekanbaru, School Of Health Sciences
5	**AISCH-1 P-05**	Analysis of physical dimensions of life quality on hemodialisa patients: mixed method study	Lisavina Juwita	Fort De Kock Health Science Bukittinggi
6	**AISCH-1 P-06**	The difference between student's clean and healthy life behaviors at school x and y based in health promoting school activeness	Endang Widi Lestari, Helfi Agustin	Universitas Ahmad Dahlan, Yogyakarta
7	**AISCH-1 P-07**	Student attitude about midwife profession to student learning outcomes among midwifery students in Respati University Yogyakarta	Komaria Susanti, Ary Oktora Sri Rahayu	Al Insyirah Pekanbaru, School Of Health Sciences
8	**AISCH-1 P-08**	Description of causes of patients patience risk of violence behavior at Kuantan Room Tampan Hospital Riau	Lora Marlita, Gusriyansah	Abdurrab University Pekanbaru
9	**AISCH-1 P-09**	Attitude and action of mother on implementation of central rope care in babies in Posyandu Kasih Ibu Penghidupan Village Kampar Riau	Putri Wulandini S	Abdurrab University
10	**AISCH-1 P-10**	Quality of life on hemodialysis patients in psychological aspects: a mixed method study	Imelda Rahmayunia Kartika	STIKes Fort De Kock Bukittinggi
11	**AISCH-1 P-11**	Effectiveness of mahoni seed extract (mahagoni sweitenia) on bacteria causing skin infection	Asiska Permata Dewi, Denia Pratiwi	University of Abdurrab, Pekanbaru

FACTORS RELATING WITH HYPERTENSION INCIDENCE ON PATIENT PRODUCTIVE AGE WHO VISITS IN PUBLIC HEALTH CENTRE SAIL PEKANBARU CITY IN 2018

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Abstract

Hypertension is a condition of a person's blood pressure above the normal blood pressure limit. Hypertension is also called a dark killer or the silent killer. Based on Health Office profile Pekanbaru City, amount of hypertension cases in Sail Public Health Centre Pekanbaru City in 2016 amount of 870 cases and increase 1.140 cases in 2017, based on observation in Sail Public Health Center Pekanbaru City, hypertension not only suffered by elderly, but also suffered by productive aged (20-44 years old) with amount of case on January-Desember 2017, amount of 118 cases and on January-March 2018 are 32 cases. This research purpose is to knowing the factors what related with the incidence of hypertension in productive age (20-24 years old). The type of research used is quantitative analytics with cross sectional study design. Population in this research is patient of productive age who visit Public Health Center Sail Pekanbaru. The sample of this research are 132 people. The result of the research shows that there is correlation with the incidence of hypertension that variable is knowledge (p-value = 0,010), attitude (p-value = 0,004), gender (p-value = 0,001), smoking habit (p-value = 0,000), family history (p-value 0,007), the role of health workers (p-value = 0,036), and there is no correlation with incident of hypertension that is marital status variables (p-value = 0,370). It is suggested to public health care Sail Pekanbaru City to more intensify health promotion program about hypertension disease so that society can conduct healthy life as effort to prevent hypertension disease.

Keywords : Hypertension, Productive Age, Life Style, Gender

INTRODUCTION

Hypertension is a condition of a person's blood pressure above the limits of normal blood pressure. Hypertension is also called a dark killer or the silent killer. Hypertension can suddenly kill someone without knowing the symptoms first (Susilo & Wulandari, 2011).

About 20% of all adults suffer from high blood pressure and according to statistics this number continues to increases. About 40% of all deaths under the age of 65 are due to high blood pressure. And about 40% of all people who retire early are the result of cardiovascular diseases, where cause by high blood pressure. (Wolff, 2007).

According to the World Health Organization there are currently 1 billion hypertensive sufferers worldwide, and 3 million of them die each year, and estimates, in 2025 non-communicable diseases will cause 73% of deaths and 60% of all illnesses in the world and the country those who feel the most are developing countries including Indonesia. (WHO, 2011).

Hypertension can affect almost all groups of people around the world, one of them at productive age, according to the Ministry of Health of the Republic of Indonesia (2016), productive age is a

population aged 15-50 years. The number of those who suffer from hypertension continues to increase from year to year. From the latest research data, it was stated that there were around 50 million (21.7%) American adults suffering from hypertension (Susilo & Wulandari, 2011).

The factors related with hypertension can be distinguished by irreversible risk factors (i.e. age, sex and family history) and altered risk factors (i.e. smoking, lack of consuming fruits and vegetables, excessive salt consumption, lack of physical activity, overweight and stress (Kemenkes RI, 2017).

Based Profile of Pekanbaru City Health Office In 2017 there were 20 Public Health Centre in Pekanbaru City, Public Health Centre Sail was in the top 10 highest hypertension, in 2016 there were 870 cases and in 2017 as many as 1.140, based on observations in Sail public health center, hypertension did not occur in elderly people but also occurs in productive age (20-44 years) with the number of cases in January - December 2017 as many as 118 cases and in January - March 2018 as many as 32 cases.

Based on the survey in the Sail Public Health Center that 8 hypertension patients in the age group 20-44 years it was found that 6 people with insufficient knowledge, 6 people considered hypertension to be a common disease and did not need to control blood pressure every month, from 5 male patients 4 of them have smoking habits, 5 people's have a history of hypertension, 7 people's with married status where has a strong influence on lifestyle and social pressure experienced by someone, someone who has not married has lower social pressure in the community compared to someone who is married, and lack of health information received from health workers regarding hypertension such as counseling.

METHOD

This research is a quantitative with Cross Sectional design. The time of the study was conducted in April - July 2018. The number of population in this study are 654 people's. Sampling technique in this study is Accidental Sampling. The sample in this study are 132 respondents, some patients of productive age (20-44) years who visited the Sail Health care Center in Pekanbaru with a total sample of. The data collection in this study uses a questionnaire, data analysis uses is univariate analysis and bivariate analysis with *Chi-Square*

RESULT AND DISCUSSION
Relationship Knowledge with Hypertension

The Chi-Square test results show that there is a relationship between knowledge and incidence of hypertension with a p-value = 0.010 (<0.05) and POR value = 2.701 (95% CI, 1.325-5.505) which means that respondents with low knowledge 2, 7 times at risk for hypertension, compared to respondents with high knowledge.

The results of this study are supported by the theory according to Sutanto (2010) The relationship between knowledge and prevention of hypertension, that the higher a person's knowledge, the lower the risk of hypertension and so that the lower a person's knowledge the greater the risk of hypertension.

Based on the results of the study, researchers assumed that there was a relationship between knowledge and the incidence of hypertension. Where knowledge related with behavior, if someone's has a good knowledge, behavior tends to be in a better attitude and if knowledge is low, behavior tends to be bad. Good knowledge can independently maintain their health, know how to prevent hypertension. In the study it was found that respondents did not know the normal blood pressure limit, the respondents did not know the symptoms, the result of hypertension, and the respondents did not know what caused hypertension itself

became normal. This makes respondents less aware of how to prevent hypertension.

Relationship of Attitudes with Hypertension

The Chi-Square test results show that there is a relationship between attitudes and the incidence of hypertension with a p-value = 0.004 (<0.05) and POR value = 2.972 (95% CI, 1.453-6.079) which means that respondents who behave negatively 2, 9 times at risk for hypertension, compared to respondents who are positive.

This shows that negative a person's attitude, the person's behavior will be even less good in handling hypertension. In this study respondents are more negative than positive, this is also related to the knowledge of respondents who are still low because to determine attitudes towards hypertension can not be separated from the level of knowledge itself. In this study the negative attitudes of respondents tended to consider hypertension as general disease, and respondents rarely control blood pressure regularly so that many respondents did not adopt a normal blood pressure limit, and respondents did not care about their health conditions. ignoring doesn't even want to reduce salty foods.

Relationship between Gender and Hypertension

The Chi-Square test results show that there is a relationship between gender and the incidence of hypertension with a p-value = 0.001 (<0.05) and POR value = 3.400 (95% CI, 1,651-7,001) which means that respondents are male men are 3.4 times at risk of developing hypertension, compared to female respondents.

The results of this study are supported by the theory according to Susilo & Wulandari (2011) that male sex has a higher risk of suffering from hypertension earlier. Men also have a greater risk of morbidity and mortality cardiovascular disease. Whereas in women, usually more susceptible to hypertension when they are over the age of 50 years.

Male respondents are more at risk of developing hypertension than female respondents, this is because male tend to behave in unhealthy ways of life such as smoking and drinking alcohol so that male respondents are more vurable to hypertension.

Relationship between Smoking and Hypertension

Chi-Square test results show that there is a relationship between smoking and the incidence of hypertension with a p-value = 0,000 (<0.05) and POR value = 5.331 (95% CI, 2.395-11.866) which means that respondents who smoke 5.3 times at risk of hypertension, compared to non-smoking respondents.

The results of this study are supported by theory according to the Indonesian Ministry of Health (2008) Smoking can affect hypertension because cigarettes contain nicotine which can increase heart rate, diastolic and systolic blood pressure. An increase in heart rate can occur in the first minute of smoking and after 10 minutes the increase reaches 30%.

The results of this study are also supported by the theory put forward by Noviyanti (2015) Cigarettes can cause an increase in heart rate and trigger constriction of blood vessels. The heart will work harder to drain blood throughout the body, which triggers blood pressure to rise. People with hypertension who continue to smoke can trigger heart attacks, strokes, gangrene (decay of the liver), and damage to other organs.

The results of this study are in line with the research conducted by Montol, Pascoal, & Pontoh (2015) there is a very significant relationship between smoking and the incidence of hypertension with a p-value = 0.006. Based on the results of the study, researchers assumed that there was a relationship between smoking and the incidence of hypertension. Smoking has become a habit, especially in men, in

cigarettes there is nicotine which makes a person become addicted to this, which makes it difficult for someone to stop smoking. In the study there are many respondents who have smoking habits that have become a daily necessity, there are even respondents who can spend more than 25 cigarettes per day, so that it will cause a buildup of harmful substances in the blood and can cause various diseases, one of them is hypertension because nicotine which enters the blood layer can damage the lining of blood vessels resulting in the process of hypertension.

Relationship to Hereditary History with Hypertension

The Chi-Square test results show that there is a relationship between hereditary history and the incidence of hypertension with p-value = 0.007 (<0.05) and POR value = 2.832 (95% CI, 1.376-5.832) which means that respondents who have a history hypertension 2.8 times at risk of hypertension, compared to respondents who did not have a history of hypertension. The results of this study are supported by the theory according to Susilo & Wulandari (2011) The existence of a hereditary history in certain families will cause the family to have the risk of suffering from hypertension. Individuals with hypertensive parents have twice the risk of suffering from hypertension than individuals who do not have a family with a history of hypertension.

Based on the results of the study, researchers assumed that there was a relationship between hereditary history and the incidence of hypertension. The genes that are derived have a risk of hypertension among family members (descendants), and this is evidenced that the number of parents of respondents who have a history of hypertensive descent and also the number of respondents experiencing hypertension in early adulthood, needs to be anticipated or prevented as early as possible. Although the history of heredity cannot always cause

hypertension, of course it can also be influenced by other factors.

Relation of the Participate of Health Officers to Hypertensive

The Chi-Square test results show that there is a relationship between the role of health workers and the incidence of hypertension with a p-value = 0.036 (<0.05) and a POR value = 2.250 (95% CI, 1.111-4.558) which means that respondents who did not the role of health workers is 2.2 times the risk of developing hypertension, compared to respondents who get the role of health workers.

The results of this study are supported by the theory according to the Ministry of Health of the Republic of Indonesia (2008) where the role of health workers is very important in helping prevent and treat the incidence of hypertension. In addition to adequate equipment, health workers must also provide information about prevention and treatment of the incidence of hypertension properly. Good service from health workers makes someone more informed about hypertension.

Based on the results of the study, researchers assumed that there was a relationship between the role of health workers and the incidence of hypertension, in this study respondents received less information from health workers about the importance of conducting regular blood pressure checks, health workers lacked information about prevention of good hypertension, also the officers did not provide motivation to the respondents. The role of health workers in this case is very important where health workers who always interact with the respondent when the respondent visits the health center, so that understanding of physical and psychological conditions is better too. So that it can influence trust and accept the presence of health workers in the respondent well.

Relationship between marital status and hypertensio

The Chi-Square test results show that there is no relationship between marital status and the incidence of hypertension with p-value = 0.370 (700.05) and POR value = 0.682 (95% CI, 0.339-1,373) which means that respondents who are married only 0.6 times at risk of developing hypertension, compared to unmarried respondents.

Marriage status has a strong influence on lifestyle and social pressure experienced by someone. A person who is not married has the lowest social pressure in the community compared to respondents who are married. This can cause someone who is married has an obligation to his family and his environment which sometimes have problems, so that it can cause stress which has an impact on increasing one's blood pressure Purnama & Prihartono (2013). When married the respondent lives with his family with a strong sense of belonging, the respondent can maintain social pressure in the community, and the respondent can manage stress well because as long as one can manage stress well in daily life one of them will have a positive impact for blood pressure conditions to remain normal.

CONCLUSION

Hypertension to productive aged caused by many factors such as : knowledge, attitute, gender, smoking habit, family history, participate of health workers.

SUGGESTION

Give more information to society about the dangerous of hypertension, how to controled, the symptoms of hypertension. Practise healthy life style such as : exercise regularly at least 3 times a week, no smoking and alcohol, more consume fruits and vegetables everyday. Measure blood presure every month.

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DIFFERENCES IN THE ACTIVE LABOR PHASE DURATION IN BIRTHING MOTHER WITH AND WITHOUT ENDORPHIN MASSAGE

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Abstract
Maternal Mortality Rate (MMR) is still high, and one of the causes is prolonged labor. Prolonged labor happens due to uterine inertia caused by increased pain and anxiety in the mother. This condition causes mother to become stressed and experience muscle fatigue. One effort to overcome the stress during labor is a non-pharmacological method in the form of endorphin massage. This a light touch massage technique can normalize heart rate and blood pressure, and promote the relaxed state of the mother's body by triggering a feeling of comfort through the surface of the skin. This technique can increase the release of the oxytocin hormone. The aim of this study was to determine the differences in the duration of the first active phase of labor in the mother who performed and did not perform endorphin massage. This was an experimental research with a Post-Test Only Control Group design. The data collection instruments used were questionnaires and partograph observation sheets. Significance test used an independent t test. The results showed that there were significant differences (p <0.001) between the control group (7.11 ± 1.96) and the intervention group (3.90 ± 1.44). It can be concluded that there were differences in the duration of active labor phase in the mother who performed and did not peform endorphin massage.

Keywords: *birthing mother, active phase labor duration, and endorphin massage*

INTRODUCTION

Labor progression during the active phase of labor is the most tiring, severe, and painful to most mothers. In this phase the contraction gets longer, gets stronger, and often causes anxiety. Pain and anxiety cause stress to the mother during the active phase of labor, which results in increased adrenaline secretion. Adrenaline has a role in constricting blood vessels, thus decreasing oxygen supply to the fetus. Decreased blood flow also causes weakened uterine contractions and results in prolonged labor, causing labor last longer.

One effort to reduce maternal stressors and fatigue in order to promote adequate and effective his frequency is by doing natural non-pharmacological method, namely applying massage. Massage is an act of hand suppression on soft tissue, as a light touch technique without causing a shift or change in joint position to reduce pain, promote relaxation, increase circulation by triggering comfortable feelings through the skin surface.

Creating a comfortable atmosphere and environment in the delivery room, accompanying the mother and making physical contact with touch are sources of comfort during labor. Massage or touch can make mother relax, bring emotional connection between mother and husband and midwife, and be useful in the active phase of labor to reduce pain, calm and reassure the mother.3 Endorphin massage is given between contractions, which are gentle massage techniques to encourage the release of endorphins which can have a relaxing effect to relieve pain, disrupt the perception of pain and increase the production of oxytocin which is an

important factor of the emergence of adequate uterine contractions.

Endorphins are naturally produced painkillers which can trigger a calming and uplifting response, have positive effect in emotions, and have analgesic potential 18-30 times stronger than morphine. This analgesic system suppresses pain by inhibiting the release of substance P from the end of afferent pain fibers.6 The release of endorphins in the body is triggered by three things, namely by consuming food which contains complete amino acids, low fat, high oxidant, by strengthening muscles and burning body fat and by doing meditation, touch, massage, practicing positive thinking, calm, relaxation and a comfortable environment. Endorphins are considered the best painkillers because they are produced by own body.

METHOD

This research had been conducted since September 2016 until July 2017 at the individual midwifery practice in Padang City. The number of samples was 52 selected by consecutive sampling, which was divided into 2 groups: 26 respondents were birthing women who were given endorphin massage as an intervention group and 26 respondents were birthing women who were not given endorphin massage as a control group. The data used as parameters of this study are the duration of active phase of labor, which is calculated from 4-5 cm cervical opening to complete cervical opening (10 cm) in the control group and after endorphin massage until complete cervical opening (10 cm) in the intervention group. In addition, development of cervical opening was olso observed after 2 hours after 4-5 cm opening in the control group and 2 hours after being given endorphin massage in intervention group.

Data processing was done by editing, coding, entry and tabulating methods. To see the difference in the duration of active phase of labor, mann Whitney's alternative test was carried out.

RESULT

The table 1 showed p value > 0.05 for each variable, so it can be concluded that there were no differences in the basic characteristics of the respondents between the control group and the intervention group.

Table 1. Basic Characteristics of Respondents

- 2 - Characterstics	Control Group		Intervention Group		P
	f	%	f	%	
Minang	25	55,6	20	44,4	0,42
Jawa	1	14,3	6	85,7	
Unemployed	22	55,0	18	45,0	0,19
Employed	4	33,3	8	66,7	
Junior High School Graduates	3	42,9	4	57,1	
Senior High School Graduates	19	54,3	16	45,7	0,67
University Graduates	4	40,0	6	60	
20-25 y.o	10	47,6	11	52,4	
25-30 y.o	12	70,6	5	29,4	0,48
30-35 y.o	4	28,6	10	71,4	
≤ 4 x	9	47,4	52,6		0,10
> 4 x	17	51,5	48,5		

Table 2. Differences in the average development of cervical dilatation at active phase of labor after 2 hours

Groups	n	Median (Min-max) (cm)	$Mean \pm SD$	P
Control	26	5,0 (4,0-6,0)	$5,12 \pm 0,71$	0,001
Intervention	26	8,0 (4,0-10,0)	$7,58 \pm 1,65$	

In table 2 it can be seen that the development of cervical dilatation (opening) during the active phase of labor of intervention group who were given endorphin massage was faster and

increased compared to the control group who were not given endorphin massage. In the intervention group, cervical dilatation was examined at 2 hours after endorphin massage was given, whereas in the control group endorphin, in absence of endorphin massage, cervical dilatation was examined after 2 hours of 4-5 cm opening . From the table, it can be concluded that there were differences in the development of cervical dilatation after 2 hours between groups given and not given endorphin massage with the value of p value <0.05, p = 0.001.

Table 3. Differences in the duration of the active phase of labor

Groups	N	Median (Min-max) (Hours)	Mean SD	±P
Control	26	7,0 (3,0-12,0)	7,11 1,96	±0,001
Interventio n	26	3,5 (2,0-7,0)	3,90 1,44	±

In table 3, it can be seen that duration of active phase of labor in women who were not given endorphin massage was longer compared to women who were given endorphin massage with a value of p = 0.001. It can be concluded that there were differences in the duration of the active phase of labor in the birthing women who were given and not given endorphin massage in the PBM in individual midwifery practices with p value <0.005, in which the active phase in endorphin massage group was faster with an average duration of 3.90 ± 1.44 hours .

DISCUSSIONS

The results of this study indicated that there was a difference in the duration of the active phase of labor in the birthing women who were given and not given endorphin massage with a value of p <0.001. Endorphin massage is one of the therapies near and during labor by doing light touch or massage on skin surface as a pain manager so that it can promote relaxation.

The labor process, which is a physical experience, causes a pain sensation arising from psychological response and physical reflexes. Labor pain occurs due to uterine contractions, cervical dilatation, and perineal distension, whereas referred pain is felt in the abdominal wall, lower back, iliac crest, pelvis & thighs. Increased activation of the sympathetic nervous system arises in response to pain and can result changes in blood pressure, pulse, breathing and skin color. Nausea, vomiting and excessive sweating also occur very often. Certain expressions due to pain or suffering are also seen often, in the form of anxiety & fear that results in lowered pain coping.

Pain during labor is one factor that makes a woman feel anxious. Pain during labor is a normal physiological process, different from other types of pain which are always caused by an accident or disease. Labor pain is a subjective experience of physical sensations associated with uterine contractions, cervical dilation and thinning, and fetal engagement during labor.

Labor pain is characterized by uterine contractions, although uterine contractions had actually occurred in the 30th week of pregnancy called Braxton hicks contractions. Patree (2007) states that factors which support the theory including; stretched smooth muscle, the intensity and duration of pain. A rapid cervical dilation in women who do not give birth show pain sensation similar to that felt during uterine contractions. Pain can be spread from the pelvic area to the umbilicus, upper thigh, and the midsacral area.

Non-pharmacological pain control methods are very important because they do no harm to the mother or fetus, do not prolong the labor if given strong pain control, and do not have allergic effects or drug effects.

Non-pharmacological methods are divided into three interacting components, thus influencing the response to pain, namely the motivational-affective strategy (the central interpretation of the message in the brain that is influenced by feelings, memory, experience and culture), cognitive-evaluative (interpretation of pain messages that are influenced by knowledge, one's attention, use of cognitive strategies and cognitive evaluation of situations) and sensory-discriminatory (notification of information to the brain according to physical sensation).

Endorphin massage is a non-pharmacological method that provides gentle and delicate massage to help mothers to feel more refreshed, relaxed and comfortable when facing labor. Endorphin massage can relieve pain in some areas of the mother's body such as hands, shoulders, neck, and back. In this case endorphin acts as natural pain relievers.

The results of this study are in line with the results of research conducted by Astuti and Masruroh (2013), which stated that the average duration of active labor phase in the control group was 301.67 minutes (± 5 hours) with a standard deviation of 77.55 minutes, whereas in the intervention group the average time was 239.17 minutes (± 4 hours) with a standard deviation of 55.83 minutes. The value of p obtained is 0.034, (p <0.05), so it can be concluded that there was a difference in the duration of the active phase in the women group who were given and not given endorphin massage.

Another study that is in line with this research is the research conducted by Noviyanti et al (2016) where the statistical test results get the p value <0.05, which meant that there was a significant difference in the average scale of labor pain in the first stage of labor during the active phase before and after given endorphininducing massage. 13 Pain cannot be measured objectively by X-Ray or blood test. However, the type of pain that appears can be predicted based on the signs and symptoms. Pain in the first stage of labor is caused by the emergence uterine muscle contractions, contracting muscle hypoxia, cervical stretching during cervical opening, ischemia of the uterine body, and stretching of the lower uterine segment. During the first period, uterine contractions cause cervical dilation and uterine ischemia.

The results of other studies that are similar to the results of this study are that the research conducted by Haghighi et al (2016) which showed that supporting women during labor with massage therapy decreases the duration of first and second stage of labor significantly.

Results of other studies by Veening and Barendegt (2016) had found that the average duration of first and second deliveries after being given a massage were significantly lower than subjects from the control group who were not given massage. Field et al (2014) in a study of the effect of massage on pain and duration of labor, found that massage caused a reduction in pain and duration of labor.

CONCLUSION

This resarch concluded that duration of active phase of labor in the women who were given endorphin massage was 3.90 ± 1.44, duration of active phase of labor in the women who were not given endorphin massage was 7.12 ± 1.96. There was difference of duration of active phase of labor in the women who were given endorphin massage and women who were not given endorphin massage with p value of 0.001 (p value <0.005).

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COMPARISON OF THE EFFECTIVENESS OF PATIENT SAFETY CULTURAL TRAINING WITH MIRROR METHOD AND CASE STUDY ON NURSE UNDERSTANDING ABOUT APLICATION OF PATIENT SAFETY IN PMC HOSPITAL PEKANBARU

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Abstract
Quality development in hospitals has led to efforts to improve quality oriented towards patient safety. The purpose of this study was to compare what methods were most effective between lectures and case studies to improve nurses' understanding about the application of patient safety. The design of this research used is a mix method that is qualitative and quantitative. Quantitative methods are carried out to see the comparison of the application of the lecture method and the case study by quasi-experiment with intervention and control group. Furthermore, the qualitative method uses a phenomenology approach to explore nurses' understanding about the application of patient safety and observation of the application in the field. The sample of this study were all nurses who served in the hospital as many as 60 people according to the inclusion criteria. The results obtained from the study showed that the mean value of nurses 'understanding of patient safety habit after the lecture method training was 67.47 with a standard deviation of 8.320 while the mean value of nurses' understanding of the HABIT of patient safety after training in the case study method was 73.97 with a standard deviation of 6.835. The independent t test results obtained p value = 0.002. This showed that there were a significant difference in the value of nurses' understanding about the patient safety habit with the lecture and the case study methods. It can be concluded that training with the case study method is more influential in increasing the value of nurses' understanding of the application of patient safety than training with the lecture method. The results of this study are expected in addition to improving the understanding about nurses as well as the hospital can apply the most appropriate method so that the goals of the patient's safety goals can be achieved.

Keywords : Case study, lecture, patient safety, training.

INTRODUCTION

Patient safety is a variable to measure and evaluate the quality of nursing services that affect health services. The patient safety program aims to reduce the number of Adverse events that often occur in patients while being hospitalized so that it is very detrimental to both the patient and the hospital. Adverse event can be caused by a variety of factors including the high workload of nurses, inappropriate communication channels, inappropriate use of facilities and others (Nursalam, 2011).

In Indonesia, the incidence of Adverse event especially near miss, is still rare, but on the other hand there is an increase in allegations of malpractice which is not necessarily in accordance with the final proof (Ministry of Health, 2008). At Java with a population of 112 million people who suffered a loss of 4,544,711 people that could be prevented as many as 2,847,288 people, permanent disability as many as 337,000 people,

deaths as many as 121,000 people with an economic burden of 495 M. Prevalence of adverse medical events patients in Central Java and DIY according to a study result is 1.8% - 88.9% (Sunaryo, 2009).

To minimize the incidence of near miss, the Hospital Accreditation Committee (KARS) stated 6 patient safety goals as a condition to be applied in all hospitals accredited by KARS. This arrangement according to the WHO's nine life-saving Patient Safety Solutions (2007) which is also used by the Hospital Patient Safety Committee (KKPRS PERSI) and from the Joint Commission International (JCI). The six objectives are: identify patients correctly, improve effective communication, improvie the safety of high-alert medication, ensure correct surgical location, correct procedures, correct surgery on patients, reduce the risk of health care-associated infection and reduce the risk of patient harm resulting from falls(KARS, 2011).

Nursing services are provided with orientation to the goals of nursing services to be achieved. The achievement of the goal of nursing services in the hospital is influenced by the activities of nursing services provided to clients through the application of nursing care for the achievement of health care goals according to their duties, authorities and responsibilities and referring to professional standards (Law No. 36 of 2009 article 24). Quality and safe health services require the optimal role of every health worker, including nurses as the leading force in the service system.

The optimal role of nurses in the development of the quality of nursing services has evolved and led to the demand for adequate competence to support the patient safety. According to Mitchell in Hughes (2008), nurses are key in developing quality through patient safety. The Institute of Medicine (IOM) in 2000 proposed two roles of nurses in patient safety, namely maintaining safety through the transformation of a nursing environment that better supports patient safety and the role of nurses in patient safety through the application of the latest nursing standards.

The socialization of programs and policies regarding patient safety in order to build the foundation for the required patient safety has been pursued nationally by KPP-RS through road shows in 12 major cities followed by workshops in several hospitals in Indonesia. However, a systemic approach is needed and an increase in the foundation of patient safety (Lumenta, 2008). Yates (2006) states that the foundation and pillars of patient care are safely composed of technology, processes and human resources. In connection with this matter, one of IOM's recommendations is to develop training programs in an interdisciplinary manner.

Despins, Scott and Rouder (2010) in his research argued that the development of research in the form of interventions regarding patient safety should be directed to improve the ability of detection by nurses about signs of injury risk and can improve patient safety in an increasingly complex service environment.

Increased knowledge is the expected impact of training. Marquis and Huston (2006) stated that staff development programs through training and education are effective programs to increase nurse productivity. Adequate support in the form of professional training and knowledge development is one of the efforts to create a positive work environment for nurses so that safe care can be provided (ICN, 2007).

Training is defined as an organized method to ensure that individuals have certain knowledge and skills and individuals gain good knowledge about obligations in their work. This knowledge can improve affective, motorbike and cognitive abilities so that an increase in productivity or good results will be obtained (Marquis & Huston, 2006). Research conducted by Hennessy, Hicks, Hilan and Kawonal (2006) of 524 nurses from 5 provinces in Indonesia, namely

North Sulawesi, East Kalimantan, North Sumatra, West Java and DKI Jakarta found that all respondents significantly stated that need for training in tasks and work that nurses must do. This study also found that training needs were greater in groups of nurses working in the hospital. In the scope of patient safety, knowledge of HR (human resources) in health including nurses is something that is related to the commitment that is very necessary in an effort to build a habit of patient safety (Cahyono, 2008).

There are several methods that can be applied in providing training. According to Marquis & Huston, (2006): Rivai & Sagala (2009) methods that can be used in the development of human resources based on techniques and principles of learning are: On the job training and Off the job training. Off the job training consists of class lectures, case studies, simulations, laboratory practices, role playing and behavior modeling.

Pekanbaru Medical Center Hospital is one of the class B private hospitals in Pekanbaru City with 86 nurses in 7 rooms including Inpatient room, Outpatient clinic services, ICU, Surgical Installation, Maternity Room and Emergency Room. The PMC Hospital has a Patient Safety Committee as a first step in constructive efforts in the framework of implementing patient safety policies as well as anticipating increasing customer expectations for quality services. PMC Hospital has a Patient motto to become a Center so that the PMC Hospital also puts forward patient safety in providing services.

Based on the Survey conducted at the PMC Hospital the implementation of patient safety has been started since 2015 which began with the introduction of patient safety, the creation of a work system and the preparation of the KPRS team. An interview with the PMC Hospital KKP-RS team in March 2017 found that nursing staff at the PMC Hospital had not put reporting as one of the top priorities in supporting the implementation of seven steps towards patient safety that had been used as a policy. The absence of the same perception about filling in the reporting format for incidents, sorting incidents that are not so precise, and the feeling of fear of being blamed if reporting an incident was identified as an obstacle found by the KKP-RS Team in relation to the involvement of nurses in the implementation of patient safety programs. Nurses often have to be motivated to report incidents they find and often only verbal reporting processes also make it difficult to monitor incidents at the PMC Hospital. The unoptimal values of awareness in building a patient safety habit that relates to the role of nurses through enhancing competence in supporting the implementation of patient safety programs that must be constantly reminded are also perceived conditions that must be addressed.

Another method that can be used in giving patient safety material is the Case Study method. This is because patient safety is not only about theory but also equally important is the application in the field. The absence of research on the Comparison of the Effectiveness of training of Patient Safety Habit with the Lecture Method and Case Study on Nurse Understanding Regarding Patient Safety Implementation is an important reason why this research is important to do. Based on these considerations, researchers were interested in researching "Comparison of the Effectiveness training of Patient Safety habit by Lecture and Case Study method on the Understanding of Nurses Regarding the implementation of Patient Safety at the PMC Hospital".

METHOD

The design of the research used is a mix method that is qualitative and quantitative. Quantitative methods are planned to be carried out in the first research to see the comparison of the application of the lecture method and the

case study that is using quasi-experiments using the intervention group and the control group. Furthermore, for the second study, qualitative methods use a phenomenology approach to explore nurses' understanding of the application of patient safety and observation of the application in the field with FGD. Respondents were divided into 2 groups of 30 respondents in the lecture method group and 30 respondents in the case study method group.

RESULTS AND DISCUSSION

Table 1. Differences in the value of nurses' understanding of patient safety habit in the lecture group and case study group after training.

Variable	lecturer		Case study		P value
	Mean	SD	Mean	SD	
Nurse Understanding about Application of Patient Safety	67,47	8,320	73,97	6,835	0,002

Based on the t dependent statistical test in table, the mean value of nurses' understanding of the patient safety habit after the lecture method training was 67.47 with a standard deviation of 8.320. The mean value of nurses' understanding of patient safety habit after training the case study method was 73.97 with a standard deviation of 6.835. The independent t test results obtained p value = 0.002 smaller than the alpha value (p <0.05). This shows that there is a significant difference in the value of nurses' understanding of the patient safety habit with the lecture method and with the case study method, where the average value of nurses' understanding of patient safety habit after lecture method training was lower than the value of nurses' understanding of patient safety habit with the case study method. It can be concluded that training with the case study method is more influential in increasing the value of nurses'

understanding of the application of patient safety than training with the lecture method.

Motivational development, taking trainees' attention to what is learned, helping participants apply what they have learned, providing opportunities to practice new behaviors, and giving positive rewards to employee performance are the goals of the model developed in the form of training (Robbins, 2003). Notoatmodjo (2009) states that employee training aims to improve the ability of employees to work through the improvement of management skills and functional technical programs concerned. Training will also improve skills in their respective fields.

The difference in group understanding of the lecture method and the case study group was concluded based on cognitive achievement seen from the comparison of the pre-test and post-test scores. The direct influence of the learning process in training is evident but needs to be studied further the influence of training on other behavioral components. In accordance with the opinion of Notoatmodjo (2009) and Suryabrata (2008) which states that to produce real behavioral changes, the involvement of complex processes is needed that are influenced by various internal and external factors of the individual. Spence (1956, in Morrison, 1991) states that learning theory through behavioral-oriented training was developed to carry out formal analysis of changes in behavior.

It means that the research results obtained should be accompanied by efforts to repeat the training program in the form of ongoing training to create adequate patterns in the memory of nurses regarding the implementation of patient safety in nursing services. Specifically given material is increasingly developed to have relevance to the jobs and responsibilities nurses' in providing safe care, and knowledge transfer can support nurses to learn quickly about the application of

patient safety in nursing services. In addition, improvements in nurse performance standards that show the expected performance in implementing patient safety need to be developed and socialized and managed through advanced training programs in line with the KKPRS program.

By the results of the study, it is more effective to provide training with the case study method than the lecture method. According to researchers this can be caused because at the time of delivery of the material with the lecture method only one-way communication, while the case study method looks two-way communication. With two-way communication nurses who work in hospitals can conduct active discussions and directly apply to nursing services in the room. This of course further enhances their understanding. By thinking critically about the problems that exist, understanding the patient's safety will also deepen. This is based on the view expressed by Notoatmodjo (2007) which states that the environment influences the process of entry of knowledge into individuals in the environment.Mutual interaction or not will be responded to as knowledge by each individual from his environment. Gillies (1994) also states that learning in training is an active rather than passive phenomenon.

Achieving training goals should be useful in shaping the expected behavior and conditions that the organization wants to achieve in the form of appropriate performance (Rivai and Sagala, 2009). It was also stated that training should be effective in accordance with the principles of learning that should be implemented in a continuous training program. The effectiveness of training also requires evaluation based on the development of staff capacity over time and the key to effective training programs not only consisting of participation but repetition, change of training and feedback is also important (Baron & Greenberg, 2000).

CONCLUSION

Based on the theoretical basis and supported by analysis and statistical test results, it can be concluded that there is a significant difference in the value of nurses' understanding of the patient safety habit with the lecture method and the case study method, with a p value = 0.002 smaller than the alpha value (p <0.05). It can be concluded that training with the case study method is more influential in increasing the value of nurses' understanding of the application of patient safety than training with the lecture method.

RECOMMENDATION

In order to contribute ideas that are related to the improvement of science in the field of hospital administration, especially for the field of nursing, the following are suggested:

Researcher

It is better for researchers to develop learning tools about implementing patient safety goals and developing modules that are easier to understand. In addition, the provision of training sessions also needs to be observed so that respondents when receiving training can better understand.

Nurses

More active in participating in training and evaluation so that nurses' understanding of patient safety goals is increased.

Hospital

Hospital should be able to develop appropriate training methods so that the goals to be achieved can be realized. In addition, consistent monitoring and evaluation is also needed so that ongoing training can also be carried out. This is very important in supporting and improving the quality of services in hospitals.

Further Researchers

As a baseline data comparison that can be used for further research in order to conduct research for other methods so that

the hospital can find the right method to improve nurses' understanding that is adjusted to the conditions and background of the hospital.

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EFFECT OF SOY MILK AND PEPAYA CONSUMPTION ON MILD ANEMIA AMONG PREGNANT MOTHERS IN THE TENGGAYUN PUBLIC HEALTH CENTER BENGKALIS

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Abstract
Prevalence of anemia is one of complication that frequently happens to Pregnant Mother either at national or international level. According to WHO globaly the prevalence of anemia in pragnant women around the world are 41,8 %. The study aimed to determine effect of soy milk and papaya consumption on mild anemia among preganant mother. This design of this study was Quasi-Experiment with 14 pregnant mothers. The samples were taken by total sampling. The Instrument of this reaserch is measuring cup, food scales and hemometer. The result of univariate analysis of respondents' frequency distribution based on the age obtained the result >29 years old in the amount of 57.1%, 24-29 years old in the amount of 28.6%, 18-23 years old in the amount of 14.3%, in other words the older the mother's age, the percentage of anemia is getting bigger. Meanwhile the result of bivariate analysis by using Dependent T-test obtained result the existence of meaningful relationship (p<0,000). Midwifery promote giving soy milk and papaya fruit for pregnant mother with mild anemia, to improve hemoglobin level.

Keywords : Soy milk and papaya fruit, pregnant , anemia, hemoglobin

INTRODUCTION

Pregnancy is defined differently by several experts, but in principle has the same core. Wiknjosastro (2009), defines pregnancy as a process that occurs between the combination of sperm cells and ovum so that conception occurs until the birth of the fetus, the length of normal pregnancy is 280 days or 40 weeks calculated from the first menstrual period (HPHT).

Maintaining pregnancy is an important phase in the growth of children because the prospective mother and the baby they contain need a lot of nutrition. Malnutrition in the mother and fetus can cause serious problems. The risk of complications in the mother includes anemia, bleeding, abnormal weight, infectious disease. This risk if left continuously can lead to death (Depkes RI, 2010).

Anemia in pregnancy is blood hemoglobin (Hb) levels below 11gr% in the first and third trimesters, and less than 10.5gr% in the second trimester (Cuningham, 2010). Physiologically the mother's blood circulation during pregnancy will experience a change, namely an increase in blood volume where the amount of blood serum is greater than the growth of blood cells, resulting in blood dilution (hemodilution) which starts at 16 weeks gestation and peak at 32-36 weeks gestation (Hidayati, 2009).

A common cause of anemia in pregnancy is iron deficiency. Iron has a function for the formation of hemoglobin, minerals and enzyme formation. Hemoglobin acts as an oxygen carrying unit of blood that carries lung oxygen, and brings CO2 back to the lungs. The definition of iron can cause iron reserves in the liver to decrease, so the formation of disturbed red blood cells will result in the

formation of low hemoglobin levels or blood hemoglobin below normal. The impact of iron deficiency on pregnant women is that they can experience miscarriage, premature childbirth, low birth weight, bleeding before and during childbirth and in severe anemia can lead to maternal and infant mortality (Atikah, 2011).

According to the World Health Organization (WHO) (2015) the prevalence of anemia in pregnant women reached 52.8% in the world, and Asia was ranked second in the world after Africa with the percentage prevalence of anemia in pregnancy was 48.2%. According to the Pusponegoro and Anemia World Map study, in 2012 Indonesia was one of the countries in Asia with a high incidence of anemia in pregnancy of 51% (Lampost, 2013).

Riau Province has 47.8% of pregnant women with anemia in 2015 (Riau Health Office, 2015). According to the Pekanbaru City Health Office report (2015) the number of pregnant women who suffer from mild-moderate anemia in Pekanbaru City in 2015 was as many as 1335 people and in 2016 there were 609 people. Most locations are found in Sail Subdistrict with 216 people in 2016.

Bengkalis Regency has 17 Puskesmas as a whole, the incidence of anemia in pregnant women in Bengkalis Regency is still very high. The highest incidence of anemia in pregnant women occurred in the work area of Balai Makam Health Center with a total of 1,622 people, and the lowest incidence of anemia in pregnant women was in the work area of Sadar jaya Health Center with a total of 32 people. According to the results of PWS KIA 2017, there were 12,631 pregnant women with 6,516 pregnant women. Tenggayun Health Center is one of the Puskesmas in Bengkalis Regency, where the Puskesmas is a solution of the Sungai Pakning Health Center due to the difference between Kecamatan (Kecamatan Pemekaran), Puskesmas

Tenggayun has only been formed for more or less a year or so. The incidence rate at the Tenggayun Health Center in Bandar Laksemana sub-district itself was 312 pregnant women, with 118 pregnant women suffering from anemia.

Study journal of quality characteristics of papaya fruit IPB content and chemistry of papaya fruit meat (per 100g edible parts) containing vitamin C amounting to 78.0-85.3 mgr this value is greater than the needs of pregnant women per day, according to AKG in 2013, the need for pregnant women needs is added daily as many as 10 grams of the age of pregnant women, for women aged 16 years to 80 years more needs of Vitamin C per day is 75 mgram. The medical journal about the composition of soybeans in every 100 grams contains iron of 8 mgram while the iron needs of pregnant women per day are added as much as 13 mgram from the age of pregnant women, for women aged 16 years to 49 years the need for iron per day is 26 mgram.

The iron content contained in 100 grams of soybeans has not reached an additional number of iron requirements for pregnant women. The researchers gave treatment as much as 200 grams of soybeans made into milk milk. According to Derman, in 1980 Iron derived from plants is ferritin $Fe2+$ and then binds to Transferitin which joins to form Hemoglobin in the bone structure. Iron with vitamin C forms an iron complex ascorbate which is soluble and easily absorbed by the organs in the body because the compound $Fe2+$ will increase if the pH in the stomach becomes more acidic. The presence of Vitamin C can increase iron absorption by 30 percent. So the researchers added 100 grams of papaya meat which is rich in Vitamin C to help absorb iron in the body.

Based on research conducted by Susilo, in 2015 the administration of fe tablets plus vitamin C simultaneously had significant results in increasing Hb levels of pregnant women. Researchers also

conducted a pre-study of 1 pregnant woman with mild anemia with an initial hemoglobin of 10 gr%, then treated by consuming soy milk and papaya fruit simultaneously at a dose of 100 ml of soy milk and 100 grams of papaya meat which was eaten together in the morning as a snack , the treatment is carried out for 7 days. The results of the pre-research conducted on 1 respondent was an increase in Hb, with the results of Hb examination of 10.5 gr%.

Based on this background, researchers are interested in conducting research on " Effect Of Soy Milk And Pepaya Consumption On Mild Anemia In Pregnant Women In The Area Of Tenggayun Primary Health Care, Bengkalis District".

METHOD

This research is a quantitative research, this study use a quasy experiment design with the design of one group pretest and posttest Designs (Notoadmojo, 2005). The design has no comparison group (control), at least the first observation has been carried out (Pretest) allows researchers to test changes that occur after the experiment.

The population in this study were all pregnant women with mild anemia with an Hb value <11 gr% totaling 14 people who visited the primary health care . The samples in this study were 14 people. The sampling technique uses total sampling.

The sample criteria in this study consisted of inclusion and exclusion criteria. These criteria are as follows: Inclusion criteria are criteria that need to be fulfilled by each member of the population that can be taken as a sample, namely: Pregnant women who are willing to become respondents, Pregnant women whose Hb levels less than 11gr%, Pregnant women who are not exposed / consume Fe tablets, Pregnant women who are irregular in consuming Fe tablets. Exclusion criteria are criteria for members of the population who cannot be taken as

samples, namely pregnant women who are not willing to become respondents.

The instrument used in this study is the easy touch digital Hb check, food scales and measuring cups.

Univariate Analysis

Univariate analysis was carried out to analyze the variables descriptively by obtaining an overview of each variable under study. Information conveyed in numerical data analysis, the information to be conveyed is the mean / median, standard deviation, maximum and minimum values. Univariate analysis in this study is a presentation table with SPSS.

Bivariate Analysis

Bivariate analysis is an analysis conducted to determine the relationship between two variables that are suspect related (Notoatmodjo, 2005). Analysis of this study was conducted to compare the effect of consumption of soy milk and papaya fruit on pregnant women with mild anemia on Hb levels before being given the consumption of soy milk and papaya and after administration of soy milk and papaya fruit using the dependent T test to analyze the mean on subject data before being given the treatment of consumption of soy milk and papaya fruit and after consuming soy milk and papaya fruit. After the test and data have been collected then tabulated in the table to see the difference in mean values of Hb levels before consumption of soy milk and papaya fruit and after consumption of soy milk and papaya fruit with boundaries The collected data will be processed using the SPSS program.

RESULT

From the research that has been done on pregnant women with anemia who are in the area of the Bengkalis District Health Center Tenggayun from 9-17 May 2018, the data analysis is conducted and the results of the study are obtained.

Univariate Analysis

Based on the results of research conducted on pregnant women in the work area of the Tenggayun Health Center in Bengkalis Regency, the results of the univariate analysis obtained in this study were as follows.

Characteristics of Respondents

In this study the analysis was carried out to determine the distribution and percentage of respondents which can be seen in table 1 below:

Table 1
Frequency Distribution of Respondents by Age of Pregnant Women With Anemia In The Area Of Tenggayun Primary Health Centre, Bengkalis District in 2018

Characteristics of Respondents	Frequency	Percentage
18 -23 Th	2	14.3
24 - 29 Th	4	28.6
> 29 Th	8	57.1
ToTotal	14	100

Based on table 1 the majority of the age of the experimental group was> 29 years as many as 57.1%, then followed by the age group 24-29 years as many as 28.6%, and the last was the age group of 18-23 years as much as 14.3%. In other words, the higher the age of the mother, the percentage.

The average Hb level of pregnant women with anemia before and after administration of soy milk and papaya fruit in the experimental group in the working area of Tenggayun Health Center, Bengkalis Regency. The average value of Hb changes was used to seechanges in Hbin pregnant women with anemia after being given soy milk and papaya as shown in table 2.

Table 2
Distribution of Mean Values (After and Before) Provision of Soybean Milk and Papaya Fruit in Pregnant Women With Anemia

	N	Mean	Median	SD	Min	Maks
Pretest	14	10.04	10.01	.06262	10.00	10.18
posttest	14	10.97	11.00	.34456	10.45	11.74

Based on Table 2, the average Hb of pregnant women before given soy milk and papaya fruit is 10.04 gr%, while the average Hb of pregnant women after given soy milk and papaya fruit is 10.97 gr%.

The average increase in Hb levels of pregnant women with anemia before and after administration of soy milk and papaya fruit in the work area of the PuskesmasTenggayun Bengkalis Regency based on the mean value.

Table 3
Level of Effectiveness Based on Mean Difference Before and Mean After Hb of Pregnant Women With Anemia

Variable	Mean Pretest	Mean posttest	Difference increase
Maternal HB	10.0414	10.9743	0.9329

Based on Table 3 it is known that there was achange in the positive mean when compared to Hb of pregnant women before being given soy milk and papaya fruit after being given soy milk and papaya fruit which is equal to 0.9329 gr%

Bivariate Analysis

Bivariate analysis used is the T test or T test, a statistical test used to test the truth or falsehood of the null hypothesis. In this study the T test used was the Depedent T-Test. So that the research results are obtained as follows.

Table 4
T-Test Test Results Depend on Hb levels of Pregnant Women with Anemia

Variable	Mean	SD	Std. Error Mean	95% Confidencet interval		df	Sig.(2-tailed)
				Lower	Upper		
HB Pretest - HB Posttest	-.93286	.33525	.08960	-1.12642	-.73929	-10.411	13	.000

Based on Table 4, it was found that p-valeu <0,000 using α = 5%, then the null hypothesis was rejected, so it was concluded that there was a significant effect on the average Hb level in the first and second measurements

DISCUSSION

The results of Univariate frequency testing of mildly pregnant women with anemia based on age in this study were grouped into 3 age groups, age> 29 years with a percentage of 57.1%, age group 24-29 years at 28.6%, and age group 18-23 years. with a percentage of 14.3%.

Based on the statement above, the results of the univariate frequency testing of pregnant women with anemia based on this age are in accordance with the research conducted by Willy Astiana in 2017 with the research title Anemia in Pregnant Women in terms of Parity and Age with the results of statistical analysis showing a correlation between the incidence of anemia in pregnant women with age (p value 0.028).

The results of identification of Hemoglobin levels of pregnant women before and after consuming soy milk and papaya fruit in the working area of Tenggayun Public Health Center, Bengkalis Regency showed that the average HB content of mothers before giving soy milk and papaya fruit was 10.04 gr%, after being given soy milk and papaya fruit HB of pregnant women changes to 10.97 gr%. Dependent T-Test results were obtained p-valeu $0,000 < \alpha$ 0,05, this indicates that the administration of soy milk and papaya fruit influence the increase in hemoglobin in female mothers with anemia in the working area of Tenggayun Health Center, Bengkalis Regency.

The results of this study indicate that the presence of iron contained in soybeans can increase iron levels in pregnant women, which according to Suprapti (2003) has an iron content of 8 mg in 100 grams of soybeans. Then supported by the results of the Pekanbaru Food Laboratory Examination (2018) in 300 ml of processed soy milk from 200 grams of soybeans containing 10.95 mg / kg of ferrous metal content.

The assumption of the Researchers in this study is that giving soy milk and papaya fruit together can help increase the Hb levels of pregnant women with mild anemia, because soybeans have a high iron content so that they can meet iron requirements in pregnant women, as well as high vitamin C content in papaya fruit can help absorb iron into the body's organs, so that the absorption of iron in the body is better.

This can be seen from the average Hb level of pregnant women who have increased by 0.9329 gr% for 7 days, this very fantastic increase will greatly help increase the Hb levels of pregnant women when compared with blood-added tablets. The results of the increase in Hb levels given by tablet therapy plus blood with an iron content of 60 mg for a month increased Hb levels by 1 gr%.

The difference from giving of therapeutic soy milk and papaya fruit with the giving of Fe tablets is the main issue in increasing the Hb levels of pregnant women, according to the researchers' assumptions the very far difference is the difference in the amount of from soy milk and iron tablets, then giving of vitamin C from papaya to absorb iron from soy milk which is very helpful in absorbing iron, in tablets supplemented with auxiliary blood the absorption of iron uses 0.25 mg of folic acid per tablet.

In addition to differences in the composition of the therapy given the ability of iron absorption from food ingredients depends on the condition of the digestive tract and the content of these foods. The acidity of the stomach can increase iron solubility so that it can affect the absorption of iron absorption in pregnant women.

CONCLUSION

The average Hb level of pregnant women before administration of soy milk and papaya fruit in the experimental group in the working area of the Tenggayun Health Center in Bengkalis Regency was 10.04 gr%.

The average Hb level of pregnant women after administration of soy milk

and papaya fruit in the experimental group in the working area of the Tenggayun Health Center in Bengkalis Regency was 10.97 gr%. There is a significant influence by giving soy milk and papaya fruit to mild pregnant women with anemia, with a p value <0.000.

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IMPLEMENTATION OF IMMUNIZATION WITH MALCOLM BALDRIGE TO EDUCATION CRITERIA FOR PERFORMANCE EXCELLENCE (MBECFP) IN PUBLIC HEALTH CENTER

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Abstract
The important role of health centers as the spearhead of government health services that provide health services to the wider community has various challenges as an organization to maintain electability as a public servant compared to similar organizations, the success of a program is determined by the quality of health services that focus on improving the quality of life of the community. The aim of this study was to get an idea of the implementation of program immunization which is excellence with the MBECfP in the Public Health Center. This study used the literature review method, reference search was carried out journals from Science Direct, Proquest, Ebsco, Springer. in published between 2013 - 2018 while for reference to books or government regulations that are still valid and relevant to the formulation of the problem. This study a portrait of immunization with the approach MBECfPE to get the implementation of Excellence includes seven criteria. The quality management system model using seven criteria can be used as a component of the quality management system model for immunization at the health center, at the operational level and performance results determined directly by the process and human resources.

Keywords : Public Health Center, immunization, Malcolm Baldrige for Performance Excellence criteria.

INTRODUCTION

Immunization is an effort to prevent the most perfect disease and have an impact on improving public health. therefore, the need for vaccines is increasing along with the world's desire to prevent various diseases that can cause disability and death. an increase in vaccine needs has been supported by efforts to improve vaccine production in order to improve effectiveness and safety (Kaunang & Bataha, 2016) .

An immunization program through vaccine administration is an effort to stimulate the immune system to produce antibodies in an effort to fight certain diseases by disabling weakened antigens from vaccines. The program aims to provide protection for certain diseases to populations with populations that are considered vulnerable to contracting infectious diseases, such as infants, toddlers, children, women of childbearing age, and pregnant women. Each country has a different immunization program depending on priorities and health conditions in each country. The type of immunization policy is based on expert studies and epidemiological analysis of diseases that arise. The Indonesian immunization program requires every baby (aged 0-11 months) to get a complete basic immunization consisting of hepatitis B, BCG, DPTH-HB_Hib and Polio immunizations. (Kementrian Kesehatan, 2016a).

The achievement of indicators in Indonesia in 2016 was 91.58%. This achievement is greater than the 2015 achievement of 86.54%. This figure

reached the 2016 Strategic Plan target of 91.5%. Whereas according to the province, there are twelve provinces that achieved the 2016 Strategic Plan targets, namely South Sumatra, DKI Jakarta, Central Java, Jambi, West Nusa Tengga, Lampung Bali, East Java; RPJM indicators for immunization programs are the percentage of districts / cities that achieve 80% complete basic immunization in infants, whereas in 2015 as many as 292 districts / cities (56.8%) had reached 80% complete basic immunization in infants thus RPJM targeting in 2015 was 75 % has not been reached where the achievement target is 95% (Kementrian Kesehatan, 2016b).

If the services of an agency do not meet customer expectations, it means that the services are not qualified. If the service process does not meet customer expectations, the service quality is lacking. Service to customers is said to be of good quality if it meets or exceeds customer expectations or the smaller the gap between the fulfillment of the promise and customer expectations is the closer to quality measures(Hardiningsih & Yulianawati, 2011) this is in line with the research conducted by Frans Juniardi (Juniardi, n.d.) that the good service provided in posyandu seniors will increase the interest of the elderly to visit the posyandu for the elderly.

The important role of health centers as the spearhead of government health services that provide health services to the wider community has various challenges as an organization to maintain electability as a public servant compared to similar organizations (Kementerian Kesehatan, 2014)because the success of a program is determined by the quality of health services that focus on improving the quality of people's lives magnitude of effectiveness of the immunization program in the clinic can be seen with the approach, coverage has been applied to the Public Health Center which includes seven criteria: leadership, strategic planning, focus on the customer, measurement,

analysis and knowledge management, focus on team, focus on process, results of organizational performance. (Indonesian Quality Award Foundation, 2015)' (Prybutok, Zhang, & Peak, 2011)' (Jababeka & Indonesia, 2016) For this reason the study was to get an overview of the management of the immunization program excellence by the method of approach MBECfPE applied in the clinic to improve immunization coverage public health center.

METHOD

This study uses a literature review with reading and understanding related to the formulation of the problem, the search reference implemented electronically from national and international journals (SCIENCE DIRECT, PROQUEST, EBSCO). Inclusion criteria in this study are journals published between 2013 - 2018 while for reference to books or government regulations that are still valid and relevant to the formulation of the problem. The results of a review of various studies and methods implemented in the implementation of program immunization from several countries or government agencies so that discussions from other perspectives were not carried out. The description in this paper focuses on the implementation of immunization which includes 1) planning, 2) logistics supply and distribution, 3) logistics storage and maintenance, 4) provision of management personnel, 5) service delivery, 6) waste management and 7) monitoring and evaluation good with the concept of the Malcolm Baldrige(Menteri Kesehatan, 2017b)

RESULT

Malcolm Baldrige National Quality Award (MBNQA) is a criteria used in performance-competitive with formulating the initial strategic health center, the first method, using the SWOT matrix, then formulated initial strategy Public Health Center with seven main criteria among

others, leadership, strategic planning, focus on the customer, measurement, analysis and knowledge management, focus on team, focus on process, results of organizational performance (Allvin, Ulmer, & Ollison, n.d.)

The following are the results of the literature review study related to the implementation of immunization which is excellence by referring to the Malcolm Baldrige criteria:

Tabel 1.1 . Summaryze result of literature review about the implementation of immunization which is excellence by referring to the Malcolm Baldrige criteria

Category	Item	Implementation Strategy
Leadership : serves to help, facilitate the development and successful implementation of the mission, vision, values, the whole organization, implement strategic plans and take action As planned, the success of a leader is only successful if followers support organizational goals, leaders must work to engage the workforce(Thompson, Blazey, & Organization, 2017)	1). Senior leadership, 2) The governance and social responsibility	• leader can act for the sustainability of a Public Health Center, ensure the governance system of the Public Health Center, and how the Public Health Center is able to fulfill its legal responsibilities, ethics and social responsibility, 2) establish and describe the vision and mission of the Public Health Center, and build partners with the private sector, central government, local government or community that includes mobilizing the community, socialization immunization, support the facilitation of the implementation of immunization, participation as a volunteer, as well as monitoring (Menteri Kesehatan, 2017b) 3) management officer imunisas at health centers show commitment in law and ethics in accordance with what has been determined, leadership communication affects commitment(Menteri Kesehatan, 2017b) 4) The leader prepares cadres who will continue the continuity of leadership and immunization program managers in health centers, 5) high leadership motivation in administering immunization programs, 6) Ability to evaluate actions Management activities for immunization including financial accountability, transparency, actions and protection of third party interests
Strategic planning : Public Health Center are able to develop strategic goals, work plans, implement and be able to change if deemed necessary and measure achievement progress (Indonesian Quality Award Foundation, 2015) (Indonesian Quality Award Foundation, 2015)	1) Strategic development, 2) Strategic implementation	1) The plan is implemented on a budget basis and the target coverage of the Public Health Center every year is considered as a plan for the implementation of immunization by involving program managers consisting of transportation and accommodation staff, consumables, community mobilization, repair and maintenance of Cold Chain equipment and immunization vehicles, logistics distribution to and from other health care facilities, elimination of medical waste for immunization, 2) Innovation of immunization management must always be improved in increasing immunization coverage with strategic methods / opportunities that are based s evidence relevant to strategic methods/opportunities in improving immunization coverage, 3) Consider strengthening PWS by mapping the area based on the scope and problem analysis to compile activities in order to overcome local problems, 4) Prepare the resources needed including skilled personnel, logistics (vaccines, syringes, *safety boxes* and *cold chains* standard), costs and means of service, 5) Maintaining quality and quality of service. 6) Family approach as an effort to increase the reach of targets and to bring access to immunization services in the work area of the Public Health Center. 7) Empowering the community through TOGA, TOMA, village officials and cadres so that the community is willing and able to reach Immunization

services, 8) Equitable coverage of all villages / kelurahan that are difficult or unreachable, 9) Improvement and equal distribution of services, both stationary and reaching out to people in difficult areas, 10) Tracking targets that have not been or are not complete getting immunization (*Defaulter Tracking*) services followed byefforts *Drop Out Follow Up* (DOFU) and sweeping, 11) Building partnerships with cross-sector, cross-program, professional organizations, societal and religious in increasing the quantity and quality of immunization services, 12) conducting advocacy, socialization, and continuous coaching 13) Maintaining the sustainability of the program, both planning and budgeting (APBN, APBD, NGOs and the community), 14) Pay special attention to socially vulnerable and disease-prone areas (KLB), 15) Implement global agreements: Eradi Polio, Maternal and Neonatal Tetanus Elimination, Measles and Rubella Elimination. (Menteri Kesehatan, 2017b)(Menteri Kesehatan, 2017a)

Customer Focus: includes needs, requirements, customers and priorities that focus on factors that influence patient behavior and the collection and integration of patient data such as surveys, focus groups, comment blogs, social media and complaint data patients (Indonesian Quality Award Foundation, 2015) (Indonesian Quality Award Foundation, 2015)

1) The voice of the baker, 2) Ordering of the customers

1) The mobilization of the active role of the community is carried out through activities: the provision of information through print media, social media, electronic media, and outdoor media, advocacy and socialization, cadre development, guidance to under-fostered children and school children and / or coaching organizations or non-governmental organizations(Menteri Kesehatan, 2017b) 2) Public Health Center use existing data and information about patients to improve performance, 3) The immunization process must pay attention to safety, quality, and efficacy of vaccines used and safe injections, 4) Destruction of immunization waste must be in accordance with the provisions that have been met h determined

Measurement, analysis and knowledge management: explains how the Public Health Center collects, selects, analyzes, manages and corrects data, information and knowledge assets and how the Public Health Center uses the findings of the review to improve its performance(Indonesian Quality Award Foundation, 2015)

• Measurement, analysis and improvement organizational performance, Management knowledge, information, information technology

• Public Health Center must have a performance measurement system that can be accounted for and respond quickly and are able to predict changes in the organization or from the external, 2) Equal opportunities to find out various information important related to the implementation of immunization and assessing needs in order to improve the ability of immunization program management capacity 3) Monitoring and evaluation using local area monitoring instruments (PWS), data quality self assessment (DQS), effective vaccine management (EVM), supportive supervision, implementation program, KIPI surveillance, recording and reporting (RR). stock management
• system (SMS), Cold Chain equipment management (CCEM), rapid convinience assessment (RCA), immunization coverage surveys and immune response monitoring (Menteri Kesehatan, 2017b)

Focus on the team: the ability of the Public Health Center to access the capability and capacity needs of the workforce and build a workforce environment which is conducive to high performance and the ability of the health center to attach, manage and develop the workforce to make the most of the potential and align with the needs of a comprehensive health center (Indonesian Quality Award Foundation, 2015)

• Labor environment, Workforce employed

• There are qualifications and competencies proven by certificates to be managers (program managers and logistics), 2) Developing the competence of the workforce, through knowledge, skills, abilities and competencies in building relationships with patients and being able to innovate with new technology, 3) Providing comfort in program immunization services both in bulk and individually with family approach 4) There are procedures to improve service work, through increasing competence.(Menteri Kesehatan, 2017b)

Focus on the process: the capacity of the public health center to design, manage, improve and innovate services and the process of implementing immunization and improve operations to deliver value to patients and other customers to improve immunization coverage (Indonesian Quality Award Foundation, 2015)	● Work process, 2) Operational effectiveness	● Able to ensure the implementation of immunization in accordance with the operational standards set by the health center, 2) implementing the program by considering the effectiveness and efficiency of the budget in accordance with the standards for maximum service, 3) preparing all necessary needs in the implementation of immunization includes : supply of logistics (Cold Chain equipment other than refrigerator vaccine, in the form of cold boxes, vaccine carriers, cool packs, cold packs, thermometers, thermographs, frozen temperature monitors, continuous temperature monitoring / recording devices, alarms, and special refrigerated vehicles, Cold Chain supporting equipment, anaphylactic equipment, immunization service record documents and space to store Cold Chain equipment and Immunization logistics to overcome certain conditions (outbreaks or disasters), 4) Have requirements for providers of goods and services to guarantee the quality of the chain of immunization delivery and have the ability overcome i emergency conditions during the implementation of immunization(Menteri Kesehatan, 2017b)
Performance results: include health center performance and improvement of all important areas, results and process of immunization which consists of patient / customer focus, focus on labor, leadership and governance, financial results and market, so that the category is able to compare the level of performance that offers other immunization services (Indonesian Quality Award Foundation, 2015)	● Results - health services and processes, 2) Results of the focus of bakers, 3) Results of focus on labor (TIM), 4) Outcomes - leadership and governance, 5) Results - budget, finance and market (Jababeka & Indonesia, 2016)	● Customer satisfaction index increases every year by comparing internal satisfaction levels (satisfaction graphs are always increasing), 2) Working in accordance with operational standards in managing immunization programs and recording and reporting covering Immunization coverage, stock and Vaccine Usage, ADS, Safety Box, temperature monitoring, Cold equipment conditions Chain, and KIPI case or suspected KIPI (10), 3) Budgeting for immunization costs based on coverage, patient groups and other customers, 4) Immunization programs always increase the number of staff and / or / increase competence in the process of program immunization, 5) Public Health Center are able to increase the role of the private sector and society that can be realized by increasing community empowerment, immunization socialization and facilitation support for the implementation of Immunization. (Menteri Kesehatan, 2017b)

DISCUSSION

Integrated combination of model MBECfPE with the Minister of Health Regulation No. 12 concerning the implementation of immunization shows that the tools that can be used to assess the implementation of immunization in health centers can effectively integrate managerial decisions(Prybutok et al., 2011) This study provides an overview of an idea implementation of immunization in health centers with methods MBECfPE with 7 criteria of leadership, strategic planning, focus on the customer),measurement, analysis and knowledge management, focus on team, focus on process, results of organizational performance(Jababeka & Indonesia, 2016)

In this study provides an overview and practical reasons for organizing immunizations including:

Solving problems with an integrated approach and adapting to the work environment

Solving problems by leaders in terms of organizing immunizations is not only seen as a problem itself but a common problem that must be resolved in an organization where problem solving must implemented comprehensively starting from 1) planning, 2) logistics supply and distribution, 3) storage and maintenance of logistics, 4) provision of management personnel, 5) implementation of services, 6) waste management and 7) good

monitoring and evaluation due to immunization process is a system that is interconnected and influences and resolves the problem maximally carried out with adaptation to the work environment at every stage of the implementation activities.

Involvement of program managers in all aspects of implementation is a practical valid global management to improve organizational performance excellence

Involvement of program managers is needed to optimize the performance of individuals and health centers, because building emotional commitment to the health center by involving program managers in decision making makes them motivated and feels needed and valued by the involvement. obtained so as to improve the excellence of organizational performance

MBECfPE'sis flexible, easy to use, economical, comprehensive and integrated management framework that includes all the factors that define the organization, operational processes and performance results that are clear and measurable

Public Health Center in Indonesia (9,767 facilities) spread across Indonesia (Menteri Kesehatan, 2017a) so that it needs to provide an easy and economical performance measure that can be applied uniformly. Public Health Center in the implementation of immunization starts planning, logistics supply and distribution, storage and maintenance of logistics, provision of management staff, implementation of services, waste management and monitoring and evaluation of activities as a measure of performance also avoids time and cost by observing seven MBECfPE criteria giving flexibility to identify, prioritize , and and selectively focus on specific areas for improvement. (Shields & Jennings, 2013)

MBECfPE improvements and facilitates Public Health Center transformation in sustained quality improvement (CQI)

CQI is a structured organizational process that involves personnel in planning and implementing continuous improvements, providing immunization quality as expected. With the characteristics and functions of CQI as the essence of good management, namely (1) understanding and adapting it to the external environment, (2) encouraging program officers and managers to analyze and improve the process, (3) maintain norms that the choice of consumers (patients & providers) is important determinants of quality, (4) developing approaches in various fields that go beyond conventional departmental and professional lines, (5) adopting a planned philosophy of change and adjustment, (6) developing mechanisms to ensure the application of best practices through planned organizational learning, and (7) provides motivation for a rational, data-based and cooperative approach to process analysis and change.[16]. This model allows each organization to achieve its goals, to improve its results and become more competitive, align plans, processes, decisions, communities, actions, and results (Ivanov & Avasilc, 2014)

MBECfPE focuses on the requirements for achieving performance excellence not just applications, procedures, tools , techniques

The Public Health Center must develop a set of measures or set guidelines for the implementation stage of the immunization program both operational guidelines and requirements (customer, satisfaction, and involvement, process performance, and employee involvement) in the implementation of immunization. which is a measure in evaluating performance, these guidelines can also be used in terms of strategic development by evaluating the results of previous

performance. so that the performance results data is very important in the process of developing strategic organization, the results of work are very much determined by the focus of human resources and process focus (Thompson et al., 2017)(A. Aziz Alimul Hidayat, Stefanus Supriyanto, 2015) The immunization stage must have a series of SOPs that are relevant for the organization to guide the performance of the Public Health Center. Each section must provide an overview of the role of employees, patients, officers, or the community in building effective and responsive organizations, so that this process can also illustrate that the Public Health Center cares for customers and employees. So that various stakeholders can support the implementation of immunization carried out by Public Health Center(Thompson et al., 2017)

Identification of key areas for improvement targeted at all stages of immunization implementation

Strategic planning processes are clearly defined and can be measured. For example, customer satisfaction can be measured as well as clearly defined processes and action plans and streamline the intended activity process. (Thompson et al., 2017) in addition, the guide can identify the main areas for targeted improvement in all Public Health Center by reviewing the results of the previous year's survey representing 7 Baldrige criteria. So as to identify the most important areas for improvement (Shields & Jennings, 2013) To run a repair program better, an approach that can be done is to prioritize the repair area before starting to make an action plan. To get these priorities, leaders can use weights that use the following scales: (1) IMPACT (IMPACT), which is a measure of impact produced if a company runs a repair program in a weak area so as to improve company performance in quality, customer satisfaction and or performance finance, (2) URGENSI (URGENCY), which is a

measure to understand the importance of immediately resolving the shortcomings that occur as soon as possible and (3) TREND, namely an assessment of whether the performance of a particular area is currently experiencing a decline, stable or improvement. By utilizing the score process for this priority, an improvement plan program can be carried out in the most important area(I Wayan Gede Suharta Dewantara, 2013).

Identification of opportunities for improvement from various areas in the organization related to the seven MBECfPE criteria.

One ofthat affect the success of the Public Health Center program is the development of a SWOT analysis by looking at opportunities and threats determined by external environmental analysis and understanding of internal organizational strengths and weaknesses. . But besides that, effective strategic planning and core competencies possessed by Public Health Center to stimulate innovation, optimizing all elements of Public Health Center to get more value.

Providing a framework for performance improvement by giving management the freedom to implement independent business strategies and programs to improve of the performance

Public Health Center leadership with a high level of excellence has management that builds a good future and achieves its objectives, is able to inspire and give confidence to carry out tasks and high responsibilities, the role of the senior leadership team is to make adjustments to meet the desired level and work to develop integrated strategies. This strategy is developed with an understanding that customer satisfaction and involvement are related to needs that need to be fulfilled through some employee performance (Thompson et al., 2017) (Ivanov & Avasilc, 2014)

CONCLUSIONS

Based on the results, it can be found a model of quality management system implementation of immunization is based on the criteria of Malcolm Baldrige as follows:

1. Model of quality management system using seven criteria can be used as a component model of quality management system implementation of immunization health centers include leadership, strategic planning, focus on the customer, measurement, analysis and knowledge management, focus on team, focus on process, results of organizational performance.

2. The work of carrying out immunization in the quality management system component is an indicator *outcome* of program success determined by process categories (leadership, strategic planning, *customer* focus, human resource focus, process focus, and knowledge measurement, analysis and management).

3. Malcom Baldrige measurements can be used as quality management system at the operational level by having the same indicators at the strategic level.

4. The results of the work are very directly determined by the focus of the process through the focus of human resources which according to Malcom Baldrige is more directly determined by the focus of human resources and process focus.

RECOMMENDATION

Model based quality management system MBECfPE criteria can be used as a model system of quality management at the operational level implementation of immunization in public health centers to increase immunization coverage.

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THE RELATIONSHIP OF PARENTS ROLE IN FAMILIES COMMUNICATION TOWARD INCIDENCE EARLY-AGE MARRIAGE IN HULU TESO LOGAS TALUK KUANTAN

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Abstract
Marriage at an early age can have an impact on biological, psychological and social health. The role of parents in families communication is one of the factors that influence early age marriage, because the role of parents determines adolescents to undergo marriage at an early age, besides that parents also have a big role in delaying the age of child marriage. The purpose of this study was determine the relationship of the role of parents in families communication toward incidence of early age .Type of research was a quantitative research by cross sectional approach. The sampling technique used non probability sampling. The samples in this study were 52 respondents, with analysis statistical test is used Chi Square test. The results showed there were a relationship between the role of parents in family communication and incidents of early marriage (p value 0.005). It is expected that parents always give advice or information related to early marriage and life in living a household at a young age.

Keywords : Role parents, families communication, early-age marriage

INTRODUCTION

The UN Fund for Population Activities (UNFPA) estimates that in 2020 there will be more than 20 years, and in 2030 it is estimated that it will reach 15.1 million annually (Fadlyana, 2009). Data from the United Nation Childern's Fund (UNICEF) shows that 50,000 girls in Indonesia marry at the age of 15 (UNICEF, 2014). Indonesia's 2012 Millennium Development Goals (MDG) vision report states that some who have just given birth in Australia amount to 12-20% in Indonesia. The national characterization of BKKBN which shows marriage under the age of 16 in Indonesia is 26.95% of the number of existing marriages (BKKBN, 2012). Provinces in Indonesia with the incidence of early research namely West Sulawesi province as much as 37.0%.

One factor in the occurrence of other early marriages is teen education and parental education. In one's life, in addressing problems and making decisions including things that are more complex or psychosocial maturity is strongly influenced by one's level of education (Sarwono, 2007). Low levels of education and knowledge of children can lead to a tendency to do marriage at an early age (Alfiyah, 2010). This is in line with the research conducted by Nandang, et al (2009) which shows that young educated young people have a higher risk of early marriage than highly educated young adolescents. Adolescents who have a high education background have a lower risk of getting married early compared to adolescents who have a low educational background. The level of education is one of the factors that influence a person in addressing problems and making decisions or psychosocial maturity.

Parental education also has a role in decisions for their children, because in this family environment, children's education is first and foremost (Nandang, 2009). Juspin (2012) argues that the role of parents in the continuity of early marriage is basically inseparable from the level of knowledge of parents who are also

associated with the level of education of parents. This is in line with research conducted by Nandang, et al (2009) which shows that there is a relationship between parental education in young adult women. Teenagers who have a background of low-educated parents have a greater risk of early marriage than adolescents who have a background of highly educated parents. One of the factors that can influence the decisions of the parents of their children, one of which stands out is the factor of family education.

The role of parents also determines teenagers to undergo marriage at a young age. Parents also have a big role to delay the age of child marriage (Algifari, 2002). This is in line with the research conducted by Nurhajati, et al (2013) which revealed that the decision to marry at a young age is largely determined by the role of the elderly. The role of parents is very important in making a decision to get married at a young age where the decision to get married at a young age is a decision related to the background of the relationship that is built between parents and children with their friendship environment.

In addition, the factors associated with early marriage are the work of early marriages. Work can measure socio-economic status and health problems and the conditions in which a person works (Guttmacher in Yunita, 2014). This is in line with the research conducted by Zai (2010) which revealed that there was a relationship between the work of respondents and the incidence of early marriage. A person's work can reflect income, social status, education and health problems for the person himself.

Early marriage in adolescent environments tends to have a negative impact both in terms of socio-economic, mental / psychological, physical, especially for the teen's reproductive health (Nad, 2014). The impact of early marriage on reproductive health, one of which is women aged 15-19 years, are twice as likely to die during childbirth as those aged 20-25 years, while those under the age of 15 may die five times. Young women who are pregnant, based on research, will experience several things, such as experiencing bleeding, miscarriage, and long or difficult labor (Yenrizal Makmur in Nad, 2014). Therefore, early marriage has many negative impacts that are very important to be known by both teens and parents.

Based on a preliminary survey conducted by researchers in Logas Tanah Darat Subdistrict, Kuantan Singing District, there were 60 people who had an early marriage. In addition, from the initial survey data showed that 5 people had experienced pregnancy and childbirth at a young age, and 3 had had a miscarriage. Risks such as low birth weight, miscarriage, pregnancy and childbirth at a young age have been felt by some teenagers who have married early. Therefore, socialization of the importance of adolescent reproductive health is needed to minimize these impacts.

Based on the background of the above, the relationship between the role of parents in the family and the family of the people of North Sumatra, Logas Tanah Darat District, Kuantan Singingi Regency.

METHOD
Study the design used was quantitative using correlation analytic design. The variables used in this study are divided into independent variables, namely the role of parents in family communication, while the dependent variable is early marriage. The population in this study were married people in Hulu Teso Village, Logas Tanah Darat District, Kuantan Singingi Regency in the last 3 years. The population in this study was 60 people. The sample in this study was 52 people. The instrument used in the independent variable and the dependent variable is the questionnaire to the respondents. Chi square statistical test is used to determine whether there is a

relationship between independent variables and dependent variables. The sampling technique in this study using non-probability sampling is purposive sampling which is deliberate sampling with consideration or certain criteria.

RESULTS AND DISCUSSION
Characteristics of Respondent

Table 1 shows that the majority of respondents aged 15-20 years were 32 respondents (61.5%), the majority of respondents married at 15-20 years of age as many as 33 respondents (63.5%), most of the respondents were female as many as 39 respondents (75%) and most of the education levels of junior high school respondents were 20 respondents (38.5%)

Table 1 Overview of Respondents in Hulu Teso Village Logas Tanah Darat District, Kuantan Singingi Regency

No	Category	f	%
1	Age		
	15-20 Years old	32	61,5
	21-25 Years old	11	21,2
	26-30 Years old	9	17,3
	Quantity	52	100
2	age of marriage		
	15-20 Tahun	33	63,5
	21-25 Tahun	17	32,7
	26-30 Tahun	2	3,8
	Quantity	52	100
3	Gender		
	Male	13	25
	Female	39	75
	Quantity	52	100
4	Education		
	Primary school	19	36,5
	Junior school	20	38,5
	High School	13	25
	Quantity	52	100

Analisa Univariate

Table 2 shows that the majority of parents' roles in family communication are negative as many as 34 respondents (65.4%) and the majority of early marriage incidents in Hulu Teso Village, Logas Tanah Darat District, Kuantan Singingi District are 41 respondents (78.8%).

Table 2 Frequency Distribution and Percentage of Parents' Role in Family Communication and the incidence of early marriage In Hulu Teso Village, Logas Tanah Darat District, Kuantan Singingi Regency

No	Category	f	%
1	Role of parents		
	Positive	18	34,6
	Negative	34	65,4
	Quantity	52	100
2	Early-age marriage	41	78,8
	Yes	11	21,2
	Not	52	100
	Quantity		

Analisa Bivariate

Table 3 shows that the role of parents in family communication is positive in relation to the incidence of early marriage as many as 10 respondents (55.6%) and not related to the incidence of early marriage as many as 8 respondents (44.4%) less than the role of people old in family communication that is negative in relation to the incidence of early marriage as many as 31 respondents (91.2%) and not related to the incidence of early marriage as many as 3 respondents (8.8%). Calculation of chi square with $\alpha = 0.05$ obtained a large value of p value of (0.005) which means that there is a significant relationship between the role of parents in family communication with the incidence of early marriage with OR 0.121 (CI: 0.027-0.546) which means that respondents with the role of parents in negative family communication tends to be 0.121 children will do early marriage more than the role of parents in positive family communication.

Landung (2009) suggests that the role of parents in the continuity of early marriage is basically inseparable from the level of knowledge of parents which is also related to the level of education of

parents. Juspin (2012) argues that the level of family education will also influence family understanding of family life better. Parents who have a low understanding of families by looking at that in family life will create a good relationship so that marriage is getting faster then the main solution for parents.

Table 3 Relationship between Parents' Role in Family Communication on Early Marriage Events in Hulu Teso Village, Logas Tanah Darat District, Kuantan Singingi District.

Role of parents	Early marriage				aged Quantity		p value	OR(95 %CI)
	Yes		No					
	f	%	F	%	f	%		
Positive	10	55,6	8	44,4	18	100	0,005	0,121
Negativ	31	91,2	3	8,8	34	100		(0,027-0,546)

Nurhajati (2013) revealed that parents who have limited understanding, especially about reproductive health, children's rights, the tendency is to marry off their children. Parents have a big role in the incidence of early marriage. In addition, parents also have a big role in delaying the age of child marriage. Lack of communication that is woven by parents to their children so that children, especially teenagers who need more attention to the development of their sexuality, will lead to free sex so that it can lead to early marriage and as a result of parenting that gives too much trust and freedom in children.

The results of the Lisda Oktavia (2012) study show that there is a relationship between the level of education of the father and the adolescent attitude towards the maturity of the marriage age. There is a relationship between the level of education of parents, in this case the father as decision maker in the family, it is assumed that adolescents who have parents with sufficient level of education will obtain information on reproductive health that includes ideal families, contraception selection, and care during pregnancy, age of marriage that is good, intercourse between the opposite sex, and correct sexual intercourse from parents.

This research is in line with the results of Desiyanti's research (2015) showing that there is a relationship between the role of parents as a component in the communication system and the incidence of early marriage to their children. The role of parents is very important in taking decisions when the child is getting married, so early marriage that occurs in children who are still early age is greatly influenced by parents. Because parents have a very important role in a family

CONCLUSION
1. The results of the study show that the majority of the role of parents in family communication is negative as much as 65.4% and respondents who do early marriage as much as 78.8%.
2. The results showed that there was a relationship between the role of parents in family communication and the incidence of early marriage (p = 0.005). The role of parents who are not good, such as not paying attention to their child's social environment, does not provide supervision or guidance to their children, and there is no time to gather with their families so that they tend to make teenagers free. Lack of parents' role in discussing or providing knowledge to their children about health education so that many children make early marriages. The lack of communication made by parents to their children, especially teenagers who need more attention to the development of their sexuality, will lead to more free sex so that it can lead to early marriage.

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THE INFLUENCE OF GUIDED IMAGERY ON THE PAIN LEVEL OF CHILDREN AGED 7-13 YEARS OLD UNDERGOING THE INTRAVENOUS THERAPY IN ROYAL PRIMA JAMBI HOSPITAL

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Abstract

Intravenous therapy can cause pain on children. Guided Imagery is a nonpharmacological strategy that can reduce pain. This study aimed to determine influence of Guided Imagery on children's pain levels during getting IV therapy. Quasi-experimental research with samples were 30 interventions and 30 controls. The instruments used the Wong Baker Faces Rating Scale. The results showed that there were pain level of respondents when undergoing the IV Therapy. Respondent's pain level between the intervention group and the control group showed that 50% of respondents experienced moderate pain before being guided relaxation imagery, and the remaining 43.3% had severe pain, 6.7% of respondents experienced unbearable pain. 80% of respondents experienced moderate pain after being guided relaxation of imagery, and the remaining 20% experienced severe pain, 0% experienced unbearable pain. There was a significant effect between guided imagery relaxation on the level of pain (p-value= 0.002). It was concluded that there were an influence Changes in the patient's pain level to infusion before and after guided imagery relaxation.

Keywords : Guided imagery, intravenous therapy, pain level.

INTRODUCTION

Disease and child care in hospitals (Hospitality) is often the first crisis that children have to face because it causes stress in children. One of the main stressors of hospitalization in children is pain that will have an impact on trauma (Hockenberry & Wilson, 2009). Children need to be prepared in facing hospitalization experience and various procedures that cause pain so that children are able to direct their energy to deal with stress due to unavoidable hospitalization (Hockenberry & Wilson, 2009). One that can be done by nurses to achieve treatments that do not cause trauma is reducing pain (Hidayat, 2005).

The procedure of infusion is an invasive procedure that is often performed on child care in hospitals (Wang, Sun & Chen, 2008). The presence of venous stabbing procedures in infusion can cause anxiety, fear and pain in children (Wang, Sun & Chen, 2008). Pain reduction techniques are basically categorized into 2, namely pharmacology and nonpharmacology, including distraction, relaxation, cutaneous stimulation and Guided Imagery.

Guided Imagery is a technique that is used by stories or narratives to influence the mind, often combined with a background of music (Hart, 2008). Guided Imagery can function as a distraction from stimulus that hurts thus reducing pain response (Jacobson, 2006). related to the influence of Guided Imagery on children who have infusion is still limited. Guided

Imagery will be very effective in children compared to adults and more open creativity and imagination of children (Hart, 2008). Non-pharmacological strategies of guided imagery in children who carried out infuse installation have not been applied at Royal Prima Jambi Hospital. The procedure for infusion of children is carried out by nurses based on standard operating procedures for the hospital.

The purpose of this study was to determine the characteristics of ankles aged 7-13 years of infusion at Royal Prima Jambi Hospital, to determine the pain level of children aged 7-13 years when infusing in the control group and intervention, and to know the effect of guided imagery on the level of ankle pain. age 7-13 years when infusion at Royal Prima Jambi Hospital after being controlled by the characteristics of the child.

METHOD

This type of research was quasi-experimental with non equivalent control group after only design. The population in this study were all children aged 7-13 years who were taken to Royal Prima Jambi Hospital and treated in the children's room at Royal Prima Jambi Hospital. The sampling technique was carried out by consecutive sampling technique with a sample of 30 children in the intervention group and 30 children in the control group. The instruments in this study were questionnaires to determine the characteristics of children, the pain level assessment sheet, namely the Wong Bacer Faces Pain Rating Scale, and MP4 which contained guided imagery.

Assessment of pain levels

Wong Baker FACES Pain Rating Scale or commonly referred to as face scale, consists of six cartoon faces that have a range of smiling faces "for no pain" until the face breaks down for "the most severe pain". This scale can be used for children who are at least 3 years or older. The advantages of this facial scale are that

children can show themselves the pain that they have just experienced in accordance with the image that has a face scale. This is recommended for children (Hockenberry & Wilson, 2009). According to Grove da Luffy (2003) research comparing children's validity, reliability, and choice of pain measuring devices between FACES, VAS (Visual Analog Scale) and OUCHER in children aged 3-18 years shows that children prefer FACES (56%) .In children aged 8-12 years shows that FACES validity is 81% and 78% reliability and children prefer FACES (47%).

Fig 1.Wong Baker Faces Pain Rating Scale
Sumber :Baultch (2010)

Guided Imagery

Rank (2011) states that guided imagery is a cognitive behavior technique in which a person is guided to imagine relaxed conditions or about pleasant experiences. Guided imagery can function as a distraction from painful stimuli thus reducing pain response (Jacobson, 2006). can weaken psychoneuroimmunology which affects stress response, besides that it can release endorphins which weaken the pain response and can reduce pain or increase the pain threshold (Hart, 2008), Guided imagery given in this study is to use audio recordings (MP4) which contains a guide to imagination about the fun thing that is eating ice cream and going to the beach. Audio guided imagery recording is given during the procedure of implementing infusion until the procedure is complete. The prepared audio guided imagery recording is 10 minutes long.

Data analysis

Univariate analysis was carried out to explain the variable level of pain and respondent characteristics including age,

gender, family attendance during infusion installation procedures, and respondent's experience in the previous infusion procedure. While bivariate analysis was used to determine the relationship or significant differences between two variables. -the relationship of categorical variables with numerics using the T test.

RESULTS

Respondents of this study amounted to 60 respondents consisting of 30 respondents in the intervention group and 30 respondents in the control group. average 7-8 years old. The majority of respondents were 7 years as many as 8 respondents (26.7%) and 8 years as many as 6 respondents (20%), of the total respondents had a history of hospitalization as many as 16 respondents (53.3%) in the case group and 11 respondents (36.7 %) in the control group. Based on the child's experience of the previous infusion installation procedure, while in the control group 53.6% had experienced previous infusion procedures.

The pain level of respondents when infused was examined using the Wong Baker Faces Pain Rating Scale. Respondent's pain level between the intervention group and the control group showed that 50% of respondents experienced moderate pain before being guided relaxation imagery, and the remaining 43.3% had severe pain, 6.7% of respondents experienced unbearable pain. 80% of respondents experienced moderate pain after being guided relaxation of imagery, and the remaining 20% experienced severe pain, 0% experienced unbearable pain. There was a significant effect between guided imagery relaxation on the level of pain in patients at the time of infusion at Royal Prima Jambi Hospital (p-value: 0.002, 95% CI). Changes in the patient's pain level to infusion before and after guided imagery relaxation.

Table 1. Changes in the patient's pain level for infusion before and after guided imagery relaxation at Royal Prima Jambi Hospital

Level	Case		Control		Total	%
	f	%	f	%		
Increased	0	0	2	6,7	2	3,3
Fixed	22	73,3	28	93,3	50	83,3
Down	8	26,7	0	0	8	13,3
Total	**30**	**100**	**30**	**100**	**60**	**100**

DISCUSSION

The appropriate age of the child in the provision of guided imagery is 7 years and over. Children need to reach the preoperative Piaget stage (age 2-7 years) to get the benefits of guided imagery as pain control therapy (Whitaker% Mc Arthur, 1998 in Hart, 2008). In this study the youngest age of respondents is 7 years and the oldest age of respondents is 13 years. According to cognitive development (Piaget) children aged 7-11 years are in a concrete operational stage characterized by inductive reasoning, logical actions, and reversible concrete thoughts (Muscari, 2005). At this age children are able to classify, sort, compile and organize facts to solve problems (Hockenbberry & Wilson, 2009). In addition, children also have the ability to think that is rational, imaginative and can explore objects or situations to solve problems (Supartini, 2004). Respondents in this study aged 7-13 years when given guieded imagery can follow the guidance of imagination given to children.

The child is asked to point to a facial image that represents pain that is felt during an IV. The pain felt by the respondent during infusion is caused by the insertion of a needle into the vein, causing damage to the skin tissue. The presence of a pain stimulus will be accepted by pain receptors (nociceptors). Perception of pain occurs when this stimulus is transmitted to the medulla sponalis and then to the central area of the brain (Helms & Barone, 2008).

The results of the analysis of the influence of guided imagery on the level of pain of children aged 7-13 years when

administering infusion showed that there were significant differences in the average level of pain of children aged 7-13 years when infusion given guided imagery with no guided imagery. . The existence of significant differences is related to the mechanism of guided imagery that can weaken psychoneuroimmunology that influences stress response, and is related to the Gate Control theory which states that "only one impulse can walk to the bone marrow to the brain at one time" and "if filled with another thought, the pain sensation cannot be sent to the brain, therefore the pain decreases. Children who are infused will cause tissue damage that stimulates nociceptors to transmit pain to the brain, but with guided imagery will reduce the transmission of pain to the brain so that the level of pain is reduced (Jacobson, 2006). In addition Jacobson (2006) states that guided imagery can function as a diversion from painful stimuli thus reducing pain response.

CONCLUSION

Age of respondents between the ages of 7-8 years, when the respondent carried out the infusion was always accompanied by the family and dominated by the presence of mothers and most respondents did not have previous IV experience. There was a significant effect between guided imagery relaxation on the level of pain in patients at the time of infusion at Royal Prima Jambi Hospital (p-value: 0.002, 95% CI). Changes in the patient's pain level to infusion before and after guided imagery relaxation.

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DIFFERENCE OF BREASTMILK PRODUCTION IN POSTPARTUM MOTHERS WHO PERFORM MARMET TECHNIQUE AND OXYTOCIN MASSAGE

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Abstract
The aim of this study was to determine the differences of breastmilk production on postpartum mothers through marmet technique and oxytocin massage. This research type was quasi-experimental with post-test only design with two comparison treatment. Population of this study were all normal postpartum mothers at Taman Sari 2 Clinic and Rosita Midwifery Practice amounted 60 people. The sampling technique in this study was purposive sampling. The method of sampling were by comparing the breastmilk expression method and the oxytocin massage which was done once a day for 20 minutes on postpartum mothers day 1-3 and then breastmilk production was assessed.Data processing used the Mann-Whitney U test. The results of statistical analysis showed p value (0,000), showing the significant difference in breastmilk production on postpartum mothers who underwent oxytocin massage, which improved breastmilk production more effectively compared to marmet technique. It is was recommended to health care officers, especially midwives, to provide care for oxytocin massaging to increase breastmilk production.

Keywords : Breastmilk production, marmet technique, oxytocin massage

INTRODUCTION

World Health Organization (WHO) 2009 and the America Academy of Pediatric (AAP) 2012 recommended the provision of optimal nutrition for newborns with the global strategy of exclusive breastfeeding for 6 months. Breastmilk is a special liquid created by God specifically for babies containing white blood cells, immune substances, enzymes, hormones and proteins that are suitable for babies (Ministry of Health, 2013). Breastmilk is the best food for babies at the beginning of their life. Breastmilk is proven to have advantages that cannot be replaced by any food or drink because it contains the most appropriate and complete nutrients for the growth and development of infants (Sugiarti, et al. 2011).

Based on reports from the Directorate General (DG) of Nutrition and Maternal and Child Health (Kesehatan Ibu Anak/KIA) of the Ministry of Health in 2015, breastfeeding coverage at the age of 0-6 months was still quite low at 52.3%. This number had not reached the target of exclusive breastfeeding of 80% in 2015 . Data from the Riau Provincial Health Office in 2015 stated that the coverage of exclusive breastfeeding in Riau Province was 68.8% and the data from the Pekanbaru City Health Office in 2015 was 71.3%.

The low coverage of exclusive breastfeeding is due to the existence of non-exclusive food ideologies, lack of maternal knowledge so that there is no strong motivation from mothers to breastfeed their babies exclusively (Afifah, 2007). One of the inhibiting factors in breastfeeding is the breastmilk production itself. Low and delayed breastmilk production can cause lacking milk supply

to the baby. In addition to the prolactin, the lactation process also depends on the oxytocin, which is released from the posterior pituitary as a reaction to nipple sucking. Oxytocin affects myoepithelial cells that surround the mammary alveoli so that the alveoli contracts and secretes milk that has been produced by the mammary gland, this oxytocin reflex is affected by the mother's psychologycal condition. If anxiety, stress and doubt that occur, then breastfeeding can be hampered (Kodrat, 2010). This is supported by the research of Yaqub & Gul (2013) that the most common reason that causes failure of exclusive breastfeeding is low milk production (93.2%).

Decreasing milk production in the first days after giving birth can be caused by a lack of stimulation of the prolactin and oxytocin which plays an important role in the production of breast milk. If early breastfeeding in the first hours of birth cannot be done by the mother, it will cause the breastfeeding process to be delayed, so an alternative that can be done is to express the breastmilk for 10-20 minutes until the baby can suckle. This action can help maximizing prolactin receptors and minimizing side effects from the delayed breastfeeding process for the baby (Evariny, 2011). This is one alternative that can be done to increase breast milk production in postpartum mothers. The recommended expressing technique is using hands and fingers, because it is more practical, effective and efficient compared to using breastmilk expressing device (Marmet, 2003).

The method used is the Clhoe Marmet method which is often referred to as marmet technique which is a hybrid of expressing and massaging techniques. This technique gives a relaxing effect and reactivates the milk ejection reflex (MER), so that the milk will spray out automatically (Ulfah, 2013).

The results of the study by Anita Widiastuti, et al. (2015) said that postpartum mothers who performed Marmet technique showed significant results on breast milk production. The mother felt the flow of milk coming out during breastfeeding and the flow of breast milk felt heavy. This is also supported in the Ulfah (2013) study that performing Marmet technique was effective in breastfeeding mothers of baby aged 0-6 months in the working area of Arjasa Health Center, Jember Regency. The results of the study by Khusnul Hamidah (2016) showed that 75% of normal and post c-section mothers who performed Marmet technique had good and smooth breastmilk production, whereas in the control group who not performed Marmet technique, only 40% had good breastmilk production.

Another method that can help maximizing oxytocin receptors, stimulating let down reflex and minimizing the side effects of delayed breastfeeding is oxytocin massage (Evariny, 2008). Oxytocin massage is one of the right solutions to accelerate and facilitate the production and expression of breast milk (Biancuzzo, 2003; Roesli, 2009). This was supported in the study of Albertina, et al. (2015) that there was a relationship between oxytocin massage and the breastmilk production in postpartum mothers who underwent c-section at Samarinda Aisyiyah Hospital with a p value of 0.003.

In "X" Clinic Pekanbaru, the average number of postpartum mothers in 2017 is 128 mothers. There were still many postpartum mothers who have breastfeeding problems such as the lack of breastmillk production, which was around 68 people (87%).

Therefore, the researchers were interested in conducting a study entitled "Differences in the breastmilk production in postpartum mothers who perform Marmet technique and oxytocin massage. Research purposes to find out the difference in the breastmilk production in postpartum mothers who performed marmet technique and oxytocin massage.

Research BenefitsThe results of this study are expected to improve knowledge and experience about the breastmilk and to increase the production of breast milk in postpartum mothers by marmet technique and oxytocin massage.

METHODS

This study used a quasi-experimental design with a post comparison test design with two comparison treatment, namely comparing the breastmilk production in postpartum mothers after performing Marmet technique and oxytocin massage in each experimental group and measuring the amount of breast milk produced.

The population in this study were postpartum mothers who gave birth normally in the Ernita Midwifery Practice Pekanbaru in 2015. The sample size was 60 samples divided into 30 respondents for the control group and 30 respondents for the treatment group. The data obtained was processed by computerization and analyzed by Mann-Whitney U test statistics.

RESULTS

Based on the data collection conducted in 2018 in a study of the differences in the breast milk production in postpartum mothers who performed Marmet technique and the oxytocin massage, the results were shown below.

Table 1
Description of the Breastmilk Production in the Postpartum Mother who performed Oxytocin Massage and Marmet Technique

Intervention	N	Mean	SD	Min-Max
Oxytocin Massage	30	11,83	0,531	10-12
Marmet Technique	30	11	0,910	9-12
Total	60			

Based on Table 1 the average value of breast milk production after performing oxytocin massage was 11.83 with a standard deviation value = 0.531

Table 2
Differences of the Breast Milk Production in Postpartum Mothers who Performed Marmet Technique and Oxytocin Massage

Intervention	n	Mean	SD	Mean Rank	p
Technique Marmet	30	11	0,9	22,2	0,000
Oxytocin Massage	30	11,8	0,5	38,8	
Total	60				

Based on Table 2, it could be seen that the results of the Mann-Whitney U statistical test showed significant difference in the average breastmilk production after performing Marmet technique and oxytocin massage (p = 0,000), with lower mean rank in the marmet technique group (22.20) compared with mean rank in the oxytocin massage group (38.80), which meaned that oxytocin massage was more effective in increasing the breast milk production compared to Marmet technique in nursing mothers.

DISCUSSIONS

Based on the statistical test results using the Mann-Whitney U test, the mean rank value in the oxytocin massage group (38.80) was higher than the mean rank in the Marmet technique group (22.20) in breastmilk production after these intervention. Statistical analysis results showed p value (0,000), so it can be concluded that there was a significant difference in the breastmilk production in postpartum mothers who performed oxytocin massage compared to the marmet technique in nursing mothers, showing that oxytocin massage was more effective in increasing the breastmilk production.

This research shows that performing oxytocin massage will further facilitate breast milk production in postpartum mothers. Massage or stimulation of the spine will cause neurotransmitter to stimulate the medulla oblongata, directly sending messages to the hypothalamus,

then posterior hypophysis to excrete oxytocin, causing the breasts to excrete milk. This spinal massage will also relax tension and relieve stress, thus promoting oxytocin release to help breastmilk secretion (Hamranani, 2010).

The results of this study were in line with the research by Mardiyaningsih (2010) which stated that the combination of oxytocin massage and Marmet technique performed for 30 minutes was more effective in breastmilk production in mothers post c-section. In the study the average breast milk production in the experimental group were 11.5 times greater than the control group.

Another method that can help maximizing oxytocin receptors, stimulating let down reflex and minimizing the side effects of delayed breastfeeding was oxytocin massage (Evariny, 2008). Oxytocin massage is one of the right solutions to accelerate and facilitate the production and expression of breast milk by applying massage along the fifth or sixth bone of spine (vertebrae). This massage will provide comfort and relaxation to the mother after undergoing labor so that it does not inhibit the secretion of the prolactin and oxytocin (Biancuzzo, 2003; Roesli, 2009).

This was supported in the study of Albertina, Melly and Shoufiah (2015) that there was a relationship between oxytocin massage and the breastmilk production in postpartum mothers undergoing c-section at Samarinda Aisyiyah Hospital with a p value of 0.003.

The results of this study were in line with the research of Mera et al. (2026) on the effect of oxytocin massage witj increased breast milk production on nursing mothers in Mandiangin Plus Health Centre, which showed that there was an effect of oxytocin massage to increase breast milk production in nursing mothers. This research was compatible with the theory, by doing massage along the fifth-sixth bone of spine (vertebrae) will stimulate the prolactin and oxytocin,

leading to better breastmilk production. In addition to facilitating breastmilk production, oxytocin massage provides comfort to the mother, reduces swelling (engorgement), reduces breastmilk blockage, stimulates the release of the hormone oxytocin, and maintains milk production.

Low and delayed breast milk production can cause lacking milk supply to the baby. In addition to the \prolactin, the lactation process also depends on oxytocin, which is released from the posterior pituitary as a reaction to nipple sucking. Oxytocin affects myoepithelial cells that surround the mammary alveoli so that the alveoli contracts and secretes milk that has been produced by the mammary gland. This oxytocin reflex is affected by the mother's psychological condition. If anxiety, stress and doubt occurs, then breastfeeding process can be hampered (Kodrat, 2010).

Decreased milk production in the first days after giving birth can be caused by a lack of stimulation of the prolactin and oxytocin which plays an important role in the breastmilk production. If early brea.stfeeding in the first hours of birth cannot be done by the mother, it will cause the breastfeeding process to be delayed, so an alternative that can be done is to do oxytocin massage.

Oxytocin massage starts on day 1 after giving birth and is done once daily for 20 minutes. This action is done for 3 times in 3 days. This action can help maximizing prolactin receptors and minimizing side effects from delays in the baby's breastfeeding process (Evariny, 2011).

This study is also in line with Setiawandari's (2014) study at Mother and Child Hospital Surabaya, that oxytocin massage increases breastmilk production in postpartum mothers. Oxytocin massage is also a good alternative in releasing breast milk because by doing massage using the thumb on the spinal region can stimulate the release of oxytocin, leading

too better breastmilk production. Postpartum mothers who have undergone oxytocin massage for breastfeeding had better breastmilk production than performing Marmet technique. This is because the oxytocin massage, which is carried out by the husband or other family who supports breastfeeding process, has comforting effect on the mother,]so that it stimulates milk production.

At the time of conducting the research, researchers experienced problems with the time of visiting the respondent's house. The intervention can not be done with the same time for all respondents, because we had to adjust to different relaxed conditions for each respondent, psychologically. One of the efforts made by researchers to minimize the effect of the situation is by adjusting the available time of the respondents. Researchers also did not consider maternal food factors, nutrition and fluid intake, and the maternal psychological factors that could affect breast milk production in postpartum mothers. This limitation was realized by researchers because theoretically, these factors were factors that can influence the production of breast milk.

The reality in the community shows that low breastmilk production in the first days of childbirth is an obstacle in early breastfeeding. The absence of breast milk production in the first days after giving birth causes the mother and family to give prelactal feeding. When prelactal feeding is given to the baby, the breastmilk is produced slower, because the baby is not strong enough to suck the nipple of the mother's breast. This causes the baby to be reluctant to suckle, thus negating pituitary stimulation to produce breastmilk.

Prasetyono (2005) stated that immediately after birth, the baby must be breastfed by his mother. This action is not intended to provide nutrition, but so that the baby learns to breastfeed or suck the mother's nipples, and supports the production of breastmilk. The sucking

reflex in newborns will peak at 20-30 minutes after birth. If breastfeeding delayed, then the reflex will decrease. The role of health proffesionals in providing psychological support cannot be separated from the mother's efforts in increasing breastmilk production. Advices and counsels about breastfeeding needs to be given especially to mothers who have had their first child, and do not yet know how to nurse properly. Likewise, giving an intervention about breast care is very important, so the breastfeeding problem that appears in the first days of breastfeeding such as low breastmilk production can be minimized.

CONCLUSIONS
1. Breastmilk production in postpartum mothers after peforming Marmet technique had mean rank value of 22.20 in the Marmet technique group, with a Standard Deviation value = 0.910.
2. Breastmilk producton in postpartum mothers after performing oxytocin massage had mean rank value of 38.80 with a Standard Deviation value = 0.531.
3. The results of statistical analysis obtained p value (0,000), showing significant difference in the breastmilk production in postpartum mothers performed oxytocin massage,which more effectively impproved the breastmilk production compared to Marmet technique in nursing mothers.

RECOMENDATIONS
It is expected that health care officers, especially midwives, will provide care about oxytocin massage to improve breastmilk production, so that postpartum mothers have no difficulty in breastfeeding. In addition to providing direct care, health proffesionals can also share leaflets about the oxytocin massage and display photos about oxytocin massage on the walls of the health care center.

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EFFECTIVENESS OF GIVING DECOCTION OF RED GINGER (ZINGIBER OFFICINALE OF VARIETIES OF RUBRUM) AND BROWN SUGAR ON DECREASING DYSMENORRHEAL PAIN IN STUDENTS OF TRI BHAKTI MIDDLE SCHOOL

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Abstract
The incidence of dysmenorrhea is 1,769,425 people (90%) with 10-15% having severe dysmenorrhea, on average more than 50% of women in each country experience menstrual pain. The purpose this study was to determine the effectiveness of giving decoction of red ginger and brown Sugar to decrease the dysmenorrhea pain. The study was quasi experimental with one-group pretest-posttest design. The populations of this study were grade VIII female 54 female students. The samples were selected by accidental sampling as many as 15 respondents Data analysis was performed using paired t test. The instrument of this study were the Numeric Rating Scale. The results of statistical tests showed that there were significant differenceon scale pain before and after consuming water of Red Ginger (Zingiber Officinale Varieties of Rubrum) and Brown Sugar(p value=0,000). It is expected that the results of the study can be used to reduce the pain of dysmenorrhea in a non-pharmacological manner.

Keywords : Dysmenorrhea, red ginger and sugar

INTRODUCTION

Normal menstruation results from decreased estrogen levels of progesterone and endometrium. The menstrual cycle that causes ovulation is caused by complex interactions between various organs. Disfunction at any level can interfere with ovulation and the menstrual cycle.

According to the World Health Organization (WHO) the incidence of menstrual pain in the world is very high. The incidence of dysmenorrhea is 1,769,425 people (90%) with 10-15% experiencing severe dysmenorrhea.

On average more than 50% of women in each country experience menstrual pain. The prevalence of menstrual pain in the United States is estimated at 45-90%. The incidence of menstrual pain in adolescents is reported to be around 92%, from Sweden reported menstrual pain in 90% of women aged less than 19 years and 67% of women aged 24 years. The incidence of dismenorhea in Indonesia is 107,673 people, consisting of 59,671 people experiencing primary dismenorhea and 9,496 people experiencing secondary dismenorhea.

The incidence of dysmenorrhea that occurs in adolescents in Indonesia in 2009 consisted of 72.89% experiencing primary dysmenorrhea and 27.11% experiencing secondary dysmenorrhoea. According to Harel (2006), the majority of dysmenorrhoea that occurs in adolescents is primary dysmenorrhoea. While according to Lestari et al. (2010), the percentage of girls who experience dysmenorrhoea is 98.5% and as many as 41.2% of girls prefer to just let the pain disappear by it self (Wijayanti, 2017).

Etiology of menstrual disorders in women can originate from hormonal imbalance disorders, problems in the

structure of the reproductive organs, the presence of infections, and other factors that are not known with certainty.

Use of nonsteroidal anti-inflammatory drugs can cause side effects when consumed, therefore another alternative is needed to overcome menstrual pain, especially primary menstrual pain. In this case the use of natural ingredients will be better and reduce the side effects that are harmful to health, including those that are often used is ginger.

Contents such as aleoresin in the ginger rhizome such as gingerol have antioxidant activity above vitamin E. Gingreol in ginger is also anticoagulant, which can prevent blood clots. This is very helpful in removing menstrual blood. Another source said that ginger can reduce prostaglandin production, which is known to be the main cause of menstrual pain. Aleorisin works in inhibiting the reaction of cyclooxcygenase (COX) to inhibit the occurrence of inflammation which will reduce uterine contractions (Utari, 2015).

METHOD

The study was quasi experimental with one-group pretest-posttest design on 15 students who experienced dysmenorrhea in Tri Bhakti Middle School. The inclusion criteria in this study were students who had menstruated, were not taking analgesic drugs, were willing to be respondents, while the exclusion criteria were students who had a history of reproductive disorders and were accustomed to taking analgesics to reduce menstrual pain. The instruments used were observation sheets and pain scale Numeric Rating Scale (NRS). Data was processed using SPSS with T-Dependent Test.

RESULT

Based on table 1. it is known that the pain distribution of dysmenorrhea in female students before treatment at Pekanbaru Tri Bakti Middle School, moderate pain scale (4-6) amounted to 8

respondents (53.3%), severe controlled pain (7-9) totaling 6 respondents (40.0%), and mild pain (1-3) totaling 1 respondent (6.7%), with a mean of 3.33.

Table 1
Average Frequency Distribution of Dysmenorrhoeal Pain Before Treatment

Variabel	Pain Scale	n	%	Mean
Before Treatment	Pain free (0)	0	0	
	Mild Pain (1-3)	1	6,7	
	Moderate Pain (4-6)	8	53,3	
	Severe Pain Controlled (7-9)	6	40	3,33
	Severe Pain Uncontrolled (10)	0	0	
Total		15	100	3,33

Table 2
Average Frequency Distribution of Dysmenorrhoeal Pain After Treatment

Variabel	Pain Scale	n	%	Mean
After Treatment	Pain free (0)	5	3.33	
	Mild Pain (1-3)	7	46,7	
	Moderate Pain (4-6)	3	20	1.87
	Severe Pain Controlled (7-9)	0	0	
	Severe Pain Uncontrolled (10)	0	0	
Total		15	100	1.87

Based on table 2 it is known that the pain distribution of dysmenorrhea in female students after treatment at Pekanbaru Tri Bakti Middle School, mild pain (1-3) amounted to 7 respondents (46.7%), pain free (0) totaling 5 respondents (33.3%), and moderate pain 4-6) totaling 3 respondents (20.0%) with a mean of 1.87.

Table 3
Distribution of Frequency of Dysmenorrhea Pain Before and After Consuming Water of Red Ginger and Red Sugar Decoction

Pain Scale	n	Mean	t	p value
Before	15	3,33	8,876	0,000

After	15	1,87

Table 3 shows that the average dysmenorrhoea pain in female students at Pekanbaru Tri Bakti Middle School is 3.33 before consuming Water of Red Gingerbread and Red Sugar and decreasing to 1.87 after consuming Red Ginger decoction water and Brown Sugar.

The results of data analysis for the frequency of dysmenorrhoea pain in female students before and after consuming boiled water of red ginger (zingiber officinale variates rubrum) and brown sugar using paired t test were obtained (p value = 0,000 <0.05) indicating that there was a significant difference in pain scale students before and after consuming boiled water of red ginger (zingiber officinale variates rubrum) and brown sugar to decrease dysmenorrhoea pain in female students of tri bakti pekanbaru junior high school.

DISCUSSION

The results of the bivariate analysis showed that the average dysmenorrhoea pain in female students at Pekanbaru Tri Bakti Middle School was 3.33 before consuming Zingiber Officinale Variates Rubrum and decreased to 1.87 after consuming Red Ginger Stew (Zingiber Officinale Variates). Rubrum) and Brown Sugar. obtained (p value = 0.000 <0.05)) showed that there was a significant difference in the scale of pain in students before and after consuming boiled water of red ginger (zingiber officinale variates rubrum) and brown sugar to decrease in dysmenorrhoea pain in female students of tri bakti pekanbaru Middle School.

Menstrual pain occurs because there is an increase in prostaglandin production. This increase will result in contraction of the uterus and vasoconstriction of blood vessels, so the blood flow to the uterus decreases causing pain. In addition to increasing prostaglandin menstrual pain conditions for female students are also caused by psychological or stress factors, for example when students want to test or have a problem during menstruation (Abdul, 2015).

The efficacy of red ginger is also justified by Baktiar (2010). In his research it was stated that red ginger extract was proven to reduce pain due to osteoarthritis and dysmenorrheal pain (Suparmi, 2016).

This research is in accordance with the research of Wilis (2011) entitled "The Effect of Ginger Stew Water on Intensity of Menstrual Pain in STIKes Aisyiyah Semester 7 Yogyakarta Students" with quasi-experimental research with one-group pretest-posttest, with a sample of 20 respondents where the intensity menstruation before being given ginger stew water in STIKes Aisyiyah Yogyakarta students ranged from 5-8 with an average of 7 and after being given the second day ginger cooking water ranged from 1-4 with an average of 2.55. The results of the t-test show a t value of 24.106 at df 19 with a significant level $p = 0,000$.

According to the researchers' assumptions, Water of Decoction of Red Ginger (Zingiber Officinale Varieties of Rubrum) and Red Sugar has an influence on the decrease in Dysmenorrhoea Pain. This is because, during the research conducted on Tri Bhakti Pekanbaru Middle School students there was a decrease in the pain of dysmenorrhoea in patients given water stew of red ginger (Zingiber Officinale Varieties of Rubrum) and Brown Sugar. According to the researchers this is because the essential oil contained in red ginger contains the chemical content of gingerol which has a strong effect on inhibiting prostaglandin biosynthesis in accordance with a previous review that ginger produces anti-inflammatory and analgesic effects.

CONCLUSION

There was an effect before and after consuming boiled water of red ginger and brown sugar to decrease dysmenorrhoea

pain in female students of Pekanbaru Tri Bhakti Middle School.

RECOMENDATIONS

It is expected that female students with dysmenorrhea can overcome by consuming red and brown sugar ginger stew. Further studies were conducted on dysmenorrhoea handlers with different variables and more sample numbers.

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BLOOD GROUP TOWARD INCIDENT OF HYPERTENSION

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Abstract

Hypertension is the main factor that causes cardiovascular disease. Several studies have shown that blood type affects cardiovascular disease Individuals with blood type O have lower vWF levels than other blood groups. VWF levels are related to the process of arterial and venous thrombosis which leads to cardiovascular disease.The purpose of this study was to look the relationship of blood groups to the incidence of hypertension.The study sample amounted to 104 respondents. The research were quantitative analytical with a cross-sectional approach. The sampling technique is purposive sampling. Data collection uses observation sheets with blood pressure measurement techniques and blood type examinations. Data analysis using the chi-square test.The results of the study showed that respondents with blood type A had the most hypertension with 20 people (19.2%). The results showed that there were a significant relationship between blood group and the incidence of hypertension (p value=0.006). Blood group O respondents had lower vWf levels than blood groups A, B, and AB. This condition results in low coagulability and no blood deposits in the blood vessel walls. This is what causes blood type O to have a low risk of arterial and venous thrombosis which leads to increased blood vessel pressure. Blood type O has a lower risk of hypertension than blood groups A, B, and AB. It is recommended to conduct health education to the community to minimize the incidence of hypertension based on blood type with the right approach.

Keywords : Blood pressure, hypertension

INTRODUCTION

One of the main factors in cardiovascular disease is adjusting blood (hypertension). Hypertension has affected one billion people worldwide. The increasing prevalence of hypertension is related to population growth, aging and behavioral risk factors such as unhealthy diets, high consumption of alchemy, lack of physical activity, being overweight and prolonged stress(WHO, 2013). Increased blood pressure worldwide has resulted in 7.5 million deaths and around 12.8% of all deaths. Increased blood pressure is a major risk factor for coronary and ischemic heart disease and hemorrhagic stroke (WHO, 2018).

The prevalence of hypertension in the world continues to increase every year which is around 1.13 billion. The number of hypertensive patients in Indonesia is 25.8%. The highest prevalence is found in Bangka Belitung Province at 30.9%. The lowest prevalence was found in Papua Province which was equal to 16.8%, while the prevalence of hypertension in Riau Province ranged from 0.3%. Hypertension results in 45% of deaths due to heart disease and 51% of deaths due to stroke (Indonesian Ministry of Health's Data and Information Center, 2014).

Hypertension (Silent Killer) is grouped into two types, namely primary hypertension (essential) and secondary hypertension. Primary hypertension is

hypertension which is not known to cause changes in the heart and blood vessels. Secondary hypertension is hypertension caused by other diseases and usually, the cause is known, such as kidney disease and hormonal disorders or the use of certain drugs (Braverman & Braverman, 2008).

Hypertension can cause heart and blood vessel disease. Blood pressure that is not detected early and does not get adequate treatment and lasts for a long time (persistently) can cause damage to various body organs such as kidney (kidney failure), heart (coronary heart disease) and brain (stroke) (Braverman & Braverman, 2008). Hypertension results in 45% of deaths due to heart disease and 51% of deaths due to stroke (Indonesian Ministry of Health's Data and Information Center, 2014).

Factors that are thought to influence the risk of hypertension are blood type. Blood type is a special feature of blood from an individual. According to BA et al., (2017), non-O blood groups have a high risk of arterial and venous thrombosis. This condition is caused by the Von Willebrand factor (vWF) which is found to be lower in individuals with blood type O when compared to the Non-O blood group (A, B, AB). This condition is thought to affect the occurrence of blood deposits and thrombosis in blood vessels.

The results of the Skaik (2009) study, reported that non-O blood groups were associated with a high incidence of myocardial infarction in patients in large hospitals in the Palestinian Gaza Strip with a p-value <0.05. The results of the study He, et al (2012) reported that Non-O (A, B, and AB) blood groups had an increased risk of CHD greater than blood type O. Blood type B had an 11% increase in CHD, blood group A was 5%, and the smallest is group O.

The number of people with hypertension in Harapan Raya Health Center, Bukit Raya District in 2014 was ranked number 1 out of 20 health centers in Pekanbaru City (Pekanbaru City Health Office, 2014). The results of a preliminary study at Harapan Raya Health Center, Bukit Raya Sub-District in April 2017 through interview techniques, blood pressure measurement and blood type examination of 12 respondents aged 45-80 years found 6 people suffering from hypertension with blood pressure above 140/90 mmHg and 6 people have blood type Non-O (A).

METHOD

This research is a quantitative analytic type using a cross-sectional approach which is used to look at the relationship of independent variables (blood type) and dependent variables (hypertension) which are examined simultaneously to find out statistically the effect of blood groups on the incidence of hypertension.

The sample in this study was elderly who visited the Harapan Raya Pekanbaru Health Center Work Area. The sampling technique used was purposive sampling technique. Samples were obtained as many as 104 people obtained by determining the sample size.

The inclusion criteria in this study were: aged ≥ 45 years; elderly who visit Harapan Raya Pekanbaru Health Center; available to be respondents. Analysis of the data used in this study was univariate and bivariate. Univariate analysis was performed on each variable from the results of the study. The analysis was used to get an overview of the distribution of respondents based on age, the incidence of hypertension and blood type. This research has obtained a Research Ethics Test Graduation Certificate with letter number No: 173 / UN. 19.5.1.1.8 / UEPKK / 2018).

Bivariate analysis using Chi-Square test to see the relationship of blood group with the incidence of hypertension. The results of the study stated that there was a significant relationship if the measurement results were obtained with a p value <0.05.

RESULTS
Univariate Analysis

Based on table 1, out of 104 respondents, most of the respondents suffered from hypertension, namely 60 people (57.7%). The age of respondents who suffer from hypertension is most in the range of 45-55 years, namely 35 people (33.7%).

Table 1
Respondent Age Frequency Distribution Based on Hypertension Events

Variable	Not Hypertension (n)	%	Hypertension (n)	%	Total	%
Incidence of Hypertension						
Age						
45-55	27	26,0%	35	33,7%	62	59,6%
>55	17	16,3%	25	24,0%	42	40,4%
Total	44	42,3%	60	57,7%	104	100%

Blood type

Table 2
Distribution of Frequency of Blood Type

No	Blood Group	f	%
1.	A	25	25%
2.	AB	22	21,2%
3.	B	20	19,2%
4.	O	37	35,6%
	Total	104	100%

Based on table 2, it was found that most of the respondents were blood type O, which was 37 people (35.6%).

Bivariate Analysis

Table 3
Relationship of Blood Group with Hypertension

Variable	Not Hypertension (n)	%	Hypertension (n)	%	Total	%	P Value
Incidence of Hypertension							
Blood Group							
A	5	4,8%	20	19,2%	25	25%	
AB	10	9,6%	12	11,5%	22	21,2%	0,006
B	6	5,8%	14	13,5%	20	19,2%	
O	23	22,1%	14	13,5%	37	35,6%	

Table 3 shows that the blood group of respondents who did not have the most hypertension was O, which was 23 people (22.1%). The blood group of respondents suffering from the most hypertension was A, which was 20 people (19.2%). The results of statistical tests using the Chi-Square test get the value of p-value = 0.006 smaller than alpha (p-value <0.05) which means there is a significant relationship between blood type and the incidence of hypertension.

DISCUSSION

The results showed that the incidence of hypertension was higher at the age of 45-55 years (33.7%). The increase in the incidence of hypertension can be caused by an increase in age. This is because the arterial pressure will increase with age (Price dan Wilson, 2005). The theory is supported by research on factors related to blood pressure at Telaga Murni Community Health Center stating that age is statistically related to blood pressure (p <0.05) (Haendra, Anggara, & Prayitno, 2013).

Based on the results of the Chi-Square Test, there was a significant relationship between blood type and the incidence of hypertension (P-value <0.05), namely p-value 0.006. Heart disease more often attacks individuals with blood type A who have hypertension. Blood type A individuals have a weak ability in metabolizing protein and animal fat, which makes the heart muscle lack nutrients, weakens the heart rate, results in abnormal fat profiles, and the work of the heart muscle becomes less good (Adi, 2007). This results in narrowing of the coronary arteries so that blood is blocked reaching the heart tissue and in the long run results in the death of the heart tissue.

Hypertension can be caused by high cholesterol levels in the blood. Blood type A individuals have a weakness in fat metabolism which results in

hypercholesterolemia (Adi, 2007). High-fat foods play a role in the development of hypercholesterololemia which can interfere with vascular endothelial function and lead to the formation of atherosclerosis (Price and Wilson, 2005). Cholesterol causes the walls of blood vessels to become thick and stiff. As a result, blood vessels do not expand elasticly when the heart pumps blood through blood vessels and blood is pushed strongly to pass through narrow blood vessels. High cholesterol levels encourage an increase in blood vessel pressure and will eventually increase blood pressure.

The results of Sharif's study, Anwar, Farasat & Naz (2014) in Pakistan regarding the frequency of ABO blood groups in Ischemic Heart Disease, obtained data on individuals with blood type A having a high risk of suffering from Ischemic Heart Disease (IHD) (p-value <0.05). The prevalence of IHD based on blood type is found to be highest in blood group A, which is 34%, 29% in blood group B, 14% in blood group AB, and 23% in blood group O. Ischemic Heart Disease (IHD) was caused by hypertension.

Research is in line with supporting the relationship between cardiovascular disease and blood type, namely He, et al (2017) in Africa, found that there was a significant relationship between blood type A and the incidence of stroke and coronary artery disease (CAD) (p-value <0,0001). The results of the study also showed that the diagnosis of Ischemic Disease was found to be high in patients with blood type A (61.2%), whereas the diagnosis of Non-Ischemic Disease was found to be high in patients with blood type O (73.6%).

The ABO blood type plays a role in a number of diseases. Some evidence shows the involvement of blood groups in the pathogenesis of cardiovascular disease, especially the Von-Willebrand factor. There is a close relationship between venous thromboembolism (VTE) and non-O blood groups. Non-O blood types have an increased risk of venous thrombosis twice compared to non-O blood groups (Franchini & Mannucci, 2014).

Individuals with blood type A and B (Non-O) are also more often affected by Myocardium (IM) infarction. Non-O blood type increases the risk of heart death in patients with young age Myocardium Infarction (<65 years). IM is the most common complication of Coronary Artery Disease (CAD) caused by an occlusive thrombus. Increased risk of thrombosis is associated with Non-O blood groups that have high von Willebrand (vWF) factors in the blood. Blood types A and B are risk factors for coronary atherosclerosis and the strongest predictor of cardiac death (Carpeggiani, et al, 2010).

The results of Mishra and Pradhan (2016) 's study of the relationship of blood type of mothers with pregnancy hypertension disorder showed that individuals with blood type A or AB were found to have an increased risk of pregnancy hypertension compared to individuals with blood type O. This is caused by a mechanism that leads to von factors Willebrand (vWF) was found to be higher in Non-O (A, B, and AB) blood groups compared to blood group O individuals. The vWF factor can trigger the formation of aggregation or adhesion and atherosis which leads to endothelial dysfunction. Platelet adhesion is the first step in thrombus formation. The role of vWF in hemostasis if the level is too low can cause bleeding, but if the level is high enough it can cause thrombosis (Dharma, Hadinegoro & Priatni, 2006).

The results of the study of Elsayed and Amin (2015) also prove the relationship between ABO blood groups with hyperlipidemia, type II diabetes mellitus and essential hypertension. The results showed that blood type O had protection against cardiovascular disease. The risk of hypertension is found to be greatest in blood group B followed by blood type A. ABO blood group antigen

plays an important role in platelet function in the coagulation process. Blood type O is a new prediction of genetic variation for thrombosis. Blood type O has protection against the thrombosis process. Blood type is a determinant factor of vWF levels in plasma in the coagulation process. The research found that blood type O was protected from the effects of thrombosis because blood group O had vWF levels of less than 25% in plasma. This factor is related to the process of the occurrence of hypercholesterolemia which leads to the occurrence of cardiovascular disease.

Blood type O individuals have a low risk of hypertension. This is due to individuals with blood type O having abnormalities in blood clotting. Blood type O lacks blood clotting factors so individuals with blood type O are more watery because of blood clotting factors such as very low blood ristosity. Blood type O has the advantage that there is no blood deposits in the walls of blood vessels, but it is difficult in the process of blood clotting, as in varicose veins. Blood type O individuals are very at risk of using Aspirin-containing drugs and antibiotics such as Erythromycin and contain new macrolides such as Azithromycin because they can cause severe bleeding (Adi, 2007).

The results of the study concluded that there was a significant relationship between blood group and the incidence of hypertension. In Non-O blood type individuals, namely A, B, AB has a higher vWF level in the blood which leads to thrombosis in blood vessels. In addition, individuals with blood type Non-O (A, B, AB) have a weakness in protein metabolism resulting in disturbances in the heart muscle. Abnormalities in animal fat metabolism result in abnormal fat profiles that lead to the formation of atherosclerosis. In non-O blood group individuals have a weakness in fat metabolism due to low intestinal alkaline phosphatase levels which have less ability to break down fat which results in

individuals having high cholesterol levels. Levels of abnormal fat profiles can lead to the formation of atherosclerosis. The whole process results in an increase in blood vessel pressure and contractility disorders in the heart muscle and ultimately increases blood pressure. The results of the study concluded that the Non-O (A, B, AB) blood group was significantly associated with the incidence of hypertension.

CONCLUSION

Based on the results of research on blood type analysis of the incidence of hypertension in the Harapan Raya Pekanbaru Public Health Center Working Area, it can be concluded:The majority of respondents who suffer from hypertension are in the range of 45-55 years, namely 35 people (33.7%); The blood group of respondents suffering from the most hypertension was A, which was 20 people (19.2%); Based on the Chi-Square Test there is a significant relationship between blood group and hypertension incidence p-value = 0.006 (p <0.05). Blood type has a significant relationship with the incidence of hypertension.

RECOMENDATION
Educational Institution
It is hoped that it can be used as a source of information in the development of knowledge, especially about blood type as a risk factor for hypertension in the health sector and the results of this study can be used as evidence-based for the future.
Research Sites
It is expected to be used as material for study in order to determine policies and steps related to the prevention of hypertension problems. In addition, it can be an input to conduct health education in minimizing the incidence of hypertension based on blood type.
Research Respondents
It is hoped that it can be used as information about the illness so that it can maintain and improve health status by

maintaining a lifestyle. It is hoped that it can be used as information about the illness so that it can maintain and improve health status by maintaining a lifestyle.

Further Researchers

It is expected to be used as data, basic information, and evidence-based to carry out further research. It is hoped that the next researcher will do further research on blood groups against heart disease with a larger number of respondents.

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PERCEPTION OF ACTIVE FAMILY PLANNING USERS TOWARD INTRA UTERINE DEVICE (IUD) AND IMPLANT OF REGIONAL TECHNICAL IMPLEMENTATION UNIT (UPTD) IN MELUR PUBLIC HEALTH CENTER PEKANBARU

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Abstract
Family Planning program recent time had been a necessity in efforting to cope with growth of world population generally and indonesian particularly. According to data which be required from National Family Planning and Demography Institution (BKKBN) Pekanbaru, known by Family Planning acceptor in Local Government Clinic (Puskesmas) Melur Pekanbaru in 2013 amounted to 1412 people, whereas users of Intra Uterine Device (IUD) registered amounted to 56 people (1.3%). The aim of research is to understand perception of active Family Planning users toward Intra Uterine Device (IUD) and Implant of Regional Technical Implementation Unit (UPTD) in Local Government Clinic Melur, Pekanbaru. This Research uses analitic research with cross sectional approximation. The sample amonted to 45 people in gettig samples in an accidental sampling manner. According to research result, required result that most of respondents were in healthy reproduction phase, i.e. aged 20-35 years old, 44.4% of respondents had good knowledges, 60% of respondents had a positive attitude, 60% of respondents also had positive perception toward Intra Uterin Device (IUD) and Implant, and according to test result of chi-square required meaning relation between variabel and age (Pvalue 0.004 < alpha 0.05), knowledge (Pvalue 0.000 < alpha 0.05) and attitude (Pvalue 0.008 < alpha 0.05) with perception of active Family Planning acceptors in Local Government Clinic Melur Pekanbaru. Expected to official to more increase information about Intra Uterine Device (IUD) and Implant either illumination individually, society e.g in Local Government Clinic and cadre regular social gathering with the result that society thinking can change to something better toward this intrauterine device.

Keywords *: Perception, age, knowledge, attitude*

INTRODUCTION

Population problems are one of the problems faced by developing countries including Indonesia. Where there is a high rate of population growth of 258.7 million people in 2016. Various development programs have been carried out, to overcome the population problem, one of which is the family planning program (Suratun, 2009).

The Family Planning Program (KB) is now a necessity in an effort to overcome the growth of the world population in general and the population of Indonesia in particular. Whether or not we succeed in implementing the Family Planning (KB) program will determine the success or failure in realizing the welfare of the Indonesian people (BKKBN, 2010).

The nation's welfare program has become the target of the Sustainable Development Goals (SDGs) until 2015. The National Family Planning Program (KB) has the latest vision and mission,

namely with a vision of a balanced population of 2015 and its mission to realize population-oriented development and create a happy and prosperous small family (BKKBN, 2015).

One strategy of implementing Family Planning (KB) programs listed in the Medium Term Development Plan (RPJM) for 2015-2019 is the increasing use of long-term contraceptive methods (MKJP), which are very effective types of delaying births, spacing pregnancies and stopping pregnancies such as IUD (Intra Uterin Device), implant (implant), and MOW (Female Surgery Method) (Wiwien, 2009).

IUDs have many advantages for users, but in reality the number of Intra Uterine Device (IUD) acceptors is still low. This is caused by physical factors, such as the presence of certain diseases which are side effects of the use of Intra Uterine Device (IUD), psychological factors, namely fear of procedures for the installation and maintenance of contraceptives, feelings of shame and socio-cultural factors, such as values in the local community, religious values that prohibit the use of contraceptives and the view that Intra Uterine Devices (IUDs) can interfere with sexual relations (Wulandari 2015).

METHOD

Research design can be interpreted as a strategy, research background so that research can obtain the right data in accordance with the variable characteristics and research objectives (Notoadmodjo, 2012). This research is quantitative descriptive quantitative research with cross sectional research design.

RESULT
Age of KB acceptors

Table 1
Age Distribution of KB Acceptors at the 2014 UPTD Melur Health Center

No	Age (year)	total	%
1	15-19	8	17,8%
2	20-35	28	62.0%
3	36-45	9	20%
	TOTAL	45	100 %

In table 1 shows that KB acceptors who are at the age of 20-35 years are more that is equal to 62.2% compared to the age of 15-19 years at 17.8%.

Knowledge

Table 2
Knowledge Frequency Distribution of KB acceptors at the UPTD Melur Health Center in 2014

No	Knowledge	Total	%
1	Well	20	44.4 %
2	Enough	15	33.3 %
3	Less	10	22.2 %
	TOTAL	45	100 %

In table 2, there are more KB acceptors who have good knowledge that is equal to 44.4% compared to those with less knowledge of 22.2%.

Attitude

Table 3
Frequency Distribution of Attitude of KB Acceptor at UPTD Melur Health Center in 2014

No	Attitude	total	%
1	Positif	27	60 %
2	Negatif	18	40 %
	TOTAL	45	100 %

table 3 shows that family planning acceptors are as positive as 60%, and those who are negative are 40%.

Perception

Table 4 Perception Frequency Distribution of KB Acceptor at UPTD Melur Health Center in 2014

No	Perception	Total	%
1	Positif	27	60 %
2	Negatif	18	40 %
	TOTAL	45	100 %

In table 4 shows that KB acceptors have a positive perception of 60% and those who behave negatively as much as 40%.

Bivariate Analysis

Relationship of age with Perception of active KB acceptors on the device of Intra Uterine Device (IUD) and Implant

Table 5

Age (year)	Persepsi				Total		Pvalue
	Positif		Negatif				
	(n)	(%)	(n)	(%)	(n	(%)	
15-19	3	37.5	5	62.5	8	100	0.004
20-35	22	78.6	6	21.4	28	100	
36-45	2	22.2	7	77.8	9	100	
Total	27	60	18	40	45	100	

Table 5 shows that respondents who were in a healthy reproductive period (20-35) years had a positive perception of Intrauterine Device (IUD) and Implant contraceptives and respondents who were in the reproductive period old (36-45) years had a perception that negative for Intra uterine Device (IUD) and Implant contraception.

Based on the results of the Chi Square statistical test, the value of PV value 0.004 <alpha 0.05 is obtained. This means that there is a significant relationship between the age and perception of active KB acceptors for Intra Uterine Device (IUD) and Implant contraceptives.

Knowledge with perceptions of active KB acceptors on contraceptive devices Intra Uterine Device (IUD) and Implant

Table 6 Knowledge Relationship with Perception of KB Acceptor at UPTD Melur Health Center in 2014

Knowledge	Persepsi				Total		P value
	Positif		Negatif				
	(n	(%)	(n)	(%)	(n	(%)	
Baik	19	95	1	5	20	100	0.000
Cukup	8	53.3	7	46.7	15	100	
Kurang	0	0	10	100	10	100	
Total	27	60	18	40	45	100	

In table 6 shows that respondents who have good knowledge have a positive perception that is as much as 95% and respondents who are less than 100% knowledgeable have a negative perception.

Based on the results of the Chi Square statistical test, the PV value of 0.000 <alpha 0.05 is obtained. This means that there is a significant relationship between knowledge and perceptions of active KB acceptors on Intra Uterine Device (IUD) and Implant contraceptives.

The relationship between Attitudes and Perception of active KB acceptors on Intra Uterine Device (IUD) and Implant contraception devices

Table 7 Relationship between Attitudes and Perceptions of KB Accepters at the UPTD Melur Health Center in 2014

Attitude	Perception				Total		Pvalue
	Positif		Negatif				
	(n)	(%)	(n	(%)	(n)	(%)	
Positif	21	77.8	6	22.2	27	60	0.008
Negatif	6	33.3	12	66.7	18	45	
Total	27	60	18	40	45	100	

In table 7 shows that respondents who are positive have a positive perception of Intrauterine Device (IUD) and Implant contraceptives which are as much as 77.8% and negative attitude respondents also have a negative perception that is 66.7%.

Based on the results of the Chi Square statistical test, the value of PV value 0.008 <alpha 0.05 was obtained. This means that there is a significant relationship between attitudes and perceptions of active family planning acceptors on Intra Uterine Device (IUD) and Implant contraceptives.

DISCUSSION

Age Relationship with Perception of Active KB Acceptor on Intra Uterine Device (IUD) and Implant contraception use at Melur Pekanbaru Health Center UPTD.

In this study, the number of family planning acceptors was the most during the healthy reproductive period, namely 20-35 years old. Based on the chi square calculation it is known that there is a significant relationship between age and

the perception of active KB acceptors on Intra-Uterine Device (IUD) and Implant contraceptives in the Melur Health Center UPTD indicated by p value = 0.004 <0.05.

According to the Ministry of Health of the Republic of Indonesia that women's healthy reproductive period is divided into 3 periods, namely young reproduction (15-19 years) is the stage of postponing pregnancy, healthy reproductive age of 20-35 years is a good period for spacing pregnancies and age 35-45 years good for ending pregnancy.

In addition, according to Anonymous, stating that age can affect one's perception and mindset. Increasing age is also growing the power of capture and mindset. According to Rocjacti in Djaya (2011), the age of a woman affects reproductive health, theoretically the age of 20-35 years is a very good age to reproduce. While the age that is considered risky is the age of <20 years and> 35 years.

Based on the results of the research and theory above, researchers assume that there is a relationship between the age of the mother and the perception of active KB acceptors on the use of Intrauterine Device (IUD) and Implant contraception due to the majority of respondents in the middle adulthood, so many mothers have good perceptions or positive for Intra Uterine Device (IUD) and Implant contraception.

Relationship between Knowledge and Perception of Active KB Acceptor on Intra Uterine Device (IUD) and Implant contraceptives at Melur Pekanbaru Health Center UPTD.

In this study 44.4% of KB acceptors had good knowledge. Based on the results of the chi square calculation it is known that there is a significant relationship between knowledge with the perceptions of active KB acceptors on Intra-Uterine Device (IUD) and Implant contraceptives in the Melur Health Center UPTD indicated by p value = 0,000 <0.05.

Knowledge is the result of knowing, and this happens after someone has sensed a certain object. Knowledge is an important factor in producing change but it is not adequate in changing one's perception. This is consistent with the results of the research conducted, that the majority of active family planning acceptors in the UPTD Melur Health Center have knowledge of the use of Intra Uterine Device (IUD) contraceptives and well-knowledgeable implants, and accordingly have a positive perception.

According to Jarni's research (2009) with the research title Factors that influence family planning acceptors in choosing IUD contraception in Delima Yogyakarta Puskemas Working Area are known to have a significant influence between the level of knowledge of IUD contraceptive selection. With a significance value (p) 0,000 means that there is a significant influence between the level of knowledge on the selection of IUDs.

Based on the results of the research and theory above, the researchers assumed that the relationship between knowledge and perceptions of family planning acceptors was due to the fact that most respondents were well-informed, and their perceptions of Intrauterine Device (IUD) and Implant contraceptives were also positive, but maybe they were still afraid and ashamed to use contraception.

Relation of Attitudes with Perception of Active KB Acceptor on Intra Uterine Device (IUD) and Implant contraception at Melur Pekanbaru Health Center UPTD.

In this study, KB acceptors had the most positive attitudes. From the results of the chi square calculation it is known that there is a significant relationship between attitudes and perceptions of active KB acceptors on Intra-Uterine Device (IUD) and Implant contraceptives in the Melur Health Center UPTD indicated by p value = 0,000 <0.05.

Attitude is a person's reaction or response to a stimulus / object (Notoadmojo, 2012). While according to Widyatun, 2009 Attitude is a condition of someone who is regulated through experience that provides a dynamic influence or directed towards the individual response to all objects related to someone.

The results of the Yumanis study (2007) with the title of the factors that influence acceptors in using MKJP in Seruni Village, Yogyakarta, which states that many women who do not choose MKJP contraception are due to their indifferent attitude towards contraception problems. Their attitude determines the selection of contraception that will be used for themselves. But human attitudes are very different so that for those who can respond to this contraception problem well they can accept it well and they can decide for themselves in choosing contraception which they think is good and how

CONCLUSION AND RECOMMENDATION

There is a significant relationship between the variables of age, knowledge and attitude with the perception of active KB acceptors on the use of Intra Uterine Device (IUD) and Implant contraceptives at the Melur Pekanbaru Health Center UPTD. It is expected that the City Health Office of Pekanbaru can provide training in the installation and removal of Intra-Uterin Device (IUD) and Implant contraceptives periodically and thoroughly so that the existing midwives are more trained in taking action.

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INSYIRA BOX: INTERNET-IN-A-BOX USING RASPBERRY PI FOR IMPROVING EDUCATION QUALITY TO PREVENT STUNTING DISORDER IN RURAL AREA

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Abstract
Stunting disorder is a failed to grow condition that mostly happen to the children below 2 years old or toodler which become the most popular case in many developed countries. One of the main problem is lack of health education for the parents. A novel modification hardware named Insyira Box - stands for Internet System in Rural Area – that provide stunting disorder resources and information in rural area by using internet-in-a-box concept is developed. Area range, internet access, population density, education level, and occupation of the area are analyzed to design a preliminary concept of the system and hardware.

Keywords : Internet-in-a-box, education, rural area, stunting disorder

INTRODUCTION

Stunting disorder is a failed to grow condition that mostly happen to the children below 2 years old or toodler. Stunted or severely stunted is a toodler with height based on age compare to WHO-MGRS (Multicentre Growth Reference Study) 2006 standard. Lack of nutrition is caused mainly by bad behaviour and healty lifestyle of the parents. In Indonesia, about 37% (almost 9 million) toddler suffer from stunting disorder and in global, Indonesia is country with the biggest five stunting prevalence (Beal, Tumilowicz, Sutrisna, Izwardy, & Neufeld, 2018; Sekretariat Wakil Presiden RI, 2017).

In Agustus 2017, Indonesia has established a new strategy to prevent and treat stunting in Stunting Intervention Framework. Four of the strategic program are give parenting education to parents, give universal toodler education, give society nutrition education, and give sexual and reproduction health education, also nutrition for teenagers (Rokx, Subandoro, & Gallagher, 2018). In the other hand, the problem also comes from the education access which still not reach many inhabitant especially in rural area. Today, internet access is expected to solve this education problem in rural area because of their excess in transferring information regardless the time and space. Sujarwoto in 2013 report that increasing family access to the internet decrease health information inequalities and improve children healthcare (sujarwoto, 2018).

Greenberd et al. in 2017, found that the increase in use of health information technologies result in new opportunities for population engagement and self-management. People in rural areas can have benefit especially from increased access to health care tools and electronic communication with providers (Greenberg, Haney, Blake, Moser, & Hesse, 2018). Wong et al. in 2018 report an overview of the current status of open and distance learning (ODL) in Asia. It showed that there are still many area in asia that still not covered by internet access (Wong & Wong, 2018). Wisnu

Fadila from Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN) in 2018 research that there are a limitation in providing and promoting family planning program in rural area in Indonesia. BKKBN need to collaborate with Kemenkominfo by launching Program Desa Melek Internet to provide a mobile internet service in rural area (Fadila, 2018). Eventhough, the infrastructure to bring the internet to rural area also requires a high cost and plenty of time. Therefor, in time of waiting internet access reach rural area, a simplest, fastest and cheapest solution need to be constructed to encounter this problem.

Nowadays, the evolution has bring the hardware and communication technology to the advance. One of the latest research that conducted by the researcher in the world to bring the information to rural area is called Internet-in-a-box. This concept was founded by Adam Holt (Holt, n.d.) in 2012. Unlike ordinary flash drive, it consist of the data storage, processing unit, and wifi connectivity so it can be accessed via wifi to people around it without internet connection. The eGranary Digital Library in 2007 already uses internet-in-a-box concept to deliver millions of digital information to hospitals, schools, and clinics in rural area with no internet connectivity. They providing instant access to a wide range of web pages, audio, video, and multimedia resources from local area network (LAN) (Missen, 2005). This concept is expected to be implemented to bring the stunting disorder education resource to rural area.

This preliminary study developed a novel modification hardware named Insyira Box - stands for Internet System in Rural Area – that provide stunting disorder resources and information in rural area by using internet-in-a-box concept. The objective of this study is to design a system hardware which able to store stunting disorder resources and information and give an easy access to

society in rural area. It used a popular cheap development board called raspberry pi as the main processing unit. A review about current research about internet-in-a-box are enclosed.

Stunting Disorder Educational Platform

World Health Organization (WHO) in 2018 report that one of the solution to decrease stunting disorder is providing community-based platforms for nutrition education and promotion which gather all healthcare personnel, trained community workers to share the information about stunting disorder (World Health Organization, 2018). By establish this community, all information about stunting disorder such as area that mostly happen, include the cause, the area condition, and the solution that have been conducted could be shared within the community and try to find the best and fastest solution in certain area. This community should have a wide range of member, good integration, and often have discussion. However, because of a lot of member that comes from different area, this community cannot be maximized to solve stunting disorder. Therefor, a stunting disorder educational platform is developed to manage this community by providing information technology that gather all the information from patient, researcher, doctor from many area, process the data and produce the solution automatically. Moreover, by installed this platform into the insyira box and spread the device into every stunting disorder case area, it is expected to solve stunting disorder.
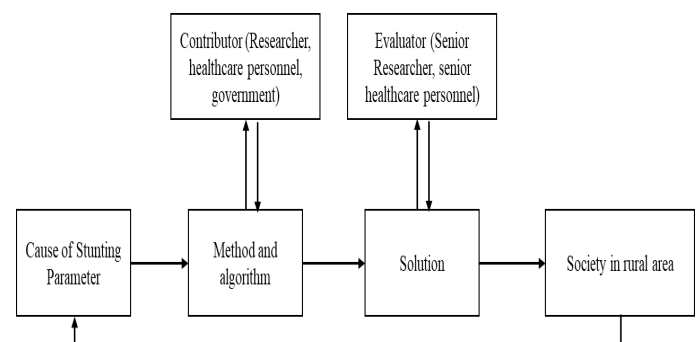
Fig. 1: Diagram of Stunting Disorder
Educational Platform

METHOD

System of insyira box provide an up-to-date information about preventing stunting disorder which can be accessed through wifi connection without internet connection. The system need to have good durability, safety, and security. In order to design preliminary system of Insyirah Box, the condition of the area that happen stunting disorder was analyzed by data observation including area range, internet access, population density, education level, and occupation.

Hardware of insyira box designed to have as cheap as possible, enough storage to install the stunting disorder educational platform, able to generate hotspot to be accessed by many people in wide range area. For the optional, the hardware could also contain unlimited power source such as solar source. In order to design the hardware, some development board was benchmarked, with additional component such as memory card or flash drive. After the hardware was assembled, stunting disorder educational platform were installed to the hardware. Then, the hardware and software were functionally tested.

RESULTS

Result of system design specification are shown in table 1.

Table 1: System Design Specifications.

System	Specification
Durability	Provide a technician/operator
Safety	Proper Installation
Security	Store in school, library, government office
Content update	Flash drive

The system specification consist of durability, safety, security, and content update. To have good durability, a technician/operator is assigned to maintain or check the device and also able to give training and education about stunting disorder to people in rural area. For the safety of the device, a proper installation are needed. For the security, the device need to be installed in a room in school, library, or government office. The maintain the information update, a flash drive that contain update software and information is delivered periodically to the rural area. The result of hardware specification design are shown in table 2.

Table 2: Hardware Design Specifications

Hardware Features	Specification
Storage	64 GB
Wifi	2.4GHz 802.11n wireless
Development Board	Raspberry Pi 3B

The hardware use an SD Card with storage of 64GB, 2.4GHz 802.11n wireless, and using Raspberry Pi 3 development board. The protoype of the hardware is shown in Fig. 2.

Fig. 2: Insyira Box Final Result

From the result above, a preliminary analysis from the price and feature comparison are conducted. From the price and feature comparison, insyira box is the cheapest hardware and system that could be implemented to solve the stunting disorder case. The system of insyira box is shown in Fig. 3. Insyira box also able to generate radio signal. Since many people in rural area are access the information using radio, this could be a good feature the share the information the people.

DISCUSSION

As declared in introduction section, we know that one of the problem of stunting disorder in rural area is low education of the population. By accelerating the improvement of education with provide internet access, it is expected to decrease the cause of stunting disorder. However, many of the rural area have not provided by internet infrastructure or still in high price or low signal. Insyira Box provide the information and platform of stunting disorder education without internet infrastructure. The educational platform is installed inside the device and can be access by all person around it like a wifi system. Moreover, this system is not only for stunting but for every educational topic platform. This even also can be provided for fisherman or people that live in a ship, or high mountain.

Fig. 3: Insyira Box System Result

On the other hand, Stunting Disorder Educational Platform need to be developed separately involing healthcare practitioners, IT engineer, and local government. This platform could be separately developed and using the online capability to gather all stakeholders. It also could help government to establish a command center for maintaining regional or national health and able to make a fastest and accurate decision.

The hardware specification result is expected enough to cover the area of access. Nevertheless, the area range might need to be extend. Therefor, a wifi extender component also need to be combine with Insyira Box.

However, this solution still need to be tested and reviewed the benefits to decrease the stunting disorder in rural area. The price and efficiency also need to be studied and compared to another commercial product or component analysis including operational cost to deliver to the rural area and also maintenance cost. Many data still need to be obtained from the literature review or from the field. For example, to test the benefits of this device, questionnaire from people that access the device in rural area need to be obtained.

Sustainability of this device need to be tested and analyzed because maybe not all villager can continuously and consistently access this platform. This system also limited until the internet is successfully provided in that area.

CONCLUSION

This research proposed a modification of internet-in-a-box device as a place for stunting education platform to be delivered to rural area called Insyira Box. The device consist of raspberry pi 3 development board with a wifi hotspot feature, wifi extender, data storage of 64 GB and for optional, a solar panel power source. This device is integrated with stunting education platform to be accessed easily for many family in rural area. An operator/technician is appointed in every device to maintain durability and also do the propoer installation and stored in a local head village.

For the future, further studied need to be conducted, including hardware price and feature benchmarking. The system need to be tested on-site in certain time to obtain usability and benefits data by developing questionnaires for the people in rural area. This research is expected to contribute to the global stunting disorder prevention.

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EFFECTIVENESS OF BELIMBING WULUH'S LEAF TO DECREASE BLOOD PRESSURE ON ELDERLIES HYPERTENSION IN RANTAU KOPAR PUBLIC HEALTH CENTER ROKAN HULU

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Abstract
Hypertension is one of main risk factors for heart disease and could occur kidney failure or cardiovascular diseases. Belimbing wuluh's leaf (Averrhoa bilimbi L) was one type of plant that has the content to decrease blood pressure. The aim of the study was to determine the effectiveness of belimbing wuluh's leaf to decrease blood pressure of elderlies hypertension. The study type was quasi experiment with non-equivalent control group design. The sample used in this study as many as 36 taken by purposive sampling technique. The data were collected by measuring blood pressure before and after given boiled water of belimbing wuluh leaves for experiment and control group. The analysis data showed there were difference of systolic (p 0.000) and diastolic (p 0.000) blood pressure on elderlies hypertension between given and not given the boiled water of belimbing wuluh's leaf. The Rantau Kopar public health centre expected to be able do socialization about giving boiled water of belimbing wuluh leaves as an alternative treatment non pharmacology of hypertension

Keywords : Blood pressure, elderly, belimbing wuluh leaves

INTRODUCTION

Cardiovascular disease is the cause of death in the world. The WHO (World Health Organization) states that in 2015 an estimated 17.7 million people died of cardiovascular disease which represented 31% of all deaths globally. More than three quarters of cardovascular deaths occur in low and middle income countries. Cardiovascular disease is very risky in people with hypertension, diabetes, hyperlipidemia or other diseases related to the heart and blood vessels (WHO, 2017).

Hypertension is a condition when blood pressure in blood vessels increases chronically and is estimated to be 4.5% of the cause of the burden of the disease globally, the prevalence is almost as large in developing countries and in developed countries. Indonesia is a developing country with a national prevalence of hypertension that continues to increase. In 2016, the prevalence of hypertension in Indonesia was 30.9%, which increased from 2013 (26.5%) and the incidence continued to increase with age. Whereas in Riau Province, hypertension ranked second (37,869 cases) out of the 10 most outpatient diseases in Riau Province primary health services (Riau Provincial Health Office, 2016).

At present Indonesia is experiencing a change in disease patterns that are often referred to as epidemiological transitions which are characterized by increased mortality and illness due to non-communicable diseases (PTM), such as stroke, heart disease, diabetes, and others. Hypertension is one of the main risk factors for heart problems and can result in

kidney failure and cerebrovascular disease. In most cases, hypertension is often detected during physical examinations for reasons of certain diseases, so hypertension is often referred to as the "silent killer", which patients have unwittingly experienced complications in vital organs such as the heart, brain or kidney (Utomo BS, 2017).

Increasing age, the physiological function of the body decreases due to the aging process so that many non-communicable diseases occur in the elderly population. The results of the 2013 Riskesdas stated that the most diseases in the elderly were Non-Communicable Diseases (PTM) including hypertension (57.6%), arthritis (51.9%), stroke (46.1%), chronic obstructive pulmonary disease (8 , 6%) and diabetes mellitus (4.8%). The prevalence of hypertension based on diagnosed health personnel and measurements also seen to increase with increasing age, namely in the population aged 45-54 years at 35.6%, age 55-64 years at 45.9%, age 65-74 years at 57.6% and age> 75 years with the highest prevalence of 63.8% (RI Ministry of Health, 2016).

Hypertension is generally not treatable, but treatment can be given to keep blood pressure stable and prevent complications. Treatment of hypertension in the elderly, including in the elderly with isolated systolic hypertension, is the same as hypertension therapy in general, namely drugs in the form of diuretics, beta blockers, angiotensin conversion enzyme inhibitors (ACEI), angiotensin receptor inhibitors (ARBs), and calcium antagonists that are considered as the main antihypertensive drug. In addition to pharmacological treatment, implementing a healthy lifestyle for everyone is very important to prevent high blood pressure and is an important part in handling hypertension, one of which is a diet rich in fruits and vegetables and low in saturated fat which can reduce blood pressure in

individuals with hypertension (Indonesian Ministry of Health, 2006).

Wuluh starfruit leaves (Averrhoa bilimbi L) is one type of plant that has a content to reduce blood pressure. Some studies show that there is an influence of Wuluh starfruit extract in reducing blood pressure. Before testing humans, Hermani et al. (2009) conducted a study of the effect of Wuluh starfruit extract on blood pressure reduction in test animals. The study resulted that the extract of starfruit leaves has an effect in decreasing blood pressure, especially extracts that have been purified. Purified starfruit leaf extract has the prospect of being developed as an antihypertensive drug, because drugs developed from natural ingredients are considered quite safe when compared to synthetic antihypertensive drugs that have some undesirable side effects (Hermani et al., 2009).

The study by Zurrahman et al. (2012) entitled "The effect of carambola decoction on reducing blood pressure in hypertensive patients at the Posyandu in the Seam Jang Tanjungpinang Public Health Center for gulls" stated that there was an effect of wuluh starfruit stew on reducing blood pressure in elderly hypertensive patients. This study concluded that decoction of leaves of starfruit has an effect on reducing blood pressure in patients with mild, moderate and severe hypertension. In addition, Wuluh starfruit leaves are an herbal treatment that is easy to obtain, economical and does not provide dangerous side effects.

Another study conducted by Ponto AH (2014) entitled "The effect of giving starfruit leaves boiled water to the reduction of blood pressure in elderly hypertensive patients in the working area of Balongsari Surabaya health center in 2014" which states that there is a significant effect of giving starfruit leaves to pressure reduction blood in the elderly. The results of this study suggest that more use of non-pharmacological or traditional

treatment as a preventive therapy for disease, especially treatment and prevention of hypertension with decoction of leaf star fruit.

Data from Rantau Kopar District Health Center in Rokan Hilir District shows an increase in hypertension cases from 690 cases in 2016 to 833 cases in 2017. Of the 833 cases of hypertension that occurred, most of them and almost 95% occurred in the elderly. This is certainly a task and challenge for all health workers in the Rantau Kopar District Health Center in Rokan Hilir Regency to try to reduce cases of hypertension by implementing various programs that have been proclaimed by the government, namely promotive and preventive efforts. Some of the efforts that have been made by the Rantau Kopar District Health Center in Rokan Hilir District are the holding of an elderly posyandu with various activities to improve the health of the elderly, starting from health checks, counseling and elderly gymnastics.

Based on the short interview conducted on 10 hypertensive elderly people who visited the elderly poly, 40% of the elderly stated that they did not know that they were experiencing hypertension and 60% of the elderly who knew of hypertension had taken the medication given by the Puskesmas doctor. However, 60% of the elderly who were given medication by doctors, did not take the drug routinely with the reason that the symptoms had disappeared and were afraid of the long-term side effects caused by chemical drugs. The author then asks questions about the possible causes of hypertension experienced by the 10 elderly people. Based on answers from the elderly, most hypertension is caused by unhealthy lifestyles, such as smoking, often consuming greasy and coconut milk, consuming less fruits and vegetables and lacking physical activity. As well as a lack of awareness to carry out routine health checks to the Puskesmas.

Based on the problems described above, the authors are interested in conducting research with the title "Effectiveness of decoction of wuluh starfruit leaves on the reduction of blood pressure in elderly hypertension in Rantau Kopar Puskesmas Rokan Hilir Regency". The purpose of this study was to determine the effectiveness of decoction of wuluh starfruit leaves to decrease blood pressure in elderly hypertension.

METHOD

This type of research is quasi-experimental with a non equivalent control group design, which divides the sample into two groups, namely the treatment group given decoction of leaves of starfruit and control groups that were not given decoction of leaves of star fruit, then pre-test and post-test in both groups blood pressure measurement. The study was conducted in December 2017-August 2018 with a population of 627 elderly and a total sample of 36 samples. Sampling is done by purposive sampling technique. The instruments for collecting data in this study were observation sheets and a set of blood pressure measuring devices (stethoscopes and sphygmomanometers). Data analysis was done by univariate and bivariate using Mann Whitney test.

RESULTS AND DISCUSSION

Table 1 Average Blood Pressure in Elderly Hypertension Before and After Given Decoction of Foliar Leaves in Intervention Groups at Rantau Kopar Health Center, Rokan Hilir Regency

Blood Pressure		N	Mean	Std Deviasi
Pre-test	Systolik	18	161.67	8.58
	Diastolyk	18	91.11	5.83
Post-test	Systolik	18	142.78	13.64
	Diastolyk	18	84.44	7.05

In table 1, it can be seen that in the intervention group, the mean (mean) of the systolic and diastolic blood pressure of the

respondent before being given decoction of the carambola leaf (pre-test) was 161.67 mmHg and 91.11 mmHg. While the mean (mean) of the systolic and diastolic blood pressure of the respondent after the post-test decoction of decoction leaves was 142.78 mmHg and 84.44 mmHg.

Table 2 Average Hypertension in Elderly Blood Pressure Before and After Provision of Carambola Leaf Leaves in Control Groups at Rantau Kopar Health Center, Rokan Hilir Regency

Blood Plessure		N	Mean	Std Deviasi
Pre-test	Systole	18	159.44	7.25
	Diastole	18	87.78	5.48
Post-test	Systole	18	165.00	7.86
	Diastole	18	92.78	4.61

In table 2, it can be seen that in the control group, the mean (mean) of systolic and diastolic blood pressure of the respondents in the pre-test was 159.44 mmHg and 87.78 mmHg. While the mean (mean) of the systolic and diastolic blood pressure of the respondents in the post-test was 165.00 mmHg and 92.78 mmHg.

Bivariate Analysis

Table 3 Mean Differences in Elderly Hypertension Blood Pressure between Groups given and not given Decoction of Wuluh Starfruit Leaves in Rantau Kopar Health Center, Rokan Hilir Regency

Differences of Blood plessure		N	Mean Rank	P value
Systolik	Intevention	18	10.72	0.000
	Control	18	26.28	
Diastolyk	Intervention	18	12.89	0.000
	Control	18	24.11	

Table 3 shows that at diastolic blood pressure p value (0.000) $<\alpha$ (0.05), which means there is a difference in average systolic blood pressure among elderly hypertension between those given and not given decoction of wuluh starfruit leaves in Rantau Kopar Health Center, Rokan

Hilir Regency . Whereas in the diastolic blood pressure p value (0.000) $<\alpha$ (0.05), which means there is a difference in average diastolic blood pressure among elderly hypertension between those given and not given decoction of wuluh starfruit leaves in Rantau Kopar Health Center, Rokan Hilir Regency. So it can be concluded that decoction of Wuluh starfruit leaves is effective against the reduction of blood pressure in elderly hypertension in Rantau Kopar Health Center, Rokan Hilir Regency.

Univariate Analysis

The results of data analysis can be seen that in the intervention group, the mean (mean) of systolic and diastolic blood pressure of the respondents before being given decoction of the carambola leaf (pre-test) was 161.67 mmHg and 91.11 mmHg. While the mean (mean) of the systolic and diastolic blood pressure of the respondent after the post-test decoction of decoction leaves was 142.78 mmHg and 84.44 mmHg. in the control group, the mean (mean) of systolic and diastolic blood pressure of the respondents in the pre-test was 159.44 mmHg and 87.78 mmHg. While the mean (mean) of the systolic and diastolic blood pressure of the respondents in the post-test was 165.00 mmHg and 92.78 mmHg.

In the group given the decoction of Wuluh starfruit leaves, the average systolic blood pressure decreased by 18.89 mmHg and the diastolic blood pressure was 6.67 mmHg. Whereas in the control group an average increase in systolic blood pressure of 5.56 mmHg diastolic blood pressure of 5.0 mmHg. This clearly shows that there is a difference in blood pressure of respondents between groups given decoction of Wuluh starfruit leaves and groups not given decoction of Wuluh starfruit leaves.

Hermani et al. (2009) conducted a study on the effect of Wuluh starfruit leaf extract on blood pressure reduction in test animals. The study resulted that the extract of starfruit leaves has the potential to be

developed into antihypertensive drugs because it has a significant effect on reducing blood pressure (Hermani et al., 2009).

According to the researchers' assumptions, decoction of wuluh starfruit leaves can be used as a non-pharmacological treatment or traditional treatment for disease prevention therapy, especially treatment and prevention of hypertension.

Bivariate Analysis

The statistical test results stated that there were differences in the blood pressure of the respondents between those who were given and not given decoction of Wuluh starfruit leaves in Rantau Kopar Health Center, Rokan Hilir Regency (p 0.000 <0.05). So it can be concluded that decoction of Wuluh starfruit leaves is effective in reducing blood pressure in elderly hypertension at Rantau Kopar Health Center, Rokan Hilir Regency.

The statistical test results stated that there are many people who live in Rantau Kopar Health Center, Regency of Lower Rokan (p 0.000 <0.05). So it can be concluded that the declaration of Wuluh starfruit leaves is effective in Rantau Kopar Health Center, Rokan Hilir Regency.

Increasing age, the physiological function of the body decreases due to the aging process so that many non-communicable diseases occur in the elderly population. Hypertension is a problem in the elderly because it is often found as a major factor in heart failure and coronary disease. More than half of deaths over the age of 60 are caused by heart and cerebrovascular disease. In most cases, hypertension is detected during a physical examination for reasons of certain diseases, so it is often referred to as the "silent killer". Unwittingly sufferers experience complications in vital organs such as the heart, brain or kidney. Symptoms of hypertension, such as dizziness, vision problems, and headaches, often occur when hypertension is advanced when blood pressure has reached a significant number (RI Ministry of Health, 2016).

Wuluh starfruit leaves (Averrhoa bilimbi L) is one type of plant that has a useful content for lowering blood pressure. Many of the nutrients contained in the leaves of the star fruit are useful in preventing and treating various diseases, one of which is hypertension. Several studies have shown that there is the effect of Wuluh starfruit leaf extract in reducing blood pressure.

The chemical content of carambola leaves (Averrhoa bilimbi L) are flavonoids, saponins, tannins, sulfur, formic acid, perokside, calcium oxalate and potassium citrate. Flavonoids are phenolic compounds that are owned by many plants and have several pharmacological activities that function as antioxidants. Antioxidants are useful for preventing aging due to free radicals that cause heart damage. Flavonoids are useful for lowering blood pressure with substances released namely nitric oxide and balancing several hormones in the body. Tanin, serves to reduce hardening of the arteries. If hardening does not occur, the circulation of blood smoothly so that the work of the heart is not too heavy and the potential for stroke can be lost, which is why tannin is useful in treating hypertension (Mulyani et al., 2013).

Wuluh starfruit leaves also contain potassium which can affect urine output. Potassium functions as a diuretic so that the release of sodium fluid increases, if the amount of sodium is low then the blood pressure will decrease. Diuretics play a role in reducing the volume of the contents of blood vessels, eliminating sodium retention and minimizing peripheral edema, lung and heart congestion through the addition of the amount of urine (diuresis) which mechanism works in the kidneys. This mechanism is very important for regulating blood pressure and removing toxic components out of the body (Sutedjo, 2008).

According to the researchers' assumption, decoction of Wuluh starfruit leaves is one of the non-pharmacological treatments that can be applied to reduce hypertension. Various studies have also shown that stew of starfruit leaves is very effective in reducing hypertension if consumed regularly. Many treatment methods can be done in preventing and treating hypertension. If the nonpharmacological treatment method can have the same effect as chemical drugs, then it is better if the use of non-pharmacological / herbal treatments takes precedence because of minimal side effects, easy to obtain and economically more economical. In addition, to prevent the occurrence of hypertension in old age, it is necessary to change lifestyles and apply a healthy lifestyle from an early age.

CONCLUSION

1. In the intervention group, the mean (mean) systolic and diastolic blood pressure before being given decoction of the carambola leaf (pre-test) was 161.67 mmHg and 91.11 mmHg. While the mean (mean) of the systolic and diastolic blood pressure of the respondent after the post-test decoction of decoction leaves was 142.78 mmHg and 84.44 mmHg.
2. In the control group, the mean (mean) of systolic and diastolic blood pressure of the respondents in the pre-test was 159.44 mmHg and 87.78 mmHg. While the mean (mean) of the systolic and diastolic blood pressure of the respondents in the post-test was 165.00 mmHg and 92.78 mmHg.
3. There are differences in systolic blood pressure (p value 0.000) <α 0.05) and diastolic (p value 0.000 <α 0.05) in elderly hypertension between those given and not given decoction of wuluh starfruit leaves in Rantau Kopar Health Center, Rokan Hilir Regency. So it can be concluded that decoction of Wuluh starfruit leaves is effective against the reduction of blood pressure in elderly hypertension in Rantau Kopar Health Center, Rokan Hilir Regency.

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INFLUENCE OF WORK STRESS, ORGANIZATIONAL COMMITMENT TOWARD WORK PRODUCTIVITY OF MIDWIVES IN JATINEGARA HEALTH CENTER

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Abstract
The Midwives havebeen continuous contact to patients, so that the roles of midwifery services are the most important part of the public health centre service process that will shape the image and become the heart of the public health center. The purpose of this study was to determine the direct and indirect effects and the magnitude of work stress, and organizational commitment toward work productivity. This type of research is quantitative with a cross sectional research design. The sample of this study amounted 45 people using a questionnaire.The results of the study obtained work stress and commitment had a direct influence on the variable productivity of midwives. The percentage of direct and indirect effects of all variables on productivity in this model is 84.95%, including the direct influence of all variables on productivity in the model by 82.32%, and indirect effects of 2.63%. The model is able to explain the data variability of 99.05%, while 0.95% was explained by other variables not examined in this study. Suggestions from this research are that Jatinegara Public Health Center is expected to make the program award for midwives work performance accompanied by making fair incentive policies so that midwives are more motivated in increasing their work productivity.

Keywords : Productivity, stress, commitment

INTRODUCTION

Increasing the willingness, awareness, and ability to live healthy for each person leads to the development of health so as to realize the degree of health in the community that increases as high as possible. The results of the hard work of the health sector are not enough to determine health development, but positive performance and assistance from various other development sectors also determine health development. The availability of affordable and inexpensive basic health access that can be accessed in the lower middle class is the health development policy listed in the period 2010-2014 so as to support the achievement of the MDG's in 2015, increasing public access to health services will be positively linear with increasing life expectancy, and declining maternal and infant mortality rates, which are health development targets.

In Indonesia, the cause of maternal death has a similar pattern, namely where maternal mortality is mainly caused by the risk of pregnancy such as bleeding 30%, eclampsia 25%, infection 12%, then complications of peurperium 8%, abortion by 5%, prolonged labor 5% 3% embolism, etc. 12%. The causes of maternal death such as bleeding can be prevented and treated with good guidance from the time of pregnancy, when labor and childbirth, which are carried out by professional staff.

Indonesia must focus on the direct causes of maternal mortality in an effort to reduce MMR by 90% during labor. Bleeding (28%), eclampsia (24%), infection (11%), complications of perpeurium (8%), congestion (5%),

abortion (5%), obstetric trauma (5%), embolism (3%) , and others (11%) are the direct causes after delivery. The risk factors for delay (three delays), including being late for a pregnancy, being late in getting a delivery service by a health worker, and being late in arriving at a health facility during an emergency are the causes of maternal death. One of the efforts made to prevent maternal deaths is to conduct direct deliveries that are assisted by health workers in health facilities. Health workers who help deliveries to the new target group reach 69.3%. While health workers who deliver at health facilities have only reached 55.4%. To overcome this problem, the policy of approaching maternal and newborn health services to the community through Making Pregnancy Safer (MPS) was issued by the Indonesian government in collaboration with the Ministry of Health and established in 2010, increasing the coverage of skilled health workers who helped deliver to 90% . Behavior is a factor that influences the low coverage of labor assisted by health workers. Besides the difficulty of affordability of health services, namely the geographical factors of remote areas that cause difficulty in access to distance, access to costs, availability of health care facilities that do not meet community needs and medicines that are easily achieved, the lack of health workers leads to low behavioral utilization of health services general can be interpreted as the output value in relation to a particular input unit.

According to the Indonesian Ministry of Health (2011), the puskesmas is one of the technical implementation units of the district / city health office. Mandatory and optional health efforts tailored to the demands, abilities, conditions, needs, innovations and policies of the local government must be carried out by the Community Health Center, which is the first level health service unit and the leading in the health service system. The functions of the Puskesmas include: 1) the center of health-oriented development, 2) the center of community empowerment; 3)

primary public health service center; and 4) primary individual health service centers. Leadership greatly influences the success of the Puskesmas to reach its goals and is able to fulfill its social responsibilities.

Puskesmas that are able to reach their goals and are able to fulfill their social responsibilities are very dependent on the head of the puskesmas. If the leader is able to carry out well, it is very possible for the puskesmas to be effective, capable of influencing the behavior of its member health centers or subordinates. So, a leader or head of the puskesmas will be recognized as a leader if the leader has influence and successfully directs his subordinates towards achieving the goals of the puskesmas

Midwives who perform delivery services will be carried out optimally, if each midwife understands about her work commitment as a midwife. Midwife's work commitment is a promise from a midwife or determination in carrying out her activities as a midwife in accordance with the goals, position, commitment and coverage that has been carried out in her duties. The midwife who is the closest health worker to the community is expected to be very aware of the health conditions of pregnant women, maternity and newborns in the village. The most important concern for midwives is to provide health services that can be accounted for and accountable for their practices for the safety and welfare of mothers.

Thus midwives have an important role in managing tasks in services and administration so that they can support the success of the health center goals. Even so, the activity of midwives in carrying out their assigned tasks still continues to pay attention to their productivity in managing Puskesmas well. Midwife's work productivity is how the midwife does the work or task (job performance) that is carried out (Laeham et al. In Sedarmayanti, 2009). Whereas according to Supartman (2009) that midwife productivity is the result of one sub variable of midwife

satisfaction, patient satisfaction, documentation of midwifery care (assessment, diagnosis, intervention, implementation and evaluation) and communication of midwife-patient. Midwives have continuous contact with patients so that the role of midwifery services can be categorized as the most important in the process of providing services to puskesmas that will shape the image and be the heart of puskesmas to increase midwife's work productivity means to improve the welfare and quality of health services. The image of the health center will be a benchmark for the quality of health services.

In order to accelerate the improvement of puskesmas management, it is necessary to commit all puskesmas employees to continuous service improvement, now the concept of an effective and responsive puskesmas has been developed. Effective Puskesmas means that the health center is able to change the behavior of the community in accordance with the healthy paradigm, is able to solve all health problems in its work area and feel the impact of the community in the form of increasing health status in the responsive health center work area. Stress is not a new disease for humans. Stress is a negative emotional experience. So it is often associated with responses to threatening events. The response is learned through an adaptation process. The long-term adaptation process can make a person familiar with Stressor and can also cause health problems. A work environment that has high job demands can cause stress. Job demands should refer to the extent to which the work environment can provide stimuli for workers. However, the demands of ordinary jobs cause negative consequences if the effort to achieve work goals is very large. The number of maternal deaths in DKI Jakarta Province is 97 people. The highest number of maternal deaths was in East Jakarta with 34 maternal deaths and North Jakarta with 23 maternal deaths, whereas in the Thousand Islands there were no maternal deaths. The main causes

of maternal mortality in DKI Jakarta Province in 2012 were deep hypertension / eclampsia (39%), bleeding (31%) caused by factors of anemia in pregnant women, infection (6%), abortion (2%), prolonged labor (1%) and other causes. General health status, education and services during pregnancy and childbirth are the causes of maternal mortality (Report on Maternal Health Program, Kesga Section, DKI Jakarta Provincial Health Office, 2012).

The benefits of midwife productivity are to improve maternal health services, especially regarding coverage of antenatal care and delivery services. If the productivity of midwives is low, it will have an impact on increasing the maternal mortality rate in the East Jakarta region. From the problem above, the authors are interested in conducting scientific studies to prove how big. The effect of work stress and organizational commitment on work productivity for a puskesmas head, the problem faced by him is how to create a situation where subordinates can get satisfaction of their individual needs in carrying out work to reach the goals of the puskesmas

METHOD

This type of research is quantitative research. Design the study used by cross-sectional. The study was conducted in the Jatinegara Community Health Center Working Area in East Jakarta. The study was conducted in December 2015 - January 2016. The population in this study were 45 midwives in the Jatinegara Health Center Working Area. Each indicator of the variable will be investigated developed into 5 questions in the questionnaire with type parameters using the semanticdifferential measurement scale on a l-5 scale.

To test the hypothesis is done by using the Structural Equation Model (SEM). The reason for using this analysis tool is due to the existence of several complex relationships of several variables tested in this study, so the use of other multivariate techniques is inadequate to use. Testing hypotheses in this study uses a

structural equation model (Structural Equation Model) using software SmartPLS (Partial Least Structural). For the purposes

of rejecting or accepting hypotheses, a significance level of p <0.0 is used

RESULT

Table 1
Range of Respondents' Answer Range in Jatinegara Health Center, East Jakarta In 2016

Research variable	Questionnaire Range	Questionnaire Average	Actual Range	Average Actual	Standar Deviation
Productivity	15-75	45	63-75	68,96	2,97
Commitment	15-75	45	59-71	65,42	3,33
Job stress	15-75	45	58-72	65,58	3,49

Table 1 is a descriptive, distributed distribution of research respondents used to evaluate respondents' responses to the variables studied, by looking at the minimum value, maximum value, average value, and standard deviation. Productivity variables in this study were measured through 15 items of statements with an assessment of 1-5. So the questionnaire score ranged from 15-75 and the actual score ranged from 63-75. Variables Commitments in this study were measured through 25 items with a score of 1-5. So the questionnaire score ranged from 15-75 and the actual score ranged from 59-71.

The Job Stress variable in this study was measured through 15 items with a score of 1-5. So the questionnaire score ranged from 15-75 and the actual score ranged from 58-71.

Table 2 R-Square Measurement Results from Work Stress Variables, Commitments, and Productivity of Midwives at Jatinegara Community Health Center, East Jakarta In 2016

Variabel	R *Square*
Commitment	0,82
Productivity	0,82
Job stress	0,51

Table 2, the value of R square serves to assess the amount of diversity or variation of research data on the phenomenon being studied. Testing of the structural model is done by looking at the R-Square value which is a goodness-fit model test. The second test is to see the significance of the influence between constructs. The following is the result of measuring the R-Square value, which is also the value of the model's goodness of fit.

Based on Table 2, That Commitment has a R Square value of 0.82, and Productivity has a R square value of 0.82 while the work stress has a value of R Square 0.51.

Table 3 Reflection Evaluation of T-Statistic Value on Indicators of Work Stress Variables, Commitment, and Midwife Productivity at Jatinegara Community Health Center, East Jakarta In 2016

Significanc Test	Test results		Test Criteria >1,96
	Indicator	T *Statistics*	
T-Statistik	Affective ← Commitment	15,40	Significance
	Workload Kerja Job Stress	29,58	Signifikan
	Sustainable ← Commitment	37,95	Signifikan
	Normative ← Commitment	42,31	Signifikan
	Work Atmosphere Kerja Job Stress	49,12	Signifikan

Test of Hypothesis T Statistics

Based on table 3, the results of the measurement of t statistics from each indicator to a variable greater than 1.96 with a confidence level of 95% ($\alpha = 05$). That means, all indicators significantly influence the variables studied.

Table 4 Path Coefficients Measurement Results and T-Statistics on the influence between Variables in Structural Models of Job Stress, Commitment, and Productivity of Midwives at the Puskesmas Jatinegara East Jakarta In 2016

Relationship of variabels	Original Sampel (Rho)	Value T (>1,96)	H₀	Conclusion
Commitment → Productivity	0,18	2,02	Rejected	Positive and Significant Influence
Job stress → Commitment	0,34	6,98	Rejected	Positive and Significant Influence
Job stress → Productivity	0,18	3,18	Rejected	Positive and Significant Influence

Based on table 4 states that, Commitment has a positive effect on productivity, the test results show there is a positive influence of 0.18, while the T-Statistic value is 2.02 and significant at $\alpha = 5\%$. The T-Statistic value is above the critical value (1.96).

Job Stress has a positive effect on Commitment, the test results show there is a positive influence of 0.34, while the T-Statistic value is 6.96 and significant at $\alpha = 5\%$. The T-Statistic value is above the critical value (1.96). Positive effect on Productivity, the test results show there is a positive influence of 0.18, while the value

of T-The statistics are 3.18 and are significant at α = 5%. The T-value of the statistic is above the critical value (1.96).

Table 5 Percentage of Inter-variable Effect of Job Stress, Commitment to Productivity of Midwives in Jatinegara Health Center, East Jakarta In 2016

Source	LV Correlation	Direct Path	Inderect Path	Total	Direct %	Indirect %	Total %
Interpersonal Communication	0,74	0,18	0,56	0,74	13,42	2,13	15,55
Work motivation	0,85	0,47	0,17	0,64	39,96	0,40	40,36
Job stress	0,74	0,18	0,06	0,24	13,32	0,10	13,42
Commitment	0,85	0,18	-	0,18	15,62	-	15,62
					82,32	2,63	84,95

Direct and Indirect

After knowing R-Square and Path Coeficient, then the measurement is done to find out the amount of direct and indirect influence between variables with the following results

From table 5 above, Job Stress directly and indirectly affects the Productivity of midwives. The test results of the parameter coefficient between Job Stress and Productivity of midwives showed that there was a direct effect of 13.32%, whereas for the indirect effect of Job Stress on Midwives' Productivity through. Commitments get a score of 0.10%. Commitment directly influences the productivity of the midwife. The results of the parameter coefficient test

Mathematically, the structural equation form of this research model is as follows: Commitment in Jatinegara East Jakarta Health Center in 2016 is influenced by Job Stress of 0.339, and is influenced by other factors of 0.182 meaning there is The productivity of midwives in Jatinegara Health Center East Jakarta in 2016. Influenced by Job Stress is 0.180, Commitment is 0.184, and is influenced by other factors of 0.177 which means there is a positive effect of Job Stress and

between Commitments to midwife productivity showed that there was a direct effect of 15.62%.

Square or in other words it states that the Commitment variable, and Job Stress are able to explain the variable productivity of (39,96% + 13,32% + 15,62%) = 68,9%. So that the value of each of the direct effects of the independent latent variable if jointly shows the suitability of the value of R Square or in other words it states that the Commitment and Job Stress variables are able to explain the variable productivity of (39.96% + 13, 32% + 15.62%) = 68.9%.

Mathematic   equally

a positive influence the lower Job Stress the stronger the Commitment midwife So that the value of each of the direct effects of the independent latent variable if jointly shows the suitability of the value of R.

Commitment to midwife productivity, lower Job Stress and stronger Commitment the higher the productivity of midwiver in jatinegara Health Center, East jakarta in 2016. Predictive Relevanve (Q- Square Value).

The Q-Square test (Q2) aims to assess the magnitude of the diversity of data or variations in research data on phenomena at Jatinegara Health Center, East Jakarta in 2016. As for indicators of commitment,

namely; affective, sustainable and normative.

$Y = x1 \cdot g4 + h1 \cdot \beta3 + h2 \cdot \beta5 + h3 \cdot \beta6 + z4$ Midwife Productivity = Job Stress x 0.180 + Commitment x 0.184 + 0.17 which

is being studied. The formula used to measure Q-Square (Q2) is as follows:
Q2 = 1- (1-R12) (1-R22) (1-R32) (1-R42)

Based on the results of these calculations it can be concluded that the model is able to explain the variability of

Job Stress, as well as Commitments get a value of 2.13%. Based on journal studies that researchers review journal research Felicia Dwi R.F regarding Organizational Culture, Organizational Commitment and Work Motivation towards Employee Productivity, Aceh, obtained P-value = 0,000; OR = 10.683; 95% CI (5.438-14.419). Work Structure has a positive effect on Productivity, the test results show there is a positive influence of 0.18 while the T-Statistic value is 3.18 and significant at α = 5%. The T-Statistic value is above the critical value (1.96). Work Structures have a direct and indirect effect on the productivity of the midwife. The test results of the parameter coefficient between Job Stress and Productivity of midwives showed that there was a direct effect of 13.32%, while the indirect effect of Job Stress on Midwives Productivity through Commitment was 0.10%. Midwife productivity in Jatinegara Health Center East Jakarta 2016 affected by Job Stress of 0.180, meaning that there is a positive effect of Job Stress on midwife productivity, the lower the Job Stress experienced by midwives, the higher the midwife's productivity in Jatinegara Health Center East Jakarta in 2016.

The results of the meta-analysis that the researchers reviewed through the study of research journals Rose Widiana concerning Factors that Affect Employee Work Productivity, Surabaya, obtained P-value = 0.022; OR = 5.323; 95% CI (2.314-8.614), in the research journal I

Interpersonal communication has a positive and significant effect on the work stress of midwives. Interpersonal

Q2 = 1 - ((1-0,401473) x (1-0,509437) x (1-0,817594) x (1-0,823171))
Q2 = 0.9905 ⇒ 99.05%
the data at 99.05%, while 0.95% is explained by other variables not examined in this study.

DISCUSSION

Made Hedy Wartana regarding Stress with Female Labor Productivity, Surakarta, obtained P-value = 0.016; OR = 6.024; 95% CI (3,332-12,121), and in research journals regarding, Factors that Affect Employee Work Productivity, Bali, obtained P-value = 0.005; OR = 3,234; 95% CI (1,536-5,381). These results indicate that the Job Stress is significantly associated with an average of 2-12 times increasing work productivity. This means that low Job Stress will have the opportunity 2-12 times to increase the work productivity of midwives. Then the study concluded with an overview of SEM analysis (Structural Equaton Modeling (SEM) to explain the complex relationship of several variables tested in this study.

Commitment has a positive effect on productivity, the test results show there is a positive influence of 0.18, while the T-Statistic value is 2.02 and significant at α = 5%. The T-Statistic value is above the critical value (1.96). Commitment directly affects the productivity of the midwife. The results of the parameter coefficient test between Commitments to midwife productivity showed that there was a direct effect of 15.62%. The productivity of midwives in Jatinegara East Jakarta Health Center in 2016 was influenced by Commitments of 0.184, meaning that there was a positive effect of Commitment to midwife productivity, the stronger the Commitment, the higher the midwife's productivity in Jatinegara Health Center East Jakarta in 2016.

CONCLUSION

communication has a positive and significant effect on organizational commitment, interpersonal communication

has a positive and significant effect on the work productivity of midwives.

Job stress has a positive and significant effect on organizational commitment, work stress also has a positive and significant effect on midwife's work productivity. Organizational commitment has a positive and significant effect on the work productivity of midwives. three relationships between variables have a positive significant effect and a sample of 45 people in the modified final model; formed four variables (Job Stress, and Commitment) which have a direct influence on the productivity variable of midwives

SUGGESTION

Disseminating clear work program objectives, making fair incentive policies so that midwives are motivated in increasing work productivity in conducting training so that midwives are able to receive or prepare information related to work stress and good commitment and pay attention to the workload and capabilities of each person so as not to stressful in working.

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FAMILY SOCIOECONOMIC STATUS WITH THE LEVEL OF INTELLIGENCE OF MALNUTRITION CHILDREN IN BULULAWANG DISTRICT, MALANG

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Abstract
Malnutrition is a condition caused by a lack of consumption of protein energy sources, poor absorption, or excessive loss of nutrients. Malnutrition can result in disruption of brain development characterized by low levels of child intelligence. Many factors influences the intelligence of a child, one of which is the family's socio-economic status. This study aimed to analyze the relationship between maternal education and family economy with the level of intelligence of malnutrition children in Bululawang District, Malang. The sample in this study amounted 76 children selected by purposive sampling. Malnutrition in children was measured by Weight/Age standards and intelligence levels measured by Raven Standard Proggeresive Matrice which consisted of 36 questions. The results of the chi-square test obtained no relationship between the mother's education with the level of intelligence of children (p-value = 0.194), while the family economy related to the level of intelligence of children (p-value = 0.01). it is suggested for family to improve their family economic level as a way to overcome the problem of malnutrition in children.

Keywords : Family economy, level of intelligence, malnutrition, maternal education

INTRODUCTION

The problem of malnutrition in Indonesia is still one of the main public health problems (Riskesdas, 2010). In developing countries, this problem is one of the factors causing a high average mortality rate. Children who experience malnutrition will more easily suffer diseases, so that it will affect the growth and development of their brains (UN / SCN, 2005).

Malnutrition can occur due to poverty, but the improvement of nutrition in the early days of human life can build a strong foundation for individuals and families to get out of poverty (Indonesian Ministry of Health, 2013). The first 1000 days of birth is a very important period in the process of child growth and development. If malnutrition occurs during this period, health and nutrition problems will arise in the future (PNPM Generasi, 2012).

Based on Riskesdas (2013), more than one third of children under five years of age in Indonesia experience stunting. An estimated 2.8 million Indonesian children are wasted, and 3.8 million Indonesian children experience underweight.

According to the Indonesian Ministry of Health (2000) the causes of malnutrition can be direct and indirect. The direct causes can be infectious diseases suffered by children, while indirect causes can come from food security in the family, patterns of childcare, and environmental health. It can be concluded based on indirect causes, parents and family economic factors can influence children's nutritional status.

Based on the Profile of the East Java Province Health Office (2012), the main

nutritional problems is faced by East Java Province are acute nutritional problems with prevalence (thin and very thin) > 10% and chronic nutritional problems with the prevalence of toddlers (short and very short)

Various health problems that are often found among school children, including a lack of optimal physical growth. One of the most decisive factors is nutritional factors. Malnutrition during this period will result in disruption of body growth, mental, intelligence and easy to attack infectious diseases (Santoso, et al., 2004).

One assesses children's development with individual intelligence tests (IQ tests). Intelligence is all of the ability to think of individuals to think and act in a directed manner and the ability to manage and master the environment effectively (Khairani, 2013). One test to assess the level of intelligence is Raven Progressive Matrices. Tests have function to measure spatial ability are reasoning for perceptual accuracy and systematic thinking (Nurhasanah, 2015).

The results of a preliminary study in 13 SD / MI in Bululawang Subdistrict, Malang Regency with an age range of 6-8 years, obtained malnutrition data of 90 children. nutritional factors and family are very important for the growth and development of the child's brain. Therefore, this study was conducted to determine the relationship of family socioeconomic status with IQ scores of malnutrition children.

METHOD

The design of this study was cross sectional which aimed to determine the relationship of socioeconomic status (maternal education and family economy) with IQ scores of malnutrition children. The sample in this study were malnutrition children amounted 76 children. Anthropomentric assessment of malnutrition used indicators of body weight according to age based on WHO standard for malnutrition (z-score -3SD up to z-score <-2 SD). Child intelligence levels were assessed by Raven Progressive Matrices (RPM) conducted by consultant Elpyro. The result of Intelligence assessment were categorized into 5 grades, namely Grade I (superior), Grade II (above average), Grade III (average), Grade IV (below average), and Grade V (low / mental defective).

The education levels of mothers were categorized as low (not complited in elementary school, elementary school, junior high school) and high (high school, college), while the family economy is categorized as < Minimum Family Wage (MFW) and ≥ MFW (MFW Malang Regency Rp. 1,962,000).

RESULTS
Univariate analysis

Based on the characteristics of the respondents, most of the malnutrition children were female as many as 40 people (52.6%), attended school in MI as many as 45 people (59.2%), and the most of malnutrition children were scattered in grade 3 elementary school totaling 45 people (59,3%) (see table 1).

The socioeconomic status of the respondent's family, at most the mother's education level was classified low as many as 59 people (77,6%) and the family economy in the category below the UMK Malang Regency as many as 66 people (86.8%) (see table 2).

The intelligence level of children with malnutrition based on the Raven Test showed that most of them were in the average category of 32 people (42%) and only 5 people (6.6%) in the low category (see table 3).

Bivariate Analysis

The results of the chi-square test of the relationship of family socioeconomic status with the level of intelligence of children obtained there were no significant relationship between the level of education of mothers with the level of intelligence of malnutrition children obtained p-value

0.194 (p> 0.05). Conversely, the results of statistical tests of family economic variables with the level of intelligence of children there were a significant relationship (p = 0.010).

Table 1. Characteristics of malnutrition children

Characteristics of Children	n	%
Gender		
Male	36	47,4
Female	40	52,6
School		
Elementary school	31	40,8
Islamic elementary school	45	59,2
Classes Group		
Class 2	31	44,7
Class 3	45	59,3

Table 2. Family social economic status

Family Social Economic Status	n	%
Mother's education		
Low	59	77,6
High	17	22,4
Family economy		
< MFW	66	86,8
≥ MFW	10	13,2

Table 3. The level of intelligence of children with malnutrition according to the interpretation of Raven Test

Level of intelligence	n	%
Superior	11	14,5
Above average	17	22,4
Average	32	42
Below average	11	14,5
Mentally defective (lowest)	5	6,6
Total	76	100

Table 4. Chi-square analysis of the relationship between mother's education level and family economy with the level of intelligence of malnutrition children

Sosioeconomic status	Level of intelligence					Total	P-value
	Superior	Above average	Average	Below average	Mentally defective		
Mother's education							
Low	6	15	25	8	5	59	0,194
High	5	2	7	3	0	17	
Family economy							
<MFW	6	16	30	9	5	66	0,010
≥MFW	5	1	2	2	0	10	

DISCUSSION

Relationship between mother's education level and the level of intelligence of malnutrition children

Based on table 4, the most intelligence level of malnutrition children from low-educated mothers was in the average category amounted 25 people (42.4%). The results of this study indicate that mothers with low education have level of children intelligence higher than mother with high education.

There is no significance relationship between the level of education of the mother and the level of child intelligence in accordance with the research of Saniarto (2014), it concluded that there is no relationship between parental education and children's learning achievement. Although not significant, low parental education is a risk factor for children's learning achievement.

According to Soetjiningsih (1995) Education of parents is one of the important factors in child development. Parents who have good education can receive all information about how to care for their children, manage their children's health, and help in the process of children's education. However, formal education of mothers is not always directly proportional to the level of knowledge of mothers. A mother has a low level of education can have good knowledge about parenting than mothers have higher education. This is due to the high frequency level of information media both in print, electronic and information from the posyandu activities. Another factor that can affect the level of child intelligence is support from the environment. Child development is influenced by the frequency and intensity of children's interactions with the environment. More effective and high-

quality children's interactions, the better growth will be.

Mothers who are highly educated but busy working are usually less involved in children's school activities so that children's learning achievements are not good (Ahmadi & Supriyono, 2008). Busy parents cause lack supervision and guidance from parents so children do not get guidance when experiencing difficulties in learning (Daviz, Kean, 2005). This is also supported by several respondents in the field that their mothers always monitor learning activities at home.

Family economic relationship with the level of intelligence of children with malnutrition

The results of this study indicate that there was a significant relationship between the family economy and the level of children intelligence. Family economic status is determined by work and family income. Poverty is one of the factors that can affect the level of intelligence of children. poverty is related to lack of food, unhealthy environmental health and ignorance. Poverty causes family limitations in providing various play facilities causing the child's brain get lack stimulus. It may inhibit the development of children (Indonesia Ministry Of Health, 2007).

Family income is a reflection of the family's economic situation. Inadequate income will cause lack of availability of good learning tools and places and lack of nutritious food and adequate health services (Ahmadi & Supriyono, 2008). According to Danl and Lochner (2012), states that families with low income can not buy books for their children so that their children are less read and their achievement is low.

CONCLUSION

The mother's education level is not significantly related to the level of intelligence, while the family economy has a significant relationship with the level of intelligence of malnutrition children.

SUGGESTION

Based on the results of the research obtained, suggestions are aimed at parents to provide support such as stimulation interactions and the provision of facilities that support children's learning activities, in addition pay attention to children's nutritional intake. For the government, it is expected to make efforts to improve the program in overcoming malnutrition problems in children.

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CONTRIBUTION OF HEALTH CADRE SUPPORT TO HEALTH INTEGRATED POST (POSYANDU) VISIT'S MOTHER OF TODDLER

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Abstract

Support to health intregrated post (posyandu) in Riau Province the last three years happen decreased the number of posyandu visits, in 2012 as muny as 44.37 percentage to 43.78 percentage in 2013, especially in Kampar District. Lubuk Siam Village is a village in Kampar Regency, where the number of visits to the Posyand is only 36.8 percent of the national target of 80 percentage. The purpose of this study was to determine the contribution of health cadre support to the of posyandu visits. This type of research was quantitative by crossectional design. The populations were 184 people, the number of samples were 126 people. Data analysis used Univariate and Bivariate analysis stages with the chis quare test. The results of this study showed that there were a contribution toward Kader support (p value = 0.045) with the behavior of the posyandu visit. It is expected that health workers in the working area of Siak Hulu II Health Center can further empower Kader in increasing visits to posyandu

Keywords: Health cadre support, health integrated post (Posyandu) visits

INTRODUCTION

Posyandu is one form of community-based health efforts managed from, by, for and with the community that is useful to provide convenience for the community in obtaining basic health services. One of the posyandu targets is toddlers. Toddlers are a vulnerable group of diseases, so parents should bring their children to visit the posyandu to monitor the growth and development of their babies (Ministry of Health RI, 2013).

Posyandu visits are one of the meeting activities between mothers of children under five with cadres and health workers with the aim of providing health services to monitor the growth and development of children under five, to know the health status of toddler and analysis in program planning, especially nutrition issues. The definition shows the importance of the posyandu visit because it is very beneficial for toddlers, if the mother of a toddler does not visit the posyandu to find out the health status of her toddler it can cause the growth and development of toddlers who are at risk of growth and development (Deartment of heath RI, 2011).

Childhood is a period where mental and intellectual growth is growing rapidly, this period is a golden period, namely the formation of the foundations of the ability of senses, thinking, speaking and the indentification of mental and intellectual growth and the beginning of moral growth. During this time stimulation is very important in order to optimize the functions of organs and stimulation of brain development, on the other hand what is needed by toddlers is monitoring their growth and development (Meilani, 2009).

Monitoring the growth and development of toddlers can be done by the community through posyandu. Posyandu visits are needed to capture the health status of children under five. If there are health problems for children

under five, they will be immediately handled by local health workers. The Indonesian Ministry of Health in 2015 stated that the development of the number of posyandu in quantity was very encouraging. However, when viewed from the aspect of quality, the utilization rate of posyandu in the community has not been used optimally. This can be seen from the number of visits of the posyandu which low means that the unactive visit of mothers brings their children to the posyandu.

Data obtained by Basic Health Research in year 2013 was that the number of posyandu utilization in Indonesia decreased compared to 2007 where in 2013 the number of posyandu utilization was 44.6 percent, while in 2007 the posyandu utilization rate was 45.4 percent. Data obtained by the Ministry of Health of the Republic of Indonesia in 2011 for utilization rates in various provinces in Indonesia, namely there are very far gaps between several provinces, of which from 33 provinces in Indonesia, there are still 13 provinces (39%) that have not reached the target coverage, one of them is Riau Province with coverage of only 50.4 percent. Data obtained by the Riau Provincial Health Office in the last 3 (three) years, namely the number of active visits psyandu decreased, in 2012 from 44.3 percent to 43.78 percent in 2013. In Riau Province for 1 (one) posyandu not yet reaching 100 toddlers, so if one (1) posyandu is attended to serving around 72 children under five, and for 5 (five) years the posyandu ratio in Riau Province from 2010 to 2013 no one has reached 1 posyandu serving 100 children under five.

One of the districts whose utilization rate is redah is Kampar Regency. Kampar Regency is a district that has 21 sub-districts, one of which is Siak Hulu Sub-district. Siak Hulu sub-district is one of the sub-districts that has not reached the target of posyandu visits, which is only 44.8 percent (Kampar District Health Office, 2015).

Posyandu visits can be seen from D / S data in the work area of the puskesmas in an area. D / S is the coverage of children under five who come and weigh at the posyandu. The national target coverage of children under five who come and weigh at the posyandu is 80%. Lubuk Siam Village is one of the villages in Siak Hulu Subdistrict, this village is part of the working area of Siak Hulu II Health Center. The data obtained about the coverage of visiting and weighing (D/S) under-five visits in the village is still far from the national target of 36.8 percent, this indicates that the community has not fully utilized the services of the posyandu.

Many determinants contributed to the visit of the mother who brought her child to the posyandu. One of the determinants is the thing that exists in the scope of the Posyandu itself, namely the support of Posyandu cadres. The Ministry of Health of the Republic of Indonesia in 2015 defined Posyandu cadres as people who were chosen, willing, able and had time and concern for the health of the surrounding community voluntarily. The role of cadres in activating and increasing visits to posyandu is very large, because in addition to providing health information to the community as well as driving the community to visit the posyandu. The support of cadres to motivate mothers who have toddlers to visit to bring their children to the posyandu is very important.

Based on a preliminary study conducted on April 19, 2018 on 30 mothers of toddlers in Lubuk Siam Village, information was obtained that 19 mothers of toddlers claimed not to understand and understand the benefits of posyandu activities that are carried out every month because every time toddler they get immunizations in posyandu became pain and fever. From the survey data, the researchers tried to find answers about the contribution of cadre support with the visit of the mothers of children under five to the posyandu.

METHOD

This type of research uses quantitative research with a cross sectional approach, namely the type of research that emphasizes the time of engraving / observation between the independent and dependent variable data taken at the same time. This research was conducted at the posyandu in the Lubuk Siam village health center in April to August 2018.

The population in this study were all mothers who have toddlers who live in the work area of Lubuk Siam Village Health Center, which is 184 people. The sample in this study is that some of the mothers who have toddlers who live in the working area of Lubuk Siam Village Health Center are 126 people. The sampling is used with the Random Sampling technique.

The data collection technique is by using a questionnaire. Data analysis was performed by univariate and bivariate analysis. Univarate analysis to find out the distribution figures of posyandu visits and cadre support while bivariate analysis to find out the distribution of cadre support with posyandu visits. Bivariate analysis using the chi-square test by looking at the significance level (p-value) p <0.05.

RESULT
Univariate Data

Table 1. Distribution of posyandu visits in Lubuk Siam Village in 2018

Posyandu Visits	F	%
Low	66	52, 4 %
High	60	47,6%
Total	**126**	**100 %**

Source: Primary Data, 2018

Table 1 above shows that out of 126 respondents obtained data as many as 66 respondents (52.4%) whose level of visits brought toddlers to posyandu was low, while for respondents who were high they brought in keposyandu, namely 60 people (47.6%).

Table 2. Distribution of cadre support in Lubuk Siam Village in 2018

Health Cadre Support	f	%
No	30	23,8 %
Yes	96	76,2 %
Total	**126**	**100 %**

Source: Primary Data, 2018

Table 2 above shows that out of 126 respondents it was found that 96 respondents (76.2%) stated that there was cadre support for mothers of children under five to bring toddlers to posyandu, while 30 respondents (23.8%) stated that there was no cadre support for mothers of children under five to bring toddlers to posyandu.

Bivariate Data

Table 3. Contribution of Cadre Support to Posyandu Visits in Lubuk Siam Village in 2018

Halth Cadre Support	Posyandu Visits				n	P Value
	Low		High			
	F	%	F	%	N	
No	21	70,0 %	9	30,0 %	30	0,045
Yes	45	46,9 %	51	53,1 %	96	
Total	**66**		**60**	**83,1 %**	**126**	

Source: Primary Data, 2018

The table above shows that respondents with no support statements from cadres who visited low posyandu were 21 respondents (70.0%), and respondents with high posyandu visits numbered 9 respondents (30.0%), while respondents with statements there were support from cadres to visit the low posyandu numbered 45 respondents (46.9%) and the category of high visits posyandu totaled 51 (53.1%) respondents.

The results of statistical tests show that the P value is 0.045, which is <0.05, which means that the support of the cadres contributes to the visit of the mothers who bring their children to the posyandu.

DISCUSSION

Based on the above data, the results of the study showed that respondents who did not get support from the cadres of the low posyandu visits were 21 respondents (70.0%), and respondents with a high posyandu visit were 9 respondents (30.0%), while the respondents with

statements there were support from the cadres of the low posyandu visits, there were 45 respondents (46.9%) and the high posyandu visit categories were 51 (53.1%) respondents. Posyandu cadres are someone who is chosen by the Posyandu management from community members who are willing, able and have the time to organize Posyandu activities voluntarily.

The results of statistical tests show that the P value is 0.045, which is <0.05, which means that the support of the cadres contributes to the visit of the mothers who bring their children to the posyandu.

The results of this study are in line with research conducted by Firdausiyah, (2016) that there is a relationship between the support of posyandu cadres to the compliance of mothers to bring their children to the posyandu. The results of this study are also in line with the research conducted by Malahayati in 2015, and the results of the study were namely there was a relationship between the role of cadres to the low visits of infants and toddlers to the posyandu.

Posyandu cadres are someone who is chosen by the Posyandu management from community members who are willing, able and have the time to organize Posyandu activities voluntarily. Mothers who have toddlers need support from cadres so that they want to bring their toddlers to the posyandu. The support itself is the provision of something to meet the needs of others, if that is a cadre it can be in the form of providing information to mothers who have balta in their area. Support can also be interpreted, namely giving motivation or encouragement and advice to other people, if that is a cadre, then giving motivation, enthusiasm and advice to mothers who have children under five to bring their children to visit the posyandu (Chaplin, 2006).

Based on the theory and results of the study, the researcer assumed that the better the contribution of cadre support in providing motivation to mothers who have children under five to visit bring their

babies to the posyandu, the more mothers who have toddlers to visit the posyandu. The support given by cadres is very influential on the posyandu visit, this is because the role of cadres is very important in increasing the number of visits to the posyandu. In addition, cadres are active in conducting activities and providing information to mothers of children under five so that they feel they need activities that can improve their health status. Active and enthusiastic cadres will greatly help susced planned health programs.

CONCLUSION
1. Distribution of visits to posyandu in Lubuk Siam Village low at 52.4 percent
2. Distribution of support from cadres to visit posyandu with a statement that there is support as much as 64.3 percent.
3. There is a contribution between cadre support (P Value 0.045) and a visit to the posyandu.

RECOMMENDATION
For the community
It is expected that the community, especially mothers who have toddlers, will be more open and active in receiving information regarding the health of their children provided by cadres, health workers, community leaders and others. So that you will diligently visit the posyandu.
For Health Officers
It is expected that health workers will be more active in providing information and providing counseling regularly, especially in the health sector, which can increase the frequency of posyandu visits, and can empower the community in the health sector.
For Further Researchers
It is expected that the researchers who raise the problems related to other determinant contributions related to the visit of the Posyandu..

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RELATIONSHIP VERBAL VIOLENCE WITH ADOLESCENT SELF - ESTEEM IN THE JUNIOR HIGH SCHOOL PADANG

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Abstract

Verbal violence done by parents is one of the things that causes low self-esteem in adolescents which adversely affects adolescent growth and development. This study aimed to determine relationship parent verbal violence with adolescent self-esteem. The design of this study was a cross sectional study with a total sample of 228 people taken proportionally random sampling. The results showed that 77.6% of respondents received verbal violence from parents, and 56.1% of respondents had low self-esteem. The results of the statistical tests showed that there were significant relationship between parent verbal violence and adolescent self-esteem(p value=0.007). It is recommended for parents to be able to communicate and discuss openly through parenting that can develop positive self-esteem for their future.

Keywords : Adolesenct, verbal violence, growth and development, self-esteem.

INTRODUCTION

Violence against children always increases every year in many countries in the world. This situation also occurs in West Sumatra, one of the provinces in Indonesia. Violence against children is most often carried out by people closest to children. Data from the National Child Protection Commission (KPAI) found that cases of violence against children were mostly carried out by biological parents (44.3%), followed by friends (25.9%), neighbors (10.9%), stepparents (9.8%), teachers (6.7%) and siblings (2%) (KPAI, 2015). In 2015 there were 642 cases of verbal violence in children, 532 sexual violence in children, and 346 physical violence that occurred in children (Alfath & Ansari, 2015). From these data it is known that the violence most often received by children in their daily lives is verbal violence.

Verbal violence can have considerable adverse effects on mental health, psychological development and self-esteem (Noh and Talaat, 2012).

Verbal violence causes children to be a generation that is weak, children become apathetic, developmental disorders and growth, children become insensitive to other people's feelings, irritability, withdrawal, loss of self-esteem, and depression. Verbal violence does not have a physical impact on children, but can damage children in the next few years. Even further impacts of verbal violence by parents on their children will cause deep wounds in life and feelings that are at risk of decreasing self-esteem in adolescents. (Soetjiningsih, 2012).

METHOD

This research is Corelative using a cross sectional study approach. This research was conducted on all students of class VIII and IX at Junior High School X in Padang. The sampling technique is proportional random. The number of samples in this study were 228 people. The research instrument in collecting data in the form of a questionnaire. Data were analyzed univariately and bivariately using

statistical analysis in the form of Chi Square test assisted by computer equipment with a confidence degree of 95% ($\alpha = 0.05$).

RESULT

Overview of Research

Respondents involved in this study were 228 people, the results showed that 51.8% of respondents were female, 91.7% of respondents lived with parents, 83.8% of respondents' parents were still intact. From the results of the study note that 77.6% of respondents experienced acts of verbal violence from parents, and 56.1% of respondents had low self-esteem. Results Bivariate analysis, can be seen in the following table

Table 1 Analysis of the Relationship of Verbal Violence of Parents with Self-Esteem of Adolescents in Padang N 23 Middle School

Verbal violence	Adolescent self esteem				Amount		P value
	High		Low				
	f	%	f	%	F	%	
Ada	69	39,0	108	61,0	177	100	0,007
Tidak ada	31	60,8	20	39,2	51	100	

The table above shows that of 177 respondents who experienced verbal violence from parents as much as 61.0% of respondents had low self-esteem and who did not experience verbal violence from parents as much as 39.2% of respondents had low self-esteem. Based on statistical tests, the value of $\rho = 0.007$ means that there is a meaningful relationship between parent verbal violence and adolescent self-esteem at the Padang Middle School in 2017.

Of the 177 respondents who experienced verbal violence from parents as much as 61.0% of respondents had low self-esteem and those who did not experience verbal violence from parents as much as 39.2% of respondents had low self-esteem. Based on statistical tests, the value of $\rho = 0.007$ means that there is a meaningful relationship between parent verbal violence and adolescent self-esteem at the Padang Middle School in 2017.

DISCUSSION

Based on the results of research on adolescent self-esteem in junior high schools in Padang City in 2017, it was found that 56.1% of adolescents had low self-esteem and 43.9% had high self-esteem. From this data, more than half of teenagers have low self-esteem because of the violence they experience. Analysis of the questionnaire, from three aspects of self-esteem, in the aspect of relationships with other people, adolescents feel themselves undesirable. From the items in the questionnaire, 96.9% of teens found that the family did not expect too much from themselves.

The feeling aspect about yourself is that 73.2% of teens say they feel unreliable. The feeling aspect of life in getting 71.9% said that it was easy to be disturbed in facing trivial matters, 70.2% said that often they were unsure about the success of something done, teenagers felt they could not do anything. To build good communication, several things are prioritized, namely active listening, positive and specific communication, giving positive and tolerant examples. It can be said that the belief in one's own abilities possessed by adolescents depends on the judgment of others on him, if other people do not underestimate him then the child will have good self-esteem. (Purnama, 2013).

In the aspect of relationships with others, the family becomes an important social structure. Interactions between family members occur here, because the family is the closest environment both physically and social support. Family is the first environment that is encountered by teenagers and is an important place in the development of a human life (Tambunan, 2001).

The crisis period of self-esteem formation is in adolescence. WHO (2010)

Stating that the adolescent phase is a transition or transition from childhood to adulthood. The treatment given by parents determines self-esteem in adolescents. This is because the primary self-concept is formed in the family, on the basis of the affection of the adolescent family can build good self-esteem (Wong, 2009).

Self-esteem can be interpreted as self-evaluation made by each individual, people's attitudes towards themselves in the range of positive or negative dimensions (Baron & Byrne, 2012). To form positive self-esteem teenagers must have a good self-view. In the process of forming positive self-esteem teenagers must get support from the surrounding environment, especially families. Self-esteem in childhood tends to be high, decreases in adolescence and increases in early adulthood to middle adulthood, then decreases in late adulthood (Branden, in Desmita, 2010).

Verbal violence obtained by adolescents from research that has been done shows that most (77.6%) students experience acts of verbal violence from parents. The results of a similar study found by Munawati (2011) there were (63.3%) children experiencing acts of verbal violence from parents. Another study was also conducted by Arsih (2010) on phenomenological studies of four respondents who claimed to have received verbal abuse from their parents. From the questionnaire analysis, it was found that 70.6% of adolescents said that parents never said love to them, 65.8% of teens said that parents spoke loud or high, 61.8% of teens said that parents said everything was bad what happened due to children, 59.6% of teens said that parents threatened if they did not obey their orders, and 55.3% of teens said that parents shouted if the respondent made a mistake, 50.9% said that parents called with an unwelcome call .

The results of statistical tests on the relationship of parent verbal violence with adolescent self-esteem were obtained p value 0.007 (p <0.05). This result states that there is a significant relationship between parent verbal violence and adolescent self-esteem in Junior High School in Padang City. According to Fatimah (2012) regarding the dynamics of self-concept in adults of child abuse victims it was found that after getting violent the respondents experienced low self-esteem and self-concepts such as self-esteem could turn out to be positive if there was good motivation from their environment. In addition to the family, the social environment of adolescents will help in improving the formation of self-esteem so that they can still have high self-esteem.

Maxwell and Steven (2014) stated that parents who commit negative actions such as abuse or humiliation to children will negatively correlate with the child's self-esteem. Meanwhile, parents' more positive perceptions on their children will also be positively related to children's self-esteem. It can be concluded that low self-esteem possessed by adolescents tends to be created because of acts of verbal violence by parents.

CONCLUSIONS AND RECOMENDATIONS

Self-esteem possessed by adolescents is created from within the adolescent itself and the surrounding environment. Teenagers who have high self-esteem when they get violence from their parents, teenagers will shift themselves to the surrounding environment such as school and friends. Teenagers who get negative treatment from parents but get support from school and friends will make teens stronger so that they will still have high self-esteem. Recommendations for schools, to be able to hold regular meetings with parents in order to reduce verbal violence against adolescents and monitor their children's growth and development, especially about mental health.

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EFFECTIVENESS OF SMOOTHNESS PRODUCTION TECHNIQUES MARMET BREASTFEEDING POSTPARTUM WOMEN AT SELF PRACTICE MIDWIFE MS. ERNITA PEKANBARU

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Abstract

Mother's Milk is the best food for infants, especially the beginning of life.It is shown to have advantages that can not be replaced by any food and drinks because milk contains nutrients that the most accurate and complete to the growth and development of infants. Teknik Marmet techniques is one of the alternative actions to increase milk production. The aim of study was to determine difference lactation on postpartum mothers who do Marmet technique with the control group. This study was used a quasy experimental by post test only Non-Equivalent Control Group The sample of study were 15 people using purposive sampling technique. Measuring instrument used questionnaire and observation sheet. The results of study showed that there were 73.33% Marmet technique substandard milk production while 53.3% mother milk production smoothly. Statistical test results there were differences in lactation on postpartum mothers who do Marmet and massage techniques oxytocin(p value=0.016). It is Expected to health workers, especially midwives and nurses and staff who have been trained on Marmet technique to provide education and pamphlets of Marmet correct technique.

Keywords : Smooth milk production, marmet technique

INTRODUCTION

In 2009 the World Health Organization (WHO) and the America Academy of Pediatric (AAP) recommended providing optimal nutrition for newborns, namely the global strategy of exclusive breastfeeding for 6 months. ASI (Breast milk) is a special fluid created by God for babies that contain white blood cells, immune substances, enzymes, hormones and proteins that are suitable for babies (Indonesian Ministry of Health, 2013). Breast milk is the best food at the beginning of life. ASI is proven to have advantages that cannot be replaced by any food or drink because breast milk contains the most appropriate and complete nutrients for the growth and development of infants (Sugiarti et al., 2011).

The results of Nutritional Status Monitoring (PSG) conducted in various provinces in Indonesia in 2016, the percentage of 0-5 months infants who still received exclusive breastfeeding was 54.0%, while infants who had received exclusive breastfeeding until the age of six months were only 29, 5%. This needs to be done to increase socialization to the public about the importance of the benefits of breastfeeding for infant growth Breast milk contains colostrum which is rich in antibodies because it contains high amounts of protein for endurance and germ so that by giving breast milk especially exclusive breastfeeding can reduce the risk of death in infants (Indonesian Ministry of Health, 2017).

Data from the Riau Provincial Health Office in 2015 found that the coverage of exclusive breastfeeding for infants 0-6 months was 68.8%. This achievement is higher than in 2014 of 52.4% and although this achievement continues to increase the percentage of

exclusive breastfeeding for infants still has not reached the target of 80%. Data from the Pekanbaru City Health Office in 2015 noted that the number of infants aged 0-6 months was as many as 19,164 infants with the achievement of infants who were given exclusive breastfeeding as many as 13,656 infants (71.26%) (Riau Provincial Health Office, 2016).

Low coverage of breast milk is caused by a lack of mother's knowledge about exclusive breastfeeding and the existence of non-exclusive food ideologies, so there is no strong motivation from mothers to give exclusive breastfeeding to their babies (Afifah, 2007). One of the inhibiting factors in breastfeeding is the production of breast milk itself. The production of breast milk which is less and slowly exits can cause the mother not to give enough milk to her baby. This is supported by the research of Yaqub & Gul (2013) that the most common reason for failure of exclusive breastfeeding is less milk production (93.2%).

Decreasing milk production in the first days after giving birth can be caused by a lack of stimulation of the hormone prolactin and oxytocin which plays an important role in the smooth production of breast milk. Early breastfeeding in the first hours of birth if it cannot be done by the mother will cause the breastfeeding process to be delayed, so an alternative that can be done is to milk or pump breast milk for 10-20 minutes until the baby can suckle. This action can help maximize prolactin receptors and minimize side effects from delays in the baby's breastfeeding process (Evariny, 2011). The recommended milking technique is using hands and fingers, because it is more practical, effective and efficient compared to using ASI pump assistants (Marmet, 2003). The method that can be used is clhoe marmet which is often called the marmet technique. The marmet technique is a blend of blushing and massaging techniques. This technique gives a relaxing effect and reactivates the reflex of milk or ejection reflex (MER) release, so that the milk will spray out by itself. This technique is one effort that can be done to increase breast milk production in post partum mothers (Ulfah, 2013).

The results of a study conducted by Hamidah (2016) on "The effect of marmet technique on breast milk production in postpartum thousands in PKU Muhammadiyah Gamping Hospital" states that there is an effect of administering marmet technique with ASI production in postpartum mothers in PKU Muhammadiyah Gamping hospital. This study states that in normal post partum mothers and post sectio caesaria performed marmet technique 75% of ASI production is good and smooth, whereas in the control group not given marmet technique only 40% of the milk production is good with p value (0.025).

METHOD

This type of research is a quasi-experimental design with Posttest Only Non-Equivalent Control Group Design by comparing the smoothness of ASI after administering marmet technical treatment in the experimental group and without the technical treatment of marmot in the control group. This research was conducted in March - July 2018 at Ernita BPM Delima Sub-District, Tampan District, Pekanbaru. The sampling technique The technique used for sampling in this study was non-probabilty sampling with a type of purposive sampling. Purposive sampling is the technique of determining the sample with certain considerations according to what the researcher wants.

RESULTS AND RESEARCH

Based on table 1 the smoothness production of postpartum mother's breast milk in the control group of 15 respondents 53.3% with smooth breast milk production.

Table 1 Distribution of Smoothness of Breast Milk Production in Postpartum Mothers After Performing Marmet Technique in Pekanbaru ERNITA Independent Practice Midwives (BPM) in 2018.

Smoothness Production of Breast Milk	Frequency	Precentage (%)
Not Smooth	7	46,7
Smooth	8	53,3
Amount	15	100

Smoothness Production of Breast Milk	Frequency	Precentage (%)
Not Smooth	4	26,67
Smooth	11	73,33
Amount	15	100

Table 1 The smoothness production of breast milk in postpartum mothers after the marmet technique was carried out by 15 respondents of marmet technique, the majority of respondents with smooth breast milk production were 73.33%, while non-fluent ones were 26.67%.

Breast milk production in the control group Table 2 Distribution of the smoothness of postpartum breast milk production in the control group in Pekanbaru's independent practice midwives (BPM) in 2018.

Table 3 Average Distribution of Differences in the Smoothness of Breast Milk Production in Postpartum Mothers After the Marmet Technique with Control Groups in the Ernita Pekanbaru Independent Practice Midwives (BPM) in 2018.

Breastfeeding Techniques	Mean	SD	SE	pValue	N
Marmet Technique	3,67	1,175	0,303	0,016	15
Control group	2,53	1,246	0,322		15
Amount	15				

Based on Table 3, it can be seen that the average smoothness of postpartum breast milk production after marmot technique is 3.67 with a standard deviation of 1.175, while the average smoothness of postpartum breast milk production in the control group is 2.53 with a standard deviation of 1.246. p value 0.016, which means that at alpha 5% there is a significant difference in the average smoothness of production between postpartum mothers who performed marmet technique and post partum mothers in the control group.

DISCUSSION

The technique of marmet is a combination of how to milk the milk and massage the breast, so that the reflex of the milk coming out can be optimal. The technique of milking ASI in this way aims to essentially empty the milk in the lactiferous sinuses located below the areola, so that it is expected that emptying the milk will stimulate the release of the hormone prolactin. Expending the hormone prolactin will stimulate mammary alveoli to produce breast milk. The more milk is released or emptied from the breast, the more milk is produced (Marmet, 2003; Roesli, 2013). Prolactin hormone will be in the blood circulation for 30-45 minutes after being sucked, so that prolactin can stimulate the breast to produce milk to drink next (IDAI, 2015).

Giving a massage to the breast accompanied by emptying the contents of the breast will activate the hormone prolactin which produces breast milk and the hormone oxytocin which serves to make the breast contract so that the milk can come out smoothly (Widiastuti, 2015). This shows that the effective marmot technique and can be used as some ingredients in increasing the smooth production of breast milk in postpartum mothers.

Based on the results of research conducted by researchers in postpartum mothers who performed marmet technique

from 15 respondents who were given intervention there were 11 people who had smooth ASI production (73.33%), there were even 4 respondents after being given intervention on day 2 of their ASI production smoothly and 5 respondents respond to their ASI production smoothly on day 3. There are 4 respondents (26.67%) whose milk production is not smooth. And from the results of statistical tests using the independent t test, the average value of ASI production after intervention in the marmot engineering group was 3.67 with a standard deviation of 1.175. While the average value of ASI production in the control group is 2.53 with a standard deviation of 1.246.

The results of the analysis obtained p value (0.016) <α (0.05), it can be concluded that there was a significant difference in the smooth production of breast milk in postpartum mothers conducted by marmet technique with the control group. Postpartum mothers who performed marmet technique 73.33% smooth ASI production while postpartum mothers without marmet technique 53.3% ASI production smoothly. Based on differences in the value of ASI production, the marmet technique was effective in helping to increase milk production. According to the researchers' assumptions, given the high success in performing marmet techniques, to increase the desirability of post partum mothers in performing marmet techniques, in order to facilitate breastfeeding, the need to carry out counseling, installation of posters, distribution of brochures done at health centers, integrated health posts and maternity clinics.

CONCLUSION

1. Smooth production of breast milk in postpartum mothers after the marmet technique was 11 people (73.33%) the milk production was smooth, while the non-fluent ones were 4 people (26.67%).

2. The smooth production of breast milk in postpartum mothers who are inaccessible is 8 people (53.3%) whose milk production is smooth, while the non-fluent ones have 7 people (46.7%).

3. There is a difference in the smoothness of breast milk production in postpartum mothers after the marmot technique has been carried out and the inaccessible ingredient is pharmaceutical with a value (0.016).

SUGGESTION

It is expected that health care officers, especially midwives, will provide education about marmet techniques in the smooth production of breast milk. So that postpartum mothers have no difficulty in breastfeeding. In addition to providing direct education, health workers can also distribute flyers about the correct techniques for marmet and attach photos of marmot techniques on the walls of the health service center.

It is expected that respondents can apply the knowledge they have obtained and disseminate it so that many mothers are exposed to the Marmet Technique.

It is expected that educational institutions can use this thesis as reading material and references in making thesis and with this thesis can support the results of research for researchers to get results that are more varied and deeper.

It is hoped that it can provide researchers with knowledge and experience and continue to promote the Marmet Technique in postpartum mothers so as to reduce breastfeeding problems and increase the coverage of Exclusive Breastfeeding.

It is expected that the next researcher will be able to conduct research with different designs such as qualitative to find out more deeply the sensations felt by the mother when done with marmet technique.

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THE EFFECTIVENESS OF BREAST CARE ON THE BREAST FLUENCY MILK AMONG POSTPARTUM MOTHER IN THE SIAK PUBLIC HEALTH CENTER

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Abstract
Breast Care is an action needed for postpartum mothers during breastfeeding to help breast fluency milk. The breast milk is abundant make the baby will get exclusive breastfeeding is enough without experiencing obstacles. Several factors affect the low range of exclusive breastfeeding, one of them is a stimulus factor in the form of breast care. The purpose of study was to determine the effectiveness of breast care on the countinuity of breast milk among postpartum mothers. This study was used a quasy experimental by design with pre and post one group. The samples were 29 postpartum mothers. Samples were Selected by Purposive Sampling. The data analysis were used paired t test. The result showed(p value =0,000), it means there were effectively breast care on the breast milk fluency. Therefore, it is expected that health workers in particular midwives to inform and provide health education about breast care in postpartum mothers that function for countinuity breast milk on postpartum mothers

Keywords : Breast Milk fluency, breast care

INTRODUCTION

World Health Organization (WHO) recommends that breastfeeding should be done exclusive, breastfeeding during the first 6 months of life for babies without any additional food. The rate of adequacy of breastfeeding in Indonesia is only 42 %, the target of WHO which requires the coverage of breastfeeding to be at least 50 percent (Hidayati, 2017).

According to Nurliawati (2010) breastfeeding can prevent infant mortality, according to the results research in Ghana which shows that 22% of newborn deaths can be prevented by giving breast milk in the first hour after birth and continued till six months. Maternal problems that often appear during breastfeeding are not all direct postpartum mothers remove breast milk after giving birth, because breastfeeding is a very complex interaction between mechanical stimulation, nerves and various hormones.

One of the factors causing that can affect the countinuity production and expulsion of breast milk is breast care, by stimulating breast care by affecting the pituitary to release more hormone progesterone and estrogen and the hormone oxytocin by stimulating the milk glands through massage.

Breast care with doing massage will expedite the milk's reflex, but it is also an effective way to increase the volume of breast milk and prevent dams in the breast, by doing massage on the breast the mother will feel calm, relax, increase the pain threshold and love the baby, then with hormones Oxytocin comes out and the milk is quickly released (Prasetyono, 2009).

METHOD

This was an experimental study with a quasy method experiment (quasi-experiment) using the design of pre and post one group that was carried out in November 2017 - August 2018 in the Area of Siak Primary Health Center, Siak District. The population are 86 postpartum mothers and a sample are 29 postpartum mothers. Type of data is secondary data, namely data from the Siak Health Center. Primary data obtained from questionnaires. Data analysis used was univariate and bivariate by paired T test.

RESULT

The results of the analysis show the average continuity of postpartum mother's breast milk before breast care is 4.41, with a standard deviation of 1.181. The results of 95% confidence interval (CI) can be concluded that 95% is believed to smooth the breast milk of postpartum mothers between 3.96-4.86, while the continuity of breastfeeding for postpartum mothers after breast care with an average of 6.03, with a standard deviation of 1,295. The results of 95% confidence interval (CI) can be concluded that 95% is believed to smooth the milk of postpartum mothers between 5.54-6.53.

The results of data analysis of the differences in the continuity of ASI showed that the average value of ASI continuity before and after breast care in postpartum mothers in the area of Siak Health Center Siak District was -1.621 with a standard deviation value of 1.898 and a 95% confidence level. The calculated t value obtained is -4,599. The value of t count is used to see the level of significance, if -t count <-t table then the results of the study are meaningful.

The value of t count compared to t table is (2.048 / -2.048), then t count is obtained (-4,599) <t table (-2,048). This proves that the results of this study are meaningful. In addition, the value of p value obtained is 0,000, which means that p value <0.05 so it can be concluded that there is effectiveness of breast care on the

continuity of breast milk in mothers postpartum in the area of Siak Health Center, Siak District.

Table 1
Distribution of Statistical Effectiveness of Breast Care on the Continuity of Breast Milk in Mothers postpartum in the working area of Siak Health Center

VARIABEL	Paired Differences				P Value
	Mean	Std. Deviation	Difference		
			Mean	Std. Deviation	
Before Treatment Breast Care	4,41	1,181			
After Treatment Breast Care	6,03	1,295	-1,621	1,898	0,000

DISCUSSION

Effectiveness of Breast Care Against Smooth mother's milk Postpartum The results showed the average continuity of mother's breast milk postpartum before breast care is 4.41 with the lowest value 2 and the highest value is 7 while after breast care an increase in the average value is 6.03 with the lowest value obtained is 3 and the highest value is 8. Test results of paired T The test shows that the value of p (0,000) <0.05. It can be concluded that there is effectiveness of breast care on the smooth operation of breast milk in postpartum mothers in the working area of Siak Health Center, Siak Regency.

The results of this study are in line with the results of research conducted by Nilamsari (2014) with the title of the effect of carebreast to the smooth excretion of breast milk in postpartum mothers at Mardi Rahayu Maternity Hospital Semarang which shows that there is a relationship between breast care and smooth excretion of breast milk and with treatment breast can increase the smooth

excretion of breast milk 1-2 times greater in postpartum mothers at Mardi Rahayu Maternity Hospital.

Semarang with a value of p = 0.018 <0.05. The next study was also conducted by Wijayanti (2016) which showed results that t count (16.40)> t table (1.691) which means breast care postpartum effectively increases breast milk production in postpartum mothers in Timpik Village, Susukan Sub-District, Semarang Regency. Other similar research also carried out by Rochaeti (2009) where mothers do all breast care shows enough milk production in the category, with p = 0.01 <0.05, which means that there is a relationship between breast care and the production of breast milk in postpartum mothers at the Annisa Boyolali Maternity Hospital.

According to Nilamsari (2014) breast care is a necessity for mothers who have just given birth and an action that is very important to facilitate breastfeeding. The movement in breast care is beneficial to smooth out the reflex of breast milk. In addition, it is also an effective way to increase the volume of breast milk and prevent dams in the breast. Physiologically breast care by stimulating the breasts will hypophise influences to release more progesterone and estrogen and the hormone oxytocin by stimulating the milk glands through massage (Ambarwati and Wulandari, 2006).

Breast care is very useful for breast health. Because actually breasts that have never been trained, will have the potential for fluid buildup toxins that lead to various health problems in the breast. There are several benefits of treatment breasts, including repairing and improving blood circulation, reducing cramping symptoms due to menstruation, reducing non-comfort during pregnancy, increasing skin firmness breast and its surroundings, increase milk production, accelerate the process of emptying the ASI bag, preventing blockage of milk in the ducts and mammary glands, accelerating healing when there is swelling, relaxation breast and chest area, tightening the breast hanging muscles (pectoralis muscles) until the breasts become more dated and elevated, tightening the breasts and increasing their overall beauty, increasing the release of lymph fluid which will prevent cancer and remove non-beneficial toxins from the body, BSE (Breast Check Alone) which will help early detection of lumps in the breast, and reduce the appearance of strokes and stretch marks.

According to Maria (2012) the habit of breast care for nursing mothers can lead to smooth breast milk production by 36 times greater than breastfeeding mothers who do not have the habit of breast care. This is evident from the results of this study that carried out breast care in post partum mothers routinely 2 times a day, morning and evening for 14 days, indicating an increase in the average value before breast care was known to the average continuity of breast milk post partum mothers is 4.41, after breast care occurs the increase in the average value of breastfeeding countinuity in post partum mothers is 6.03.

Based on the results of the study and several explanations regarding breast care, according to researchers, touch and stimulation through breast care actions in post partum mothers are proven to help to provide relaxation to the mother's breast to be able to stimulate several hormones such as the hormone prolactin and oxytocin n order to increase the continuity and expenditure of breast milk, in addition to breast care actions can also be helped by paying attention to diet, nutritional intake, husband and family support and motivation from post partum mothers directly during breastfeeding so that they can increase the continuity of breast milk. The continuity of breast milk will have a good impact on the baby, because the mother can breastfeed her baby exclusively. Therefore,breast care action is

highly recommended for all postpartum mothers.

CONCLUSION

The conclusion of the study is breast care effective to countinuity breast milk in postpartum mother.

SUGGESTION

Based on the results of these studies there are several suggestions that can be conveyed by researchers, among others **postpartum mothers** : It is expected that the results of this study can be a source of motivation for all post partum mothers to be able to carry out breast care routinely properly and correctly in accordance with the directions that have been conveyed by health personnel to obtain benefits such as the continuity of breast milk.: **Siak Health Center, Siak Regency:** It is expected that the results of this study can be one source of information and input material that is useful to improve and reevaluating the implementation of health education regarding breast care in post partum mothers in the Siak Health Center Siak District Work Area. **Further Researchers.** The results of the study are expected to be a reference for researching and developing the effectiveness of various other factors that also influence countinuity Breast milk in postpartum mothers in addition to breast care such as motivation, family support, nutrition and others.

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THE STUDY OF THE ELECTRICAL PROPERTIES
FRESH COW'S MILK

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Abstract
Stunting is a condition where someone's height is much shorter than someone's age. Stunting can be prevented by consuming high protein milk. for this reason, it is necessary to review the method of measuring the quantity of protein with an effective and efficient method. The study of the admittance characteristics of fresh cow's milk electricity was carried out to review new parameters that could be used as parameters of protein quantity from the electrical properties. The testing is done by placing milk solution on chamber. Both sides of that chamber has been affixed two copper electrodes which are coated with gold. Electrical properties were measured by using Hi LCR Tester Hioki with dual probe system. While measuring protein content with formol titration method. The measurement results showed that cow's milk is combined resistive and capacitive. Correlation protein content versus time showed a linear relationship. the admittance value at frequency 1 kHz, 5 kHz, and 10 kHz, the admittance value was increase parallel with time. The correlation of admittance value with protein content has a significant relationship. So electrical properties measurement method (admittance) have the potential to be used as a determinant of cow milk protein content.

Keywords : Electrical properties, fresh milk, protein content, stunting

INTRODUCTION

In 2017 there is 151 milion chidrens which get stunting over the world (UNICEF data, 2018). According to Riset Kesehatan Dasar (Riskedas, 2013) shows stunting prevalance until 37,2%.

Futherrnore, according to the data of Riau Public Health Office, in 2018 the most cases of stunting happen in Rokan Hulu District around 1.675 children. Rokan Hulu District will be national pilot district for acceleration of stunting decrease of children (National Team for the Acceleration of Poverty, 2017).

One of stunting cause is lack of nutritious food. One of criteria of nutritious food is protein availability in food. The children which get less protein 171 percent more risky to get stunting (Syifa Vaozia, 2016). Stunting can be prevented by pay attention to protein quality and quantity of baby food. High quality protein can be gotten from the animal source such as beef, chicken, fish, egg and milk. Talking about milk, milk is one of drinking which high protein inside. So, drinking milk can be alternative way to solve stunting problem all over the world, Indonesia and Riau Province specifically.

Rokan Hulu people have cattle as economic activity. For the future, it can be potential area to develop dairy cows,

which produce fresh milk with higher protein than milk after preservation. Dairy cows can produce pure milk which can be consumed by the residents cheaper than preservation milk. However, to get high protein milk we need to do protein content testing in that milk. Protein content testing method which is often used is titrasi formol.

Protein content measurement with titrasi formol method is destructive measurement and this method will decrease milk availability. Besides that, titrasi formol method needs various laboratory equipment so it need bigger cost to do the measurement. Based on this fact, we need to research and find another method of protein content measurement which is cheaper, faster and more in efficiency. One of method can be used is using electrical signal.

Electrical signal gives a simple technique, low cost and faster in product quality measurement. Spektroskopi Dielectric has been used to predict anorganic salt and measuring water content in cheese (Fagan, 2007). Dielectic data result is used to develop chemometric model to predict the humidity and also anorganic salt content. Dielectric property is an optimal model to determine level of milk coagulation (varela, 2013). Research result shows dielectric property is good method to control the process of milk coagulation while cheese production.

Electrical characteristic include capacitance, resistance, reactance, impedance and conductance, has significant response toward acidity, hardness and TTS index / hydrogen ion concentration in Keprok Garut Orange (Juansah, 2013). Electrical signal also uses for testing of catfish freshness quality (Robby, 2014)\. Besides that, there is a research about freshness level of parrot fish fillet based on characteristics changing of electrical property (Riyanto B.,et al, 2011). Temperature changing gives significant influence to the value of electrical conductivity of milk (Kaptan, B,

et al, 2011). Correlation between capacitance property and electrical conductance of fat level shows significant relationship (Zywica, 2012). From the description above the writer will analyze electrical admittance characteristics of cow milk as new parameter in protein level measuring

METHOD

In this research, testing is done from protein content and the characteristics of the electrical properties of fresh cow's milk against time. The electrical properties of cow's milk measurement is done in IPB biophysics laboratory. The main ingredient used is fresh cow's milk from dairy cooperative farm faculty (FAPETA) IPB. The main tool used in this study is the LCR meter (3532-50 LCR HiTESTER, Hioki, Tokyo, Japan which is integrated with the computer. LCR is used to determine changes in the electrical properties of milk to the changes in frequency. The setting and retrieval system on the LCR using LabVIEW program. The study of the electrical properties of fresh cow's milk is done by using an AC current of 0.5 mA signal. The electrical properties are focused on admittance parameters. The electrical admittance properties of cow's milk is observed at frequency of 50 Hz - 5 MHz.

Testing is done by placing the milk on the chamber. Both sides of chamber have attached two copper electrodes coated with gold. Measurement of the electrical properties measure by using an LCR Hi Tester Hioki dual probe system. The protein content is calculated by using formol titration method. Meanwhile, other supporting tools are separating funnel pumpkin, vortex, microscopes, spectrophoto-meters, incubators, threaded tubes, test tubes, SCHOTT bottle, thermometer, pipette, Erlenmeyer flask, beaker, volumetric pipette, micro pipette, water bath, autoclave, bunsen, petri dishes, refrigerator, tip, hockey stick, hot plate, hitters, oven, glass objects, a loopful,

centrifuges, eppendorf tube and bottle packaging.

First step of measurement by making plate capacitor from PCB copper. Copper surfaces which face is coated with gold to avoid undesirable reactions during a measurement of electrical properties. To avoid contamination of the milk, all equipment and measuring are sterilized using 70% alcohol.

The measurement system is done by placing a cow's milk on the chamber between two plate electrodes, so the cow's milk becomes a dielectric material. The measurement schema of electrical properties of cow's milk can be seen in Figure 1.

Figure 1. Measurement schema of cow's milk elecrical properties with LCR meter

Each measurement of electrical parameters to the cow's milk is used data storage techniques with instructions average 4 times that found in the LCR tool, which means that each

parameter measurement is repeated 4 times and average data of measurements result of fresh cow's milk electrical parameters is stored. The parameters to be measured in this tool is Impedanzi (Z), Admittansi (Y), capacitance (C), resistance (R), inductance (L), reactance
(X), phase angle (q), Conductance (G), phase (φ), the equivalent parallel resistance (Rp), the equivalent series resistance (Rs).

Electrical properties measurement and milk quality parameters is measured every variation time of 1, 3 and 5 hours. To get the accurate results, measurement is performed with 3 repetitions. The next step is to do an analysis about the relationship of cow's milk electrical properties with frequency, relationship of electrical

properties with the protein content to the variation in time.

RESULTS AND DISCUSSION

The review of resistive and capacitive properties of fresh cow's milk. The phenomenon of admittance value changes and response about frequency used to determine whether a material is resistive, inductive, and capacitive. Value admitance of resistive material relatively stable against frequency changes as shown in Figure 2. Admittance value of resistor 15 ohm does not change against frequency changes. If the material has a capacitive properties, frequency changes will affect the admitance value, as shown in Figure 3 capacitor 100 nF.

Based on the experimental results agaitns the electrical properties, cow's milk is combined resistive and capacitive. This can be seen in Figure 4 whereas the measurements results of electrical admittance of cow's milk have similar profiles with a combined RC parallel circuit 15 ohms; 100 nF. The similarity of cow's milk admittance profile to a parallel RC circuit will produce an cow's milk electric model which consists of resistors and capacitors.

Changing admittance value of a parallel RC circuit and milk agaitns frequency changes has exponentially correlated (Figure 4). This is evidenced by the equation for parallel RC circuit. As for cow milk samples evidenced by the equation Whereas Y and f declare admittance value and frequency.

Similarities profile of parallel RC component admittance value with cow's milk samples are evidenced by regression coefficients. Coefficient of exponential regression for parallel RC components and samples of cow's milk has almost same value. Regression coefficient for parallel RC component is $R^2 = 0825$ and for cow's mill is $R^2 = 0.783$.
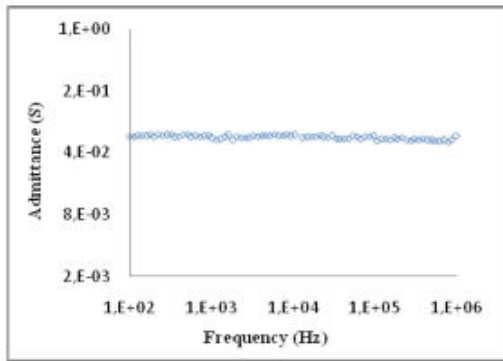
Figure 2. The effect of frequency changing againts electrical admittance value of the resistor (R) = 15 ohms.
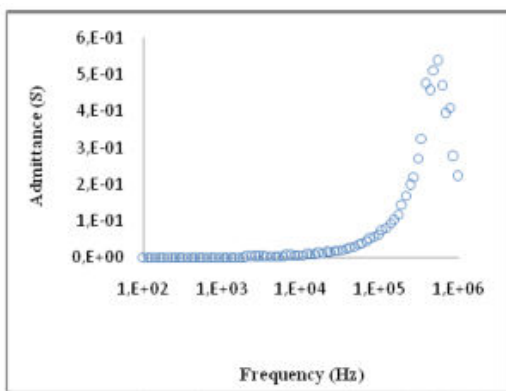
Figure 3. The effect of frequency changing againts electrical admittance value of the capacitor (C) = 100 nF.
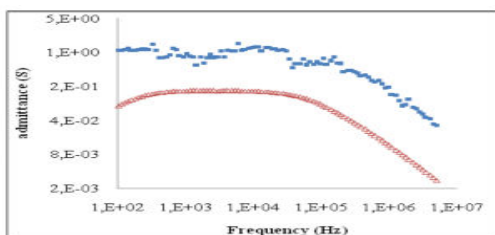
Figure 4. The effect of frequency changing againts electrical admittance value of the parallel RC circuit (■), and fresh cow milk (Δ).
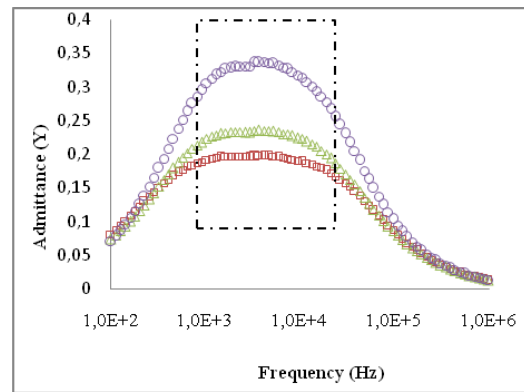
Figure 5. The effect of frequency changing againts admittance value of fresh cow's milk with the variation time

Figure 5 shows the relation of frequency changing effect on admittance value of fresh cow's milk with the variation of time. The changing of the electrical admittance value milk shows a significant relationship to the variation of time. Changing of admittance value to the variation of time within 1-5 hours is shown from frequency of 1-10 kHz. It means that at frequency of 1-10 kHz, electric admittance value of cow's milk would be indistinguishable to the variation of time.

Fresh cow milk quality parameters such as protein content affects the variation of time. So electrical admittance value of fresh cow's milk at frequency range 1-10 kHz suitable for further analysis. Analysis of the electrical admittance value of the cow's milk quality parameters will be performed at frequency of 1 kHz, 5 kHz, and 10 kHz.

Correlation of protein content in milk is shown in Figure 6 has a linear relationship to time with the protein content of the equation = -0.182 t +3.388 and regression coefficient R^2 = 0.982. Correlation fat content shows a linear nature of the change in time (Figure 9), it is evidenced by looking at the regression coefficient of R^2 = 0993 and fat content of the equation = 0.142 t + 3.841.
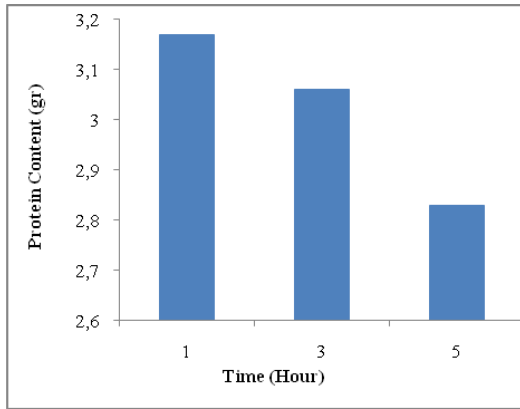
Figure 6. The influence of time to protein content
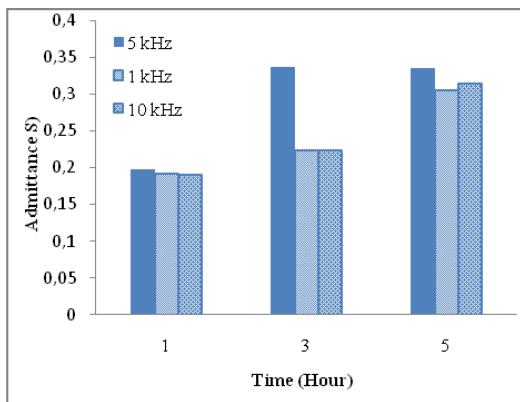
Figure 7. The influence of time to value of the electrical admitance of cow's milk

Admittance value is the reciprocal of the total Barriers (impedance), whereas its unit mho or often referred by Siemens. If the impedance is the ability to inhibit the flow of electrons in a solution, the admittance can be expressed as the ability to transport electrons. Electrical admittance value of cow's milk get increasing exponentially with time. This correlation can be seen in Figure 7 whereas the longer time will make bigger admitance value. At a frequency of 5 kHz, cow's milk admittance value get significant changing to the time changing. While at a frequency of 1 kHz and 10 kHz changing of admitance value over the time are relatively stable.

Admittance value correlation with fresh cow milk quality parameters.

Correlation of protein content on admitansinya value (Figure 8), less protein will make higher admittance value.. Whereas the decreasing levels of protein content will increase admitance value. It means that cow's milk electrical admittance value is inversely proportional to the protein.
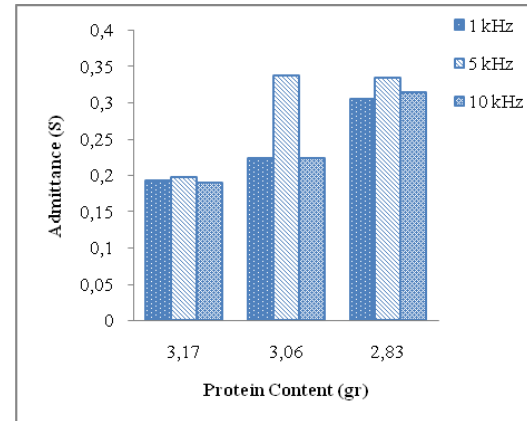
Figure 8. The changing of electrical admittance value to protein content

Table 1. Correlation admittance value with fresh cow milk quality parameters

Frequency (Hz)	Admittance Equation (Siemens)	R^2
1E+03	$Y = -0,337 \, Pro + 1,258$	0,997
5E+03	$Y = -0,342 \, Pro + 1,323$	0,547
1E+04	$Y = -0,372 \, Pro + 1,366$	0,996

Description: Pro: Protein levels, Y: Admittance

Table 2. The value of electrical admittance value protein content of fresh cow milk

Time (Hour)	Frequency (Hz)	Admittance (S)	Protein Content (gram)
1	1E+03	0,191933	
	5E+03	0,196247	3,17±0,08
	1E+04	0,189113	
3	1E+03	0,222961	
	5E+03	0,336533	3,06±0,00
	1E+04	0,222552	
5	1E+03	0,305293	
	5E+03	0,334337	2,83±0,08
	1E+04	0,314110	

Table 1 shows the correlation equation of the electrical admittance value

with a parameter of cow milk quality. Formed equation is a linear equation. The average regression coefficient at 1 and 10 kHz frequencies have higher regression coefficient of frequency of 5 kHz. It shows that at frequency of 1 and 10 kHz electrical admittance value is linear with cow milk quality parameters. Whereas an increasing of the decreasing levels of protein of cow's milk is directly proportional to the increasing to the admitance value. While at frequency of 5 kHz average regression coefficient is very small. It means that at frequency of 1 and 10 kHz is suitable to conduct further analysis. To see the real data result of this study can be seen in Table 2.

CONCLUSION

Cow's milk contains resistive and capacitive elements. So that the RC parallel model is suitable for further investigation to obtain protein quantity parameters for its admittance properties. The relationship of protein quantity and its admittance value to time variation shows a linear relationship. decrease in cow's milk protein levels is directly proportional to the increase in admittance value. With this research, it is expected that in the future it will be easier to measure the levels of cow's milk protein so that it does not reduce the supply of cow's milk. the existence of this measurement method is expected to be able to reduce the state of stunting

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THE ASSOCIATION OF MOTHER'S EMPLOYMENT STATUS ON NUTRITION STATUS OF UNDER-FIVE CHILDREN IN JAYABARU VILLAGE, SIAK SUB DISTRICT

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Abstract
Under-five children is a crucial period in the process of children growth and development. Inadequate nutrition status in this period had impact on growth and development later life. Mother's employment status plays an important role in compliance of nutrition need. The aim of study was to assess the association of mother's employment status on nutritional status of under-five children in Jayabaru village. Research design used Analytic correlation research with cross-sectional study. Purposive sampling technique was used to collect a sample of 70 under-five children and mother. The nutritional statuses of under-five children were assessed using anthropometrical data and later compared with WHO growth charts. Data analyzed used chi-square test using standard error of 5% (α=0.05). Study was carried out on November 2017 - July 2018. The result revealed that the prevalence of wasting under-five children was higher in mother's employment (60%) than in housewife (14%). The analysis result showed that there was significant relationship between mother's employment status on nutritional status of under-five children (p=0.000; p<0.05). The studies conclude that mother's employment status has play important role in influencing the nutritional status of under-five children related to the role of mothers in feeding practices.

Keywords: Employed mother, housewife status, nutritional status, under five children.

INTRODUCTION

Under-five children is an important period in the child's life process. This period is often called golden age because growth and development in this stage has became a determinant of success of children's growth and development in the later period (Urip, 2004). Nutrition plays an important role in the children growth and development. Vinod *et al* (2011) stated that nutrition of pre-school children is very important because foundation for health, strength and intellectual abilities.

Malnutrition in children is still a main concern of the world. Malnutrition contributes to approximately all death among children under-five years old (WHO, 2016). Currently, World is faced with double burden malnutrition, with one in three people directly affected stunting, wasting and overweight. The finding that children in the youngest age group (2-3 yr) were more likely to experience concurrent stunting and overweight compared with the older children (Rachmi, Agho, Li, Baur, 2016).

In 2016, 156 million children under the age of five were affected stunting, while 42 million were overweight, and 50 million were affected by wasting (UNICEF, WHO, & World Bank Group, 2016). Indonesia ranks fourth in the world in the number of children suffering from acute malnutrition and more than 12 per cent of children under the age of 5 in Indonesia are acutely malnourished (UNICEF Inodensia, 2016). The survey study had reported that the rate of overweight in children under-five year old in Indonesia were 7,8% (Jiang & Vaithianathan, 2016).

Inappropriate of nutrition in childhood will affect to growth, development and increase risk of child mortality. Children under the age of five who less nutrition cannot increase antibodies to infection disease as a result children are often affected by disease (Adriani & Wirjaatmadi, 2012). Overweight children are more likely to have a high cholesterol level, high blood pleasure, abnormal glucose tolerance, and all of which lead to a higher risk of cardiovascular disease at a later stage in life (Araneo, 2008).

Political, cultural, religious, economic and social systems including women's status in the society are considered as basic causes for malnutrition (Eshate *et al*. 2017). Wondafrash *et al* (2017) further explained that a woman's place has been her home and a generation ago, her employment outside her home was looked down by the society. This situation has now changed and women have started seeking employment outside their homes, these entering the work field have both negative and positive effects, the one is that it increases the family income and it may give the women some economic independence and status in the society. It however also increases her work load and cuts into the time that she has to spend with her children.

Numerous studies have examined how the type of jobs in which mother work affect their care giving behavior such as breastfeeding, safe food preparation, proper hygiene, and health seeking behavior (Rodgers, 2011). The facts that mother have duel responsibilities appointed on them, as care giver and support of family finance. The effects of maternal employment on children are sometimes positive and sometimes negative. The lack of time is a major stresses of being a working mother, and a feeling of guilt, due to perceived neglect of the parenting role. The rewards are many, including personal benefits, financial rewards, and improved family life (Poduval & Poduval, 2009).

Early study was done that there were case wasting and overweight on children under age of five in Jayabaru Village. Community in Jayabaru Village both man and woman was work to fulfill of family need. Due to increasing in mother's employment status and undesirable status of children nutrition, hence the purpose of this study was to investigate the association of mother's employment status on nutrition status of under five children.

METHOD

The study was conducted in Jayabaru Village, Siak sub district. The data were collected from November 2017 - July 2018.The selection of respondent was conducted using purposive sampling. The subjects were children under the age of five and their mother. The 70 of the 85 children under the age of five were participated. Incaution criteria of respondent were children under the age of five, children and their mother living in the area, mother actively participates in the study to the end, and children in healthy condition. Two set data were collected: 1) Interview sheet with structure questionnaire. The instrument comprises two parts, the first part assess child characteristic such as age and sex. Part two about mother characteristic such as age, education level and employment status. 2) Observation sheet. Observation sheet used to documentation the result of measurement of anthropometry (body weight and height). The anthropometrical data were later compared with weight for height Z score based on the growth chart curves developed by WHO.

Characterize data was presented in the form of descriptive with percentage form to presented categorical data. Chi-Square with confidence level 95% was used to find the correlation between the nutrition statuses of under-five children on employment status of mother.

RESULT
Characterized of the study population

A total of 70 under-five children (2-5 years old) and their mothers sampled for the study was completed. Table 1 shows the characteristics of under-five children and their mother. The total 70 under-five children sampled household, majority was female (64, 3%) and 32,9% children aged 2 years. The majority of mother ages ranged from 30-37 years were 51, 4% and concerning education level majority 55, 7% were high school. Table 1 also shows the descriptive variable of the mothers based on their employment status. Both mother's employment and housewife had the same prevalence of 50%.

Table 1: Characterize of respondent (n=70)

Characteristic Information	n	%
Under-five Children		
Sex		
Female	45	64,3
Male	25	35,7
Age		
2	23	32,9
3	13	18,6
4	16	22,8
5	18	25,7
Mothers		
Age		
22-29	22	31,4
30-37	36	51,4
38-45	12	17,1
Education Level		
Elementary	7	10,0
Junior	7	10,0
High	39	55,7
Collage	17	24,3
Employment Status		
Employment	35	50,0
Housewife	35	50,0

Prevalence of nutritional status

Table 2 shows the prevalence of overall nutrition status from under five children. The result showed that the majority nutrition status of under-five children in normal category were 58, 6%.

Table 2: Nutrition Status based on WHO Growth Chart (n=70)

Category	n	%
Stunting	2	2,9
Wasting	26	37,1
Normal	41	58,6
Overweight	1	1,4

Relationships of nutritional status among under-five children of employed mother and housewife

Table 3 shows the relationships of nutritional status among under-five children of employed mother and housewife. The result revealed that the prevalence of wasting under-five children was higher in mother's employment (60%) than in housewife (14%). The results of bivariate analysis used chi-square with $\alpha=0, 05$ were obtained *p value* of 0,001. It was clearly that there was a associations between the employment status of mother and nutritional status of under five children.

Table 3: The Assassination of Employment Status Of Mother With Nutritional Status with Under- Five Children (n=70)

		Nutrition Status				Total	p value
		Stunting	Wasting	Normal	Overweight		
Employment Status	Employment	1	21	13	0	35	
		2.9%	60.0%	37.1	0.0%	100.0%	
	Housewife	1	5	28	1	35	0.000
		2.9%	14.3%	80.0%	2.9%	100.0%	

	2	26	41	1	70
	2.9%	37.1%	58.6%	1.4%	100.0%

DISCUSSION

The result of this study indicates that there was relationship between the mother's employment statuses with nutritional status of children under the age of five. In this study exposed that prevalence of wasting under-five children is higher in mother's employment (60%) than housewife or mother's unemployment (14%). The finding was in line with the result reported by Sulistyorini and Rahayu (2009) that unemployment mothers, most of their children have good nutrition status is 69%, over nutrition is 19%, and malnutrition is 11%. Among employment mother's children, the prevalence of good nutrition is 54%, malnutrition is 41% and over nutrition is 5%. So it can be concluded that unemployment mother's have children under age of five with better nutrition status than employment mother's. In addition to that, the study done by Wondafrash *et al* (2017) stated that stunting 3, 2 times, underweight 3, 06 times and wasting 3, 12 times higher among children of mother's employment that non employment mothers.

Asma (2011) explained that female labor participation is directly related to the reduction of time provided for breastfeeding and caring for children so that it has negative consequences for child nutrition. Increasing of employment field encourages the numerous of women who work mainly in the private sector. This condition has a positive impact on income, but on other hand has a negative impact on fostering and caring children, especially in supporting nutrition intake of children under of five .

Feeding practices are providing nutrition to child affected by mother's employment status. Mother's employment will affected to time of togetherness between mother and child so it can decrease the mother attention to childhood development. Mother who have the kind of hard work will caused physical fatigue so the mother prefer to rest that take care of their child (Putri, Febrianita, Pratama, & Kusbaryanto, 2012). Employment status or family income can support of children growth and development because parents can provide primary and secondary needs for children. However, employment mother status causes mothers and child difficult to interact because of limited time together. This can affect to pattern of caring for children (Rohmawati & Rahmawati, 2012).

In addition, the result of cross tabulation this study showed that overweight occur in children under age of five with mother's employment that non employment mothers. Previous study done by Rosas *et al* (2011) reported that prevalence of overweight and obesity of children were higher among employed mothers as compared to unemployed mother. This suggested that employment mother has less time to supervise the activities and promote a healthy and nutritional environment for their children. In addition to that, employment mothers might not have time to provide fer children with healthy meals (Araneo, 2008).

Agiro (2016) explained that maternal employment is significantly and positively with child obesity. The rationale rationale behind this assumption is that an employed mother has less time to supervise the activities of her children and thereby, the children decide what to do, what to eat and how to spend their time when they are at home or elsewhere, which in turn has a negative implication on their weight. Children not supervised by their mothers are more likely to eat unhealthy food and spend more time in activities that do not

involve physical exercise like watching TV.

CONCLUSION

The findings of this study show that there was a significant correlation between mother's employment statuses on nutrition status of children under five. Therefore policy makers, companies and institutions should design police that would encourage family-friendly work environment. One way to achieve this can be through mandating extended maternity leave that allows mothers to breast feed their babies for a pro-longer period of time. More effort should be exerted by health worker especially nurses to educate the mother about important appropriate nutrition for children.

ACKNOWLEDGE

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DOMINANT FACTOR OF PERCENT BODY FAT IN WOMEN ADOLESCENT

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Abstract
Obesity is condition of body has fat accumulation in adipose tissue causing overweight and to be health problem. Obesity is fifth main form of global death, at least 2.8 million people each year is death cause overweight or obese. The purpose of this study was to determine the dominant factors of percent body fat. The design of this study used a cross sectional with 145 female students aged 15-17 years at SMK Kesehatan Annissa 3 Citeurup Bogor on May 2018. Percent body fat was measured by Bioelectrical Impedance Analysis. Nutritional status data was obtained from IMT/U. Intake of energy, protein, fat, and carbohydrate was obtained from 2x24 hours food recall. Physical activity data was obtained using Physical Activity Questionnaire for Adolescents. The results showed that 55.2% percent body fat was classified as overfat/obese. Analysis with chi-square test showed significant correlation between intake of energy, protein, carbohydrate, and fat with percent body fat (each of p<0.05). No significant correlation between physical activity with percent body fat (p=0.935). Regression logistic multivariate test showed dominant factor of percent body fat was intake of energy (p value=0.031). The conclusion of this study was intake of energy is the dominant factor of percent body fat.

Keywords: Risk factor, dominant factor, body fat percentage, obesity, adolescent

INTRODUCTION

Nowadays, the world has a problem of double burden, namely the problem of malnutrition and overweight or obesity. Obesity is a condition of the body has excess fat accumulation in adipose tissue which causes excessive weight and to be a health problem (Bjorntorp, 2000). Obesity is the fifth main risk for global death, at least 2.8 million people death each year cause overweight or obese. Obesity will be the number one cause of death of the world in 2030 (WHO, 2017).

Obesity does not only occur in adults, but can also occur among adolescents. Obesity has an impact on the burden of non-communicable diseases that is affected by total body fat, which is 44% of the burden of diabetes, 23% of the burden of ischemic heart disease, and 7–41% of the burden of cancer caused by overweight and obesity. The children and

adolescents who obese are twice as high to have high blood pressure or heart disease than children who are normal (Ellulu, 2014).

Based on data from the World Health Organization (WHO), obesity in the world has almost tripled since 1975. In 2016, more than 340 million children and adolescents aged 5-19 years were overweight or obese (WHO, 2017). According data of the South Africa National Health and Nutrition Examination Survey (SANHANES-1) showed that the prevalence of a combination of nutritional status that overweight and obese in South Africa aged 15-17 years in women was 27.3% (Shisana et al., 2013). There are ten countries that occupy the largest number of obesity in the world, one of which is Indonesia (Ng, 2014). In 2007, the prevalence of obesity in adolescents aged 16-18 years in

Indonesia was 1.4% and increased to 7.3% in 2013 (Badan Penelitian dan Pengembangan Kesehatan, 2013).

If food intake is more than the energy released in the long term, the body stores excess energy in the form of fat stored in adipose tissue that causes obesity (Sherwood, 2012). According of research in America stated that an increase the mean of energy intake as much as 341 kcal/day caused an increase the prevalence of obesity in women was 19.9% (Austin, Ogden, & Hill, 2011). Other studies also showed that there was a significant relationship between the intake of macronutrients with total body fat. In the APCAPS group, daily intake energy > 100 kcal caused an increase of total body fat was 0.02%. In the IMS group, the percentage of energy from protein, fat, and carbohydrates will increase the proportion of body fat each of 0.18%, 0.03%, and 0.04%. This is caused by a decrease of body fat oxidation and an increase of the insulin mechanism (Bowen et al., 2015).

Low physical activity causes accumulation of fat in adipose tissue. According of study in America stated that there was a significant relationship between physical activity and distribution of body fat in the IMS population. IMS population with low physical activity during > 1 hour/day was associated with a decreased proportion of body fat was 0.05%, while moderate/high physical activity during > 10 minutes was associated with a decreased proportion of body fat by 0.02% (Bowen et al., 2015). Physical activity can increase body fat oxidation which will reduce stores total fat in adipose tissue (Thompson et al., 2012). An increased prevalence of obesity in adolescents was background this research. The purpose of this study was to determine the dominant factors of percent body fat.

METHOD

This research used quantitative data with the design of a cross sectional study. This research was conducted in April - May 2018 at SMK Annissa 3 Citeurup Bogor. The subjects of this research were 145 students aged 15-17 years. The sampling technique of this research used simple random sampling with by listing the names of female students and the according to the inclusion criteria. The inclusion criteria of this research were active female students and who were willing to be the subject of research by filled informed consent. The exclusion criteria of this research were female students who were absent during the research and male students. The data collected in this research was secondary data. The data in this research included nutritional status, energy intake, carbohydrate intake, protein intake, fat intake, and physical activity as independent variables. The dependent variable was percent body fat.

Nutritional status data were taken as subject characteristics data obtained from anthropometric measurements (BMI/Age) and categorized based on z-score among others overweight/obesity ($\geq$ + 1 SD), normal (-2 SD until < +1 SD), and underweight (< -2 SD) (Kementerian Kesehatan RI, 2011).

Energy intake, carbohydrate intake, protein intake, and fat intake is defined as the amount of food and beverage intake obtained by the 2x24 hour food recall method which is processed using the Nutrisurvey application and converted into energy, carbohydrates, proteins, and fats taken of average to obtain the daily intake data. Then compared to the individual Nutrition Adequacy Rate (RDA) multiplied by 100%. The adequacy level of energy and protein is categorized into three categories, namely high (> 100%), moderate (80-100%), and low (<80%) (Supariasa, Ibnu, & Bachyar, 2001). The adequacy level of fat is categorized into three categories, namely high (> 30%), moderate (20-30%), and low (<20%) (Kreider et al., 2010). The adequacy level of carbohydrates is categorized into three categories, namely high (> 65%),

moderate (55-65%), and low (<55%) (Kreider et al., 2010).

Physical activity data is the score of the daily physical activity of the subject which includes the type, frequency, duration of activities and sports both at home or school for the last seven days measured by interviews with the questionnaire Physical Activity Questionnaire for Adolescents (PAQ-A). Physical activity is rated 1-5 for each question and summed where the maximum score of a total of nine questions is 40. Then taken average if the data is normally distributed, but taken median if the data are not normally distributed to produce the final score of PAQ-A. The physical activity is categorized into two categories, namely high if the median is <16 and low if the median is ≥ 16 (Kowalski, Crocker, & Donen, 2004).

Percent body fat is a ratio of body fat mass weight to total weight of body in percent. Percentage of body fat data was obtained from measurements using the Bioelectrical Impedance Analysis (BIA) Tanita Innerscan Body Composition Monitor. Percentage of body fat was obtained from a percentile graph of body fat based on age and sex. Percent body fat is categorized into three categories, namely overfat/obesity (> 28%), normal (13-27%), underfat (<13%) (Laurson, Eisenmann, & Welk, 2011).

Univariate analysis to describe the data of nutritional status, adequacy level of energy, carbohydrate, protein, fat, physical activity, and percent body fat. Bivariate analysis used the chi square test to determine the relationship between the adequacy level of energy, carbohydrate, protein, fat, and physical activity with percent body fat. Multivariate analysis used logistic regression of determinant model test to determine the most dominant factor of percent body fat.

RESULTS
Characteristics Subject of Research

This research was conducted at SMK Kesehatan Annissa 3 Citeurup Bogor on May 2018. The characteristics of the subjects in this research were 145 students aged 15-17 years.

The average percent body fat of the subjects in this research was 29.0% with variations was 6.5%. The percent body fat of subjects ranged from 17.0% to 49% (Table 1). There were no subjects whose percent body fat was classified as underfat, but more than half (55.2%) of the subjects had percent of body fat classified as overfat/obese and 44.8% of the subjects were normal (Table 2).

The average nutritional status based on the value of z-score BMI/Age of the subjects in this research was 0.0 ± 1.2 SD. Subject's z-score of BMI/Age ranged from -2.0 SD to 2.8 SD (Table 1). There is no subject who had underweight. Most of the subjects (80.0%) had nutritional status of normal and only 20.0% of the subject had overweight/obesity (Table 2).

Table 1. The Data Distribution According to Percent Body Fat, Nutritional Status, Adequacy Level of Energy, Protein, Fat, Carbohydrate, and Physical Activity

Variable	Mean±SD	Minimum-Maximum
Percent Body Fat	29.0±6.5	17.0 – 49.0
Nutritional Status (Z-score BMI/Age)	0.0±1.2	-2.0 – 2.8
Adequacy Level of Energy	70.5±29.2	20.0 – 140.0
Adequacy Level of Protein	84.3±40.2	21.0 – 188.0
Adequacy Level of Fat	83.4±44.1	13.4 – 205.1
Adequacy Level of Carbohydrate	55.4±23.8	19.2 – 127.7
Physical Activity	16.5±3.0	9.0 – 27.0

The range of subject's adequacys level of energy was 20.0% to 140.0% with an average was 70.5% and a variant was 29.2% (Table 1). Only 7.6% of the subjects had the adequacy level of energy classified as moderate and 81.6% of them

had overfat/obesity (Table 2). Almost all of subjects (97.6%) had high of adequacy level of energy, they were in the category of overfat/obesity (Table 3).

The average adequacy level of protein of the subject was 84.3 ± 40.2%. The range of adequacy level of protein of the subject was 21.0% until 188.0% (Table 1). Half of the total subjects (51.7%) had adequate levels of protein were low and only 29.3% of them had percent body fat were overfat/obesity (Table 2). Almost all of subjects (94.0%) had high of adequacy levels of protein, they were belong to the category of overfat/obese (Table 3).

Table 2. The Frequency Distribution According to categories of Percent Body Fat, Nutritional Status, Adequacy Level of Energy, Protein, Fat, Carbohydrate, and Physical Activity

Variable	Frequency	
	n	%
Percent Body Fat		
Overfat/Obesity (> 28%)	80	55.2
Normal (13 – 27%)	65	44.8
Underfat (< 13%)	0	0.0
Nutritional Status (Z-score BMI/Age)		
Overweight/Obesitas (≥ +1 SD)	29	20.0
Normal (≥ -2 SD hingga < +1 SD)	116	80.0
Underweight (< -2 SD)	0	0.0
Adequacy Level of Energy		
High (> 100%)	42	29.0
Moderate (80-100%)	11	7.6
Low (< 80%)	92	63.4
Adequacy Level of Protein		
High (> 100%)	50	34.5
Moderate (80-100%)	20	13.8
Low (< 80%)	75	51.7
Adequacy Level of Fat		
High (> 30% of total energy)	50	34.5
Moderate (20-30% of total energy)	31	21.4
Low (< 20% of total energy)	64	44.1
Adequacy Level of Carbohydrate		
High (> 65% of total energy)	8	5.5
Moderate (55-65% of total energy)	15	10.3
Low (< 55% of total energy)	122	84.1
Physical Activity		
High (median > 16)	44	30.3
Low (median < 16)	101	69.7

The ranged of adequacy level of fat of the subject was 13.4% until 205.1% and mean was 83.4 ± 44.1% (Table 1). As many as 44.1% of the adequacy level of fat of the subject was low and among of them (25.0%) which are classified as overfat/obese (Table 2). Most of subjects (86.0%) who had adequacy level of fat were high, they were in the category of overfat/obesity (Table 3).

The ranged of adequacy level of carbohydrate of the subject was 19.2% to 127.7% with an average of 55.4±23.8% (Table 1). Most of the subjects (84.1%) had a adequacy level of carbohydrate classified as low, among them 49.2% were overfat/obese (Table 2). Almost all of subjects (87.5%) who had high adequacy level of carbohydrate, they were belong to category of overfat/obesity (Table 3).

The mean of total score physical activity of the subject was 16.5 ± 3.0 which ranged from 9.0 to 27.0. The total score of physical activity of the subject is ranged 9.0 until 27.0 (Table 1). Only 30.3% of the subject had physical activity classified as high, among of them 54.5% who had overfat/obesity (Table 2). the subject of overfat/obesity had physical activity almost the same, namely subjects who had low physical activity was 56.8% and had high physical activity was 54.5% (Table 3).

Relationship Between Adequacy Level of Energy, Protein, Fat, Carbohydrate, and Physical Activity with Percent Body Fat

Table 3 showed the relationship between independent variables and dependent variable. Based on the results of Chi square test showed that there was a significant relationship between the adequacy level of energy, protein, fat, and carbohydrate with percent body fat (each p value < 0.05). That is, the higher the adequacy level of energy, protein, fat, and carbohydrate, the greater the risk of percent body fat classified as overfat/obesity. Physical activity was no

significant relationship with percent body fat (p value = 0.935).

Based on the results of analysis, the adequacy level of energy obtained OR1 value was 9.1 and OR2 value was 84.7, the meaning that the high adequacy level of energy of subjects had an odds 9.1 times and 84.7 times higher to overfat/obesity rather than subjects who have the adequacy level of energy was moderate and low. The adequacy level of protein had an OR1 value of 12.8 and OR2 value of 37.7, the meaning that subjects who had the high adequacy level of protein had an odds 12.8 times and 37.7 times higher to overfat/obesity rather than subjects who had the adequacy level of protein was moderate and low

Table 3. The Results of Bivariate Analysis Difference Proportion of Percent Body Fat

Variabel	Percent Body fat				OR	P Value
	Obese		Normal			
	n	%	n	%		
Adequacy Level of Energy						
High (> 100%)	41	97.6	1	2.4	9.1[a]	0.001
Moderate (80-100%)	9	81.6	2	18.2	84.7[b]	
Low (< 80%)	30	32.6	62	67.4		
Adequacy Level of Protein						
High (> 100%)	47	94.0	3	6.0	12.8[a]	0.001
Moderate (80-100%)	11	55.0	9	45.0	37.7[b]	
Low (< 80%)	22	29.3	53	70.7		
Adequacy Level of Fat						
High (> 30% of total energy)	43	86.0	7	14.0		
Moderate (20-30% of total energy)	2	67.7	10	32.3	2.9[a] 18.4[b]	0.001
Low (< 20% of total energy)	16	25.0	48	75.0		
Adequacy Level of Carbohydrate						
High (> 65% of total energy)	7	87.5	1	12.5		
Moderate (55-65% of total energy)	13	86.7	2	13.3	1.0[a] 7.2[b]	0.004
Low (< 55% of total energy)	60	49.2	62	50.8		
Physical Activity						
High (median > 16)	55	54.5	46	45.5	0.9	0.935
Low (median < 16)	25	56.8	19	43.2		

[a]Odds Ratio 1, [b]Odds Ratio 2

OR1 value and OR2 values at the adequacy level of fat were 2.9 and 18.4, the meaning that subjects who had the high adequate level of fat had an odds 2.9 times and 18.4 times higher to overfat/obesity rather than subjects who had the adequacy

level of fat was moderate and low. The adequacy level of carbohydrate had an OR1 value and OR2 value of 1.0 and 7.2, the meaning that subjects who had the high adequacy level of carbohydrate had an odds 1.0 times and 7.2 times higher to overfat/obesity rather than subjects who had the adequacy levels of carbohydrate was moderate and low.

Dominant Factor of Percent Body Fat

Based on the results of bivariate analysis, showed that there were four variables that have a p value < 0.25, among others the adequacy level of energy, protein, fat, and carbohydrate. Then, the variables were further analyzed using multivariate analysis of logistic regression of determinant model by maintaining variables that had p values <0.05 and elimination of variables that had a p value <0.05 in stages. elimination of variable starts from a variable that has the largest p value, then calculated and seen changes OR. Variables that have p value < 0.05 and the largest OR is chosen as the most dominant variable to percent body fat.

Table 4. Final Model of Multivariate Analysis Model of Determinant Test

Variabel	P Value	OR
Adequacy Level of Energy	0.031	49.3[a] 377.5[b]
Adequacy Level of Energy 1	0.027	
Adequacy Level of Energy 2	0.009	
Adequacy Level of Protein	0.259	2.3[a] 4.3[b]
Adequacy Level of Protein 1	0.398	
Adequacy Level of Protein 2	0.131	
Adequacy Level of Fat	0.076	0.2[a] 0.9[b]
Adequacy Level of Fat 1	0.146	
Adequacy Level of Fat 2	0.946	
Adequacy Level of Carbohydrate	0.190	
Adequacy Level of Carbohydrate 1	0.637	0.4 0.0
Adequacy Level of Carbohydrate 2	0.075	
Physical Activity	0.407	1.5

[a]Odds Ratio 1, [b]Odds Ratio 2

Based on multivariate analysis, showed that the dominant factor percent

body fat in this research was the adequacy level of energy (p value = 0.031). The results of analysis showed that the largest OR value was OR 2 of 377.5. The meaning, female students who the high adequacy level of energy had a risk of 377.5 times the higher had overfat/obesity rather than female students who the low adequacy level of energy.

DISCUSSION
Characteristics Subject of Research

The results of this research on 145 female students found that 29 female students (20%) had nutritional status of overweight/obesity. The results of this study were lower than previous studies which found that 30 female students (28.9%) had nutritional status of overweight/obese (Habibaturochmah & Fitranti, 2014).

This research showed that the average percent body fat in women adolescent was included the category of overfat/obesity, which is > 28%. This result was not much different from previous studied where the average percent body fat in women adolescent aged 15-17 years was 26.3 ± 5.7% (Fahimah, Margawati, & Fitranti, 2017). This is thought to be due to an imbalance between food intake and physical activity. Students consume foods that contain high energy, fat, protein, and carbohydrates but are not balanced with doing well physical activity so that they can increase the percent body fat stored in adipose tissue (Sherwood, 2012).

As many as 63.4% of the students had the adequacy level of energy was still relatively low. The adequacy level of energy is mainly obtained from three macronutrients, namely carbohydrate, protein, and fat so that the adequacy level of protein, fat, and carbohydrate was also found relatively low each of 51.7%, 44.1, and 84.1%. The results of this study are not different from previous studies which showed that energy intake from the three macronutrient intake tended to be classified as less (Heriyanto, 2012). Adolescence is a period of transition from children to adults. At this time, growth and development rapidly so that this period is very need of energy intake and nutrients intake to body tissue deposition. If energy intake and nutrients intake is not adequately fulfilled, will be a risk of health problems (Habibaturochmah & Fitranti, 2014).

Physical activity in this study was still relatively low of 69.7%. Another study in Sidoarjo also stated that as many as 51.7% of women had low physical activity.19 Physical activity in women adolescent tended to decline during puberty, so that the physical activity of women adolescent was lower than that of men adolescent (Habibaturochmah & Fitranti, 2014).

Relationship Between Adequacy Level of Energy, Protein, Fat, Carbohydrate, and Physical Activity with Percent Body Fat

The results of the relationship test in this study indicated that the adequacy level of energy had a significant relationship with percent body fat in female students. The high adequacy level of energy is obtained from the three macronutrients, namely excess of carbohydrates intake, fat intake, and protein intake. The high consumption of sugar, the effect of the delicious taste of sweet foods and high fat intake, and carbonated soft drinks will contribute high to the total energy intake which affects the percent body fat of obese female (Rahmandita & Adriani, 2017).

The adequacy level of carbohydrates, fat, and proteins has a significant relationship with percent body fat. The results of this study are in line with other studies which state that carbohydrate, fat, and protein intake is significantly associated with obesity (Rahmandita & Adriani, 2017). Carbohydrate intake is converted to glucose and the rest is converted into glycogen as an energy reserve. One type of

carbohydrate is simple carbohydrates, for example sugar, cakes, or sweet foods/drinks. The process of digestion and the breakdown of simple carbohydrates is rapidly converted to glucose (Almatsier, 2009). If carbohydrate intake is continuously high then blood sugar and insulin levels will increase which triggers become fat and stored as body fat reserves which causes increased body fat accumulation in adipose tissue (Wardlaw & Hampl, 2007). This situation will have an effect on the percent body fat in obese female students.

Fat is a macronutrient that has the highest energy density, as a protein saver, and give a sense of satiety and delicious in food. Fat give satiety is lower than carbohydrates and protein (Almatsier, 2009). The majority of processed foods are done by frying and using the addition of types that contain high fat such as cooking oil, margarine, or butter when processing. If the adequacy level of excess fat, the body will store fat in adipose tissue faster than protein and carbohydrate intake (Wardlaw & Hampl, 2007). The high fat intake makes increase leptin levels in blood and faster stored fat in the body causes abnormal accumulation fat in adipose tissue (Rahmandita & Adriani, 2017). This condition has an effect on the balance of energy and percent body fat in obese female students.

The adequacy level excessive protein will affect obesity through the deaminase process. Deaminase is an amino group (NH2) formed from released amino acids. Expended nitrogen from the body causes the remain carbon to be converted into fat so that increases the storage of body fat. Increased fat accumulation in adipose tissue will affect percent body fat in obese female students (Almatsier, 2009). The results of this study are not in line with other studies which stated that there is no significant relationship between the adequacy level of protein intake and percent body fat. High protein intake can give a feel of fullness longer due to the influence of peptide hormones in the protein so that the increase body fat becomes restrained. Protein is needed to replace damaged tissue or as becoming a new tissue, so that excess protein intake is not converted into stored energy in the body fat directly (Habibaturochmah & Fitranti, 2014).

Physical activity in this study did not have a significant relationship to percent body fat. This is caused by physical activity between overfat/obese female students and normal female students who have a percentage not much different, so this condition describe a positive relationship between physical activity and percent body fat. The results of this study are not in line with other studies that showed that there was a significant negative relationship between physical activity and percent body fat in adolescents, ie low of physical activity caused an increase in body fat in adipose tissue. This is caused by lifestyle factors, occupation, and diet quality that varian according to the level of physical activity can modify the relationship between physical activity and percent body fat (Bradbury et al., 2016; Du et al., 2013; Nikolaidis, 2013).

Dominan Factor of Percent Body Fat

The results of regression logistic multivariate of determinant models of all independent variables showed that the adequacy level of energy was the most dominant factor in percent body fat with p value of 0.009 and OR value of 49.3. The high adequacy level of energy is influenced by the three macronutrient intake, namely high carbohydrates intake, fat intake, and protein intake. If the level of energy sufficiency from carbohydrate intake exceeds requirement, there will be an increase blood sugar levels through regulation of the hormone insulin. Increased insulin stimulates lipogenesis which causes an increase in body fat accumulation in adipose tissue (Harvey & Ferrier, 2011). The high fat intake can

increase high energy density and affect the body's mechanism in delivering signals of satiety. Therefore, the adequacy level of energy from excess fat intake is easier to store as body fat so that it can increase fat accumulation in adipose tissue (Coelho et al., 2011). The adequacy level of energy from excess protein intake causes deaminase, ie nitrogen is released by the body, the remains of carbon bonds, and amino acids are converted into fatty acids and triglycerides which are stored as body fat so that they can increase fat accumulation in adipose tissue (Almatsier, 2009).

CONCLUSION

There was a significant relationship between the adequacy level of energy, protein, fat, and carbohydrate with percent body fat in student of SMK Annissa 3 Citeurup Bogor 2018. There was no significant relationship between physical activity and percent body fat in student of SMK Annissa 3 Citeurup Bogor 2018. The adequacy level of energy was the most dominant factor of percent body fat in in student of SMK Annissa 3 Citeurup Bogor 2018.

Based on the results of the analysis, Subjects who have percent body fat of overfat/obesity was suggested to be able to control food types and reduce foods that have high fat and high carbohydrate and to do physical activity to minimize the accumulation of body fat. In addition, further research is needed to examine other factors related to percent body fat in women adolescent.

ACKNOWLEDGEMENTS

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INFLUENCE MID UPPER ARM CIRCUMFERENCE (MUACH) AND GESTATIONAL WEIGHT GAIN TOWARD THE INFANT'S BIRTH WEIGHT IN THE GENERAL HOSPITAL OF DUMAI

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Abstract
Bad Nutrient on the pregnancy maternal will influent the fetus on the uterus, in the Dumai General Hospital accorded to 45 pragnacy maternal cases with the energy lackness problem, in this case, the maternal who suffered KEK having risk in birthing the low weight baby. The low weight baby case at the general hospital of Dumai city as many as 127 cases. The aim of this study was to determine influence mid upper arm circumference (muach) and gestational weight gain with the infant's birth weight. The study was quantitative by control case study design with the study sample to 74 respondents. The sample taking technique was purposive sampling. The data collection technique accorded to the KIA Ibu's book and newborn's weight measurement. The study instrument used questioner. The study showed that according to the maternal who had the cronic energy lackness as many as 44,6% and influence mid upper arm circumference (muach) and gestational weight gain with the infant's birth weight (ρ_{value} =0,000). Mid upper arm circumference (muach) of Maternal <23,5 cms and gestational weight gain <10 kgs with the risk in birthing the low birth weight. Hopefully, the study can help the maternal so that discipline in checking up the routine pregnance as long as the pregnance.

Keywords: Nutrient status, gestational weight gain, low birth weight

INTRODUCTION

The infant mortality rate is the infant's mortalility amount in 28 days old in early alive in 1000 alive births. Infant's mortaliy rate according to WHO (World Health Organization) in 2015, at the ASEAN (Association of South East Asia Nations) state such as in Singapore 3 in 1000 alive births, Malaysia 5,5 in 1000 alive births, Thailand 17 in 1000 alive births, Vietnam 18 in 1000 alive births, and Indonesia 27 in 1000 alive births , the infant's mortality rate in Indonesia still high from the ASEAN (Association of South East Asia Nations) State (WHO, 2015).

The infant's mortality rate in Indonesia is still higher than othe growed states. Infant's mortality rate is the Infant's mortality amount in 28 days old in alive early in 1000 alive births. This rate was one nation's health degree indicator. The highness of the infant's mortality rate could be a guide that the maternal service and unwell neonatal. So it was needed to reduce the infant's mortality rate (Saragih, 2011).

The infant's mortality rate was one health development indicator in the National medium-term development planning in 2015 – 2019 and suistainable Development Goals (SDGs). Target of SDGs in reducing the neonatal mortality rate that was 12 in 1000 alive births. According to the demography survey data and health of Indonesia SDKI in Indonesia), for the infant's mortality rate could be said the reduction on the track (continoely reducing) and on demography survey data and health of Indonesia 2012 showed that value 32/ 1.000 alive births (SDKI, 2012). And in 2015, based on the Inter-Census Population Survey data (SUPAS in Indonesia) 2015 the infant's

mortality rate showed that the reduction became 22,23 / 1.000 alive births) (Indonesia Health Profile, 2016). The mortality rate on the low birth weight in this time is higher than the infant with birthing more than 2500 grams (Pantiawati, 2010). Low birth weight is the second highest perinatal mortality causing in Indonesia after Intra Uterin Fetal Death (IUFD) that was amount 11,2% (Health Minister, 2015).

According to Englang (2014) the most influence factor was happened tha low birth weight was Maternal's, Fetus and placenta factor. From three factors, the maternal's factor which has easily identified. The Maternal's factor who realted to the low birth wight among maternal's age (35 years old), birth distance, low birth weight hystori before, existing the cronic decease (anemia, hypertence, diabetesmellitus) and economic secial factor (low economic social, the heavy physical job, lackness of the pregnance checkup, undesirable pragnace), then other factors (smoker, drugs user, and alcoholic) (Proverawati & Ismawati, 2010). But the factor which existed on one area with other was difference; this was accorded to the geographic, economic social, and culture factor (Bendhari & Haralkar, 2015).

Based on the Cinde's study (2010), there was the correlation between weight increasing as longas pragnance and infant's weight on the Rawalo village in 2009-2010 with the p-value = 0,002. According to the study outcome in Indonesia such as operated in Madiun, East Java said that the risk through the baby's growth disturbion was sleeve ring size. It supported the study before at Fatmawati Hospital in Jakarta which concluded existence of the correlation between maternal's nutrient status that was measured using the mid upper arm circumference with the infant's growth. The study outcome in ambon in 2006 showed that there was correlation between mid upper arm circumference and newborn's growth.

In 2017, from the note outcome and mortality report at the society health center and General Hospital of Dumai city was known amount the Neonatal motality as many as 113 from 8233 births, so that the Neonatal mortality rate in dumai city as many as 13,72 in 1000 alive births. If considered with the achievement in 2016 where the Neonatal mortality rate as many as 92 from 8126 births that was as many as 11,32 in 1000 alive births, seen for increasing of the Neonatal mortality rate in 2017. Health Departmnent of Dumai, 2017).

From the introduction study which was operated by taking the secondary data in General Hospital of Dumai city showed that from 2016 until 2017 amount low birth weight happen sustained the very significant increasing. Amount the low birth weight in 2016 was 110 (6,54 %) from 1682 childbirths, where as in 2017 was 127 (7,34 %) from 1720 childbirths.

METHOD

The study type was quantitative. By using the analytic descriptive design, this study design used the case control design. The study was operated from December 2017 until July 2018 at the midwifery room of General Hospital in Dumai city. Population in the study was inpartu maternal with amount 74 people on 37 case groups that was the maternal who got birth the low birth weight and 37 control groups that was the Maternal who got birth the normal weight infant.

In the study, a student took the sample taking technique as purposive sampling. After the data was collected, the data collection outcome was managed by the statistic analysis by using the univariate and bivariate analysis to view the frequency distribution description from all variable which was researched by the dependent and independent variable. The used thest on the bivariate analysis was chi square test

RESULT
Univariate Analysis

Table 1 describes that from 74 respondents each maternals who have the normal maternal's mid upper arm circumference (≥23,5 cm) that is 41 respondents (55,4%), more than considered by the maternal who has CED (<23,5 cm) only 33 respondents (44,6).

Table 1. Frequency distribution of the pregnance maternal's mid upper arm circumference

No	MUACH	f	%
1	CED	33	44,6
2	Normal	41	55,4
	Total	74	100

Table 2. Frequency distribution of the gestationa weight gain

No	Gestational weight Gain	f	%
1	Abnormal	40	54,1
2	Normal	34	45,9
	Total	74	100

Above table describes that from 74 respondents, maternals who have the abnormal weight increasing (<10 kgs) as many as 40 respondents (54,1%) this amount is bigger than the normal weight maternal (≥10 kg) that is only 34 respondents (45,9%).

Table 3. Frequency Distribution of the Infant's birth weight

No	Infant Birth Weight	F	%
1	Low weight baby	37	50
2	Normal	37	50
	Total	74	100

Above table describes that from 74 respondents, a maternal who has the normal infant's birth weight (≥2500 grams) and low birth weight (>2500 grams) are same having amount 37 respondents (50%).

Bivariate Analysis

Bivariate analysis was operated to determine impression between the dependent and independent variable by using the statistic test of chi square with real level (α) = 5%= 0,05.

Based table shows that the maternal with the normal Mid Upper Arm Circumference (≥23,5 cms) which gets birth the normal Infant birth weight (≥2500 grams) as many as 30 respondents (81,1%), this total is more than the maternal which has the Mid Upper Arm Circumference < 23,5 cm2 (CED) which gets birth the normal infant birth weight only 7 respondents (18,9%). Wherea the maternal with Mid Upper Arm Circumference < 23,5 cms (CED) which gets birth the low birth weight (<2500 grams) as many as 26 respondents (70,3%) this total is bigger than the maternal with normal Mid Upper Arm Circumference (≥ 23,5) which gets birth the low birth weight (<2500 grams) only 11 respondents (29,7%).

Table 4 Influence Mid Upper Arm Circumference (MUACH) With The Infant's Birth Weight at the General Hospital of Dumai city

MUACH	Infant's birth weight				Total		p-value	OR 95% CI
	Normal		LBW					
	f	%	f	%	f	%		
Normal	30	81,1	11	29,7	41	55,4	0,000	10,13
CED	7	18,9	26	70,3	33	44,6		
Total	37	100	37	100	74	100		

Based on the test analysis of chi-square above, determined the significantion value ρ_{value} = 0,000, where this value <0,05 however there was the significant Influence Mid Upper Arm Circumference (MUACH) With The Infant's Birth Weight at the General Hospital of Dumai city. OR outcome as big as 10,13 with meaning that the Maternal's CED has the risk 10 more from birthing the Low birth weight.

Tabel 5 Influence Gestational Weight Gain With The Infant's Birth Weight at the General Hospital of Dumai city

Gestational Weight Gain	Infant Birth Weight		Total	P value	OR 95% CI
	Normal	Low birth			

	weight							
	F	%	f	%	F	%		
Normal	27	73	7	18,9	34	45,9	0,000	11,57
Abnormal	10	27	30	81,1	40	54,1		
Total	37	100	37	100	74	100		

The above table describes that the maternal with the normal weight increasing who gets birth the normal birth weigth as many as 27 respondents (73,0%) bigger than the abnormal weigth increasing maternal who gets birth the normal birth weight only 10 respondents (27,0%). Whereas the maternal with the abnormal weight increasing maternal who gets birth the low birth weight as many as 30 respondents (81,1%), bigger than the normal weight increasing maternal which get birth the low birth weight only 7 respondents (18,9%).

Based on the test analysis outcome of chi square above, determined the signification value ρ_{value} = 0,000, where the significant Influence Gestational Weight Gain With The Infant's Birth Weight at the General Hospital of Dumai city. The OR outcome was found as many as 11,57 with meaning the maternal with normal weight increasing as long as pragnance would often get birth the baby with the normal birth weight.

DISCUSSION
Influence Mid Upper Arm Circumference (MUACH) With The Infant's Birth Weight at the General Hospital of Dumai city

The study outcome showed that the maternal with normal Mid Upper Arm Circumference (≥23,5 cms) who got birth the normal birth weight (≥2500 grams) as many as 30 respondents. (81,1%) this total was more than the maternal with the maternal who has the mid upper arm circumference size < 23,5 cms (CED) which got normal birth weight only 7 respondents (18,9%). Whereas the maternal with the mid upper arm circumference size < 23,5 cms (CED) which got low birth weight (<2500 grams) as many as 26 respondents (70,3%) this total was bigger than the maternal who has the normal mid upper arm circumference (≥ 23,5) which got low birth weight (<2500 grams) only 11 respondents (29,7%).

Based on the test analysis of chi-square above, determined the significantion value ρ_{value} = 0,000, where this value <0,05 however there was the significant there was the significant Influence Mid Upper Arm Circumference (MUACH) With The Infant's Birth Weight at the General Hospital of Dumai city. OR outcome as big as 10,13 with meaning that the Maternal's CED has the risk 10 more from birthing the Low birth weight. Eventhough it can be concluded that the maternal with normal mid upper arm circumference as long as pragncance will often normal birth weight.

The study was same with Linda's study (2012) with total of respondents 125 birthing maternals, the maternal's group has the normal mid upper arm circumference who gets normal birth weight as many as 80 maternals (86,0%), this total is more than the CED maternal who gets low birth weight only 3 respondents (3,2%). The study stated that the spearman correlation test outcome which was found to Value ρ as many as 0,000 (ρ_{value} < 0,05), with meaning between the maternal's mid upper arm circumference as long as pregnance and newborn's weight at the Society health center area of Tanjung Karang, with the spearman correlation as many as 0,358 showed that the positive correlation purpose with the weak correlation strength. From the study outcome can be known that the maternal who has the upper arm circumference with the normal category not for CED and often two more to get normal birth weight than the maternal who has the mid upper arm circumference with the category of CED. It is also supported by I Nyoman S, and friends (2003) that if the mid upper arm circumference size < 23,5 cms with meaning that woman has the CED risk and

estiminated for birthing the low birth weight.

According to Notobroto (2004) in feril (2011) that some factor which influents the baby weight is demography, behavior, and environment, medical service and biomedical, they are maternal's weight, maternal's height, maternal's mid upper arm circumference, maternal's age, parity, and birth hystori before, maternal's hemoglobin content and blood pressure in the pragnance.

This is same with the J Med Nus' study (2004) stated that there was the meaningful correlation between born weight by pregnancy maternal's nutrient based on the mid upper arm circumference size < 23,5 cms to get low birth weight than the maternal with mid upper arm circumference size 23,5 cms, the correlation between the mid upper arm circumference and the external outcome could be shown from the upper arm circumference study on the third semester maternal as the infant's weight estimination on the infant who is got birth by the maternals in Guatemala (Lechting, dkk 1979).

According to the study, the nutrient status is importantly known by the pregnancy maternal especially the maternal's mid upper arm circumference, because if materal's nutrient status CED was lack however inhibited the fetus growth. The pregnancy maternal handle with CED should be operated in earlier to avoid the low birth weight.

Influence Gestational Weight Gain With The Infant's Birth Weight at the General Hospital of Dumai city

The study outcome showed that the maternal with the normal weight increasing who gets normal birth weight as many as 27 respondents (73,0%) bigger than the maternals with the abnormal weight increasing who get normal birth weight baby only 10 respondents (27,0%). Whereas the maternals with abnormal weight increasing of low birth weight as

many as 30 respondents (81,1%) were bigger than the maternals with the normal weight increasing who get birth the low birth weigth only 7 respondents (18,9%).

Based on the test analysis of chi square above, known the signification value of $\rho_{value} = 0,000$, where this value < 0,05 with meaning there is the significant Influence Gestational Weight Gain With The Infant's Birth Weight at the General Hospital of Dumai city. The OR outcome was found as many as 11,57 with meaning the maternal with the abnormal weight increasing has a risk 11 more in getting Low birth weight. However it can be meant that the maternals with the abnormal weight increasing as long as pragnance will often get birth the infant with the normal weight.

This study is same with Linda's study (2012) in her study with title "Correlation of the weight increading and maternal's mid upper arm circumference with the infant's birth weight at the society health center of Tanjung karang in 2012" stated that based on the spearman correlation test analysis by the value found ρ_{value} as many as 0,024 (value of $\rho_{value} <$ 0,05), with meaning there was the correlation between the maternal's weight as long as pragnance with the newborn's weight from 125 childbirthing maternals, maternal group which has the enough weight increasing amount get normal birth weight that is 72 (97,3%).

It is also same with the Cinde's and friends (2010) with sample amount of 50 birthing maternals, stated that there is the correlation between the weight increasing as long as pragnance and the infant's weight at the Rawalo village in 2009 with value $\rho_{value} = 0,02$. It is also supported by Anies's study and friends (2014) that there is the meaningful impression ($\rho_{value}< 0,05$) between the maternl's weight increasing as long as pragnance and infant's weight. The maternal who gets birth the infant with weight > 2500 grams having the weight increasing as long as better pragnance

from the maternal who gets birth the infant with weight < 2500 grams and then the analysis outcome shows as many as 18,7% of the maternal with the weight increasing of 9,1 kgs. Existing the meaningful influence between the maternal's weight increasing as long as pragnance with the baby's weight.

According to the Kusharisupeni's study outcome (2002), nutrient lackness on the gestation moment can cause the birth baby with the low birth weight, and then disturbing for the growth. It is same with Astrid's study (2009) that there was influence of the pregnance maternal's weight increasing with the Low birth weight happening, that was the maternal who doesn't get the weight increasing as long as pragnance, having the Low birth weight as many as 5,5 more bigger than the maternal who gets the weight increasing as long as pragnance.

The study is same with the Ramakhrisan's, Grant's, Goldenberg's, Zongrone's, Martorell's study in 2012 with 240 pragnance maternal respondents with title influence of the maternal's nutrient before and before the pragnance through the newborn with stating that the infant birth from the weight maternal before the pregnancy can have the risk the fetus growth disturbion. There is the significant correlation between the maternal's weight before pragnance through the infant's weight with $\rho_{value} = 0.01$. the pregnancy maternal's nutrient status increasing will increase the pragnance last outcome however there is many worried of the weight and obesity. It is same with a theory (Soetjiningsuh, 2012) stated low birth weight before conception, and then the instrong weight increasing was the directly value which could be used to estimiate the fetus growth. Weight birth correlated positive with the total weight as long as pragnace.

According to study, that the maternal's nutrient status before or in pragnance has the influence through the birthed baby weight. If the normal maternal's nutrient status in the pragnance moment will perhaps get birth the healthy baby, enough in the month with the normal weight.

CONCLUSION

Frequency distribution outcome from 74 respondents each the maternal who has the mid upper arm size for the normal maternal (≥23,5 cms) that was 41 respondents (55,4%), more than the maternal with CED (<23,5 cms) only 33 respondents (44,6%). And from 74 respondents, the maternal with the abnormal gestational weight gain increasing (<10 kg) as many as 40 respondents (54,1%) this total is bigger than the maternal with the normal weight gain (≥10 kg) that is only 34 respondents (45,9%).

There is the significant Influence Mid Upper Arm Circumference (MUACH) With The Infant's Birth Weight at the General Hospital of Dumai city (ρ=0,000, OR=10,13). There is the significant Influence Gestational Weight Gain With The Infant's Birth Weight at the General Hospital of Dumai city (ρ=0,000, OR=11,57).

RECOMENDATION

Hopefully for the medical officers especially midwife at the general hospital of Dumai city to able increase the counseling and then routine in doing the mid upper arm circumference measurement and giving the information about importantly fulfilling the nutrient need when pragnance especially on the choronic energy defisiency (CED) for avoiding low birth weight.

Hopefully for the childbirthing maternal so that preparing more the nutrient on the next pregnance, then regulating diet regularly, feeding the nutrient food, and then often diligently consultating about the right nutrition fulfill as long as the pregnance and routine cheking up the pregnance to the midwife.

Hopefully for the education institution so more to prevent the books about the nutrient role on the pregnancy maternals. Hopefully the study outcome can be become an idea for the next study with the varaited variable about influence Mid Upper Arm Circumference (MUACH) with infant's birth weight.

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SUKU AKIT (*ABORIGIN PEOPLE*) : UTILIZATION OF MANGROVE WOOD, PROBLEM, AND EMPOWERMENT

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Abstract

The Akit Tribe is one of the Indigenous People in Riau Province. Research on the marginalization of the Akit people is important so that appropriate interventions can be made to improve their welfare. This study aims to analyze the physical, social, and empowerment conditions of the Akit Tribe community to achieve social welfare. The location of this research is in Jangkang Village, Bantan District, Bengkalis Regency, Riau. The data needed in this study are observation and in-depth interviews. The results of this study are (a) the Akit people are marginalized, (b) their poverty is categorized as structural poverty and cultural poverty, (c) unhealthy environmental conditions, which are characterized by poor sanitation and drainage, water supply insufficient, and inadequate health services, (d) low levels of education and community income. Government policy must focus on community empowerment. The form of community empowerment that is carried out is increasing awareness of the importance of education for children, improving health promotion and new jobs as farmers.

Keywords: *Akit tribe, community problems, empowerment, and mangrove wood charcoal*

INTRODUCTION

Jangkang Village, Bantan District, Bengkalis Regency is one of the villages located in the Coastal Zone of Bengkalis Island which has a forest area of 120 hectares, consisting of 60 hectares of protected forest area and 60 hectares of mangrove forest area (Village and Village Potential Registration List Data, (2013). The potential area owned by Jangkang Village is mangrove forest which is one of the natural resources that become the foundation of most coastal communities.

The Akit Tribe community has long lived and lived in the Jangkang river flow. The location is an area of mangrove forests as a source of life and a large livelihood of the Akit Tribe people. They use mangrove wood as raw material for charcoal. The building to process mangrove wood into charcoal is called long. Charcoal business has been carried out decades ago and inherited from generation to generation.

The amount of charcoal in Jangkang Village is 30 units.

Although there have been many government programs for the community (district people), forest edge community empowerment programs, the mangrove-caring community program, but the reality shows that the Akit people still remain poor and marginalized. Research on the marginalization of the Akit Tribe people needs to be done in order to be able to take appropriate actions to improve their welfare. In addition, mangrove restoration for the dilemma is on the one hand, namely the effort of eco-energy as sustainable development and the dilution of the mangrove forest encroachment becomes uncontrollable due to capitalist interests.

Empowerment concepts and theories

Conceptually, empowerment comes from the word power which means power or empowerment. The concept of empowerment starts from strengthening

social capital in society. The main idea of empowerment is related to the concept of social capital and power. Power is the ability of individuals to make individuals do what they want.

The empowerment process can be done in groups or individually. There are three approaches to community empowerment, namely: (a) Micro approach (task centered approach); Empowerment is carried out individually through guidance to train in carrying out the tasks of life. (b) The mezzo approach is empowerment carried out in groups as a medium of intervention. Education and training in groups is used as a strategy to increase awareness, knowledge, skills in order to have the ability to solve the problems they face. (c) A macro approach is an approach directed at a wider environmental system. Policy formulation, social planning, campaigning, social action, community organizing, conflict management, are some of the strategies in this approach. (Parsons, et al, in Suharto, 2008).

Empowerment is the ability of people, especially vulnerable groups to have the ability to (a) meet basic needs, (b) reach productive resources that enable them to increase income, and obtain goods and services; and (c) participating in development (Suharto, 2005).

There are several empowerment theories, including: (a) Power dependency theory. Dependency theory is associated with power in the form of money / capital ownership. To achieve a helpless condition, a group of people must have money / capital. In addition to money, a group of people must also have the knowledge and skills to have power. (b) System Theory. System theory was pioneered by Parsons, which gave birth to a functional theory of change. The social system theory leads to one of the strengths that the group must possess so that the group is empowered. (c) Organizational continuity theory. The organizational structure will appear more assertive if it is

outlined in the form of an organizational chart. Someone entering an organization will help meet the needs of life such as protection, love and love, association, power, and fulfillment of food and clothing. (d) Conflict theory. The view of conflict theory refers to two aspects, namely economics and organization. If the group manages the conflict properly, then the group's integrity and strength will continue to be strong so that they have power in the financial aspects and strength of the masses. (e) Resource mobilization theory. Mobilization theory emphasizes not only on money, but also the knowledge and collection of people so that it will give power to the person in society. (f) Constructivism theory. The concept of empowerment is an ongoing process as a transfer of power to the community based on strengthening social capital which consists of beliefs, norms and rules, networking, and participation to achieve community welfare. According to Kartono (2009) women must be able to move and make social change in a better direction as an agent of social change. The importance of education for women not only aligns women with men, but also women are able to raise and educate children healthier, able to regulate the number of children, and able to increase income.

Dudgeon et al (2017) said that empowering Indigenous Tribes in Australia through participating action research. The team developed a health promotion that was culturally appropriate and intervened to reduce high psychological distress and suicide among the Native Tribes and residents of Torres Island. The aim is to speak out and ways that support important changes as individuals and communities. Wei & McDonald (2014) reported that Indigenous Australians experienced legal problems and multiple losses. They highlighted the need for legal services that were adjusted to the legal needs of the indigenous people, especially high-risk groups.

Indigenous youth empowerment in Taiwan is developing a service learning program through the role of non-profit organization (NPO) policy changes, namely empowerment based on Indigenous participation in developing partnership network resources, emphasizing responsibility, building effective trust and maintaining strength (Lee & Chen, (2014)). Tsey and Every (2000) research reveals that participation in the Family Welfare program results in a high level of self-empowerment. The Malaysian government is empowering Indigenous Tribes by facilitating a place to sell traditional crafts at Cameron Highland tourist sites. There are two facilitation benefits, First; as additional income for the Indigenous and Second Tribe communities; maintain the continuity of indigenous tribal cultural values through traditional crafts.

Poverty theory

In general, poverty is defined as a deprivation of living conditions experienced by a person or household so that they are not able to fulfill the minimum needs including clothing, food and shelter, which are appropriate for their lives. There are three types of poverty, namely: absolute poverty, relative poverty, and structural poverty. Absolute poverty is if the income is below the poverty line, it is not enough to meet the minimum life needs: food, clothing, health, shelter, education. Relative poverty is life slightly above the poverty line but still below the ability of the surrounding community. Structural poverty is poverty that occurs when groups of people are reluctant to improve their living conditions until there is help to push them out of the condition. Structural poverty occurs because of external causes, namely the economic structure that occurs in society. Structural poverty is poverty that occurs not because of the inability of the poor to work (lazy), but because of the inability of the system and social structure to provide opportunities that allow people to work.

Cultural poverty (intangible) is poverty which is closely related to the mental attitude of a person or group of people who do not want to try to improve their level of life. The purpose of this study was to analyze the physical, socio-economic environmental conditions and forms of empowerment of the Akit people who were suitable to improve their welfare.

METHOD

This research was conducted in Jangkang Village, Bengkalis Regency, Riau Province, Indonesia, which was conducted from May to August 2018. This type of research was qualitative research. The key informants in this study were mangrove loggers, charcoal-burning owners and workers, and community leaders. Data collection techniques are through observation techniques and in-depth interviews and data are analyzed through descriptive-analytic techniques.

RESULT AND DISCUSSION
Physical Environment Condition
The House Of Akit Tribe Community

The house building of the Akit Tribe community is made of wood and thatched roof. Road access in these settlements is a seminal road and a dirt road.

The floor of the house is made of boards that are not evenly arranged so that there are holes and are decayed to make it easier for mosquitoes and other animals to enter. The Akit Tribe community is only a

small portion that gets electricity. This is also an indicator of poverty. The community kitchen is a kitchen made of wood and the cooking stove is brick. Some Akit people use wood fuel for cooking. The condition of the house and kitchen can be seen in Figure 3 and Figure 4

Availability of Clean Water

The need for clean water for bathing, washing and cooking activities generally uses rainwater and well water. The condition of the well water is yellowish, smelly and brackish. In general, every house has a well, only about 12.5% do not have a well, so they join using neighboring wells. Some wells have used electricity. Rainwater is an alternative to get clean water sources. Rainwater from the roof of the house is channeled to the storage tank. For more details, see Figure 5 and Figure 6 below:

Family Latrines

Along with the times, there was a change in the habit of large water discharges (BAB) which used to be used to be used in rivers now that made latrines around the housing. Generally, the latrines used by the Akit Tribe on average are forms of clay latrines and a small portion of goose-neck latrines (water seal laterine), including four government assistance units. Examples of latrines can be seen in the figure 5 :

Education of Akit Tribe Children

The number of Akit Tribe children aged 6-12 years who attend elementary school in the last 5 years can be seen in table 1.

Table 1 Number of Akit Tribe children aged 7-12 years attending elementary school

Academic Year	M	W	Total	Graduate
2014/2015	24	23	47	12
2015/2016	22	19	41	11
2016/2017	21	15	36	8
2017/2018	27	16	43	5
2018/2019	25	15	40	4

Table 1 shows the number of Akit Tribe children who have fluctuated in elementary school grades 1 to 6. Akit Tribe children who attend school in the last 5 years amount to between 36-47 students from 82 children aged 12-17 years. Children who graduated from

elementary school mostly went to junior high school. As stated by Mr. Samsuar (Teacher of SDN 005), "*most of the indigenous children who graduated from elementary school went to junior high schools not far from this village, namely Pasiran 5 Public Middle School. Last year there was one person who did not continue to junior high school*", (interview on May 5, 2018).

Based on the results of an interview with Pak Samusi (May 4, 2018), he said "*economic factors greatly influence the education of the Akit community. In addition, the government lacks attention to the education of Indigenous children. The government must consider the existence of special schools for indigenous children*".

Expression of Mr. Suprianto (Principal of SMPN 5): "*The children of the Akit Tribe who study in junior high school do not drop out of school. After graduating, only 80% went to high school. Everyone takes a graduation certificate.* (Interview on May 5, 2018).

Obstacles to Education

Almost half of the children of the Akit Tribe who are of school age 7-12 years are not attending school or dropping out of school. The obstacle is due to weak economic factors and lack of awareness of the importance of education. Like the expression of Principal of SMPN 5 (Pak Suprianto, interview on May 5, 2018), "*the influence of the environment causes lazy children to go to school and even quit school. Besides that, children come slow because they help parents in the charcoal*".

The phrase Mr. Iben (hamlet head of the Akit Tribe community) "*the Akit Tribe children quit school because of weak economic factors and lack of parental awareness about the importance of school*" (interview on May 5, 2018).

Work and Household Income

The work of the head of the family of the Akit tribe is mostly to look for mangrove wood in the forest. Mangrove wood that has been collected is transported by boat to long. Furthermore, wood is weighed and sold to long-term owners (see figure 7 and 8). Some of them work as longtime workers such as arranging wood, cooking charcoal, cutting and packing charcoal (see figure 9 and 10).

The Akit Tribe community does not have a side job to supplement their income. The income of the head of the family averaged 1.9 million rupiah per month. This income is below the minimum requirement. So, the Akit tribe community is generally classified as poor. Less than half of the head of the family who owns the remaining motorbikes still use bicycles or walk for mobility.

At the Akit Tribe settlement there are four shops. The shop sells daily necessities such as: dry bread, cigarettes, coffee, sugar, and instant noodles.

Religion, Customs, and Culture

The Akit Tribe people used to hold animistic beliefs. Along with the times, and the entry of Chinese traders, the Akit Tribe people gradually entered Buddhism and Christianity. In the Akit Tribal settlement area there is a house of worship, Ceria Maitreya Temple (figure 11):

The head of the Akit tribal community is called Batin. Marriage in the Akit tribe customs is done by Batin. The inner will marry off the prospective husband and wife

The treatment system of the Akit people is called bedekeh. Bedekeh is a method of treatment carried out by Bomo or village dukun. The process of eliminating the disease is done by using Ancak which is a kind of sailing canoe. The disease will be transferred from the body to the ancak and then washed away into the river and animals that are thrown on land in living conditions. In addition, Bomo also helped in the process of giving birth and removing evil spirits that approached the baby.

If the Akit Tribe community dies, then the body is kept at home for one to three days, according to the family's agreement. As long as the body is lodged, the family carries out an event aimed at entertaining family members and praying for the body. The tradition of the Akit people is to gamble and drink tuak at weddings, child births and deaths.

Social Changes

The dynamics of the Akit Tribe community are slow. In the Akit Tribe community there have been no changes in aspects of livelihoods and economic levels. Nonetheless, there were few changes in the aspects of infrastructure, information flows and changes in social structure.

The road infrastructure between RTs has changed from a dirt road to a seminal road. Although the economic level of the Akit people is relatively settled from one decade to another decade, from one generation to another, there has been a change in the flow of information. Some Akit Tribal households have television, electricity facilities and use of cellphones as communication media. Each household has one mobile unit for the benefit of all family members. If the husband wants to communicate with his friend then he uses a household cellphone. If the child wants to communicate with his friend or wants to play a game then he borrows his handphone to his parents. (Interview with the village head of Desa Akit, Pak Iben, 45).

Another social change is the social structure in the Akit Tribe community. The structure of the Akit Tribe, which was originally led by Batin, is now supplemented by neighborhood units, neighborhood units, and hamlets. So, in addition to the Inner leadership in the Akit Tribe community, there were also leaders in the community, namely the heads of the RT, RW and the Hamlet Head. This is in accordance with the structure of the village administration according to Law No. 5 of 1979 concerning village governance.

The unchanging aspects of the life of the Akit Tribe are livelihoods and land ownership status. Expression of the Head of the Hamlet of the Akit Community: "*From the beginning until now the life of the Indigenous Tribe depends on Panglong Arang. The job of looking for mangrove wood is inherited from generation to generation to children and grandchildren*" (interview with Pak Iben, 45, dated May 8, 2018). The Akit Tribe people call mangrove wood the name of mangrove wood. Another job of the Akit tribe is to look for mangrove wood. In addition to mangrove wood, the work of the Akit people is as fishermen. They fish in rivers and sea in their residential areas. Fish catches are sold to the "small shop" around Jangkang Village.

The status of land ownership is property rights without a certificate. There is no certified land owned by the Akit Tribe (interview with Pak Ben, Head of the Hamlet, May 8, 2018). The area of land owned by the community ranges from 400 m2 to 1000 m2. One Akit Tribe community leader stated: "*There is a tendency for the ownership of community land to decrease because part of the land has been handed over to children who are married*", (interview with Mr. Halim, May 8, 2018). Although some of the family heads of the Akit Tribe have owned two-wheeled motorized vehicles, more than half of the heads of households do not have motorbikes. The Akit Tribe children who are still in elementary school going to school mostly ride their own bicycles and a small portion are taken by their parents on motorbikes. Social institutions that already exist in the Akit Tribe community are groups of fishermen and farmer groups that join the Malay community. Dasawisma groups, savings and loan cooperatives and arisan groups do not yet exist in the Akit Tribe community.

Empowering The Akit Tribe Community

The results of this study indicate that the condition of the Akit tribe's house is very simple and unhealthy. Roads between residents 'homes and access to Akit tribes' settlements are dirt roads and roads that are disseminated. Land ownership is very narrow between 200-500 m^2 per head of family. This area is not sufficient for farming activities as additional income. Sources of clean water and family latrines are also unhealthy.

Most of the parents of the Akit Tribe children did not attend school or had attended school but did not complete elementary school. Only about half (50%) of children of primary school age are still in school, the rest are not in school or dropping out of school. Only a few people from the Akit Tribe continued their education to junior high school.

The life of the Akit people is entirely dependent on mangrove wood and charcoal panglong. So people's lives cannot be separated from mangrove forests and charcoal panglong. Community income from mangrove wood is Rp. 1,900,000 / month per family head. There is no other additional income except catching fish in a river or sea.

Based on these conditions, empowerment needs to be done so that the Akit Tribe to achieve prosperity are: *First*, investment in human resources through facilitation of education for children of the Akit Tribe. The facilitation is in the form of providing special scholarships for the purposes of textbooks, school uniforms, shoes, and pocket money for the purchase of supplementary food for school children (as a substitute) for supplementary feeding programs for school children (PMTAS) which has expired since (2010). *Second*, infrastructure development, which includes: a) Development of rural transportation infrastructure; b) Development of infrastructure that supports the fulfillment of basic needs of the community, c) Development of small port infrastructure. *Third*, alternative livelihood investments, namely the

procurement of land for agriculture that is not far from the Akit Tribe community settlement. This investment is very important to offset the exploitation of mangrove wood as an ecobioenergy raw material for mangrove charcoal. If the community already has alternative livelihood eyes as a farmer, then mangrove wood exploitation activities can be controlled properly. *Fourth*, charcoal ecobioenergy. Utilization of mangrove wood into charcoal is limited by granting charcoal kitchen permits in small categories, production of less than 1 ton. *Fifth*, mentoring clean and healthy behavior (PHBS). The companion is from the health office or volunteers who have the competence to carry out health promotion, especially clean and healthy lifestyle (PHBS). Programs that are carried out are: a) Using clean water, b) Using latrines, c) Removing garbage in its place, d) Not smoking in public places, e) Not spitting carelessly, f) Eradicating mosquito larvae, g) Washing hands with soap and clean water, and h) Closing food and drinks. *Sixth*, labor intensive systems for village development. The labor intensive system of village road construction is community empowerment for new jobs and the community gets wages for the work.

DISCUSSION

The availability of drainage in the Indigenous Tribal community has not been made permanently, but in a simple way that is not in accordance with housing health requirements and the residential environment. This is in accordance with Asmakarbela's statement (2010), that there are several indicators of a healthy home environment, namely having a healthy latrine, a landfill, a waste disposal facility, and good home ventilation.

The socio-economic conditions of the Akit Tribe are low. This condition has been going on for a long time. There are many factors as a cause, among others, a very low level of community education,

even though there are still many who have never attended school. Another factor is because of lazy behavior, culture, not being resilient, accepting what is, and the habit of gambling and drinking when there are births and deaths in the community. In indigenous tribes in other countries it was found that indigenous tribes had the habit of gambling. Hing and Breen (2014) report that indigenous tribes in Australia have a habit of gambling and the gambling problem is harmful to indigenous tribes. The transfer of culture between generations of gambling is one of the problems of indigenous tribal communities in Australia. Meanwhile Castellano (2004) states that one of the ethics in indigenous research is to protect the regulation of research ethics of indigenous tribal communities in Canada which states that it is necessary to protect all knowledge, language, territorial, literary or artistic creations which are their traditions. Furthermore Nurdianti (2015) reports that Akit tribes in the village live in remote areas and Buddhism is very instrumental in their lives. In addition Susanti (2015) reported that one of the indigenous tribal arts in Bantan Tengah village was dagung dance. The function of the dance is for entertainment, marriage ceremonies and traditional medicine ceremonies. Another researcher, Raja Syamsidar (2014) concluded that there were several changes in the Akit tribal communities in Teluk Setimbul, including economic structure, children's education, meaning of life, mixed marriages and population mobility.

The results of research by Gupta and Guin (2015) show that the lack of government facilities and services is very preferable to private health facilities, high public facilities. Factors affecting acute illness are due to poor sanitation, waste management and insufficient clean water facilities. In addition, the lack of availability of government facilities is an indicator of poverty vulnerability in urban areas and this requires government intervention. The results of the research by

Bandyopadhyay & Agrawal (2013) recommend to overcome the problem of slums and poverty in India through resettlement and/or rehabilitation.

The government needs to consider the existence of special schools for Akit Native children established in their settlements with a more specific curriculum to facilitate their own local values and culture. Kerkness's research (1999) concludes that it is necessary to model a local education system for indigenous tribes in Canada that can fulfill the culture and goals of the indigenous people themselves. In addition, Partridge (2005) concluded that indigenous tribes in Australia need their own education system which is not influenced by external factors to accommodate the culture and values needed by the community itself.

CONCLUSION

The Akit tribe community is one of the marginalized communities, unhealthy living conditions with very poor sanitation, and insufficient water supply. The level of public education is very low and household income is below a minimum monthly requirement. The problem of the Akit tribe is poverty. Their poverty is categorized as structural poverty and cultural poverty. Government policies must focus on empowering communities through infrastructure development, education investment for children of the Akit Tribe, health promotion, and facilitation of agricultural land as alternative work.

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SEXUALITY EDUCATION IN ELEMENTARY SCHOOL CHILDREN IN TAMPAN DISTRICT OF PEKANBARU

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Abstract
Sexuality education is basically an effort to provide knowledge about the function of reproductive organs by instilling moral, ethical, and religious commitment so that there is no "abuse" in the reproductive organs. The purpose of the study was to determine the relationship of age, sex, source of information, knowledge, attitudes and behavior towards sexuality education in elementary school children in Tampan District, Pekanbaru City. This research method used a quantitative approach with the type of explanatory research and cross-sectional data collection techniques, the sampling technique used total sampling. The sample was all students of Public Elementary Schools in class VI totaling 32 respondents. Retrieval of data using instruments in the form of questionnaires. The results showed that the majority of respondents in the category> 11 years were 87.5%, with female gender 56.2%, had received information sources 53.1%, from teachers 21.9%, then respondents who had good knowledge as much as 62.5%, 62.5% negative attitude and 62.5% good behavior. The results of the chi square test revealed that the variables related to the respondent's behavior about sexuality education in elementary school children in Tampan Subdistrict, Pekanbaru City were in the sex variable with p. value 0,000, while that is an unrelated variable, namely age variable with p.value 0.581, information source with p.value 0.784, knowledge with p.value 0.147 and attitude with p.value 0.258. Suggestion to the Education Office or the Health Office to be able to support the implementation of the Youth Health Program (YHP) and improve the quality of teachers by providing training or seminars on sexuality education.

Keywords: Sexuality education, source of information, knowledge, attitude, behavior.

INTRODUCTION

Sex problems are a matter that is quite urgent in order to prepare children to become mature and mature children in all things including adult in addressing sexual problems faced so as not to fall into sexual conflicts that will destroy the future generations of the nation's future, electronic media such as television, video , compact disc, film, internet, hand phone, and print media such as newspapers, magazines, tabloids, brochures, photos, which smell of porn can be accessed by all levels of society that are increasingly open and easy, without adequate control. There are many cases that occur because of the lack of knowledge about sexual problems. Not only is pregnancy not desirable, even

many cases of caliber murder, it starts from sex abuse. These cases show parents that sexual problems are not a trivial problem, so do not ignore them and it is not wise if parents cover all information about sexual problems for the child's education process, because sexual problems are not only about intimate relationships, but also include various elements such as understanding genitals biologically, physiologically, and hormonal functions, understanding gender and sexuality, understanding sexual desires, understanding communication of sexuality, understanding sources of stimulation of sexuality, understanding morality, understanding sexuality in children, adolescents and the elderly,

understanding suffrage has children, understanding sexual orientation, understanding the sex industry, understanding sexual deviations, understanding sex therapy, understanding elements of genetic sexuality, understanding sexuality and legal crimes, understanding public policies related to aspects of community sexuality, and many others.

Sex education is basically an effort to provide knowledge about the function of reproductive organs by instilling moral, ethical, and religious commitment so that there is no "abuse" of the reproductive organs.

According to case data from Pekanbaru City Police Department, cases of sexual abuse against minors showed 9 cases (January), 8 cases (February), 10 cases (March), 6 cases (April), 7 cases (May), 2 cases (June), 7 cases (July), 4 cases (August), 7 cases (September), 7 cases (October), 12 cases (November), 5 cases (December) (Pekanbaru City Resort Police, 2014).

Based on the results of observations conducted by researchers that Tampan Subdistrict geographically located in crowded centers such as shopping centers, terminals, karoke places / night entertainment, hotels / inns so that it can trigger acts of sexual violence against minors.

Data from the Pekanbaru City Education Office in 2017 that there are 19 Public Elementary Schools in Tampan Subdistrict, where the School is a place for children to study, but also children who are victims of violence or sexual abuse from perpetrators who are none other than people who are around the school. So from that the researchers were interested in conducting research on Sexuality Education in State Elementary School children in Tampan District, Pekanbaru City.

Based on the background, the formulation of the problem is stateted as follows: how do children understand sexuality education? The purpose of this study was to find out and analyze the relationship of age, sex, source of information, knowledge, attitudes toward behavior towards sexuality education in elementary school children in Tampan District, Pekanbaru City.

METHOD

Analytical research, type of explanatory research with a cross sectional approach and the instrument used was a questionnaire. The population of this study was all students who were sitting in class VI Elementary School in Tampan District, Pekanbaru City. The study sample was elementary school students who were in class VI, which based on the curriculum students had received material on sexuality education with a total of 32 students.

RESULTS

Table 1. Age of respondents about sexuality education in elementary school children in Tampan District, Pekanbaru City

No	Category	f	%
1	>11 years	28	87,5
2	< 11 years	4	12,5
	Total	32	100

Table 1. shows that the age of respondents in the category> 11 years is more (87.5%) than the age of respondents in the category <11 years (12.5%).

Table 2. Respondent's sex about sexuality education in elementary school children in Tampan District, Pekanbaru City

No	Jenis kelamin	f	%
1	Male	14	43,8
2	Female	18	56,2
	Total	32	100

Table 2. shows that the sex of the respondents is more women (56.2%) compared to respondents who are male sex (43.8%).

Table 3. Source of respondents' information about sexuality education in elementary school children in Tampan District, Pekanbaru City

No	Source of information	f	%
1	Ever	17	53,1
2	Never	15	46,9
	Total	32	100

Table 3. shows that respondents who receives information about sexuality education is more (53.1%) than respondents who never receives an information (46.9%).

Table 4. Answers of respondents who had received information about sexuality education in elementary school children in Tampan District, Pekanbaru City

No	Resources	f	%
1	Printed media	3	9,4
2	Television	1	3,1
3	Mobile	1	3,1
4	Teacher	7	21,9
5	Parents	1	3,1
6	Health workers	4	12,5
	Total	32	100

Table 4. shows that respondents get more information from teachers (21.9%) compared to respondents who get information resources from health workers (12.5%), print media (9.4%), television, mobile phones and parents (3.1%).

Table 5. Respondents' knowledge of sexuality education in elementary school children in Tampan District, Pekanbaru City

No	Category	f	%
1	Good	20	62,5
2	Enough	10	31,2
3	Less	2	6,2
	Total	32	100

Table 5. shows that more respondents have good knowledge (62.5%) compared to respondents who have enough knowledge (31.2%) and less knowledge (6.2%).

Table 6. Respondents' attitudes about sexuality education in elementary school children in Tampan District, Pekanbaru City

No	Attitude	f	%
1	Positive	12	37,5
2	Negative	20	62,5
	Total	32	100

Table 6. shows that more respondents have a negative attitude (62.5%) compared to a positive attitude (37.5%).

Table 7. Respondents' behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City

No	Behavior	f	%
1	Well	20	62,5
2	Bad	12	37,5
	Total	32	100

Table 7. shows that more respondents have good behavior (62.5%) compared to respondents who have bad behavior (37.5%).

Table 8. Age with respondent's behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City

No	Age	Behavior				P. Value
		Good		Bad		
		f	%	f	%	
1	> 11 years	17.5	60.7	10.5	39.3	0.581
2	<11 years	2.5	75.0	1.5	4,0	
	Total	20	62.5	12	37.5	

Table 8. shows that respondents who have age> 11 years with good behavior more (60.7%) than respondents who behave badly that is 39.3%, while respondents who have age <11 years with good behavior 75% more than badly behaved respondents 4%. Chi square calculation with p.value 0.581> 0.005,

which means there is no relationship between age and respondent's behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City.

Table 9. Gender with respondent's behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City

No	Sex	behavior Good		Age	
		f	%	f	%
1	Male	8.8	28.6	5.2	71.4
2	Femal	11.2	88.9	6.8	11.1
	Total	20	62.5	12	37.5

Table 9. shows that respondents who were male with bad behavior 71.4% more than respondents who behaved well 28.6%, while respondents who were female with good behavior 88.9% more than respondents who behaves badly 11.1%. Chi square calculation with p. value 0,000 <0,005, which means there is a sex relationship with the behavior of respondents about sexuality education in elementary school children in Tampan District, Pekanbaru City.

Table 10. Sources of information with respondents' behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City

Source of information	Perilaku Baik		Buruk		P. Value
	f	%	F	%	
Ever	10.6	64.7	6.4	35.3	0.784
Never	9.4	60	5.6	40.0	
Total	20	62.5	12	37.5	

Table 10. shows that respondents who had received information sources with good behavior were 64.7% more than respondents who had bad behavior, 35.3%, while respondents who had never received information sources with good behavior

were 60% more than respondents the bad behavior is 40%.

Chi square calculation with p. value 0.784> 0.005, which means there is no relationship between the source of information and the behavior of respondents about sexuality education in elementary school children in Tampan District, Pekanbaru City.

Table 11. Knowledge of respondent's behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City

Knowledge	Behaviour Good		Bad		P. Values
	F	%	f	%	
Good	12.5	50	7.5	50	
Enough	6.2	80	3.8	20	0.147
Less	1.2	100	8	0	
Total	20	62.5	12	37.5	

Table 11. shows that respondents who have good knowledge of good behavior and bad behavior have the same value of 50%, while respondents who have enough knowledge with good behavior 80% more than respondents who behave badly 20%, then for respondents who have less knowledge with 100% good behavior.

Chi square calculation with p.value 0.147> 0.005, which means there is no relationship between knowledge and respondent's behavior about sexuality education in elementary school children in Tampan Subdistrict, Pekanbaru City.

Table 12. Attitudes with respondent's behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City

Attitudes	Behavior Well		Bad		P. Value
	f	%	f	%	
Positive	12.5	70	7.5	30	0.258
Negetive	7.5	50	4.5	50	
Total	20	62.5	12	37.5	

Table 12. shows that respondents who have a positive attitude with good

behavior 70% more than respondents who behave badly that is 30%, while respondents who have a negative attitude with good and bad behavior have the same value of 50%.

Chi square calculation with p.value 0.258> 0.005, which means there is a relationship between attitude and respondent's behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City.

DISCUSSION

The results of research that show that more respondents have age> 11 years 87.5% and seen from the bivariate test of respondents who have age> 11 years with good behavior 60.7% more than respondents who behave badly 39 , 3% then the results of the chi square calculation with p.value 0.581> 0.005, which means there is no relationship between age and respondent's behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City.

Teen age is when you want to try everything. Curiosity is really great at an early age, because trial and error is what makes teenagers vulnerable to try drugs and also explore their sexual curiosity, as a result teenagers become an age group vulnerable to contracting HIV / AIDS. Increased knowledge of respondents regarding HIV / AIDS, more anticipating themselves against risky behavior both by providing counseling or seminars.

Mubarak (2011) said that the more mature a person is, the more mature the level of thinking. The more mature a person is, the more experience in life, so the higher the level of knowledge and respondents who are in the middle teens experience a formal-operational period, so that at this stage adolescents have been able to take attitudes according to the norms and standards of the community when faced with things, for example sexual behavior that occurs among them.

Age affects one's perception and mindset, the more they grow older, the more their capacity and mindset will develop, so that the knowledge gained will improve, this is supported by opinions.

Notoatmodjo (2012) who said that age is one of the factors that can describe physical, psychological and social maturity so that it helps someone in his knowledge. The gender variables are known to be the results of research that show that the respondents are more women 56.2% compared to respondents who are male 43.8% and seen from the bivariate test that respondents who are male with bad behavior 71.4% more than with respondents who behaved well 28.6%, while respondents who were female with good behavior 88.9% more than respondents who behaved badly 11.1%.

Chi square calculation with p. value 0,000 <0,005, which means there is a sex relationship with the behavior of respondents about sexuality education in elementary school children in Tampan District, Pekanbaru City.

In the information source variable, it is known the results of research that show that more respondents have ever received information about sexuality education, namely 53.1% and seen from bivariate tests that respondents who have received information sources with good behavior 64.7% more than respondents who bad behavior is 35.3%, calculation of chi square with p. value 0.784> 0.005, which means there is no relationship between the source of information and the behavior of respondents about sexuality education in elementary school children in Tampan District, Pekanbaru City.

Respondents received information sources from teachers, 21.9% of health workers 12.5%, print media 9.4%, television, mobile phones and parents respectively 3.1%. The results of this study are in line with the results of a study conducted by Desrilina (2013) which shows that more sources of teen sex information are from friends, namely

33.63% and the least from health workers is 5.8%, chi square test results are obtained p> 0.1 (p = 0.263) there is no significant relationship between sources of adolescent information about sexuality and sexual behavior.

The results of this study are in line with the results of Alifah's research, K (2015) which shows that the greater source of adolescent sex information is from the internet site, which is 29% and the least from health workers is 12.1%, the chi square test results with the p value of (0.861) which means that between the source of information and sexual behavior in adolescents towards the prevention and transmission of HIV / AIDS in high school students in Tampan Subdistrict, Pekanbaru City does not have a meaningful relationship.

The results of this study are not in line with the results of research by Lexi, SA (2015) which shows that adolescents who have never received a source of information about HIV / AIDS prevention and transmission are 13.9% less than adolescents who have received information about HIV prevention and transmission / AIDS is 86.1%, analysis of the relationship between respondents who have received information about HIV / AIDS and sexual behavior at a risk of 50.2% more than risky sexual behavior that is 47.5%. Chi square test results with a value of P.value of (0.013) which means that there is a relationship between the source of information and adolescent sexual behavior in Senapelan District High School Pekanbaru City.

The knowledge variable is known as the results of research that show that more respondents have good knowledge 62.5% and seen from the results of the bivariate test respondents who have good knowledge of good behavior and bad behavior have the same value of 50%.

Chi square calculation with p.value 0.147> 0.005, which means there is no relationship between knowledge and respondent's behavior about sexuality

education in elementary school children in Tampan District, Pekanbaru City.

Based on the results of the answers of respondents who answered correctly, namely about material about the purpose of sexuality education 84.4%, as girls should be able to maintain themselves 93.7%, women and men must be able to respect the opposite sex 87.5%, wet dreams will be experienced by boys 75%, menstruation will be experienced by girls 84.4%, breasts in girls will grow after menstruation 75%, meeting sperm and egg cells will produce embryos (future children) 71.8%, fetus can grows in the womb / content of 93.8%, cleanses genitalia properly to avoid germs and disease 93.8%, washing / cebok can be done by watering and expelling from the front to the back of the vagina 90.6%.

According to Sarwono (2010) that high knowledge about sexuality will make adolescent sexual behavior will be good otherwise if the adolescent's knowledge of low sexuality will lead to unfavorable adolescent sexual behavior.

Correct adolescent knowledge about reproductive health is characterized by the understanding of adolescents about the importance of maintaining reproductive health. This will have an impact on views, feelings, judgments, support for students' tendency towards reproductive health. Good adolescent knowledge about reproductive health, of course, teenagers will always take care of their reproductive organs and care about the importance of reproductive health, such as maintaining reproductive organs so that they are not infected with germs and bacteria, whereas if the teenager does not have good knowledge about reproductive health adolescents to reproductive organs.

Sarwono (2010), high knowledge about sexuality will make adolescent sexual behavior will be good otherwise if the adolescent's knowledge of low sexuality will lead to poor sexual behavior of adolescents.

Knowledge according to Bloom (Notoatmodjo, 2012), is an important thing in forming behavior, including behavior in providing sexuality education. The higher the level of knowledge of a person, the greater the opportunity for someone to behave.

The results of this study are in line with the research conducted by Aini, S (2014) shows that good respondents' knowledge is 56% more than less knowledge 44%, whereas the results of chi-square calculations of respondents who have good knowledge with 70.2% more positive attitude compared with negative attitudes with a value of p.value 0.002 <0.005 which means there is a relationship between knowledge and respondent's attitude about reproductive health.

The attitude variable is known to be the results of research which shows that more respondents have negative attitudes as much as 62.5% compared to 37.5% positive attitudes and bivariate tests. shows that respondents who have a positive attitude with good behavior 70% more than respondents who behave badly that is 30%, while respondents who have a negative attitude with good and bad behavior have the same value of 50%. Chi square calculation with p.value 0.258> 0.005, which means there is a relationship between attitude and respondent's behavior about sexuality education in elementary school children in Tampan District, Pekanbaru City.

Attitude is a predisposition to do or not do certain behaviors, attitude is not only an internal psychological condition that is purely from an individual but more attitude is an awareness process that is individual in nature, meaning that this process occurs subjectively and unique to each individual (Wawan A., Dewi M, 2010).

Attitude is a person's feelings, thoughts and tendencies that are more or less permanent regarding certain aspects of the environment. Attitude is an evaluative bias towards a stimulus or object that has an impact on how someone is dealing with that object. This means that attitudes show agreement or disagreement, likes or dislikes someone towards something (Notoatmodjo, 2012).

The results of this study are not in line with the results of a study conducted by Desrilina (2013) which showed that from the chi square test results obtained p> 0.1 (p = 0.218) there was no significant relationship between adolescent attitudes about sexuality and sexual behavior.
The results of Aini's research, S (2014) show that respondents who have a positive attitude 57% more than respondents who have a negative attitude 43%.

CONCLUSION

Age of respondents in the category> 11 years as much as 87.5%, female sex 56.2%, ever received information sources 53.1%, from teachers 21.9%, good knowledge 62.5%, negative attitudes 62.5% , good behavior 62.5%.

The results of the chi square test revealed that the variables related to the respondent's behavior about sexuality education in elementary school children in Tampan Subdistrict, Pekanbaru City were in the sex variable with p. value 0,000 <0,005, while unrelated variables are age variable with p.value 0,581, information source with p.value 0,784, knowledge with p.value 0,147 and attitude with p.value 0,258.

SUGGESTIONS

It is expected that the Education Office and the Health Office can support the Adolescent Health Program (PKR) by making health promotion on sexuality education and forming a Counseling Information Center on reproductive health in each primary school to increase the knowledge of students and teachers to be able to gain knowledge and insight regarding sexuality education through seminars or training. This research is also expected to be a source of literature for future researchers regarding reproductive

health issues in children, especially regarding sexuality education.

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FACTORS ASSOCIATED WITH LOW BIRTH WEIGHT (LBW): A REVIEW OF ARTICLES

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Abstract:

Introduction: The global prevalence of LBW is 15.5%, which amounts to about 20 million LBW infants born each year. Objective: This study aims to determine and report the results of the review of several articles regarding factors related to LBW (maternal age, parity, ANC visit, gestational age, hypertension in pregnancy, anemia, PROM, multiple births and birth spacing). Methodology: This study is an article review. Search for articles using Pubmed database published since 2013-2018. The keywords used are "low birth weight", "low baby weight", and "risk factors". The articles are indexed by Scopus (Q1 and Q2). Results: The results of the analysis of 11 articles found that mothers aged ≤20 and ≥35 years, gestational age <37 weeks, PROM, mothers with a birth spacing of ≤2 years, hypertension in pregnancy and anemia were associated with LBW. Primiparous mothers were 2.08 times more likely to deliver LBW babies. Mothers with ANC visits ≤5 risk 1.24 times to give birth to LBW babies. Mothers with multiple births are likely to give birth to LBW than a single pregnancy. Conclusion: Maternal age, parity, ANC visit, gestational age, hypertension in pregnancy, anemia, PROM, multiple births and birth spacing are associated with LBW.

Keywords: low birth weight, low baby weight, risk factors

INTRODUCTION

The target of Sustainable Development Goals (SDGs) for neonatal and under-five mortality rates in 2030 is 12 per 1,000 live births in neonates and 25 per 1,000 live births in toddlers (Kementerian Kesehatan RI, 2015). While the results of the Report on the Achievement of the Millennium Development Goals in Indonesia in 2014, the neonatal mortality rate is 19 per 1,000 live births and 40 under 1,000 per 1,000 live births (BAPPENAS, 2015). This shows that the mortality rate in neonatal and under-five children is still far from the SDGs target. More than 80% of neonatal deaths occur in newborns with low birth weight (UNICEF, 2015).

The neonatal mortality rate includes 46% of deaths among children under 5 years of age. The majority of all neonatal deaths (75%) occur during the first week of life and about 1 million newborns die in the first 24 hours. The main causes of newborn deaths are prematurity and low birth weight, infection, asphyxia and birth trauma. This causes 80% of deaths in this age group (WHO, 2017). Low Birth Weight (LBW) causes neonatal death as much as 60-80% of all neonatal deaths. The global prevalence of LBW is 15.5%, which amounts to about 20 million.

LBW infants born each year, 96.5% of them in developing countries (WHO, 2017).

LBW are very complex problems and contribute to various poor health outcomes because they not only cause high rates of morbidity and mortality, but can also cause disability, disruption or inhibit cognitive growth and development, and chronic disease (Khatun & Rahman, 2008).

Factors related to LBW babies consist of maternal, fetal, placental and environmental factors. Maternal factors include maternal age (<20 or> 35 years),

birth interval, previous LBW history, pregnancy complications such as anemia, antepartum hemorrhage, hypertension, bladder infection, sexually transmitted infections. Fetal factors include chromosomal abnormalities, chronic fetal infections (cytomegaly, congenital rubella), fetal distress and multiple births. Placental factors include hydramnios, placenta previa, abruption of the placenta, and premature rupture of membranes. (Proverawati dan Ismawati, 2010).

Based on the explanation above regarding low birth weight (LBW), the researchers want to know more about the factors associated with the incidence of Low Birth Weight (LBW) through the creation of an article review. This study aims to determine and report the results of the review of several articles about factors related to LBW (maternal age, parity, ANC visit, gestational age, hypertension in pregnancy, anemia, PROM, multiple births and birth spacing). Identifying risk factors is one way to prevent the occurrence of LBW so that it can reduce infant mortality and pain.

METHOD

This study is an article review. Literature search was conducted to identify articles that assessed the factors related to the incidence of low birth weight, including maternal age, parity, ANC visit, gestational age, hypertension in pregnancy, anemia, PROM, multiple births and birth spacing. Articles accessed using an electronic database of PubMed. PubMed is a free search engine to search about medicine and biomedical journal literature. The PubMed offers users numerous powerful searche filters to limit their searches and gives them desirable retrieval information (Samadzadeh, et al, 2013). The search for this article was done using three keywords: "low birth weight", "low baby weight" and "risk factors". Researchers use Boolean methods to expand or limit article search. The Boolean method consists of 3 words: AND, OR and NOT. AND to set search limits, OR to expand search and NOT to narrow search (Polit and Beck, 2012). So the researchers did an article search using the Boolean method that is "low birth weight" OR "low baby weight" AND "risk factors".

After selecting articles based on keywords, 14,936 articles were obtained. Then the researcher limited the selection of articles by selecting the full text article, resulting in 8,574 journals. Then the researchers selected the article using the search filter in PubMed, which is an article published in the last 5 years, articles in English and articles that were carried out on human species, resulting in 2,942 articles. Then the researcher selected the article by reading the title and abstract of the article based on the inclusion criteria, namely only taking articles that discussed the factors of maternal age, parity, ANC visit, gestational age, hypertension in pregnancy, anemia, PROM, multiple births and birth spacing. If the article discusses one or more of these factors, the researcher will take the article as a review article. In the process of selecting this article, researchers did not take any type of review articles, meta-analysis articles, systematic reviews, articles on very low birth weight, extremely low birth weight, and articles that did not only focus on LBW cases such as articles that examined two cases at once because researchers want to get articles that only focus on LBW cases, and researchers only took articles indexed by Scopus (Q1 and Q2). From the selection of the article, the final results obtained were 11 articles that according with the selection criteria for analysis.

RESULT
Factors Associated with Low Birth Weight (LBW)

Based on the analysis of 11 articles, it was found that factors were significantly related to the incidence of LBW, there are maternal age (Chen, et al. 2013; Dahlui, et al. 2016; Demelash, et al. 2015; Guillory, et al. 2015; Mahumud, et al. 2017;

Negandhi, et al. 2014; Njim, et al. 2015; Oladeinde, et al. 2015 dan Sharma, et al. 2015), parity (Dahlui, et al. 2016; Guillory, et al. 2015 dan Mahumud, et al. 2017), ANC visit (Dahlui, et al. 2016; Demelash, et al. 2015; Fonseca, et al. 2014; Guillory, et al. 2015; Khan, et al. 2018; Mahumud, et al. 2017; Negandhi, et al. 2014 dan Njim, et al. 2015), gestational age (Chen, et al. 2013; Njim, et al. 2015 dan Oladeinde, et al. 2015), hypertension in pregnancy (Chen, et al. 2013; Guillory, et al. 2015 dan Njim, et al. 2015), anemia (Chen, et al. 2013; Demelash, et al. 2015; Oladeinde, et al. 2015; dan Sharma, et al. 2015), PROM (Chen, et al. 2013), multiple births (Dahlui, et al. 2016) dan birth spacing (Demelash, et al. 2015; Guillory, et al. 2015). Details of the articles analyzed can be seen in appendix Table.1.

DISCUSSION

This article review identifies 11 relevant articles taken from limited sources for the last 5 years that discuss factors related to the incidence of low birth weight (LBW), including:

Maternal Age

The results of the analysis of 11 articles, there are 9 articles which state that maternal age is significantly associated with LBW (Chen, et al. 2013; Dahlui, et al. 2016; Demelash, et al. 2015; Guillory, et al. 2015; Mahumud, et al. 2017; Negandhi, et al. 2014; Njim, et al. 2015; Oladeinde, et al. 2015 dan Sharma, et al. 2015).

The results of the study by Chen, et al (2013) showed that maternal age, both ≤20 years and ≥35 years, became a risk factor for LBW. The results of the study by Dahlui, et al. (2016) also showed that LBW was significantly higher among children whose mothers were aged 15-24 years. Oladeinde, et al. (2015) in his study showed that pregnant women in the 14-18 age group had the greatest risk. Demelash, et al (2015) also showed that mothers who gave birth to babies at the age of <20 years were 3 times more likely to give birth to

LBW babies than mothers aged >20 years. Negandhi, et al. (2014) also shows that maternal age ≤20 years is associated with LBW. Sharma, et al (2015) also showed that young mothers (less than 20 years) were almost twice as likely to deliver LBW babies compared to older mothers. While Njim, et al. (2015) states that maternal age> 36 years has a significant relationship with the incidence of LBW. This is also in line with the results of a study by Mahumud, et al (2017) that women with advanced age (35 to 49 years) have a much greater risk of delivering LBW babies than younger mothers. Based on the results of several of these studies, the majority of studies showed that mothers aged ≤20 years and ≥35 years were at risk of having LBW babies.

Low maternal age has been associated with LBW in previous studies. Adolescent pregnancy is known to be associated with poverty and lack of good education, factors that have also been reported to significantly affect LBW prevalence. The classic pattern in many developing countries is that baby girls born with LBW continue to experience growth failure during childhood and perhaps adolescents, and are more likely to have children at an early age (which further reduces their chances of achieving optimal body size with nutrients enough before conception), and thus give birth to LBW babies (Oladeinde, et al. (2015). When pregnant women are too young, risk factors including incomplete development of organs and tissues can cause a significant increase in LBW incidence (Chen, et al. 2013).

However, as women age, different body functions gradually become less efficient, and the risk of chronic conditions and pregnancy complications increases. Many studies have shown that the incidence of perinatal complications in elderly pregnant women is significantly higher than in younger women. This complication can increase the incidence of LBW (Chen, et al. 2013). Pregnant women

aged ≥ 35 years are more likely to increase the risk of developing pregnancy complications compared to younger women, such as, gestational diabetes, placenta pravia, buttocks presentation, which may be the cause of LBW birth. (Mahumud, et al. 2017). Efforts to prevent early marriage will contribute significantly to reducing the prevalence of low birth weight (Sharma, et al. 2015).

Parity

Of the 11 articles, there were 3 articles which stated that maternal parity was related to LBW events (Dahlui, et al. 2016; Guillory, et al. 2015 dan Mahumud, et al. 2017). Mahumud, et al. (2017) in his study found that primiparous mothers were associated with LBW events. the results of study by Dahlui, et al. (2016) also showed that primiparous mothers 2.08 times the risk of delivering LBW babies than multiparous mothers. Guillory, et al. (2015) also found that mothers without prior birth was associated with LBW.

ANC visit

Of the 11 articles, 8 articles found results that ANC visits during pregnancy were one of the factors related to LBW (Dahlui, et al. 2016; Demelash, et al. 2015; Fonseca, et al. 2014; Guillory, et al. 2015; Khan, et al. 2018; Mahumud, et al. 2017; Negandhi, et al. 2014 dan Njim, et al. 2015).

Study conducted by Dahlui, et al (2016) in Nigeria found that the number of frequencies of ANC visits was related to LBW. According to Dahlui, it is very necessary to improve ANC services in Nigeria. The results of the study by Demelash, et al. (2015) also showed that mothers who do not do ANC during pregnancy give birth three times the risk for LBW babies than women who do ANC. Antenatal visits of pregnant women are very important because they can provide an opportunity to monitor fetal well-being and make it possible to provide timely interventions for feto-maternal

protection including nutritional counseling that may be acceptable to pregnant women. Njim, et al (2015) also found that mothers with ANC visits <4 were at risk of having LBW babies. Mahumud, et al (2017) in their study found that mothers who visited ANC were associated with a decrease in LBW incidence.

Negandhi, et al. (2014) also found that mothers with ANC visits ≤5 had a risk of 1.24 times to deliver LBW babies. This is also in line with the results of Fonseca, et al. (2014) and Guillory, et al. (2015). Khan, et al. (2018) states that mothers who did not receive ANC were 1.40 times more likely to give birth to low-weight babies than mothers who received ANC services. ANC services generally provide regular monitoring of high weight gain, diagnose maternal or fetal problems and thus allow early intervention and nutritional supplementation that can reduce adverse pregnancy outcomes including LBW.

Gestational Age

Of the 11 articles analyzed, there are 3 articles stating that gestational age is associated with LBW events (Chen, et al. 2013; Njim, et al. 2015 and Oladeinde, et al. 2015). Study conducted by Chen, et al. (2013) showed that premature birth is associated with the incidence of LBW and is an important cause of LBW. Njim's research, et al. (2015) also showed that preterm birth was significantly associated with the incidence of LBW. Premature birth is a predictor of LBW because premature babies have not developed enough to reach their target body weight.

Hypertension in pregnancy

Of the analysis of 11 articles, there were 3 articles which found that hypertension in pregnancy was one of the factors related to the incidence of LBW (Chen, et al. 2013; Guillory, et al. 2015 dan Njim, et al. 2015).

The results of research by Chen, et al. (2013) found that one of the factors

related to the incidence of LBW was the presence of gestational hypertension in the mother. Hypertension disorders in pregnancy are also important contributors to LBW. The incidence of LBW among pregnant women with hypertension is found to be 5 times that of other pregnant women. the results of a study by Guillory, et al. (2015) also showed that preeclampsia was associated with the incidence of LBW.

Njim, et al. (2015) also found that hypertensive disorders in pregnancy were significantly associated with LBW events. Hypertension causes insufficient blood flow to the placenta and limits fetal development. If the disease develops further, or if a fetal disorder occurs, the pregnancy must end earlier, and iatrogenic preterm birth increases the incidence of LBW (Chen, et al. 2013).

Anemia

Of the 11 articles, there are 4 articles stating that anemia is a factor that can cause LBW (Chen, et al. 2013; Demelash, et al. 2015; Oladeinde, et al. 2015; dan Sharma, et al. 2015).

The results of study by Chen, et al. (2013) showed that anemia is one of the factors related to LBW incidence. Oladeinde, et al. (2015) showed that maternal anemia prevalence at delivery onset in the study was 33.8Mothers with anemia are identified as risk factors for LBW. Pregnant women with hemoglobin concentrations <11.0 g/dl have a 2.7 times risk of delivering LBW babies. Sharma, et al. (2015) also found that mothers with hemoglobin levels <11gm/dl were at risk of having LBW babies. This occurs because anemia in the mother can limit maternal oxygen uptake, reduce oxygen delivery to the fetus and consequently cause fetal growth restriction. Previous studies have shown that anemic mothers with hemoglobin levels <11gm / dl have a higher chance of having LBW babies.

Premature Rupture of Membranes

Of the 11 articles analyzed, there was 1 article which found that premature rupture of membranes can lead to LBW births (Chen, et al. 2013). The results of study by Chen, et al. (2013) showed that premature rupture of membranes was associated with the incidence of LBW. Premature rupture of membranes can cause intrauterine infection, which eventually leads to LBW.

Multiple Births

Of the 11 articles, there is 1 article stating that multiple births are one of the factors related to the incidence of LBW (Dahlui, et al. 2016). Dahlui, et al. (2016) found that multiple births were associated with LBW. Multiple births has been known as a risk factor for LBW, this is because all aspects related to fetal growth are divided between the two fetuses that affect fetal growth.

Birth Spacing

Of the 11 articles, there is 2 articles which states that birth spacing is related to LBW incidence. (Demelash, et al. 2015; Guillory, et al. 2015). Demelash, et al. (2015) found that mothers with a birth interval of ≤2 years were more at risk of delivering LBW babies than mothers with a birth interval of >2 years. This is due to the fact that the short interval between pregnancies can cause inadequate addition or completeness of maternal nutrition that has been exhausted in previous pregnancies so that it can affect subsequent fetal growth. Guillory, et al. (2015) found that women who had an interconception period of fewer than 18 months had more LBW infants.

Strengths and Weaknesses

The strength of this article review is that all articles reviewed have gone through the process of selecting articles so that we get articles that are appropriate for the purpose of this review article, and this review articles only use articles indexed by Scopus, categories Q1 and Q2. With this

review, we can find out what factors are associated with Low Birth Weight (LBW). Articles reviewed are from several countries so the results may be generalizable.

The weakness of this review is that articles are taken only from articles that use English and only use 1 database, PubMed. Then, in this review article the researchers only take a few topics of the factors that will be analyzed further.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the analysis of 11 articles, it can be concluded that the factors associated with the incidence of LBW are the factors associated with LBW are maternal age ≤20 years and ≥35 years; primiparous mother; ANC visit ≤5; gestational age <37 weeks; hypertension in pregnancy; anemia; premature rupture of membranes; multiple births; and birth spacing ≤2 years. In preventing the occurrence of LBW, it is necessary to monitor early on the risk factors that can cause the mother to give birth to LBW babies. This monitoring can be done through ANC services carried out by health workers. In addition to preventing the occurrence of LBW, BBLR screening tools are needed that can detect and identify any risk factors for LBW births that a mother has since becoming pregnant, because identifying risk factors is one way to prevent LBW so that it can reduce mortality and baby's pain. It is suggested to the next review article researchers to discuss all factors related to LBW incidence from various types of factors.

Competing interests
The authors declare no competing interests. This work was completed as part of the Professional Practice Project 1 (PPP1) project of the University of 'Aisyiyah Yogyakarta, Midwifery Masters Program.

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ANALYSIS OF FACTORS TO KNOW THE REASON OF MOTHER CHOOSING LABOR AT HOME BY BIDAN IN PUBLIC HEALTH CENTER OF JAMBI LUBUK

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Abstract

Childbirth is an important event experienced by a woman. The location where childbirth takes place is one of the factors which influence childbirth woman's psychology. Selecting wrong location and incorrect aides for childbirth will directly affect women's health. The objective of the research was to find out some factors which became the reasons for women in deciding to give birth at home, aided by midwives. The research used an analytic quantitative survey with cross sectional design. The data were analyzed by using factor analysis by reducing 15 variables to four factors which became the reasons for women in deciding to give birth at home, aided by midwives. The population was all women who gave birth at home, aided by midwives, and 60 of them were used as the samples, taken by using quota sampling technique with inclusive and exclusive criteria.The result of the research, from the 15 analyzed variables, showed that only 13 variables which were included in factor analysis at MSA value > 0.5. Of the 13 variables, four factors were established: economic and accessible factor, interpersonal factor, childbirth characteristic and perception factor, and reinforcing factor. The contribution of economic and accessible factor was 53.9%, the contribution of interpersonal factor was 86.6%, the contribution of childbirth characteristics and perception factor was 52.9%, and the contribution of reinforcing factor was 60%. These factors became the reasons for women in deciding to give birth at home, aided by midwives. The conclusion of the research was that economic and accessible factor, interpersonal factor, childbirth characteristic and perception factor, and reinforcing factor became the reasons for women in deciding to give birth at home, aided by midwives in the working. It is recommended that midwives' professionalism in aiding the process of childbirth should be improved so that people are motivated to decide to give birth at health facilites.

Keywords: Factor analysis, giving birht at home, midwives

INTRODUCTION

Childbirth is an important event experienced by a woman who needs to be planned for a place and birth attendant. The selection of the place of delivery and inappropriate birth attendants will have a direct impact on maternal health.

The ideal delivery place is in a health facility, because at any time it requires handling emergency services, the minimum needed facilities available at the puskesmas are able to provide Basic Emergency Obstetric and Neonatal Services (PONED) (RI Ministry of Health, 2014).

Based on Basic Health Research (Riskesdas) in Indonesia in 2013 the coverage of birth attendants by competent health workers reached 87.1% and varied between provinces. Delivery in health facilities and Polindes / Poskesdes was 70.4%, and deliveries at home were 29.6%.

In Riau Province based on the Indonesian Health Profile (2013), the coverage of delivery assistance by health workers reached 94.4% and had reached

the target of the Strategic Plan (Renstra) 89%. However, based on Riskesdas (2013), only around 59.0% of the delivery centers were in health facilities and the Polindes/ Poskesdes, while the remaining 41% chose places of delivery at home.

Based on the health profile of Kuantan Singingi District, delivery assistance by health workers from 2012 to 2014 has increased. Likewise with maternal mortality and infant mortality. In 2012 out of 4814 deliveries there were 9 (0.19%) maternal deaths and 83 (1.72%) infant deaths. In 2013 out of 4805 deliveries there were 4 (0.08%) maternal deaths and 76 (1.58%) infant deaths. Increased in 2014 from 5734 deliveries there were 12 (0.21%) maternal deaths and 87% (1.53%) infant deaths.

Data from the profile of Lubuk Jambi Community Health Center from 2012 to 2014 experienced an increase in maternal mortality and infant mortality, namely from 350 deliveries there were 5 infant deaths and 1 maternal death. Whereas for births at home by midwives there are 255 (72.86%) deliveries.

Interviews with 10 midwives who gave birth at home by the midwife mentioned various interrelated reasons such as reasons for comfort, labor costs, family support, maternal health during pregnancy, labor experience, etc. Because the number of variables is interrelated, it is necessary to analyze the factors to reduce the factors that determine the choice of labor at home by the midwife.

Problem the high number of births at home by midwives is because many factors are interrelated, so it is necessary to group these factors. **Research purposes** to find out the factors that are the reason for the mother in choosing labor at home by the midwife. **Benefits of research** providing input to the Lubuk Jambi Health Center and the Kuantan Singingi District Health Office regarding the factors that are the reason mothers choose to deliver at home by midwives who can be used to compile and implement a Maternal and

Child Health (MCH) program that is more appropriate for changing maternal behavior in maternity health facility.

METHOD

This type of research uses the Cross Sectional Analytical Survey method. The research location in the working area of Lubuk Jambi Health Center consisted of 21 villages. Time of study in January 2014 to March 2015.

The population in the study were all mothers who gave birth at home by midwives from January 2014 to March 2015. The sample was mothers who gave birth at home by midwives in the Lubuk Jambi Health Center area. Quota sampling technique with inclusion and exclusion criteria.

RESULTS AND DISCUSSION
Factor Feasibility Test

The feasibility test was carried out 3 times, and in the third feasibility test there was no value of Anti Image Matrices which was below 0.5, then from the 15 variables there were 2 variables which were excluded from the factors, namely : maternal health decision makers and variables during pregnancy. Factor Analysis (Factor Formation) which is the reason for the mother to choose delivery at home by the midwife. There are several ways that can be used to determine the number of factors formed, namely:

Total Variance Explained
Table 1. Distribution of Total Variance Explained

Component	Number Eigenvalue		
	Total	% Varians	% cumulative
1	3,345	25,727	25,727
2	2,301	17,700	42,427
3	2,143	16,488	59,915
4	1,168	8,984	68,899
5	0,827	6,359	75,258
6	0,698	5,372	80,629
7	0,597	4,591	85,220
8	0,545	4,193	89,414
9	0,450	3,463	92,877

10	0,328	2,522	95,399
11	0,324	2,489	97,888
12	0,158	1,217	99,105
13	0,116	0,895	100,000

In table 1, it can be seen that 4 factors are formed with eigenvalue values in total above 1, but in the 5th factor the eigenvalue number is below 1. Then from 13 variables that fulfilled the analysis requirements, 4 factors were formed as reasons for the midwife's choice of labor.

Component Matrix (Variable grouping into factors)

Tabel 2. Distribution Component Matrix

Variabel	Component			
	1	2	3	4
Age	0,727	-0,158	0,475	0,082
Parity	0,416	-0,042	0,796	0,090
Latest education	-0,715	0,453	0,340	0,145
Family income	-0,774	0,381	0,143	0,205
Knowledge	**-0,395**	**0,490**	**0,362**	**-0,201**
Husband's support	0,272	0,339	-0,310	-0,693
Health workers support	0,349	0,644	-0,013	-0,416
Convenience	0,607	0,480	-0,009	0,178
Cost of delivery	0,549	0,405	-0,095	0,349
Access to health services	-0,228	0,533	0,465	0,083
Trust in midwives	0,672	0,316	0,023	0,243
Afraid of hospital environment	0,017	0,526	-0,466	0,290
Childbirth experience	0,094	-0,144	0,691	-0,305

In table 2 it can be seen that there are several variables, such as knowledge is still unclear, will be included in factors 1, 2, 3 or 4, so it needs to be rotated.

Rotated Component Matrix

Tabel 3. Distribusi *Rotated Component Matrix*

Variabel	Component			
	1	2	3	4
Age	-0,309	0,464	**0,687**	-0,055
Parity	0,099	0,320	**0,829**	-0,133
Latest education	**0,892**	-0,175	-0,098	-0,126
Family income	**0,798**	-0,226	-0,287	-0,190
Knowledge	**0,695**	-0,108	0,101	0,249
Husband's support	-0,100	0,066	-0,128	**0,902**
Health workers support	0,156	0,370	0,041	**0,739**
Convenience	-0,032	**0,759**	0,039	0,230
Cost of delivery	-0,066	**0,763**	-0,077	0,053
Access to health services	**0,705**	0,173	0,172	0,058
Trust in midwives	-0,155	**0,750**	0,116	0,106
Afraid of hospital environment	0,154	0,427	**-0,602**	0,098
Childbirth experience	0,129	-0,154	**0,743**	0,086

In table 3, component matrix seen from 13 variables have been reduced to 4 factors, namely:

1. Factor 1 consisted of the last education (0.892), family income (0.798), knowledge (0.695) and access to health services (0.705).
2. Factor 2 consists of comfort (0.759), labor costs (0.763) and trust in midwives (0.750).
3. Factor 3 consists of age (0.687), parity (0.829), fear of the hospital environment (-0.602), and labor experience (0.743).
4. Factor 4 consists of husband / family support (0.902), health worker support (0.739).

Named factors formed

To find out which factor is the strongest which is the reason for mothers to choose delivery at home by midwives from the 4 factors by looking at the score in the table to 4 of these factors, namely :

1. Factor 1 consists of the latest education, family income, knowledge and access to health services. This factor is called economic factors and access. This factor is the reason for the midwife's choice of delivery at home by 53.9% (less strong).
2. Factor 2 consists of comfort, cost of delivery, and trust in the midwife. This factor is called interpersonal factors. This factor is the reason for the midwife's choice of delivery at home by 86.6% (strong).
3. Factor 3 consists of age, parity, fear of the hospital environment, and labor experience. This factor is called the characteristic factor and the perception of labor. This factor is the reason for the midwife's choice of delivery at home by 52.9% (less strong).
4. Factor 4 consists of husband / family support, support from health workers. This factor is called the support factor. This factor is the reason for the midwife's choice of delivery at home by 60% (strong enough).

Factor I (Economic and Access factors)
Last education

From the analysis, the last educational variable of the mother with a loading factor of 0.892 (strong), this shows a positive correlation between variables in a factor of 1 (one). The lower the mother's education, the more likely the mother chooses labor at home by the midwife.

In line with the research of Widiawati (2008), it shows that the level of education influences awareness of the importance of health, thus encouraging someone to utilize health services.

In the study, most of the mothers with high school education were 25 people (41.7%). Although high-educated mothers (SMA), it does not guarantee to use health care facilities as a place of delivery, this is related to other factors, such as they follow advice or experiences obtained by themselves or from others.

Family income

From the analysis, the family income variable with a loading factor of 0.798 (strong), this shows a positive correlation between variables in a factor of 1 (one). The lower the family's income, the more likely it is that the mother prefers labor at home by the midwife.

In line with Putra's research (2010), it shows that family income influences the use of health services. Increasing family income will increase visits to health facilities. Based on the results of the study, most respondents earn Rp. 2 million to Rp. 3 million, which is 15 people (25%). The income of the community in the work area of Lubuk Jambi Health Center is above the UMR (UMR of Kuantan Singingi Regency Rp. 1,900,000). Even though their income is above the UMR, but it does not guarantee to choose delivery in a health facility, due to other factors, such as the comfort factor, the factor of access to health services is inadequate.

Knowledge

From the analysis, the knowledge variable with a loading factor of 0.695 (strong), this shows a positive correlation between variables in a factor of 1 (one). The higher the mother's knowledge about

childbirth at home, the more likely it is that the mother chooses labor at home by the midwife.

In line with Simanjuntak (2012) research, there is a meaningful relationship between knowledge of mothers and the selection of birth attendants. High-knowledgeed mothers prefer midwives as birth attendants compared to medium-knowledge mothers.

The lack of knowledge of mothers about labor affects the mother choosing to deliver at home by the midwife. Mothers do not know that labor at home is not without risk. Delay in referral can endanger the life of the mother. So the mother needs to know about choosing the right place of delivery and the right birth helper.

Access to health service

From the analysis, the access variable to health services with a loading factor of 0.750 (strong), this shows a positive correlation between variables in a factor of 1 (one). The more difficult access to health services is reached by the community, the more likely it is not to use health care facilities.

In line with the research of Mardela, et al. (2012), that most pregnant women who choose to give birth to health workers prefer midwives to other health workers. According to Retnaningsih (3013), the affordability of the community including the distance of the location of health services, the type and quality of services will influence the selection of health services.

Difficult access to health services will affect the utilization of these health services. Mothers who live far away, with poor road conditions and no means to achieve health services, the midwife's choice of delivery at home is an option that will be taken by the mother.

Factor 2 Interpesonal Factor
Convenience

From the analysis, the comfort variable with a loading factor of 0.759

(strong), this shows a positive correlation between variables in a factor of 2 (two). The more comfortable the mother feels at giving birth at home, the more likely it is that the mother will still choose to deliver at home at the next delivery.

Labor is strongly influenced by the environment and the place where labor takes place. Ideally, every woman who gives birth and a team that supports and facilitates her efforts to give birth, works together in an environment that is the most comfortable and safe for mothers who give birth. (Mubarak, 2012).

The comfort felt by the mother is one of the interpersonal factors because the mother is in a well-known environment and high trust in health services, makes the mother more relaxed and not afraid to face labor so that the mother will choose delivery at home by the midwife compared to the health facility.

Cost of delivery

From the analysis, the variable cost of labor with a loading factor of 0.763 (strong), this shows a positive correlation between variables in a factor of 2 (two). The cheaper the cost of delivery at home by a midwife, the more the mother chooses to give birth at home by the midwife.

In line with the Wardayani (2013) study, the cost factor for labor affects mothers in choosing births at home by midwives. The higher the cost of delivery at a health facility, the mother prefers labor at home by the midwife.

The high cost of labor causes a low number of mothers to give birth in health facilities. The government already has a breakthrough in the form of a Social Security Implementing Agency (BPJS) program, which eliminates the cost of childbirth, but does not make some people choose labor in health facilities. From the statements of several respondents, they did not know about the BPJS program and there were also respondents who already knew, but because the conditions that were considered troublesome and the costs to be paid each month made them feel objected.

Trust in midwives

From the analysis, the variable trust in midwives with a loading factor of 0.750 (strong), this shows a positive correlation between variables in a factor of 2 (two). The greater the trust in the delivery helper, the more likely the mother chooses labor at home by the midwife.

Based on qualitative research by Suryati (2009), about the use of village midwives as birth attendants in terms of the socio-cultural aspects of the community in the work area of the Puskesmas Kutalimbaru that the mother's trust in the village midwife as a delivery helper was quite high. Because they think that giving birth in a midwife is much safer.

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Belief in midwives is one of the interpersonal factors that become the basis of the mother's choice of childbirth at home by the midwife because the mother believes that by being helped by the midwife the mother's birth will be safe. Where midwives are professionals who are professional and have adequate education and knowledge in assisting childbirth.

Factor III (Characteristic Factors and Labor Perception)
Age

From the analysis, the age variable with a loading factor of 0.687 (strong), this shows a positive correlation between variables in a factor of 3 (three). The older a person's age, the more experience he gets, so that it can be a reference in the selection of labor at home by the midwife.

In line with the research of Reley and Susanto (2012) and Manueke, et al (2001), there was a significant relationship between age and choice of place and delivery helper. In addition, according to (Notoatmodjo, 2003), the more a person's age increases, the knowledge of health status will be wider.

Age is related to experience and information obtained. From the results of the study, the majority of respondents aged 24-27 years amounted to 22 people (36.7%) can be said to be quite experienced, so that the more individuals age, the more experience and information obtained and can be a reference in making a choice including in the election place and birth attendant.

Parity

From the analysis, the parity variable with a loading factor of 0.829 (strong), this shows a positive correlation between variables in a factor of 3 (three). The more the number of women giving birth (parity) at home by midwives, the more likely it is for the next birth to still choose delivery at home by the midwife.

In line with the Susenas (2007) study in the Ministry of Health of the Republic of Indonesia (2007), it was shown that in urban areas it was estimated that there was a relationship with the direction of childbirth assistance and the possibility of previous birth assistance experiences and in rural areas with high parity tendencies to use non-health workers to help their labor compared to mothers of low parity.

Parity is related to the experience of giving birth to a previous mother, if the experience of delivery at home before

going smoothly and running normally, then it is likely that the mother will choose labor at the same place. From the results of the study, the highest number of parities was 2, amounting to 25 people (41.7%). This amount can be an experience for mothers in choosing places and birth attendants.

Afraid of hospital environment

From the analysis, the variable is afraid of the hospital environment with a loading factor - 0.602, this shows a negative correlation between variables in a factor of 3 (three). The more scared you are of the hospital environment, the more you will choose another place for delivery.

According to the results of research by Hadibowo and Wardono (2014), the environment is the biggest factor in the healing process in medical facilities, which is 40%. In addition, according to Mubarak (2012), hospitals affect the psychological factors of maternity because of the element of discrimination, although this is also a consequence of his choice. Not a few people think that mother and baby services have been differentiated according to their care class.

In the study, respondents considered hospitals in terms of the state of the hospital atmosphere and medical intervention measures were more likely to be normal and not afraid. However, it does not make mothers who want to give birth to choose a hospital (health facility) as a place of delivery. This can be caused by other factors, such as more comfort felt at home, previous family experience so that the mother still chooses labor at home by the midwife.

Childbirth experience

From the analysis, the variable experience of labor with a loading factor of 0.743 (strong), this shows a positive correlation between variables in a factor of 3 (three). Good experience of previous labor makes it possible to choose the same place and delivery helper.

In line with the research of Widiawati (2008) and Astuti's (2013)

study, previous experience of labor can affect mothers in choosing birth attendants, because through experience negative perceptions can arise about the threat of labor by traditional birth attendants and positive perceptions of the benefits of labor by health workers / midwives.

In this study, the experience of childbirth to the respondent in terms of childbirth experiences at home by midwives who had experienced it themselves and others, as well as the labor process that went well, made the mother prefer delivery at home by the midwife.

Factor 4 (Factor Support)
Husband / Family Support

From the analysis, the husband / family support variable with a loading factor of 0.902 (strong), this shows a positive correlation between variables in a factor of 4 (four). The greater the husband / family's support for the selection of places and birth attendants at home by the midwife, the more confident the mother will be to choose delivery at home.

In line with Fauziah's research, et al. (2013), there was a relationship between husband's support and the choice of place of delivery. According to Sodikin (2009) the role of the husband is very dominant in decision making, so that it affects the access and control of existing resources. Thus pregnant women need to have the courage and confidence to argue to determine the helper and place of birth desired. Husbands who received support from family members tended to choose midwives (health workers) as birth attendants for their wives compared to respondents who did not get support.

In this study, the support of the husband / family of respondents in the work area of Lubuk Jambi Health Center in terms of selecting births at home by midwives and preparing all maternity needs at home, participated and cared, so that mothers felt cared for and made

mothers more stable by choosing labor at home by a midwife.

Health Officer Support

From the analysis, the variable support of health workers with a loading factor of 0.739 (strong), this shows a positive correlation between variables in a factor of 4 (four). The greater the support of health workers, the more confident the mother in choosing labor at home by the midwife.

In line with the research of Rusnawati (2012), it shows that there is a significant relationship between the support of health workers and the choice of place of delivery. According to Carlson and Luanaigh, (2009), the role of midwives in involving providing support to women in preparation for giving birth informs that women hope to be given care and information from people they consider experts. Even though women go to relatives and friends to get all information about pregnancy and birth, this information is considered to be less trusted and less expert than the information provided by health professionals.

The role of health worker support will affect the mother in choosing the place of delivery. Health workers who are considered to be more understanding and aware, so that the mother believes and makes the mother's reference in deciding where to deliver safely.

CONCLUSIONS AND RECOMMENDATIONS
1. After conducting a feasibility test of 3 (three) factors on 15 (fifteen) variables, then there are 13 variables that are feasible to be analyzed further. From these 13 variables, four factors were formed which were the reasons for mothers choosing to deliver at home by midwives in the working area of Lubuk Jambi Health Center, Kuantan Singingi Regency, Riau Province.
2. Economic factors and access consist of recent education, family income, knowledge, and access to health services.
3. Interpersonal factors consisting of comfort, cost of labor, and trust in midwives.
4. Factors of characteristics and perceptions of labor consist of age, parity, fear of hospital environment and labor experience.
5. Factors of support consisting of husband / family support and support from health workers.

RECOMMENDATION

For the health department of Kuantan Singingi District, it is recommended that pushing Puskesmas make a comfortable place of delivery for mothers to give birth and promote the BPJS program so that mothers do not think about the cost of childbirth.

Lubuk Jambi Health Center should encourage midwives to work professionally in accordance with the role and function of midwives in providing midwifery services in the community by mobilizing all deliveries in health facilities by increasing support from health workers and fostering high trust in midwives by providing more service to mothers.

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COMPARISON OF THE PATIENT'S SAFETY CHAMPION ROLE AT THE GOVERNMENT HOSPITAL AND PRIVATE HOSPITAL IN PEKANBARU

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Abstract
The excellent patient's safety culture can minimize the incident according to the patient's safety. It was found many data which shouldn't exist because in the hospital had patient's safety champion which were the activator in the patient's safety operational. The purpose of this research was to determine comparison of the patient's safety champion role in practicing the patient's safety culture at the government and private hospital in Pekanbaru. The sample in the research was champion role in the government and private hospital in Pekanbaru. The research method was correlation analysis by the cross sectional, and analyzed by chi square. The result showed that p-value 0,012. It means existing the significant relationship between the patient's safety champion role at the government and private hospital.

Keywords : Role, champion, patient's safety

INTRODUCTION

Data from National Patient Safety Agency, said from the period of April – September 2012 in London England on the specialist acute medical was happened the unwanted incident as many as 56,1%. The incident percentage appeared the light loss as many as 34.3%, medium loss as many as 21,1%, heavy loss as many as 0,5% and fatality as many as 0,2%. The patient's safety culture is foundation in patient's safety application efoort which is the primary priority in giving the health service (Disch, Dreher, Davidson, SInioris, & wainio, 2011; NPSA, 2009). The excellent patient's safety foundation will increase the health service quality especially the nurse education.

Effort which was operated in Indonesia was existence on one of the guide which could be operated by the nurse based on PERMENKESN0.1691/MENKES/PE/VIII/2011 about the hospital patient's safety (DEPKES RI, 2011). This reference was realizing the patient's safety purpose and ensuring to go on the proactive program to identify the patient's safety risk and program pressing or reducing the incident. The effective strategic about the patient's safety culture was much needed so that the patient's safety operational at the hospital can be well realized. The patient's safety team forming was the effective strategic step in making the patient's safety culture at the hospital (Depkes, 2008).

Forming and empowerment of the patient's safety team was poured out in seven steps to the patient's safety which is applied on the medical service (Depkes, 2008). The mover empowerment (Champion) is explained on the second step is the hospital leads and support the staff with building the commitment and focusing strongly about the patient's safety at the hospital. This step requires the hospital to identify in every parts, the people who can be reliable to be the mover or champion in the patient's safety move. The champion will lead the patient's safety move in the each unit. (Marquis & Huston. 2010).

The research which was operated by Soo (2010), the champion role is more to come the benefit for the safety operation who roles as the program mover which has been designed and champion as the important successful for the patient's safety change. On the Zavalkoff, Korah & Quach (2015), said that the patient's safety champion present can ensure and increase the nurse's performance and team member to operate the safety program, and if there is no patient's safety champion so it is found the nurse's and patient's safety team member performance reduction. In this health guide according to DEPKES (2011) said that the mover or champion was the people which could be used and could monitor the incident about the safety at the hospital. In every hospital unit should have champion, champion is related to the nurse.

The nurse also roles to be the patient's safety champion applied at each hospital in Indonesia or Pekanbaru, Especially type B hospital based on the government or private hospitals. From the early survey outcome which was operated, found 2 government hospitals based on the Accreditation, they were general hospital of Arifin A and general hospital of B, whereas the private hospital based on the Accreditation existed 2 hospitals, they were 1 and 2. The early survey was also found the data on one of the hospital with the not expected accident; they were found the fault in giving the medical, such as dosage, type and time in giving the medicine about 2 accidents in 2014, falling patient's rate in 2013 about 8 accidents, in 2014 about 13 accidents, in 2015 (January – Agust) about 5 accidents. Case which was reported according to the not expected accident reporting was the case which lets the patients cared three reporting times, the patient's case which passed out because the operation once of the reporting, this data gives the description existing the patient's safety problem at the hospital which need to be the notification for the not expected accident at the hospital with

the value of Zerro defect (Incidence degree of 0%) (Data from the hospital X patient's safety). However it must need to exist the other effort to increase the more structured service quality, it was by the patient's safety champion present. Besides that it was found HAIs incident rate (ISK, AIDP, VAP) about 15,07%, the infection rate for pre operation (ILO) in period of January – June 2015 as many as 0,95%. The phlebitis rate 5,81%, sepsis rate 1,15% HAP 0,525% and decubitus 0,92% (Hospital X PPI data). Besides that also operated the interview with the patient's safety team at one government hospital and private hospital and one of the champion on the team on January 14th of 2017 stated that showed the patient's safety champion for each units, including to Doctor, Nurse and administration based on the first director letter and explained the each place. But evaluation according to the champion performance is not done yet. From the data can be seen that it is found the data shouldn't exist because at the hospital had the patient's safety champion which was the mover in the patient's safety operational. And two hospitals which were taken on the early data the different wisdom, place and facility. But the patient's safety culture didn't go on maximally. Purpose of the study was Role comparison the patient's safety champion on the patient's safety culture application at the government and private hospital in Pekanbaru.

It is expected that authors will submit carefully written and proofread materials. Careful checking for spelling and grammatical errors should be performed. The number of pages of the paper should be from maximum in 5-10 pages.

Papers should clearly describe the background of the subject, the authors work, including the methods used, results and concluding discussion on the importance of the work. Papers are to be prepared in English and SI units must be used. Technical terms should be explained

unless they may be considered to be known to the conference community.

METHOD

This research used the quantitative research type in the research used the comparative research. Population in the research was all nurses who became a nurse at the general hospital of A,B , l, 2. The sample was the the object which was researched which was each of amount which represented the population (Notoatdmojo, 2010; Sugiyono, 2011). The sample taking on the research used sampling total, they were all sample with viewing the criteria. The sample criteria were including to the inclusion and exclusion criteria, where the criteria showed able and unable the sample used (Hidayat, 2007). Inclusion criteria: disposed to be a respondent and exclusion criteria: the champion nurse in vocation. The research place was the government and private hospital. And the planed research time for the research operation was on 2018. The used data collection equipment in the research was questioner. The research instrument was according to 4 parts, they were A, B and C. the used data analysis was univariate and bivariate (chi-square).

RESULT

Univariate analysis

In this research, the used sample taking technique was all population amount become the sample of 184. It was found the outcome and data was presented in the frequency distribution table as:

Age

Table.1 Frequency Distribution Respondent based on the age

No	Age	F	%
1	<25	9	5%
2	26 – 35	124	67%
3	36 – 45	51	28%
	Total	184	100%

Based on table 1Above is known that the respondent characteristic frequency distribution according to the

most age is in the time of 26-35 years with 124 people (67%)

Gender

Table 2 Frequency distribution Respondent based on the Gender

No	Gender	F	%
1	Male	55	30%
2	Female	129	70%
	Total	184	100%

Based on the table 2 can be seen from 184 respondents were found the gender data of the male as many as 55 people (30%) and female as many as 128 people (70%).

Education

Table 3 Frequency distribution Respondent based on the education

No	Education	F	%
1	Diploma	136	74%
2	Bachelor	48	26%
	Total	184	100%

Based on the table 3 is known that the respondent characteristic frequency distribution according to the Diploma education as many as 136 people (74%), bachelor education as many as 48 people (26%).

Working period

Table 5 Frequency retribution Respondent based on the working period

No	Working Period	F	%
1	<5 Years	85	46%
2	>5 Years	99	54%
	Total	184	100%

Based on the table 5 is known that the respondent characteristic frequency distribution according to the working period of <5 years as many as 85 people (46%) and >5 years as many as 99 people (54%).

Especial data

The patient's safety champion role at the government hospital

Based on the table 6 above is known that the patient's safety champion role at the government hospital as many as 56%

with the well role. Role as the knowledge disseminator, well role champion as many as 52%, role as the champion support with the well role as many as 46%, role as the relationship builder with the well champion as many as 49%, role as the champion referrer as many as 59%, and role as the facilitator champion with the well role as many as 61%.

Table 6 Frequency distribution of the patient's safety champion role at the government hospital

Category variable	F	%
Patient's safety champion role		
• Unwell	40	44
• Well	52	56
Category sub variable	F	%
Knowledge Disseminator		
• Unwell	44	48
• Well	48	52
Support		
• Unwell	50	54
• Well	42	46
Relationship builder		
• Unwell	47	51
• Well	45	49
Referrer		
• Unwell	93	41
• Well	73	59
Facilitator		
• Unwell	36	39
• Well	56	61

The patient's safety champion role at the private hospital

Table 7 The patient's safety champion role at the private hospital

Category Variable	F	%
Patient's safety champion role		
• Unwell	33	36
• Well	59	64
Category sub category	F	%
Knowledge Disseminator		
• Unwell	32	35
• Well	60	65
Support		
• Unwell	33	36
• Well	59	64
Relationship builder		
• Unwell	38	41
• Well	54	59
Referrer		
• Unwell	27	30
• Well	65	70
Facilitator		
• Unwell	25	27
• Well	67	73

Based on the table 7 is known that the patient's safety champion role at the private hospital as many as 64% with the well role. Role as the knowledge disseminator, champion with the well role as many as 65%, role as the champion support with the well role as many as 64%, role as the champion relationship builder with the well role as many as 59%, role as the champion referrer with the well role as many as 70%, and the role as the champion facilitator with the well role as many as 73%.

Bivariate analysis

Table 8 comparison of the patient's safety champion role at the government hospital and private hospital in Pekanbaru

Champion role	N	Mean	P Value
Government hospital	92	54,67	0,012
Private hospital	92	62,68	

Source: Secondary data in 2018

Based on the table 8 is known that from 92 nurses at the government hospital have the well champion role as many as 54,67, whereas from 92 nurses at the private hospital have the well champion role as many as 62,68. Based on the statistic test outcome is found P value as many as 0,012   P<α (0,05), so Ho is rejected with meaning the significant difference between the patient's safety champion role at the government and private hospital.

DISCUSSION
Patient's safety champion role at the government hospital

Based on the table 6 is known that the patient's safety champion role at the government hospital as many as 56% with well role. Role as the knowledge disseminator, champion with the well role as many as 52%, role as the champion support with the well role as many as 46%,

role as the champion relationship referrer with the well role 49%, role as the champion referrer with the well role as many as 59%, and role as the champion facilitator with the well role as many as 61%. The champion role at the inpatient room of the government hospital in Pekanbaru 56% (52 nurses) with the well role, and 40% (44 nurses) with the unwell role. According to the researcher, the safety champion role was almost for a half nurses who stated that the unwell role champion can be caused, the patient's safety champion at the hospital of the research place was shown from the head of room and 2 operational nurses in every room. The shown champion from each unit can increase more the program affordability to the little unit. But the head of room showing as champion increases the head of room's assessment which was overload however the role as the patient's safety champion become not optimal.

It shows that almost a half champion at the inpatient room cannot role in its job yet. And can also influent the care in doing the patient's safety program. Champion is defined as a person or individual who supports the innovation and reaches hopefully from the job and begun the implementation from the innovation on the health service structure (Soo, 2010). The operated research Soo (2010) stated champion as the important successful factor for the patient's safety changing. The study which is operated by Ash, Zoe, Richard & Lara (2003) champion is one of the seven key categories in the changing application implementation process in organization.

Patient's safety champion role relates positively and weakly by the application of the patient's safety culture. It shows that the champion role is well applied so it will increase the operational nurse's attitude in applying the patient's safety cultre. (Hellings, et al., 2010). It answers that obstacle which is faced in applying the patient's safety culture. Leape in Buerhaus (2004) who stated that one of

the most important obstacle in operating the patient's safety program was lack of the leader's commitment. The research gives the description that the champion role has been operated but it cannot change the patient's safety culture on the operational nurse. IOM in Canadian Nurse Association (2004) stated that the nurse's action in the patient's safety area would be influenced by the nurse's environment. Champion role in increasing the patient's safety also has become the fifth standard in the patient's safety of Indonesia Hospital (Reis, 2006).

The patient's safety culture application is not detached from the building capacity building. The effective small group forming in increasing the patient's safety culture capacity building and able to present the well environment in learning process (Fleming, 2005). The patient's safety champion at the hospital of the research place is showed from the head of room and 2 operational nurses in every room. Champion which is showed from each unit can increase more the program affordability to the smallest unit. But showing the head of room as champion increases the head of room's workload which was overload however role as patient's safety champion became not optimal. Head of room as manager at the inpatient room has the complex role, head of room besides responds in the nursing service management but also responds in the nursing education management (Gillies, 1996). Patient's safety champion showing from head of room would cause increasing the workload for head of room. Based on the observation when researching, the ineffective thing in the patient's safety program operational. Patient's safety champion had the owned role and function with not little workload (Soo, 2010). It caused the head of room's focus became denied which caused the role as champion and difficult to operate well.

Some hospitals in Toronto showed champion based on the curtained criteria.

The criteria based on the experience, ability to lead and become role model and then knowledge about that patient's safety. Usually, patient's safety champion is showed from the experience senior nurse and in the supervisor level (Soo, 2010). The research place hospital didn't establish the special criteria about patient's safety champion showing. It caused difficult to value who must be the patient's safety champion at that hospital.The briefing method didn't accord so could give the contribution through the patient's safety culture application weakness. The patient's safety team is according to permanent member and champion (mover). The condition is not effective because the patient's safety member control range is wider. The big control range would cause the given briefing was not effective (Hasibuan, 2008). The hospital also didn't establish the patient's safety champion empowerment program especially. The patient's safety champion empowerment program determination was not operated yet. The patient's safety champion empowerment program determination would guarantee the program operational (Ilyas, 2004). The culture forming is not easy and quick one thing. Culture is the permanent characteristic which can be seen from the outside organization whichi is exampled from the individual behavior in the organization (Elbeyi, et al., 2011; Hellings, et al., 2010). Program affectivity would also be seen if operated in a year or more (Ali & Panther, 2008).

Patient's safety champion role at the private hospital

Based on the table 7 above is known that the patient's safety champion role at the private hospital as many as 64% with the well role. Role as the knowledge disseminator, champion with the well role as many as 65%, role as champion support with the well role as many as 64%, role as the champion relationship builder with the well role as many as 59%, role as the champion referrer with the well role as

many as 70%, and role as the champion facilitator with the well role as many as 73%. The champion role in the inpatient room of the government hospital in Pekanbaru 64% (59 nurses) with the well role, and 36% (33 nurses) with the unwell role. According to the research, the safety champion role is almost a half nurse who stated that champion with the well roel could be caused, champion with the role in its job, and it could also influence the nurse in doing the patient's safety program. Champion is a person or individual who supported the innovation and exceeded hopefully from the job and started the implementation from the innovation in the health service structure (S00, 2010). The research which was operated by Soo (2010) stated Champion as the important successful factor for the patient's safety changing. The study which was operated by Ash, Zoe, Richard & Lara (2003) Champion was one of the seven categories in changing application implementation process in organization.

Based on the above research, according to the champion role researcher as the knowledge disseminator according to the nurse's perception is not fully well and it is still found with the unwell role as many as 35%, still existing champion which gives the education and then the motivation about the safety program to the operational nurse. It could be caused by the workload from the big champion, and then champion was chosen at the hospital not based on a champion's criteria. Seen from the champion role as support, according to the patient's safety champion role as the support more than a half well role. It could be caused to exist the training g about the patient's safety champion empowerment at the hospital so that the champion knew and understood the job and responsibility more. The champion role as the relationship builder, according to the champion role researcher as the relationship builder showed that it still existed the champion with unwell role, more for cooperating with the sub

education and internal training. It could be caused the champion's workload, besides that it is also the understanding about the lack job. Champion role as referrer, according to the patient's safety champion role researcher as the referrer with the well role because the nurse operated monitoring program

The champion's role as facilitator according to the researcher is the patient's safety champion role as the facilitator which went o9n well but still existed champion which didn't operate the writing, incident report job and developing the solution. It could be caused a little accident report because the nurse is afraid in fault. The patient's safety champion role relates positively and weakly with the patient's safety culture application. It was the champion's role which was well applied so it will increase the operational nurse's attitude in applying the patient's safety culture (Hellings, *et al.,* 2010). It answered the obstacle faced in the patient's safety culture application. Leape dalam Buerhaus (2004) who stated that one most important obstacle in operating the patient's safety program was lack commitment from the leader. IOM in Canadian Nurse Association (2004) stated that the nurse's action in the patient's safety area would be influenced by the nurse's working environment. The champion's role in increasing the patient's safety also became the fifth standard in the patient's safety standard of Indonesia hospital (Reis, 2006).

CONCLUSION
1. Patient's safety champion role at the government hospital is well role
2. Patient's safety champion role at the private hospital is well role.
3. Existing the significant relationship between the patient's safety champion role at the government and private hospital.

SUGGESTION

1. Becoming the patient's safety as the reference which must be developed in the nursing high education curriculum for the competence domination which can form the intellectual, psychomotor, managerial and social ability.
2. Developing some methods to increase and apply the patient's safety culture.
3. Participating in developing the patient's safety according to the cooperation and service institution in forming the champion empowerment which refers to the research and arranging the champion's performance and criteria standard.

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EFFECT OF 1.25 DIHYDROXY VITAMIN D ON BLOOD GLUCOSE LEVELS DURING PREGNANCY IN WHITE RATS (RATTUS NOVERGICUS)

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Abstract

Gestational Diabetes Mellitus (DMG) is still a health problem in the world, including in Indonesia because it affects complications for the health of the mother and fetus. Vitamin D deficiency is one of the factors causing gestational diabetes mellitus in Indonesia. This study aims to determine the effect of giving 1.25 Hydroxy vitamin D to blood glucose levels during pregnancy in white rats (Rattus norvegitus). This experimental study with pre and post test control group design was carried out in two groups of rats, each of 5 animals. Giving 0.18 mg / kg BB 1.25 dihydroxy vitamin D is carried out for 18 days starting from the first day of pregnancy through the sonde. Blood for measuring blood glucose levels is taken from the lateral vein in the rat's tail. Blood glucose levels were measured using Accu Check. Data analysis using t test with a significant value in this study is p = 0.05. The results showed a significant decrease in blood glucose levels after administration of 1.25 dihydroxy vitamin D, ie before 102 ± 1 mg / dl and after 94 ± 5 mg / dl (p <0.05). The results also showed that there were significant differences between the treatment and control groups after administration of 1.25 dihydroxy vitamin D, namely 94 ± 5 mg / dl in the treatment group and 102 ± 3 mg / dl in the control group (p <0.05). The conclusion of this study is that giving 1.25 dihydroxy vitamin D can reduce blood glucose levels during pregnancy. Suggestions need to be carried out further research in humans whether there is an effect of giving 1.25 dihydroxy vitamin D during pregnancy to blood glucose levels.

***Keywords : 1,25 Dihydroxy vitamin D**, blood glucose levels*

INTRODUCTION

Gestational Diabetes Mellitus (DMG) is a disorder of carbohydrate tolerance that occurs or is known for the first time during pregnancy (PERKENI, 2002). This situation usually occurs at 24 weeks of gestational age and a portion of the patient's blood glucose levels will return to normal after giving birth (Ministry of Health, 2008). However, at almost half the rate, diabetes will reappear.

Hormonal changes and metabolism during pregnancy cause the pregnancy to be diabetogenic, in which DMG tends to be more severe during pregnancy and will facilitate the occurrence of various complications. According to David, et., Al (2010), that DMG mothers approximately 1.7% can cause perinatal mortality, 4.3% deliver children surgically, 7.3% give birth to children whose birth weight is more than 4.5 kg and 23.5% can cause cases of shoulder dystocia during labor.

The incidence of DMG in Indonesia is around 1.9-3.6% and 40-60% of women who have experienced DMG in post-natal follow-up will have diabetes mellitus or impaired glucose tolerance. Screening can be done by post prandial (pp) and 2 hour blood glucose checks. If the results cannot confirm the diagnosis of DMG, it can be followed by an oral glucose tolerance test.

DMG is enforced when the blood glucose level exceeds 200 mg%. If you get a value below 100 mg%, it means not DMG and if the value is between 100-200 mg% DMG is uncertain.

Based on the research of Osgood., Et al., (2011), DMG is a public health problem because this disease has a direct impact on maternal and fetal health. The impact caused by mothers of DMG patients is that women are at high risk of excessive weight gain, the occurrence of preeclampsia, eclampsia, cesarean section, and cardiovascular complications until maternal death. After childbirth occurs, the patient is at risk of continuing to develop type 2 diabetes or a recurring DMG in the future. Babies born to mothers who have DMG are at high risk for macrosomia, birth trauma. In addition, babies are at high risk for hypoglycemia, hypocalcemia, hyperbilirubinemia, respiratory syndrome, polycythemia, obesity and type 2 diabetes mellitus.

According to Nurrahmani (2012), if in pregnancy the mother's blood sugar level is high, glucose will cross the placenta into the baby's circulation and cause the baby to become fat. This happens because the baby's pancreas produces insulin even if the mother's pancreas does not. Insulin will then convert glucose into fat. As a result, the baby will grow bigger and the excess glucose can inhibit the process of cell formation so that the baby can experience disability to the risk of death.

According to Bustan (2007), the risk factors for DMG are age, genetics, smoking habits, or exercise, gender and age, anatomy or constitution, physical, chemical, biological, psychological, socio-cultural, and behavioral and nutritional conditions.

According to Maysa. A and Richard J.Wood (2013) in their study stated that the risk factor for DMG in pregnancy is impaired glucose tolerance due to lack of vitamin D. Directly or not, vitamin D affects pancreatic β cell function and

insulin secretion Vitamin D is also needed to ensure normal levels of calcium in cell membranes that are important for insulin.

Based on research conducted by Zhang, et al., (2015) showed a consistent relationship between vitamin D deficiency and an increased risk of DMG. The results of the meta-analysis of 20 studies including 9209 participants showed that women with vitamin D deficiency had a significantly increased risk for DMG. The role of vitamin D in DMG, first: 1,25 dihydroxy vitamin D is the active form of vitamin D, regulates circulating glucose levels by binding to vitamin D receptors from pancreatic cells β and modulates insulin secretion. Second, 1,25 (OH) 2D3 improves insulin sensitivity by stimulating the expression of insulin receptors and increasing insulin response to glucose transport. Then, 1,25 (OH) 2D3 regulates the balance between extracellular and intracellular calcium flux in cells, which is important for mediating intracellular processes of responsive insulin tissue.

Furthermore, the experimental data also states that adequate vitamin D is very important for fetal development, and especially for fetal brain development and immunological functions. Vitamin D deficiency during pregnancy can not only damage the mother's bones and fetal bone formation but is also important for the expression of several genes during pregnancy, and the health of the fetus later on. Although the physiological evidence of involvement between DMG and the causal relationship of vitamin D is unclear. Assessment of vitamin D status in a large cohort with DMG, both pre-pregnancy and during pregnancy is required. Also, vitamin D supplements in randomized clinical trials to assess certain outcomes of pregnancy and the mother as a whole and fetal health are very important.

Vitamin D deficiency has been widely discussed as a world health problem that not only affects musculoskeletal health but also the problem of acute and chronic diseases.

Indonesia is a tropical country that is exposed to the sun all year round. Women of childbearing age need to get attention because they are vulnerable to nutritional problems due to the physiological role of childbirth and menstruation. In addition, women are rarely exposed to sunlight. This is related to lifestyles that tend to avoid the sun, use sunscreen, intake of low vitamin D-rich foods.

Based on research conducted by Isa Rosalia Ruslim on the correlation between vitamin D intake and sun exposure score with serum calcidiol levels in first trimester pregnant women in Jakarta with a cross-sectional study method with samples of healthy pregnant women aged 20-35 years in the first trimester their pregnancy with the results of the study of all pregnant women having low vitamin D status (39.26 ± 10.25 nmol / mL) of less than 80 nmol / L.

Vitamin D needs increase in pregnancy, vitamin D is needed to ensure that maternal and fetal calcium needs are met. In early pregnancy, basal insulin levels are fixed or slightly decreased. After the middle of the second trimester of pregnancy, the placenta begins to function and secretes antagonistic hormones against insulin, followed by insulin resistance so that insulin requirements increase. At the end of pregnancy there will be an increase in stress hormones, besides that there is also an increase in the hormone prolactin, so that this condition will cause the weight of hyperglycemia to increase so that the need for insulin increases.

Indonesia is a country that has a tropical climate, which has sufficient sunlight but there is still an occurrence of vitamin D deficiency especially during pregnancy, as well as the very limited number of studies regarding the effect of 1.25 dihydroxy vitamin D levels on blood glucose levels during pregnancy.

METHOD

This type of research is experimental using the pre and post test control group research design, namely the design used to measure the treatment in the experimental group by comparing treatment with the control group. The research was carried out in the Pharmacy laboratory of STIKES Ranah Minang Padang. The population of this study were female white rats (Rattus novergicus) obtained from the animal rearing unit of the laboratory of STIKES Ranah Minang Padang. Samples were obtained by simple random sampling because samples were taken from Rattus novergicus rats which had met the inclusion and exclusion criteria so that they were considered homogeneous. Data normality test with Shapiro Wilks, continued with analyzing using paired T-test (normal data) for each group. To compare the control and treatment groups, the Independent T-test was used. With significance p p 0.05 ($\alpha = 95\%$).

RESULT

Research has been conducted on the effect of 1,25 dihydroxy vitamin D on blood glucose levels during pregnancy in white rats (rattus novergicus), with a sample of 10 white rats (rattus novergicus). Each group consisted of 5 white rats (rattus novergicus) given 1.25 dihydroxy vitamin D and 5 white rats (rattus novergicus) not given 1.25 dihydroxy vitamin D until the 18th day of pregnancy.

Data normality test

In this study the normality test used is the normality test of Shapiro Wilks performed on blood glucose, the results of normality of the data can be seen in the following table:

Table 1 Normality Test of Blood Glucose Levels in White Mice (Rattus Novergicus)

Group	n	Blood Glucose Level (mg/dl) Mean ± SD	p
Treatment:			
Before	5	102.00±1.00	0.814
After	5	94.00±5.00	0.686
Control:			
Before	5	104.00±2.00	0.377
After	5	101.00±3.00	0.501

Based on table 5.1, it can be seen that the results of the normality test of blood glucose levels obtained p> 0.05, which means that the data are normally distributed. Then statistical analysis was continued by paired simple t test to see the effect of 1,25 dihydroxy vitamin D on blood glucose levels in white rats (rattus novergicus). Whereas to see the difference in blood glucose levels between treatment and control, Independent sample t test was used.

Blood Glucose Level Before and After Treatment

Based on table 5.2, it is seen that the average blood glucose level after 94.00 ± 5.00 mg / dl was lower than before that was 102.00 ± 1.14 mg / dl in the treatment group. The results of paired t statistic test obtained p = 0.02 means at p <0.05. It can be concluded that there were significant differences in blood glucose levels in the treatment group after and before 1.25 administration of Vitamin D hydroxy while the first and second examinations of the group control there were no significant differences in glucose levels (p> 0.05). To see the difference in blood glucose levels between treatment and control continued with an independent test sample t test.

Tabel 2 Blood glucose Level before and after treatment

Group	n	Blood Glucose Level (mg/dl) Mean ± SD	P
After:			
Treatment	5	94.40±5.41	0.03
Control	5	101.60±2.88	

Differences in blood glucose levels between treatment and control after administration of 1.25 dihydroxy vitamin D

Table 3 Differences in blood glucose levels between treated and control rats after administration of 1.25 dihydroxy vitamin D

Group	Blood Glucose Level (mg/dl)		p value
	Before Mean±SD	After Mean±SD	
Treatment	102.00±1,14	94.00±5.00	0,02
Control	104.00±1,79	101.00±3.00	0,09
Group	**Blood Glucose Level (mg/dl)**		p value
	Before Mean±SD	After Mean±SD	
Treatment	102.00±1,14	94.00±5.00	0,02
Control	104.00±1,79	101.00±3.00	0,09

Based on Table 5.3, the average blood glucose level after 94.40 ± 5.41 mg / dl in the treatment group was lower than the blood glucose level after 101.60 ± 2.88 mg / dl in the control group. The statistical test results of the independent sample t test obtained a value of p = 0.03 means at p <0.05. It can be concluded that there is a significant difference in blood glucose levels between treatment and control

DISCUSSION
Effect of 1.25 Hydroxy Vitamin D on Blood Glucose Levels during Pregnancy in White Mice (Rattus novergicus)

Based on the results of the study showed that by giving 1.25 dihydroxy vitamin D during pregnancy in white rats (Rattus novergicus) there was a decrease in blood glucose levels that were statistically significant but not clinically. This can happen due to the number of samples in the study and the blood glucose level of the sample in the normal range, which is 50-135 mg /dl.

One function of 1,25 is dihydroxy vitamin D in maintaining adequate plasma calcium levels. This function is done by increasing calcium intake by the intestine, minimizing calcium loss by the kidneys, stimulating bone resorption when needed.

Calcium functions to reduce blood glucose levels by consuming glucose produced by the glycogenolysis process so that blood glucose levels drop. In glycogenolysis the ability of Ca2 + ions to regulate phosphorylase kinases is through the function of one of the subunits of this enzyme. One of the subunits of this enzyme is calmodulin protein. Calmodulin is a calcium binding protein, inducing

conformational changes in calmodulin which in turn increases the catalytic activity of phosphorylase kinase against phosphorylase-b. This is very important for the increase of glycogenolysis in muscle cells where muscle contraction is induced through stimulation of acetylcholine at the neuromuscular junction.

During pregnancy there is a change in the homeostatic mechanism in serum calcium metabolism. During pregnancy calcium levels have decreased significantly. This is the result of the transfer of calcium from the maternal circulation to the fetus to meet metabolic and fetal growth needs. During pregnancy there are also metabolic and endocrine changes, especially in carbohydrate metabolism which is one source of energy. This change ensures that there is a glucose supply that is continuously transferred to the fetus which functions to grow and develop, as a result energy requirements increase during pregnancy.

The results of this study are supported by the results of a study from Santos S, et al (2005) conducted on wistar rats given 12.5 μg / kg of cholecalciferol supplementation every day for two weeks. From the results of the study, there was a decrease in blood glucose levels in mice consuming cholecalciferol. The conclusions in this study confirm the action of cholecalciferol on blood glucose levels, which might represent a new possibility for the treatment of diabetes in the future. The presence of pancreatic vitamin D receptors and insulin induction is secreted by 1,25 (OH) 2D3. In addition, the presence of data showing that chronic insulin deficiency is associated with a decrease in activity of 1α (OH) ase and an increase in insulin levels due to the acceleration of proinsulin conversion to insulin and the normalization of cell activity h. Similarly, it is known that the polymorphism of the VDR receptor gene may play a role in the pathogenesis of type 2 diabetes by affecting cell secretory

capacity h. Based on these results the researchers analyzed that differences in the types of rats did not affect the results of the research obtained, namely the decrease in glucose levels after administration of vitamin D3.

The same study conducted by Reichetzeder, et al (2014) conducted a prospective observational study that analyzed the relationship of 25OHD deficiency in mice given and not given 25OHD during pregnancy. The results show that 25OHD deficiency in pregnancy is causally related to adverse pregnancy outcomes. Because birth weight and prematurity are associated with adverse cardiovascular outcomes in the future, this study emphasizes the need for new monitoring and treatment guidelines about vitamin D deficiency during pregnancy. 25OHD-deficient mice grow more slowly after birth, have impaired glucose tolerance shortly after birth and increase mortality during follow-up.

Different research by Calle. C, et al (2013) found that there were an increase in glucose levels (121 ± 9-131 ± 3) in the non-diabetic sample group given 150 IU / Kg for 15 days. There are several factors that influence the results of the first study of vitamin D3 levels given which is 150 IU / kg in 15 days, and the sample in this study is male non diabetic wistar rats. while my research sample is pregnant non diabetic mice. The researcher assumes that during pregnancy there are hormonal and metabolic changes that cause the pregnancy to be diabetogenic. In pregnancy, the placenta begins to function and secretes antagonistic hormones against insulin, followed by insulin resistance so that insulin requirements increase. At the end of pregnancy there will be an increase in stress hormones, besides that there is an increase in the hormone prolactin, so that this condition will cause the weight of hyperglycemia to increase so that the need for insulin increases.

CONCLUSION

1. Knowing blood glucose levels before and after administration of 1.25 dihydroxy vitamin D during pregnancy in white rats (Rattus novergicus)
2. There is an effect of 1,25 dihydroxy vitamin D on blood glucose levels after and before treatment during pregnancy in white mice (Rattus novergicus).
3. There are significant differences in blood glucose levels between the treatment and control groups after administration of 1.25 dihydroxy vitamin D during pregnancy in white mice (Rattus novergicus).

ACKNOWLEDGMENT

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CHILD BIRTH WEIGHT BASED ON CHARACTERISTICS OF HOUSEHOLD AND ENVIRONMENT IN INDONESIA (IFLS 5 DATA ANALYSIS)

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Abstract
One index that can describe maternal, infant mortality and the level of welfare of a community is Birth Weight. In 2013 UNICEF rates for LBW in Indonesia reached 10.2 percent. This study aimed to effect the interaction between household characteristics and the environment on the average weight of babies born in Indonesia. A cross sectional study was conducted by analyzing survey data from IFLS 5 in Indonesia. The variables measured were the weight of babies born, poverty, sanitation, work, and education. The data were analyzed univariate, bivariate, and multivariate with the interaction test model. The results of the bivariate analysis showed that the variables that were significantly related to the birth weight were education and work status. While the status of poverty and the environment does not have significant relationship to the weight of babies born. The results of multivariate analysis to see the effect of interaction found that there was an average weight of babies born to poor families with poor sanitation 0.4 lower than those of poor families and good sanitation. Therefore, poverty alleviation and clean sanitation are one of the efforts to improve and optimize the weight of babies born in Indonesia.

Keywords : Birth weight, education, environment, poverty, working status

INTRODUCTION

One index that can describe maternal (maternal), infant mortality and the level of welfare of a community is Birth Weight (BBL). The report by UNICEF states that the rate of LBW in Indonesia was around 11.1 percent in 2011, including high compared to LBW rates in ASEAN such as Vietnam (5.3 percent) and Thailand (6.6 percent). In 2013 the rate of LBW in Indonesia did slightly decrease, reaching 10.2 percent, with the highest prevalence occupied by the Province of East Nusa Tenggara (19.2 percent) and the lowest in the Province of West Sumatra (6 percent). Meanwhile LBW rates in East Java Province showed a significant increase, from 10 percent in 2010 to 11 percent in 2011.(BPS, 2013) (Balitbangkes, 2013).

Adverse effects can occur from socioeconomic factors in this case family and environmental factors during pregnancy include a baby's birth weight is less or not normal (less than 2,500 grams), congenital defects, neonatal death, the incidence of LBW will be very risky to the baby such as infection, death and pain (Supariasa, Bakri, and Fajar 2010).

Socioeconomic factors such as education, knowledge about health, nutrition and environmental health, trust, values, and poverty are individual and family factors, affecting mortality in society. The mother's education factor is a strong influence factor on the birth weight that will cause infant mortality. Education is essentially a conscious effort to develop personality and abilities within and outside school for life so that it is more mature in dealing with and solving various problems including health problems in order to reduce the risk of death. Maternal education is very closely related to the reaction and decision making of

households against disease. It can be seen that low infant mortality is found in women who have a high level of education. The high and low levels of maternal education are closely related to the level of understanding of health care, hygiene, the need for pregnancy examinations.

Low economic status is an indirect cause of birth weight. Families with income below the minimum wage are very difficult to meet their daily nutritional needs. Pregnant women cannot meet their nutritional needs even though the nutrition of pregnant women is very important. Every day, just eat a little, the important thing is to eat without knowing the food consumed contains nutritional value or not. Low income families also have an average low education so they do not understand health during pregnancy, do not know the nutritional needs of pregnant women and do not check and treat pregnancy properly.

Poor environmental conditions are an indirect cause of birth weight, in addition to poverty. The environment plays an important role, such as transmission of the disease to the mother, and other diseases due to a bad environment. The state of the economic status of a poor family and supported by a bad environment will have a greater impact on the weight of the baby to be born.

Therefore, the aim of the researchers is to see the effect of the interaction of family factors (poverty) with the environment on the weight of babies born in Indonesia. So that it can prevent and intervene accordingly to improve the weight status of babies born in Indonesia.

METHOD

This study is an analysis of survey data using a cross-sectional study design in which the risk factor variables and their effects are measured at the same time. The outcome of this study is the average weight of babies born. Risk factors

assessed are divided into household characteristics in the form of poverty status, employment, education, and environmental characteristics seen from sanitation in the home environment. The pollution in this study was all mothers who had children aged 0-6 months. While the sample in this study is the mother who has children who have 0-6 months of age that fits the inclusion and exclusion criteria. The data used is from the IFLS 5. The analysis in this study uses univariate, bivariate, and multivariate analysis with interaction test.

RESULT

Table 1. Mean of birth weight in Indonesia

Variable	Mean	Sd	Min	Max
Birth Weight	3.15	0.52	1	5.5

Results Table 1 shows that the average mean of birth weight in Indonesia is 315 grams with standard deviation 52 gr. The lowest mean of birth weight in Indonesia is 100 grams and the highest is 550 grams.

Table 2. Frequency Distribution Based on Family Characteristics

Variable	f	%	Total
Poverty Status			
Yes	93	5.78	93
No	1,516	94,22	1,516
Total	1,609	100	1,609
Education			
<High school	781	48,5	781
Graduated High School	828	51,46	828
Total	1,609	100	1,609
Jobs			
Not Working	1,238	76,94	1,238
Works	371	23,06	371
Total	1,609	100	1,609

The results of univariate analysis in table 2 show that the mean distribution of birth weight to poor families is 93 (5.78%) and in families that are not poor 1,516 people (94, 22%). The weight distribution

of babies born to mothers of low education (<High school) was 781 people (48.5%) and higher education (graduating from high school) 828 people (51.46%). The results of this study indicate that respondents' education is low because it has not reached the minimum limit of basic education required by the government, which is up to 9 years (National education, 2002). The distribution of birth weight according to the type of work of the mother found that mothers who did not work were 1,238 people (76.94%) and mothers who worked 371 people (23.06%).

Table 3. Distribution of Frequency Based on Home Environment

Variable	f	%	Total
Sanitation			
Score below 5	1,306	81,17	1,306
Score above 5	303	18,83	303
Total	1,609	100	1,609

Results of table 2 get that mothers who have a poor home / sanitation environment (score below 5) is 1,306 people (81.17%) and the good environment is 303 people (18.83%).

Bivariate Analysis

Table 4. Relationship Independent and Covariates Variables with Birth Weight

Variable	Coef	95% CI		P Value
Poverty	0.053	-0.05	0.162	0.332
Environment	0.013	-0.05	0.07	0,702
Education	0,054	0,004	0,105	0,034
Jobs	0.06	0,001	0.121	0.044

The results of table 3 show that there is a relationship between education and employment with birth weight (<0.05). There is no relationship between poverty status and environment with birth weight (> 0.05).

Multivariate Analysis

Table 4. Final Model of Multivariate Analysis Model ofInteraction Test

Variable	Coef	95% CI		P Value
Poverty	0.067	-0.044	0.18	0.24
Environment	0.02	-0.045	0.85	0.56
Poverty*Environment	-0.43	-1 , 16	0.297	0.246

Table 4 represents the results of multivariate analysis to test models of interaction. The results of Table 4 show that poor mothers who are in poor sanitation / environment have a lower birth weight of 43 grams compared to poor mothers but have a good environment. This is in line with research from Welassih that the environment with good and bad sanitation has an influence on the mother's family who will give birth to a baby.

DISCUSSION
Univariate Analysis
One index in measuring health degrees is maternal mortality, infant mortality and life expectancy. The dominant factor in infant mortality is the weight of the baby born. So that the baby's birth weight is also for one of the health problems index. In this study, the average weight of babies born in Indonesia was 315 gr with a standard deviation of 52 g. The lowest weight of babies born in Indonesia is 100 grams and the highest is 550 grams.

Low maternal education will affect the birth weight of the baby which will have a major impact on perinatal death. This is because the low level of education will cause low knowledge so that it will affect the mother's knowledge during pregnancy. In this study, the weight distribution of babies born to mothers of low education (<High school) was 781 people (48.5%) and higher education (graduating from high school) 828 people (51.46%). This means that almost half of maternal education is still relatively low. Educational level factors have a role in accessing knowledge so that it creates a

behavior. Low maternal education causes the mother not to know the ideal age for marriage, pregnancy and childbirth. Low education causes some pregnant women not to know the importance of examination during pregnancy (antenatal care).

The distribution of birth weight according to the type of work of the mother found that mothers who did not work were 1,238 people (76.94%) and mothers who worked 371 people (23.06%). That is, most or the majority of mothers have the status of working mothers. I have a job that has a risk to the west of the baby to be born. It is estimated that a woman with a good health condition and with moderate work activities, during her pregnancy requires an additional 300 calories a day. Working mothers tend to lack rest, not balanced in eating food. The lightness of the mother's work will affect the condition of the body and ultimately affect the health status of the mother.

The involvement of women in domestic work and work oriented towards improving family economics, was not accompanied by adequate nutrition. Even though women also get additional reproductive duties, they contain their children. Several studies in Asia and Africa show that women's calorie intake is only around 50-70 percent. If a woman is malnourished at the time of pregnancy, there will be potential for perinatal death. 9 Work that requires a woman to help her husband in improving the standard of living and welfare is a phenomenon of women. Heavy work directly causes poor or ineffective and inefficient nutrient intake causing perinatal death. Job status has a risk in increasing the occurrence of perinatal infant mortality, with work that drains so that it interferes with nutrient intake and will increase the risk of perinatal death.

In this study, all fathers are working so that mothers who work will increase family income. Unemployed and low-income mothers consume less protein and zinc. However, several studies suggest there is no relationship between working women with more nutritious nutritional intake (institute of medicine, 2009) (united nations children fund, 2004). In this study, there were 83.1% of mothers aged 20-34 years who were of good age to get pregnant (cleary-golmad, dkk 2005). This study shows that there is no significant relationship between maternal age and infant birth weight. Maternal age is an independent risk factor, which only acts as a risk factor for other factors.

Family Socio-Economic Status

Family income is one of the important themes in managing family finances, because the amount of money in will affect the amount of money that will be spent. Income is a fixed salary received every month. Income will be closely related to people's ability to meet nutritional needs, healthy housing, clothing and other needs related to health care.

Low economic status is an indirect cause of the weight of a baby born. Families with income below the minimum wage are very difficult to meet their daily nutritional needs. Pregnant women cannot meet their nutritional needs even though the nutrition of pregnant women is very important. Every day, just eat a little, the important thing is to eat without knowing the food consumed contains nutritional value or not. Low income families also have an average low education so they do not understand health during pregnancy, do not know the nutritional needs of pregnant women and do not check and treat pregnancy properly.

Bivariate Analysis

This means that the higher the mother's education level, the higher the level of energy and protein consumption of her child. Education greatly influences the reception of information including information about nutrition. Communities with low education will maintain the traditions associated with food so that it is difficult to receive new information in the field of nutrition. Besides that, the level of

education also determines whether or not someone accepts knowledge easily. The higher the level of education of a person, the easier it will be for someone to absorb information received including education and nutritional information related to the importance of consuming energy and protein adequately. With nutrition education, it is expected that good and healthy habits will be created (Handayani, 1994).

Schultz (1984) explains that there are at least 5 efforts that are the effects of mother and father education that can affect children's growth and development. First, education will increase family resources. Second, education will increase family income. Third, education will increase the allocation of time for the maintenance of children's health. Fourth, education will improve productivity and effectiveness of health care. Fifth, education will improve the reference of family life.

The results of this study were similar to the results of research conducted by Graham (1972) and Bairagi (1980) as quoted by Satoto (1990) showing that the higher the level of education of mothers the better the growth of the fetus and children in the future.

Relationship Between Socio-Economic and Birth Weight

Based on the research that has been done, the results of the same research that have been conducted show that socioeconomic determinants are significantly correlated with perinatal infant mortality. Socio-economic factors are determinants of infant and child mortality. The socio-economic determinants of health are the social and economic conditions that underlie a person's life, which affect health. The factor that causes high infant mortality is poverty. Many cases of babies die because their mothers experience malnutrition. The nutritional status of an individual or community is influenced by economic and ecological factors or the environment.

In developing countries such as Indonesia, factors other than medical techniques such as geographic factors, characteristics of mothers and fathers, and socioeconomic conditions are very important, given the vast Indonesian region. and the condition is not evenly distributed or there are large differences in the social and economic fields. Differences in perinatal mortality rates between rural and urban areas can be seen according to women's socio-economic characteristics that reflect a mother's behavior including healthy living and nutritional consumption. High or low mortality rates are closely related to the welfare of society in the sense that higher education and income will tend to prevent the occurrence of perinatal death.

Poverty is still a major cause of high perinatal mortality rates there. In developed and rich countries, the majority of women give birth by being handled by health experts. Perinatal death also generally occurs in remote areas with minimal doctors and nurses. The factors of poverty and ignorance are alleged to be the cause of high perinatal mortality rates. In fact, this number can be prevented, if the public is willing to participate and seek their own safety. Especially with the development of medical technology that is increasingly advanced, it is not impossible that perinatal mortality can be reduced.

Multivariate Analysis

Based on the research that has been done, the results of the same study that have been conducted show that socioeconomic determinants are significantly correlated with perinatal infant mortality. Socio-economic factors are determinants of infant and child mortality. The socio-economic determinants of health are the social and economic conditions that underlie a person's life, which affect health. The factor that causes high infant mortality is poverty. Many cases of babies die because their mothers experience malnutrition. The

nutritional status of an individual or community is influenced by economic factors and social ecology. Economic factors in the form of poverty and social ecology focus on the environment or health-based sanitation.

In developing countries such as Indonesia, factors other than medical techniques such as geographic factors, maternal and paternal characteristics, as well as socioeconomic conditions are very important, given the vast and uneven condition of the Indonesian region or large differences in social and economic fields. the interaction of women's socio-economic characteristics reflects a mother's behavior including healthy living and nutritional consumption. High or low birth weight coverage that will have an effect on infant mortality is closely related to community welfare in the sense that higher education and income will tend to prevent perinatal deaths. And this often happens to groups of people with low socio-economic levels. Poverty is still a major problem with the nutritional status of children born. Nutritional needs during pregnancy are not only to the mother's nutrition, but also to the nutrition of the baby they conceive. In addition to that, the environment has an important role, due to the many diseases caused by the bad environment that will infect the fetus of pregnant women. Therefore, socio-economic factors (poverty and environment) affect the weight of babies born. (Assefa, N., Berhade, Y., & Worku, A, 2012)

CONCLUSIONS

Poverty and the environment in this case sanitation is a variable that interacts with each other in influencing the average weight of babies born in Indonesia. Therefore poverty alleviation and clean sanitation is one of the efforts in improving and optimizing babies born in Indonesia.

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QUALITATIVE ANALYSIS OF BORAX AND FORMALIN ON SNACKS OF ELEMENTARY SCHOOL STUDENTS IN BUKIT RAYA SUB-DISTRICT, PEKANBARU

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Abstract
The use of additional ingredients or additives in food was currently difficult to separate from food and beverage processing. Hazardous ingredients that are often added to food were borax and formalin. The nature of children who always consume school snacks without seeing the quality of food was often a concern for the community, especially parents. The aim of this study was to identify the presence or absence of borax and formalin on snacks that sold in elementary schools in Bukit Raya sub-district, Pekanbaru. This study was a descriptive survey. The population in this study was the snack sellers in elementary schools in Bukit Raya sub-district, Pekanbaru. Sampling was done by simple random sampling technique. There were 15 samples from 12 snack sellers. Data collection techniques were carried out by interviews and laboratory tests using borax and formalin test kits. The results showed that there were 1 sample (6.67%) positively contained borax and all samples (100%) negatively contained formalin. 14 samples (93.33%) were declared safe for consumption because they did not contain borax and formalin.

Keywords : Borax, formalin, snacks

INTRODUCTION

Food safety is a problem that must get special attention. One of the problems of food safety in Indonesia is the lack of knowledge, skills and responsibilities of food producers about food quality and safety, especially in small industries or home industries. Official control is not possible at the level of small industries and home industries. This often causes producers in the home industries often add harmful substances to food for certain purposes (Amelia, R, 2014).

The use of additional ingredients or additives in food is currently difficult to separate from food and beverage processing. The use of these substances is intended for various things such as dye, sweetener, preservative and other purposes. The addition of these substances into food and beverages aims to increase the selling power of products to consumers so that producers can get the benefits as expected. Along with the tight competition

of producers, additional ingredients in food used by producers to attract consumers are no longer limited to natural or synthetic additives. In recent years, the abuse of hazardous chemicals as an additive for food products has begun to flourish. Attractive color of food, chewy texture, durable food, and affordable prices are things that considered capable to attracting consumers (Irawan and Luh, 2016).

Hazardous ingredients that are often added to food are borax and formalin. Borax is a substance used as a soldering agent, cleaning agent, wood preservative, and antiseptic. Formalin is a substance that is widely used in various types of industries such as the manufacture of furnaces, materials for building construction, corpse preservatives, and fixation agents in the laboratory. Borax and formalin are often abused to make the texture of food more elastic, improve the appearance of food, and preserve food.

According to Minister of Health Regulation No.772 on 1988, borax and formalin include food additives which are not permitted in Indonesia. Foods that contain borax or formalin can cause health problems if consumed for long periods of time which can cause cancer, and disorders of brain, kidney and liver (Sultan P, et al, 2013).

Based on data from the Drug and Food Control Agency Republic of Indonesia (BPOM RI), the abuse of hazardous materials is still quite significant. In 2016, there was 7.29% from 7,752 samples tested during routine supervision still contained hazardous substances (formalin, borax, methanil yellow, and rhodamin-B). Furthermore, based on the Extraordinary Events (KLB) report that received BPOM in 2016, 6,136 people were exposed by food which caused poisoning, 3,413 people were sick, and 8 people died (BPOM, 2016).

School snacks are food and beverages prepared and sold by snack sellers in the area around the school. Elementary school-age children are attracted to school snacks because of their attractive color, appetizing taste, and affordable price. Various types of snacks are available, but most snacks still do not meet the nutritional and food safety standard. The nature of children who always consume school snacks without seeing the quality of food is often a concern of the community, especially parents (Sepriyani, H and Rosa D, 2018).

The low level of safety of School Children Snack Food (PJAS) is still important problem. The results of PJAS supervision in 2016 showed that 39% from the total sample (627 samples) were considered incompatible with microbial contamination and contained excessive sweeteners. The condition of unhealthy foods and drinks is very beneficial because children can become infected, sick or poisoned.

Bukit Raya sub-district is one of the sub-district located in Pekanbaru, Riau province. Based on data that obtained from Pekanbaru City Education Office in 2018, there are 24 Public Elementary School and Private Elementary School in Bukit Raya sub-district. In these schools, there are still many snack sellers selling in the outside of the school grounds. Based on the background above, the researcher was interested to conducting a research about qualitative analysis of borax and formalin on snacks of elementary school students in Bukit Raya sub-district, Pekanbaru. The purpose of this study was to identify the presence or absence of borax and formalin in snacks sold in elementary schools in Bukit Raya sub-district, Pekanbaru.

METHOD

The type of this study was a descriptive survey. The population in this study was snack sellers in elementary schools in Bukit Raya sub-district, Pekanbaru. Sampling was done by simple random sampling technique with the assumption that the samples were favored by children and suspected containing borax and formalin. Therefore, there were 15 samples obtained from 12 snack sellers. The study was conducted in August-October 2018.

The tools used in this study were mortar and pestle, knife, test tube, test tube rack, beaker glass, spatula, drop pipette, marker and label paper. The materials used in this study were snack samples taken from several snack sellers in elementary schools in Bukit Raya sub-district, Pekanbaru, borax and formalin test kits, and distilled water.

Data collection techniques in this study were carried out by interviews and laboratory tests. Interviews were conducted at snack sellers to find out the characteristics of snack sellers. Laboratory tests were carried out in biomedical laboratory Al Insyirah Pekanbaru School of Health Sciences to find out the qualitative content of borax and formalin in snack samples.

RESULT AND DISCUSSION

Table 1. Characteristics of Snack Sellers

No.	Characteristics	N	%
1	Gender		
	• Man	11	91,67
	• Woman	1	8,33
2	Age		
	• ≤ 17 years old	-	-
	• 17 – 25 years old	1	8,33
	• 26 – 35 years old	4	33,33
	• 36 – 45 years old	4	33,33
	• 46 – 55 years old	3	25
	• ≥ 56 years old	-	-
3	Working Period		
	• ≤ 1 years	4	33,33
	• 1- 5 years	2	16,67
	• 6 – 10 years	4	33,33
	• ≥ 10 years	2	16,67
4	Business ownership status		
	• Owned business	8	66,67
	• Not owned business	4	33,33
5	Education		
	• Elementary School	1	8,33
	• Junior High School	9	75
	• Senior High School	2	16,67
	• Undergraduate	-	-
	• Etc.	-	-

Table 1 showed that almost snack seller gender was male with 11 people (91.67%) and female only 1 people (8.33%). Based on age, 4 people (33.33%) aged 26-35 years old, 4 people (33.33%) aged 36-45 years old, 3 people (25%) aged 46-55 years old and 1 people (8, 33%) aged 17-25 years old. Based on working period, 4 people (33.33%) selling ≤ 1 year, 4 people (33.33%) selling 6-10 years, 2 people (16.67%) selling 1-5 years and 2 people (16, 67%) selling ≥ 10 years. Based on business ownership status, most businesses were owned business with a total of 8 people (66.67%).

In addition, an overview of the education level of snack sellers was also obtained. 9 people (75%) had junior high school education, 2 people (16.67%) had high school education, 1 people (8.33%) had elementary school education, and no one had undergraduate education. According to Yasmin and Mandjah (2010),

there was a real positive relationship between education level and food security. Higher level of education leads the better level of nutrition knowledge and food security. However, there was no relationship between nutrition knowledge and food security with practice. This showed that the level of education was not the only factor that influences food safety practices.

Physical Properties of Snack Samples

Table 2. Physical Properties of Snack Samples

No.	Sample Code	Color	Flavor	Texture
1	A	Brownish	Distinctive aroma	Soft
2	B	Brown	Distinctive aroma	Soft
3	C	Brown	Distinctive aroma	Soft
4	D	Brown	Distinctive aroma	Soft
5	E	Brown	Distinctive aroma	Soft
6	F	Brownish	Distinctive aroma	Soft
7	G	Brownish	Distinctive aroma	Soft
8	H	Pale white	Pungent aroma	Chewy
9	I	Brownish	Distinctive aroma	Soft
10	J	Brown	Distinctive aroma	Soft
11	K	Brownish	Distinctive aroma	Soft
12	L	Brownish	Distinctive aroma	Soft
13	M	Brownish	Distinctive aroma	Soft
14	N	Brownish	Distinctive aroma	Soft
15	O	Brownish	Distinctive aroma	Soft

Table 2 showed that most of the snacks had brownish color, distinctive aroma and soft texture. However, there was 1 sample that had pale white color, pungent aroma and chewy texture. According to Yuliarti (2007), the characteristics of snacks that contain dangerous additives were the snacks had whiter color and will become deep gray if excessive borax was added.

In a study conducted by Nainggolan (2016), it was found that most snacks had

pale white and gray color, pungent aroma and chewy texture. There were 6 samples (85.71%) contained borax. This was suitable with the physical nature of snack samples which were thought contain dangerous food additives.

Qualitative Analysis of Borax and Formalin

Table 3. Borax and Formalin Test Results for Snack Samples

No.	Sample Code	Borax Content	Formalin Content
1	A	Negative	Negative
2	B	Negative	Negative
3	C	Negative	Negative
4	D	Negative	Negative
5	E	Negative	Negative
6	F	Negative	Negative
7	G	Negative	Negative
8	H	Positive	Negative
9	I	Negative	Negative
10	J	Negative	Negative
11	K	Negative	Negative
12	L	Negative	Negative
13	M	Negative	Negative
14	N	Negative	Negative
15	O	Negative	Negative

Table 4. The Percentage of Borax and Formalin on Snack Samples

No.	Sampel Content	Positive N	Positive %	Negative N	Negative %
1	Borax	1	6,67	14	93,33
2	Formalin	0	0	15	100

Based on Table 3 and Table 4, it was known that from 15 snack sample tested qualitatively using the borax test kit, it was found that 1 sample (6.67%) was positive contained borax and 14 sample (93.33%) were negative contained borax. These results were obtained after comparing the color of the test paper with the standard paper color.

The H sample was positive contained borax because it changes litmus paper color from yellow to reddish. Color changes are caused by the formation of red rososianin compounds from boron and curcumin in acidic atmosphere. This rososianin compound was indicator of the presence or absence of borax in snack samples tested (Fauziah, 2014).

The H sample made from flour and mixed with other spices. This sample was thought using borax to get the mixture chewy so the texture becomes better when eaten. The use of borax in food had impact on producers and consumers. From the point of view of producers, the use of borax in food products will produce a better and longer-lasting food texture so it will provide economic benefits. However, borax can be harmful for the health of consumers both long term and short term (Nurkholidah, 2012).

Borax is toxic to all cells. The effect on body organs depends on the concentration achieved in the the body organs. Borax can accumulate in the human body, carcinogenic in the long term and causes diseases such as cancer and tumor in human organs. The highest level is reached when excreted, the kidney is the organ most affected compared to other organs. The fatal dose of using borax for adults is 5-20 mg/day and for children 3-5 mg/day (BPOM, 2002).

Based on Table 3 and Table 4, it was known that from 15 snacks samples tested qualitatively using the formalin test kit, it was found that all samples (100%) were negative contained formalin. There was no color changes occured in the snack samples tested.

Formalin is a dangerous substance for the human body. Formalin vapors can cause eye irritation, nose irritation and respiratory problems. This happens due to formalin compounds react quickly with amino acids which cause proteins in the body do not function properly. Formalin will accumulate in the lender layer of the respiratory tract and digestive tract. Formalin which enters the human body below the maximum limit will be decomposed within 1.5 minutes into carbon dioxide (CO_2). The maximum limit of formalin concentration is 1 mg / L (Saprianto, 2006).

In another study conducted by Kholifah S and Deny (2018), it was found that 2 samples (22.22%) were positive contained borax and 7 samples (77.78%) were negative contained formalin. The sample positively contained borax because it gives discoloration to the litmus paper from yellow to red. However, all samples (100%) did not contain formaldehyde because there was no change in color to purplish pink. Apriliani and Ferna (2018) also found that from 14 snack samples studied, all samples (100%) did not contain borax and formalin so they were safe for consumption.

This is different from the research conducted by Mudzkirah (2016), from 12 samples of snacks tested, 6 samples (50%) were positive for formalin. Then, the samples were examined by using a UV-Vis spectrophotometer. From the results of the examination, the highest levels of formalin obtained were 1.740 mg/L and the lowest levels of formalin obtained were 0.6631 mg/L. In another study, Paramanitya and Veraini (2016) found that 15 snacks samples (15.3%) were positive contained borax and 25 samples (25.5%) were negative contained formalin.

CONCLUSION

1 sample (6.67%) was positive contained borax and 14 samples (93.33%) were negative contained borax. All samples (100%) negatively contained formalin. 14 samples (93.33%) were declared safe for consumption because they did not contain borax and formalin.

RECOMENDATION

It is necessary to provide audio visual health education for elementary school students about the impact of snacks that contained borax and formalin. The school should provide a healthy canteen in the school environment so the supervision of the food served can be more controlled. Further research is needed on snacks with other parameters such as coliform content, artificial dyes and sweeteners.

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HEALTH BEHAVIORS MODIFICATION PROGRAM FOR CARDIOVASCULAR DISEASE PREVENTION: EVIDENCE BASED NURSING INTERVENTION IN PRACTICE

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Abstract
Patients with cardiovascular disease (CVD) may develop recurrent CVD after being diagnosed because of unhealthy behaviors. Recent surveys have shown that risk factor control in clinical practice is far from ideal which might be caused by patients' misperception regarding their illness. However, inappropriate perception can be changed by creating condition and replacing new information. This paper aimed to present the implementation of evidence based nursing of health behaviors modification program in nursing practice. The method of this study was five steps in bringing evidences into practice based on Polit and Beck (2014) were employed. The program consisted of assessing the health behaviors, implementing the program and evaluation. Six patients who met the inclusion criteria participated in this program for three days. The result of this study showed that every case had at least one unhealthy behavior. The scores of health behaviors increased after the program was implemented. Patients with appropriate illness perception were reported would be likely to engage in healthy behaviors. Controlling risk factors of CVD by behavior modification promoted by nurses in clinical setting is recommended to prevent recurrent CVD. Representational approach guides the steps to explore illness perception. Illness perception influences patients to modify health behaviors.

Keywords : Cardiovascular disease, behaviors modification, nursing practice.

INTRODUCTION

Cardiovascular disease (CVD) is known to be a leading cause of mortality and morbidity in the world. It was reported that 17 million deaths from CVD in 2011 or about three in every ten death (Silarova et al, 2015). Incidence of heart disease and stroke is estimated to be 23.3 million deaths in 2030 worldwide (Jardim et al, 2014). Thus, CVD is projected to remain the single leading cause of death (Silarova et al, 2015).

Cardiovascular disease includes disorders of the heart and blood vessels, such as hypertension, coronary heart disease, stroke, and peripheral vascular disease (Goong, Ryu & Xu, 2015).

Cardiovascular disease also refers to coronary heart disease (CHD), angina pectoris, myocardial infarction, peripheral vascular disease, cerebrovascular accident, transient ischemic attack, or having received surgical interventions such as a coronary artery bypass or percutaneous coronary intervention (Ijzelenberg et al, 2012). Patients diagnosed with CVD have at least one modifiable risk factor, such as inactive lifestyle, hypertension, obesity, or smoking, resulting in morbidity, decreased quality of life (QOL) and even death (Ahn, Song & Choi, 2016). Thus, patients with CVD are required to perform behaviors that manage modifiable risk factors.

Preventing the recurrent of cardiovascular disease by controlling modifiable risk factors, such as behavior modification may be the effective way for adults. The World Health Organization (WHO) estimated that 75% of cardiovascular mortality rate will be decreased by behavior modification of lifestyle (Jardim et al, 2014).

Several studies have been conducted to control cardiovascular risk factors by behavior modification, such as risk factors management by nurse-coordinated care program (Snaterse at al., 2016), lifestyle advice and providing information regarding risk factors based on phenotypic and genetic characteristic (Silavora et al, 2015), lifestyle modification program (Razavi et al, 2014) that focuses on dietary management and physical activity, integrated nutrition and physical activity lifestyle modification (Khare et al, 2014), and comprehensive lifestyle intervention that includes of dietary management, physical activity and smoking cessation (Ijzelenberg et al, 2012). Most of the programs focused on behavior modification with main points are dietary management, physical activity, and smoking cessation.

Although risk factors control is highly effective in the secondary prevention setting, recent surveys have shown that risk factor control in clinical practice is far from ideal, leaving substantial space for improvement (Snaterse, 2016). Patients diagnosed with CVD frequently develop recurrent CVD. This can be caused by patients' misperception regarding illness. Inappropriate illness perception can lead to unhealthy behaviors. On the other hand, inappropriate perception can be changed by creating condition and replace new information using representational approach for patients' education by Donovan and Ward (2001).

Therefore, prevention of recurrent CVD focus on behavioral modification provided by nurses in clinical setting has potential to improve patient's condition and control risk factor. Thus, implementing behavior modification in clinic is necessary to address better nursing practice and patient's outcome. By implementing behavior modification, it is expected that patient will develop good intention to change behaviors so that the recurrent CVD can be prevented. The aim this paper aimed to present the implementation of evidence based nursing of health behaviors modification program in nursing practice.

METHOD

Five steps in bridging evidence into nursing practice based on Polit and Beck (2014) were employed in this study, which are: (a) asking an answerable question, (b) searching for relevant research evidence, (c) critical appraisal of evidence, (d) critical appraisal of answers prior to implement or change practice and make appropriate clinical changes based on the evidence, and (e) outcome evaluation after practicing.

For the first step, PICO questions were set included: (a) what are factors related to behavior modification in patients with cardiovascular disease? (b) What are the measurement tools to assess behavior modification? And (c) What are the nursing interventions related to behavior modification for cardiovascular disease prevention?

For the second step, relevant evidences were searched from several databases which are PubMed, CINAHL, and ProQuest using the following keywords: *Behavior modification* AND *cardiovascular disease prevention*, *Cardiovascular disease* AND *prevention behavior,* and *Behavior modification* AND *cardiovascular prevention.* Inclusion criteria of the studies are publication date 2010-2017, English, adult, full text, and academic journal while exclusion criteria are studies in animal, non-adult, and non-English.

The third step is critical appraisal for the evidences. These studies were appraised based on Joanna Briggs Institute Critical Appraisal Tools (2016). The level of evidence and grade of recommendation were also determined based on Joanna Briggs Institute (2014). For step four and five, the implementation and evaluation were done based on representational approach to patients' education by Donovan and Ward (2001). The participants were assessed two times for their health behaviors; before and after the program were implemented. Before assessment, the patients and families were given explanation about the program and informed consent was obtained verbally before assessment.

PARTICIPANTS AND SETTING

The implementation and evaluation were conducted in medical ward and cardiovascular care unit in a university hospital, Thailand. The inclusion criteria of the participants included: (a) adult or elderly patients (age ≥ 15 years old), (b) being diagnosed with cardiovascular disease, (c) being able to communicate, (d) having contact number, and (e) willing to participate in phenomenon study by confirming with verbal consent. Six participants who met the inclusion criteria were participated in the program. Permission to implement the program was obtained from patients and families after they were informed about the program. Their data were kept confidential.

INSTRUMENTS

Assessment tools used in this study consisted of four parts, which are: (a) personal assessment form, (b) health and illness information, (c) modified cardiac behavior questionnaire, and (d) open ended questions. Personal assessment form is used to assess demographic data including age, gender, religion, educational level, marital status, and occupation. Health and illness information includes BMI, other disease, family history

of CVD, sources of illness information, smoking and drinking history, and exercise. Health behaviors were assessed using modified cardiac health behavior scale (CHBC) questionnaire. The original CHBC was developed by Walker, Sechrist, and Pender (1987 cited in Goong, Ryu, & Xu, 2015). In this study, the modified questionnaire consists of 16 items that assess health behaviors with response format of Likert scale. The higher score indicates the better health behavior. In addition, patients were also assessed for their perception regarding illness. Open ended question was used to assess assess patients' perception about identity (sign and symptom of CVD), causes of illness, timeline of the illness being cured, consequences, and cure/controllability.

HEALTH BEHAVIORS MODIFICATION PROGRAM

In this study, evidence based nursing intervention was done using two concept which are representational approach to patients education (Donovan and Ward, 2001) and cardiovascular health behaviors (American Heart Association, 2011), including smoking cessation, dietary management, exercise, and medical adherence. Patients' health behaviors were assessed before and after intervention. The step of intervention will be described as follow.

Exploring the gaps, misconceptions and confusion. In this step, patients were encouraged to think and describe their health behavior by asking the questions and evaluate the thoughts.

Creating conditions for conceptual change. Patients were encouraged to think and explain negative effects of their current negative health behaviors.

Introducing replacement information. Patients were given information related to patients' behaviors that need to be modified to replace current misconceptions, especially smoking cessation, dietary management, physical activity, and medical adherence.

Summarizing. In this step, patients were given information regarding conclusion of health behaviors and benefits of behavior modification.

EVALUATION OF THE PROGRAM

Patients were evaluated by their intention to modify their behaviors. Intention to change were measured by the same questionnaire with assessment to see how patients' intention to change each item of behavior that have been assessed in assessment. Time of evaluation was done after intervention and seven days after patient was discharged by phone follow up. At the third day after discharge, patients were followed up by phone to discuss about barriers that patients face to perform health behaviors and how to solve the barriers. The flow diagram of the phenomenon study is presented as follow.
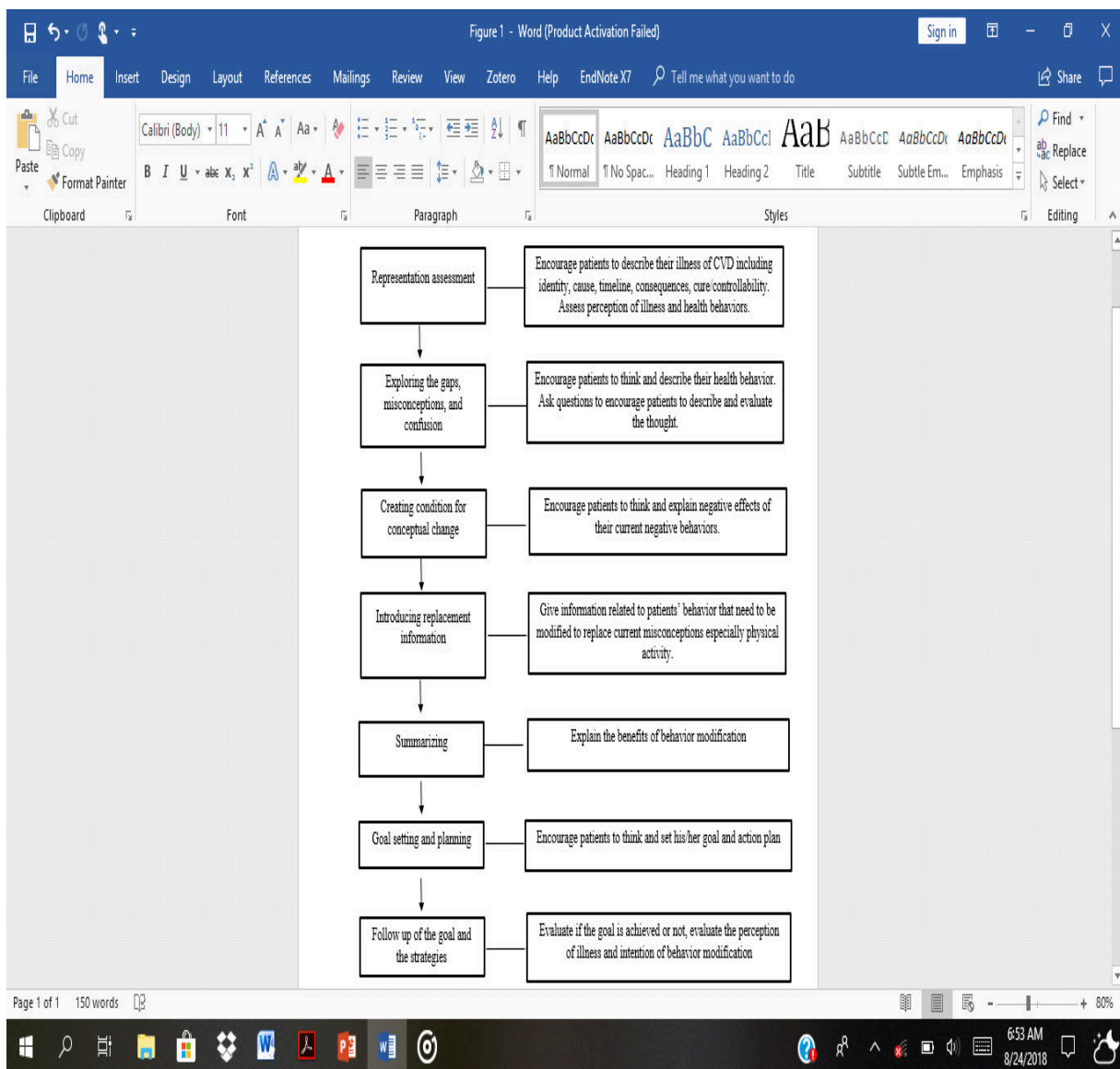
Figure 1. Flow Diagram of Representational Approach to Patient Education
(Donovan and Ward, 2001)

RESULTS
PATIENTS' PROFILE

Patients' profile included gender, age, education level, marital status, occupation, BMI, and other diseases. From 6 patients, one patient was female and five patients were male with ages ranged from 56 to 75 (mean=64.5). The major other diseases that they have were dyslipidemia

and hypertension. The information of each case is presented in the following table.

Table 1. Personal Information

Items	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Gender	Male	Male	Male	Male	Female	Male
Age (years)	60	56	72	75	65	59
Religion	Islam	Buddhist	Buddhist	Buddhist	Islam	Buddhist
Education level	Primary school	Junior high school	Primary school	Primary school	Primary school	Master degree
Marital status	Married	Married	Married	Married	Married	Married
Occupation	Agriculture	Business	No occupation	No occupation	No occupation	Business
BMI	23.43	28.2	19.67	21.92	23.93	23.68
Other diseases	• Dyslipidemia (10 years) • Hypertension (10 years) • CKD (2 years) • Gout (3 years)	• Histoplasmosis (3 years) • Dyslipidemia (First diagnosed on this admission) • Diabetes (First diagnosed on this admission) • Hypertension (one month)	• Dyslipidemia (5 months) • Diabetes (> 10 years) • Hypertension (> 10 years)	Hypertension (> 10 years)	• Dyslipidemia (10 years) • Diabetes (>10 years) • Hypertension (10 years)	• Dyslipidemia (2 weeks) • Diabetes (2 weeks) • Hypertension (2 weeks) • Gout (> 20 years)

HEALTH BEHAVIORS AND ILLNESS PERCEPTION SCORES BEFORE AND AFTER THE PROGRAM

This study showed the comparison of health behaviors and illness perception scores before and after the program. All those six cases were assessed for health behaviors using the modified cardiac health behavior questionnaire and illness perception using open ended questions. The higher score indicates the better health behaviors. The percentage of pretest score range from 50 to 81.3. The percentage of posttest I score was 100 in each case. The percentage of posttest II ranges from 93.8 to 100. The result of comparison between pretest and posttest will be described in the following graph and tables.

Figure 2. Comparison of Pretest and Posttest I and II

DISCUSSION

This study aims to implement the evidence based nursing intervention for behavior modification to prevent recurrent cardiovascular disease. The result showed from those cases, every case has at least one unhealthy behavior including smoking, no exercise, and/or uncontrolled

dietary management. From these cases, it is found that patients diagnosed with cardiovascular disease have at least one risky behavior. The common behavior is smoking. From six cases, five patients have history of smoking and one is not (female). For drinking, from six cases, four have history of drinking and two are not due to belief that prohibits alcohol consumption. It can be seen that gender and belief influence lifestyle. Regarding exercise, from six cases, only one case does the exercise and five cases do not exercise for last six months. This condition is consistent with previous study by Ahn, Song & Choi (2016) reported that patients with CVD have at least one risk factor, such as inactive lifestyle, hypertension, obesity or smoking.

From assessment regarding illness perception including identity, causal, timeline, consequences, and controllability, it revealed that mostly patients have misperception regarding their illness, for example: case 4 stated that sign of CVD was cough, case 2 and 3 stated that they were not sure about causes of disease, case 2 and 4 reported that their condition will get better after one admission and no need continuous treatment, and case 2, 3 and 4 perceived that no impact of their illness to daily life.

Regarding inappropriate illness perception, representational approach was used to promote appropriate illness perception in order to modify patients' health behaviors. Patients with appropriate illness perception will be likely to engage in healthy behaviors. A study by Patel, Caesar & Foster (2012) revealed that those who have misperception regarding illness are less likely to engage in healthy lifestyle behaviors. The change of perception using representational approach to patient education in this study leads to behavioral change of the patients. From those six cases, every case has increasing of posttest score compare with pretest score and all cases have score 100% of posttest which indicate that all patients decide to modify

their unhealthy behaviors after receiving intervention.

Based on representational approach to patient education (Donovan and Ward, 2001), patients were encouraged to describe their illness with five dimension of illness perception including identity, cause, timeline, consequences and cure/controllability. After that, patients were encouraged to identify and explore the gaps, misconception and confusion and experiences that cause the gaps/misperception about their illness. Next step is creating condition for conceptual changes by discussion about the consequences of unhealthy behaviors. After that, patients were introduced replacement information to fill the gaps, misconceptions and/or clarify the confusion. Lastly, summarizing and discussion about the new conception and benefit from acting new information. The follow up will facilitate the patients to evaluate the modification of their health behaviors.

The appropriate perception of illness will make patients more understand about their illness and can make appropriate decision regarding performing health behavior related to their illness. The finding of this study shows that promoting perception of illness can lead to behavior modification in patients with cardiovascular disease.

In addition, to promote appropriate perception, family support helps to shape patients' perception as reported from case 1, 3, 4 and 5 who have good family support. Appropriate illness perception of family member can facilitate patients to modify behaviors by managing diet, supporting in doing exercise, adhere to medication, and stress management.

The strength of this study includes the questionnaire used. This study used modified cardiac health behavior and open ended questions that enable to discuss more with patients and families to get more understanding about this phenomenon. Moreover, since every case

is unique and has different focus of behavior that need to be modified, the intervention given was tailored for each patient according to their illness perception and their unhealthy behaviors.

Knowing the action whether patients really modify the behavior or not is a challenge in this study. Since the patients were hospitalized, the patients were required to follow the rules of hospital, such as no smoking and drinking, and consuming food that were prescribed for the patients. Thus, investigating some patient's behavior is unlikely to be done in hospital. Therefore, in this phenomenon study, the evaluation was done to see the intention to change after pretest. Besides that, patients were also followed up 3 days after discharge to discuss about the barriers and how to solve the barriers to achieve the goal of behavior modification. Patients were also assessed 7 days after follow up to evaluate the action of behavior modification.

CONCLUSION

Cardiovascular diseases are known to be leading causes of morbidity and mortality around the world. Regarding risk factors contributing to development of cardiovascular diseases, controlling of modifiable risk factors are needed to prevent disease progression and recurrent disease. To apply behavior modification, intervention based on representational approach to patient education (Donovan and Ward, 2001) and cardiovascular health behaviors (American Heart Association, 2011) have been used.

Representational approach guides the steps to explore illness perception. Illness perception influences patients to modify health behaviors. Moreover, based on AHA/ACCF Secondary Prevention and Risk Reduction Therapy for Patients with Coronary and Other Atherosclerotic Vascular Disease (2011), the prevention goals and management of cardiovascular disease included smoking cessation, blood pressure control, healthy diet, lipid

management, physical activity, weight management, diabetes management, and medical adherence. Those preventions are consistent with findings from several previous studies regarding behavior modification of cardiovascular disease prevention. Thus, behavior modification of lifestyle based on representational approach is recommended to prevent recurrent cardiovascular disease. In addition, from this study it is also recommended to do comprehensive assessment before implementing the intervention to patients and to involve family during intervention.

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BINAHONG LEAVES (ANREDERA CORDIFOLIA) LEAF WATER CONSUMPTION ON REDUCTION HIGH BLOOD PRESSURE ON ELDERLIES PSTW KHUSNUL KHOTIMAH PEKANBARU

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Abstract
Hypertension in the long term and no treatment will cause various complications such as stroke, myocardial infarction, renal failure, and enselopati (brain damage). treatment that can reduce hypertension are pharmacologically, non-pharmacologically, and herbal therapy. One of the herbal therapies that can reduce hypertension is the binahong leaves. The purpose this study was to determine the effect of consuming of binahong decoction water (anredera cordifolia) to decreasing high blood pressure. The design used was quasy experiment " pre test and post test design with control group ". This study was conducted on elderlies as many as 16 sample for the experimental group and 16 for the control group. The sampling technique used purposive sampling. The analysis used dependent test and Independent Sample T-test. The results showed that there were a significant effect between giving herbal therapy consuming binahong decoction water to the decrease of high blood pressure (p = 0,000). Suggestions from the results of this study are using binahong leaf decoction water as an alternative treatment for hypertension.

Keywords : Binahong leaf, hypertension, elderly

INTRODUCTION

Hypertension or high blood pressure is an increase in blood pressure in the arteries. Hypertension or high blood pressure is an increase in systolic blood pressure of more than 140 mmHg and a diastolic blood pressure of more than 90 mmHg (Ratnawati, 2017).

The causes of hypertension are certain drugs that can increase blood pressure such as NSAID drugs. Hypertension which causes can be known, often related to several diseases such as kidney, coronary heart disease, diabetes and central nervous system abnormalities (Darmojo, 2010).

According to the Indonesian Ministry of Health's Data and Information Center (2016), the health of the elderly population in 2014 was 25.05%, meaning that out of every 100 elderly people there were 25 of them experiencing illness. Most diseases in the elderly are Non-Communicable Diseases (PTM), including hypertension, arthritis, stroke, Chronic Obstructive Pulmonary Disease (COPD) and diabetes mellitus (Ratnawati, 2017).

Based on data from the Pekanbaru City Health Office (2014), primary (essential) hypertension is among the top ten cases of a disease in Pekanbaru, which ranks the second largest after other upper acute respiratory tract infections (ARI). In 2011 there were 19,229 cases and in 2012 19,878 cases (Rezky et al., 2015).

The prevalence of hypertension continues to increase, one of which is caused by unhealthy lifestyles such as often eating fast food that contains lots of fat and salty foods. In addition, obesity, stress, smoking and consuming alcohol can also trigger hypertension.

Hypertension that is not treated properly is at high risk for complications

including stroke, pulmonary edema, heart attack, and kidney failure. In addition, complications of hypertension can cause death if not handled immediately (Wardaningsih, 2017).

The high prevalence of hypertension every year shows that hypertension requires proper management. Wirakusumah (2012) explained that hypertension treatment can be done pharmacologically and non-pharmacologically. Pharmacological treatment is a treatment that uses drugs that can help reduce and stabilize blood pressure.

Non-pharmacological treatments can be used as a supplement to get the effect of treatment when anti-hypertensive drugs are given such as reflexology. In addition, herbal therapy has also been shown to reduce blood pressure such as boiled water from binahong leaves.

Based on research conducted by Siswantari (2011) there is an effect of giving binahong leaf decoction water to decrease systolic and diastolic pressure in hypertensive patients in Kopat Karangsari Pengasih Village Kulon Progo.

Binahong leaf is one extract that contains high flavonoids. Plants that contain high flavonoids are able to provide a good effect on cardiovascular health, including to control hypertension. Flavonoids work by relaxing the muscles and increasing the vasodilation effect of blood vessels so that blood pressure can decrease (Clark, dkk. 2015).

Based on data from the elderly UPT PSTW which were in the UPT PSTW amounting to 70 people with elderly men 28 people and elderly women totaling 42 people, of the 70 elderly each had a diagnosis of the disease. Diagnosis of the disease is: osteoarthritis, hypertension, diabetes mellitus, gout, gastritis, cataracts, and dermatitis. While for diagnosing hypertension there are 32 people. Based on a preliminary survey conducted by researchers to nurses at the clinic Khusnul Khotimah Pekanbaru PSTW, therapy is given to elderly people with hypertension in the form of antihypertensive drugs and low salt diets. The purpose of this study is to determine the effect of consuming boiled water binahong leaves (Anredera cordifolia) on decreasing high blood pressure in the elderly. The results of this study are expected to be used as a material for comparison and improvement in the method of providing health promotion to the community so as to reduce the rate of sufferers of high blood pressure. For respondents as information to be able to improve their health status.

METHOD

The type of research is quantitative by using a quasy experimental design with a pre-test and post-test design with a control group. This research was conducted at UPT PSTW Khusnul Khotimah Pekanbaru with a total sample of 32 respondents. Sampling using the non-probability sampling method with purposive sampling technique, according to the inclusion criteria, namely, elderly who have hypertension when blood pressure measurements (>140/90 mmHg), elderly who are willing to be respondents, and elderly without hypertension.

The systolic and diastolic blood pressure used was the result of measurement using a sphygmomanometer and observation sheet during the pre-test and post-test after consuming binahong leaves for 3 days. Analysis of the data used in univariate analysis using frequency and bivariate analysis using Dependent t-test and Independent t-test to see the effect of binahong leaf decoction on high blood pressure.

RESULT

The results of the research conducted in June 2018 involving 30 respondents consisting of 16 people as the experimental group and 16 people as the control group were as follows
Characteristics Of Respondents

Table 1 Frequency Distribution of Respondents by Age In UPT PSTW Khusnul Khotimah Pekanbaru

Age	F	%
Elderly 60-74 years	20	62,5
old 75-90 years	12	37,5
Total	32	100

Table 1 showed that most of the respondents studied in the age range of 60-74 years were 20 respondents (62.5%).

Table 2 Frequency Distribution of Respondents by Gender at UPT PSTW Khusnul Khotimah Pekanbaru

Sex	F	%
Man	18	56,25
Woman	14	43,75
Total	32	100

Table 2 showed that the majority of respondents who were studied were male as many as 18 respondents (56.25%).

Univariate Analysis

Table 3 Average Blood Pressure Before Watering Binahong Leaf Decoction in Experimental Groups and Control Groups

Group	Amount	Mean
Experiment	16	148,94
Control	16	151,88

Table 3 showed that the average blood pressure before being given binahong leaf boiled water in the experimental group was 148.94 mmHg while in the control group it was 151.88 mmHg.

Table 4 Average Blood Pressure after Watering Binahong Leaf Decoction in Experimental Groups and Control Groups

Group	Amount	Mean
Experiment	16	129,38
Control	16	151,56

Table 4 showed that the average blood pressure after being given binahong leaf boiled water in the experimental group is 129.38 mmHg while in the control group is 151.56 mmHg.

Bivariate Analysis

Table 5 showed that the average blood pressure pre-test in the experimental group was 148.94 and post-test after being given binahong leaf boiled water was 129.38. The statistical test results obtained p value = 0,000 which smaller than alpha $(p < 0,05)$. This shows a significant decrease between pre-test and post-test after being given binahong leaf boiled water in the experimental group.

Table 5 Comparison of Average Blood Pressure Before and After Given Water of Binahong Leaf Decoction in Experimental Groups.

Kel. Eks	N	Mean	SD	CI 95% Low	Up	p Value
Pre Test	16	148,94	7,35	13,91	25,21	0,000
Post Test	16	129,38	11,8			

Table 6 Comparison of Average Blood Pressure Before and After in the Control Group

Contrl	N	Mean	SD	CI 95% Low	Up	p Value
Pre Test	16	151,88	9,97	4,69	5,31	0,896
Post Test	16	151,56	13,6			

Table 6 showed that the mean blood pressure *pre-test* measurements in the control group were 151.88 and the *post-test* is 151.56. The statistical test results obtained p value = 0.896 which is greater than alpha $(p > 0.05)$. This shows no significant decrease between blood pressure measurements pretest and post-test.

Table 7 Comparison of Average Blood Pressure After Consuming Water of Binahong Leaf Decoction in Experimental Groups and Control Groups

Grp	N	Mean	SD	CI 95% Lower	Upper	P Value
Exp.	16	129,38	11,815	-31,39	-12,979	0,000
control	16	151,56	13,628			

Table 7 showed that the average blood pressure after consuming binahong leaf decoction in the experimental group is

129.38 (SD 11,815) and in the control group 151,56 (SD 13,628). The statistical test results obtained *p value* = 0,000 which is smaller than *alpha (p* <0.05). This shows that there is a significant difference in mean blood pressure after consuming binahong leaf stew water between the experimental group and the control group.

DISCUCCION
Respondent Characteristic.
Age

The results of this study found that the characteristics of 60-74 years old age were 68.75%. According to the National *Basic Health Survey* (NHBS) in Afiah, et al (2018) reported that the prevalence of hypertension in Indonesia in the 15-24 year age group was 8.7% in the 25-34 age group 14.7%, age group 35- 44 years 24.8% aged 45-54 years 35.6%, ages 55-64 years 45.9% for ages 65-74 years 57.6% while more than 75 years were 63.8%.

Hypertension is closely related to age, the older a person the greater the risk of developing hypertension. Age more than 40 years has the risk of developing hypertension (Yundini, 2011). Along with increasing age, the risk of developing hypertension is greater so the prevalence of hypertension among the elderly is quite high, which is around 40% with deaths of around 50% over the age of 50 years (Nurkhalida, 2010).

Sex

The results of this study found that the respondents' characteristics are mostly male as many as 18 respondents (56.25%). This is in line with the research conducted by Sanjaya (2016) found that the majority of hypertensive patients were male by 69.2%, while women were 30.8%. Based on gender, men have a higher risk of suffering from hypertension earlier than women.

Risk factors that can cause hypertension in men are smoking habits. Whereas women will experience an increased risk of high blood pressure

(hypertension) after menopause, namely age above 45 years.

Univariate analysis
Average Blood Pressure Before Consuming Water of Binahong Leaf Decoction

The results of research conducted on 32 elderly respondents found that the average blood pressure before being given therapy was 148.94 and for the control group was 151.88. The mean value of each group in the hypertension category is caused by the age of the respondent> 60 years. Blood pressure, especially systolic pressure, increases with age in western countries and in most people by consuming large amounts of salt. The increase is striking in women after the age of 50 years, generally, high blood pressure is less aware that if known from the beginning can be done prevention efforts (Koren, 2014).

Elderly people aged over 60 years, 50-60% have blood pressure greater than or equal to 140/90 mmHg. This is the effect of degeneration that occurs in people who are growing in the age. increasing age eating blood pressure will also increase. After the age of 45 years, the arterial wall will be thickened because of the accumulation of collagen substances in the muscle layer, so that the blood vessels will gradually narrow and become stiff. Systolic blood pressure increases due to the flexibility of large blood vessels which decreases in the addition of age (Dian, 2015).

Average Blood Pressure After Consuming Water Binahong Leaf Decoction

The results of the research conducted on 30 elderly respondents at UPT PSTW Khusnul Khotimah Pekanbaru are divided into two groups of 16 respondents for the experimental group and 16 respondents for the control group. The experimental group was treated in the form of binahong leaf

decoction water drunk routinely morning and evening for 3 days, while the experimental group was given minimal treatment. In the experimental group, the mean blood pressure after being given therapy was 129.38 and in the control group 151.56. This shows that in the experimental group experienced a significant decrease after being given herbal therapy with binahong leaves.

Garmana, et al. (2014) revealed that using binahong leaf extract in lowering blood pressure. Binahong leaf extract using a dose of 50 mg / kg obtained the results of the study p value <0,000 can be concluded that the extract of binhong leaves at a dose of 50 mg / kg bw had antihypertensive activity in Wistar rats.

Bivariat Analysis

The Effect of Water on Binahong Leaf Decoction on Hypertension

The results of the Dependent T test showed that there were significant differences in blood pressure before and after consuming binahong leaf decoction in the experimental group with a p value <0.05 = 0,000. This is because the effects of consuming binahong leaf boiled water can reduce blood pressure in patients with hypertension.

The results of this study are in line with the research conducted by Siswantari (2011) which shows that the respondent's systolic and diastolic pressures before being given binahong leaf boiled water are moderate, namely 6 people (40%).

The respondent's systolic and diastole pressure after being given binahong leaf boiled water is relatively mild, namely 8 people (53.3%). The results of the t-test showed a significance value (p) 0,002 thus it can be concluded that there was an effect of giving binahong leaf boiled water to the reduction of blood pressure in the elderly in Kopat Karangsari Pengasih Village Kulon Progo Yogyakarta.

Binahong plants have enormous benefits in the world of medicine, empirically can cure various diseases.

Some diseases that can be cured using these plants are kidney damage, diabetes, heart swelling, vomiting of blood, postoperative recovery, postpartum recovery, healing of all internal wounds and circumcisions, inflammation of the intestines, smooth circulation and blood pressure, constipation, tightness breath, heavy thrush, abdominal pain, fertilizing the womb, maagh, gout, vaginal discharge, swelling of the liver, increasing vitality and endurance (Manoi & Ballitro, 2009).

This is in line with the research conducted by Wardhaningsih (2017) research conducted on 30 respondents who were divided into experimental groups and control groups obtained statistical test results p value 0,000, this shows that there is an influence of binahong leaves boiled water on blood pressure reduction in hypertensive sufferers.

The results of this study are in accordance with the research conducted by Wismaji (2012) by using binahong leaf juice in reducing creatinine levels. Hypertension will cause an increase in pressure on the kidney capillaries. High pressure over a long period of time results in the death of kidney constituent cells. This will cause a decrease in kidney function in filtering blood. Kidney function can be assessed by measuring the ability of renal excretion through measuring serum creatinine and using the glomerular filtration rate. Serum creatinine increases are generally found in individuals who have high blood pressure and who have already received antihypertensive therapy.

Clark, et al. (2015) revealed that binahong is one extraction containing high flavonoids, plants that contain high flavonoids are able to provide good effects on cardiovascular health including controlling hypertension. Flavonoids work by relaxing the muscles and increasing the vasodilation effect of blood vessels so that blood pressure can decrease. Binahong's ability to cure various types of diseases is closely related to the active compounds

contained in them such as flavonoids. Based on research conducted by Selawa, et al. (2013) the content of fresh flavonoids from binahong leaves was 11.263 mg / kg and 7.81 mg / kg on dried leaves. Binahong leaf extract has a total antioxidant of 4.25 mmol / 100g (fresh) and 3.68 mmol / 100g (dry). Plants that are efficacious as drugs have important substances that are very instrumental in determining the work activities of medicinal plants, one of which is flavonoids that are commonly found in plants as glycosides. Flavonoids are natural phenolic compounds that have the potential as antioxidants.

Sunarti (2010) suggested that antioxidants stabilize free radicals by complementing the lack of electrons possessed by free radicals, and inhibiting the occurrence of chain reactions from the formation of free radicals. Free radicals are a foreign compound that enters the body and damages the body's immune system. These free radicals can arise due to complex chemical processes in the body, environmental pollutants, radiation of chemicals, poisons, fast food, and foods fried at high temperatures. If the amount is excessive, free radicals will trigger pathological effects such as hypertension.

Based on research conducted by Garmana (2014) Study of the Mechanism of Working of Binahong Leaves (*Anredera Cordifolia (Ten.) V. Steenis*) As Antihypertensive Binahong Leaf Extract has been proven preclinically to have an antihypertensive effect through several working mechanisms, namely as diuretics and saluretics, beta receptor antagonists, vasodilation through NO pathways (*ex vivo* and *in vivo*), calcium channel inhibition, and ACE inhibition. In testing the antihypertensive effect with animal models, rat blood pressure was measured using CODA (*tail-cuff blood pressure system*). Binahong Leaf Extract can reduce systolic blood pressure significantly by 26.8; 34,1; and 40.5 mmHg and a decrease in diastolic blood pressure of 22.0; 24.5; and 35.4 mmHg.

The results of the study by Astuti, et al. (2011) identified saponin compounds in binahong leaves which reached an average of 28.14 mg / g, stem 3.65 mg / g, and tubers 43.15 mg / g. Substances that have the effect of reducing cholesterol levels in binahong are titerpenoid saponins such as boussingide A1 or larreagenin A. The general nature of saponins is to inhibit cholesterol biosynthesis by inhibiting the action of enzymes acting at the phosphorylation level.

Hasliani (2017) argues that food is an important cause of risk for the formation of high cholesterol levels in the blood. High cholesterol levels can increase the likelihood of high blood pressure. Cholesterol deposits in the blood will result in thickening of the arterial wall caused by cholesterol plaques. When the walls of a blood vessel become thick and stiff due to a pile of cholesterol, the arterial tract loses its flexibility and becomes stiff. As a result, blood vessels cannot expand elasticly when the heart pumps blood through blood vessels and blood is strongly pushed to get through these narrow blood vessels, causing an increase in blood pressure.

Based on the results of research and related journals the author assumes that consuming binahong leaves boiled water regularly can reduce high blood pressure in patients with hypertension. Binahong is a plant that contains chemical compounds flavonoids and saponins. These chemical compounds will reduce cholesterol levels and relax smooth muscle so as to restore the elasticity of blood vessels and then stimulate the hypothalamus which is passed on by the efferent nerve causing vasodilation. The vasodilation process will smooth blood flow.

CONCLUSION
1. Characteristics of respondents based on the age category 60-74 years as many as 20 respondents (62.5%) while the

characteristics of respondents based on the sex of the majority of men were 18 respondents (56.25%).

2. The blood pressure of the experimental group before being given binahong leaf stew water obtained a mean value of 148.94 and in the control group the mean value was 151.88.

3. The blood pressure of the experimental group after being given binahong leaf stew water obtained a mean value of 129.38 and in the control group the mean value was 151.56.

4. The results of the study can be concluded that there is an effect of consuming binahong leaf decoction water on the reduction of blood pressure in the elderly in the UPT Social Services Tresna Werdha Khusnul Khotimah Pekanbaru with p value = 0,000 <0.05.

SUGGESTION

It is expected that the next researcher will conduct further research on the benefits of binahong leaves on reducing blood pressure in the adult age category.

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THE INFLUENCE OF ACUPRESSURE TO REDUCE DISMINORE ON YOUTH DAUGHTERS IN SATU ATAP PRIVATE VOCATIONAL SCHOOL BEKAWAN MANDAH INDRAGIRI HILIR

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Abstract
The incidence of disminore is quite high throughout the world with prevalence of is 50-70%. The results of the survey and interviews conducted were 32 students, as many as 27 students experienced menstrual pain, the average pain experienced by the female students were abdomen and lower back pain and could bothers the concentration of learning. Desminore can be overcame pharmacologically and non-pharmacologically. One of the non-pharmacological therapies is acupressure. The purpose of this study was to determine the effect of acupressure on reducing the intensity of menstrual pain before and after being given acupressure treatment.The Samples were taken by Accidental sampling technique with 27 students who experienced desminore. Data analysis were carried out by Univariate and Bivariate. The statistical test used was Wilcoxon. It can be concluded that the average value of menstrual pain before giving acupressure was 4,7. Then after being given acupressure showed a change in the average value to 0.67. The results showed that there were an effect of acupressure to reduce menstrual pain(p value=0,000). This acupressure is one of the pain management to reduce disminore, public health center can add tradiotional health program by opening acupressure out patient

Keywords : Desminore, acupressure, pain

INTRODUCTION

Acupressure is a type / method of traditional health care skills that is carried out through the technique of pressing on the surface of the body at acupuncture points using fingers, or other body parts, or assisted devices with blunt ends, with the aim of health care. (Ministry of Health, 2016).

Adolescence is a period of transition from puberty to adulthood or a process that grows toward maturity which includes mental, emotional, social, and physical maturity. Puberty is one of the stages of development characterized by maturity of the sexual organ and the achievement of the ability to reproduce, where one characteristic of the sign of puberty in a woman is the occurrence of the first menstruation (menarche). Menstruation or menstruation is regular vaginal bleeding due to the release of the uterine endometrial layer (Janiwarty & Pieter, 2013).

Menstruation or menstruation is a natural process that occurs in women. Menstruation is regular bleeding from the uterus as a sign that the uterus is functioning properly. Generally, teens who experience menarche are aged 12 to 16 years. Normal menstrual cycles occur every 22-35 days, with the duration of menstruation for 2-7 days (Kusmiran, 2014).

Pain during menstruation causes discomfort in daily physical activity. This complaint is related to repeated absenteeism in school or at work, which can interfere with productivity. Forty to seventy percent of women during reproduction experience menstrual pain, and as much as 10 percent experience it to

interfere with daily activities. About 70-90 percent of menstrual pain cases occur during adolescence and adolescents who experience menstrual pain will be affected by academic, social and sports activities (Puji, 2010).

Teenagers who experience dysmenorrhea during menstruation have more days off and their achievements are not very good at school than teens who are not affected by dysmenorrhea. The impact that occurs if dysmenorrhea is not treated, the underlying pathology (disorder or disorder) can trigger an increase in mortality, including infertility. Apart from that emotional conflict, tension and anxiety can play a role and cause uncomfortable and foreign feelings (Anurogo & Wulandari, 2011).

Based on WHO criteria the age of adolescents ranges from 10-19 years. In the United States, the prevalence of desminore is estimated at 45-90%. Epidemiological studies in the population of adolescents (aged 12-17 years) in the United States, Klein and Litt report the prevalence of dysmenorrhea reaching 59.7%. Of those who complained of pain, 12% were severe, 37% were moderate, and 49% were mild. The study also reports that dysmenorrhea causes 14% of adolescents to often not attend school. Whereas in Indonesia, more women who experience desminore do not report or do not visit a doctor. The shame of the doctor and the tendency to underestimate the disease often make the data of the person with certain illnesses absolutely cannot be ascertained. 90% of Indonesian women have experienced menstrual pain. (Anurogo and wulandari, 2011).

The incidence of menstrual pain is quite high throughout the world. According to WHO data, the prevalence of menstrual pain is 50-70%. The incidence of menstrual pain ranges from 45-55% among productive age women (Riskesdas, 2013). While in Indonesia, it is estimated that 55% of productive age women are tormented by pain during menstruation.

Although in general it is not dangerous, but it is disturbing for women who experience it. The degree of pain and the level of certain disorders is not the same for every woman. There are those who can still go to school or work, but there are those who cannot do activities (Proverawati and Misaroh, 2009). As in the journal Saguni et al (2013) reported that "out of 132 respondents, there were 121 respondents experiencing menstrual pain (91.7%) and 91 people (68.9%) disrupted activity. Menstrual pain makes it difficult for young women to concentrate because of the discomfort felt when menstrual pain ".

According to Permadi, (1982) in the Mardiatun Journal (2015), currently various types of treatment both medical and non-medical have been done to overcome the problem of menstrual pain, one of which is acupressure therapy. Acupressure therapy is widely used by the public to treat primary dysmenorrhea. Acupressure has a fairly high success rate with little or no complications if the abnormality is only functional, proper diagnosis, good technique and possible prognosis. In addition, acupressure is also easy to do at a low cost.

Many benefits that can be obtained with acupressure therapy, call it stress relief, provide mind relaxation, improve circulation, remove toxins, improve healing, increase energy, eliminate convulsions, even reduce pain and much more. There are a number of studies regarding acupressure with mocking results.

METHOD

In this study the quasi-experimental research was used. The design of this study uses the One Group Pretest Posttest. This research was conducted at the One-Stop Outdoor Roofing Middle School in Mandah District, Indragiri Hilir Regency. The population in this study amounted to 32 female students. The sample size used in this study uses a total of the population

as a sample with the criteria of female adolescents who experience menstrual pain amounting to 27 female students.

The inclusion criteria in this study are:
1) Adolescents who are at the location of the study when the study was conducted, namely at the Outdoors One Roof Junior High School
2) Teenagers who experience menstrual pain the first day or second day

The sampling technique in this study used accidental sampling, namely by taking cases or respondents who experienced menstrual pain, who measured the degree of pain before being given acupressure, then given an intervention and then performed posttest measurements with the instrument Numeric Rating Scale (NRS). measurement refers to: If the value is 1-3 then it is called mild pain, if the value is 4-6 is called moderate pain, if the value is 7-9 it is called severe pain, and if the value is 10 then it is called severe pain is unbearable.

After the data is collected, the results of data collection are processed by statistical analysis using univariate and bivariate analysis.

RESULT
Univariate Analysis
Table 1 Frequency distribution of menstrual pain scale before acupressure

Degree of pain	Scale	Pretest Total	%	Degree of pain (%)	Posttest Total	%	Degree of pain (%)
Without pain	0	0	0	0	14	51,9	51,9
Mild pain	1	1	3,7	25,9	10	37,0	48,1
	2	4	14,8		1	3,7	
	3	2	7,4		2	7,4	
moderate pain	4	5	18,5	55,5	0	0	0
	5	3	11,1		0	0	
	6	7	25,9		0	0	
severe pain	7	5	18,5	18,5	0	0	0

Based on table 1, it can be seen the frequency distribution of the degree of pain before mild pain acupressure is performed 25.9%, moderate pain 55.5%,

severe pain 18.5%, then after being given acupressure can be seen a decrease in pain that is without pain as much as 51.9 % and mild pain as much as 48.1%.

Bivariate Analysis
Table 2 Cumulative results of menstrual pain at pretest and posttest

	Pretest	*Posttest*
Mean	4,7	0,67
Min	1	0
Max	7	3

From the table above it can be concluded that the average value of menstrual pain at the time before acupressure is (4.7), with a minimum scale of 1 and a maximum scale of 7, then after being given acupressure shows a change in the average value to 0.67, minimum value 0 and maximum value 3.

Wilcoxon Test
Wilcoxon test before and after being given acupressure

From the results of the Wilcoxon test the results of the Mean Rank before acupressure 14.00, then after being given acupressure 0.00, with an average pretest value of 4.7 and the average value of posttest 0.67 with a difference in mean mean of 4, 3, from the results of the test P value 0,000 <0,05, indicating that there is an effect of giving Acupressure to reduce Menstrual Pain in Young Women at the One-Roof Junior High School.

DISCUSSION
From the results of the research conducted at the One-Stop Junior High School before being given acupressure the majority of students experienced moderate pain which amounted to 55.5%, whereas after being given acupressure the majority of the pain experienced by female students was reduced to no pain or missing pain by 51.9%. From the results of the Wilcoxon test, the mean value of pretest was 4.7 and the average value of posttest was 0.67 with a mean difference of 4.3, from the test results P value 0.000 <0.05, indicating there was an effect of giving acupressure

to reduce pain Menstruation for Young Women at the One-Roof Junior High School.

From the results of the Wilcoxon Ranks test, Negative Ranks 27 were obtained, meaning that from 27 respondents all experienced a decrease in the scale of pain after being given acupressure, when posttest was given, then the positive value of Ranks was 0, which meant that there were no posttest pain increases, and Ties scores also 0, meaning there is no degree of pain of the respondent at pretest equal to the degree of pain felt by the respondent at posttest.

In general, menstrual pain arises due to dystritic myometrial contractions which display one or more symptoms, ranging from mild to severe pain in the lower abdomen, buttocks, and spasmodic pain on the medial side of the thigh (Anurogo and Wulandari, 2011). The onset of dysmenorrhea is often associated with increased levels of prostaglandin. Where it is known that prostaglandin has an effect that can increase contractility of the uterine muscle. And prostaglandin also has a vasoconstricting effect which can eventually cause ischemia in the uterine muscles that can cause pain. Prostaglandin concentrations during the menstrual cycle have a significant increase. PGE2 and PGF2α levels were found to be very high in the endometrium, myometrium and menstrual blood of women suffering from primary menstrual pain. Women with severe dysmenorrhea have high levels of prostaglandin during the menstrual cycle, this high concentration occurs for 2 days from the menstrual phase (Anurogo & Wulandari, 2012).

Acupressure therapy is a form of physiotherapy by providing massage and stimulation at certain points in the body. The goal is to stimulate the natural ability to heal themselves by restoring the body's positive energy flow. This therapy is very easy because it only requires both hands to deal with the pain that is felt (Widyaningrum, 2013).

Historically, this therapy is a method of traditional Chinese medicine and has been carried out since thousands of years ago. With acupressure, the flow of Yin and Yang in the body can be balanced. The principle of acupressure comes from Eastern medicine, where there is a known flow of vital energy in the body Chi or Qi (China) and Ki (Japan). Qi energy flow is very believed to affect a person's health. When this flow is blocked or reduced, a person will get sick, and vice versa when this flow is good, it will return to health. And in the body, the supply and flow of vital energy runs on the body's invisible electricity channel, called "Meridian". Whether or not the meridians are very dependent on diet, lifestyle, environment, posture, how to breathe, behavior, body movements, exercise, mental attitude, personality and positive attitude (Widyaningrum, 2013).

According to research conducted by Aprillia (2010), it was suggested that the acupressure technique can reduce the sensation of pain through an increase in endorphins, a hormone that is able to naturally relax the body, blocking pain receptors to the brain. The same is explained by Hartono (2012), that empiric acupressure has been proven to help the production of the hormone endorphin in the brain which can naturally help offer pain during menstruation. Emphasis on acupressure points can affect the production of endorphins in the body. Endorphin is a pain killer that is produced by the body. Endorphins are peptide molecules or proteins made from a substance called betalipoptropin which is found in the pituitary gland. Endorphin controls the activity of the endocrine glands where the molecule is stored.

Kashefi (2010), proving that acupressure at the SP6 point causes a decrease in the severity of dysmenorrhea immediately after the intervention, acupressure at Sanyinjiao (SP6) is also effective and cost-effective. In addition, endorphins can affect pain sensing areas in

the brain in a manner similar to opiate drugs such as morphine. The release of endorphins is controlled by the nervous system. Neural networks are sensitive to pain and external stimulation, and if triggered by using acupressure techniques, will instruct the endocrine system to release a number of endorphins according to the body's needs (Aprillia, 2010). Related to the production of prostaglandin in the lutheal phase, acupressure therapy can accelerate blood circulation, prostaglandins also flow in the bloodstream and do not accumulate in the uterus and are ultimately expected to reduce pain during menstruation (Sriwahyuni, 2011).

The results of research conducted by Juliatin, Hasanah and Erwin on 80 young women at SMAN 5 and MA AL-HUDA Bengkalis, acupressure therapy at LR3 (Taichong) and PC6 points (Nei-Guan) Average pain intensity after acupressure therapy bebeda significantly can reduce the average pain intensity by 1.76 points (p value = 0.000).

According to the researchers, this acupressure is quite effective and efficient to reduce menstrual pain if done correctly and correctly because it is easy to do, only requires both hands and the effect is felt quite quickly that is immediately after being given a massage. When given acupressure, the respondent will feel a sense of pain at the acupressure massage point, this means the respondent has a health problem so that this acupressure massage works to stimulate the natural ability to heal themselves by restoring the body's positive energy flow (Widyaningrum, 2013), and at this study the problem experienced by respondents was pain during menstruation.

Each respondent felt a pain of acupressure massage that was different according to the complaints of how much menstrual pain was felt (Widyaningrum, 2013). The greater the menstrual pain that is felt, the stronger the massage pain felt by the respondent, but after the massage is done, then the pain of the acupressure massage soon disappears and becomes more comfortable.

CONCLUSION

From the results of research conducted on teenage girls at the One Roof Junior High School, it was found that:

1. The degree of menstrual pain experienced by female adolescents in one-roof junior high school before being given acupressure is before the acupressure is 25.9% pain, moderate pain 55.5%, severe pain 18.5%.
2. The degree of menstrual pain experienced by female adolescents at the One-Roof Junior High School before being given acupressure, after acupressure, decreased by 51.9% without pain and mild pain by 48.1%.
3. From the results of the Wilcoxon test, the mean value of pretest is 4.7 and the average value of posttest is 0.67 with a mean difference of 4.3, from the test results P value 0.000 <0.05, indicating there is an effect of giving acupressure to reduce Menstrual Pain in Adolescent Girls at Bekawan One Roof Junior High School.

SUGGESTION

1. For Puskesmas The results of this study should be able to become a new program at the puskesmas or higher facilities, the Puskesmas can run traditional health programs by opening poly acupressure to reduce menstrual pain.
2. For Educational Institutions Educational institutions should be able to add material about traditional acupressure health, especially acupressure to reduce menstrual pain, because acupressure is easy to do and inexpensive, and has a very good effect on health immediately after intervention.
3. For Respondents The results of this study can provide knowledge to students how easy and correct ways to

reduce menstrual pain that they can do themselves correctly and easily or by visiting a health center.

4. For researchers Next The results of this study can add insight and as and as an application of science to be developed. Researchers can also make this research a reference for making better scientific papers in the future.

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THE RELATIONSHIP OF PHYSICAL ACTIVITY WITH OVERWEIGHT ON CHILDREN IN THE ELEMENTARY SCHOOL 33 RAWANG SOUTH PADANG

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Abstract

The trend of obesity in Indonesia has increased every year. Based on Riskesdas in 2013 for the age of 5-12 years old there were 10.8% of children with overweight. The impact of obesity on children will be a risk factor for degenerative diseases in adult. One of the factors that can cause overweight is physical activity. The purpose of this research was determine the relationship physical activity with overweigh. This research was a descriptive analytic study with a crosssectional approach. The populations this study were all grade IV and V students about of 120 respondents. The sampling technique used was simple random sampling. The data collection used Physical Activity Questionnaire-Children (PAQ-C) and observation sheet to determine the classification of Body Mass Index. The prevalence of overweight the students this study were 35.3%. The prevalence of children who have low physical activity was 64.7%.Based on data analysis using the chi square test there were a relationship between physical activity with the incidence overweight (p value <0.05). From this research it can be concluded that there were a relationship physical activity with incidence of overweight. It is Expected for community health nurses to increase physical activity of children by using fitness equipment such as treadmills, elliptical machines and other strength training equipment.

Keywords : Physical activity, overweight, elementary school.

INTRODUCTION

Cases of overweight and obesity had become endemic problems throughout the world. During the previous three decades, the prevalence of overweight and obesity in children has rapidly increased throughout the world (Suandana, 2014). Over nutrition problems that occur in Indonesia are still relatively high with a prevalence of 18.8% consisting of 10.8% obese and 8.8% obese (Ermona, 2018).

Consumption of food, especially food sources of energy that exceed needs will cause a buildup of energy so that it can add weight where the accumulation of energy and fat increases the risk of overweight and even obesity (Tessmer, et al., 2006). One of the factors that cause obesity is a lifestyle factor in which increasingly

moldy stores that provide fast food. This will cause the habit of children to consume these foods coupled with the busyness of parents who do not have time to pay attention to their children's food intake. This is coupled with the development of the era of globalization with all the more sophisticated that will reduce the opportunity for children to engage in physical activity (Ermona, 2018). Obesity in children who lack physical activity or exercise is caused by the number of calories burned less than the calories obtained from food consumed so that the potential to cause excess fat accumulation in the body (Maidelwita, 2011). The Center for Disease Control and Prevention of the United States recommends that children and adolescents

have to do physical exercise every day for 60 minutes or more, which consists of aerobic activity, muscle strengthening, and bone strengthening. Aerobic activity is physical exercise that can be done every day for 60 minutes or more.

According to the Danari study (2013) conducted in 8 elementary schools in the city of Manado There was a significant relationship between physical activity and the incidence of obesity. Where the description of mild physical activity of children who are obese is 85.3% and not obese 14.7%. The level of physical activity in children is dominated by moderate-weight activities> 1 hour / day as much as 60.4%. The results of the research conducted at Ngebel Primary School, Tamantirto, Kasihan, Bantul showed that there was a significant relationship between physical activity and the incidence of obesity (Zamzani, 2016).

A preliminary study conducted by the researchers on May 2, 2018 at Rawang Elementary School 33, with measurements of body weight and height at 10 grade IV and V students, found that 3 people were categorized as obese, 4 were overweight and 3 were normal. Researchers interviewed 7 students who were categorized as overweight and obese. 5 of the 7 students interviewed said that they seldom seriously worked on the sport, and during recess they would rather sit around than to go around or play. However, 2 out of 7 students said that when they were exercising they were serious in carrying out these sports activities, when they were at rest they played for a while with other friends. Based on the background above the researchers were interested in conducting research on the Relationship of Physical Activity with Overweight Events in Children at Primary School 33 Rawang Padang.

METHOD

The research design used was descriptive analytic using a cross-sectional approach. This study aimed to look at the relationship of physical activity with the incidence of overweight in children in Primary School 33 Rawang. With the number of respondents 102 respondents. The sampling technique in this study was simple random sampling. The inclusion criteria of this study were students in grades IV and V, students who were willing to become respondents.

RESULTS
Characteristics of respondents

Table 1 Distribution of Frequency Characteristics of Respondents in Rawang primary school 33 Padang City (n = 102).

Characteristic	Category	f	%
Gender	Laki-laki	53	52,0
	Perempuan	49	48,0
Age	8 tahun	1	1,0
	9 tahun	27	26,5
	10 tahun	47	46,1
	11 tahun	26	25,5
	12 tahun	1	1,0

Table 1 showed that more than half of the respondents had male sex (52.0%). Most respondents were 10 years old, totaling 47 students (46.1%).

Table 2 Frequency Distribution of Body Mass Index in Children in primary school 33 Rawang, Padang City (n = 102)

Classification	F	%
Overweight	36	35,3
Non overweight	66	64,7
Total	102	100,0

Table 2 shows that more than half of the respondents had the category of Non Overweight as many as 66 respondents (64.7%).

Table 5.3 Distribution of Frequency of Physical Activity in Children in Primary School 33 Rawang, Padang City (n = 102)

Physical activity	F	%
High	33	32,4
Low	69	67,6
Total	102	100

Based on the results of research conducted in Primary School 33 Rawang,

Padang City, it was found that more than half of the respondents had low physical activity as many as 69 respondents (67.6%).

Bivariate Analysis

Table 4 Relationship between Physical Activity and Overweight Events in Children in Primary School 33 Rawang, Padang City (n = 102)

Body mass index	Physical Activity				Amount		P
	High		Low				
	F	%	F	%	f	%	
Overweight	1	2,8	35	97,2	36	35,3	
Non Overweight	32	53,0	34	47,0	66	64,7	0,000

Based on research carried out in Primary School 33 Rawang, Padang City, it was obtained from 36 respondents in the overweight category, most of whom had low physical activity, 35 respondents. While from 66 respondents in the non overweight category most of them also had low physical activity, namely 34 respondents. This can be seen from the value of p = value 0,000 which means that there is a significant relationship between physical activity and the incidence of overweight in children in Primary School 33 Rawang Kota Padang in 2018.

DISCUSSION

Overview of the incidence of Overweight and Non Overweight in Children in Primary school 33 Rawang, Padang City

Based on the results of research carried out in PRIMARY SCHOOL 33 Rawang, Padang City in 2018, it showed that a small proportion of respondents had an overweight classification of 36 respondents (35.3%). Based on the classification of nutritional status in the anthropometric scale in overweight there are 2 categories, namely fat obtained as much as 7.7% and obesity obtained as much as 10.8%.

This is in line with the research conducted by Ermona (2018) who said that the nutritional status of respondents who were obese was equal to 54.5% while for the remaining 45.5% were obese nutritional status. And according to research conducted by Dewi (2014), it was found that overweight nutritional status was 28.4%.

The results of this study indicate that more than half of the respondents had a non overweight classification of 66 respondents (64.7%). Based on the classification of nutritional status in the anthropometric scale on non overweight there are 3 categories, namely very thin, obtained as much as 2.1%, thinner obtained as much as 2.1% and normal obtained as much as 29.7%.

This is in line with the research conducted by Indria (2013) saying that the highest nutritional status is normal, namely 62 people (51.7%), skinny as many as 7 people (5.8%), and very thin as many as 1 person (0, 8%). The results of this study indicate that male respondents who are classified as non overweight are more than respondents with overweight nutritional status as many as 35 respondents. Likewise, more female respondents found non-overweight nutritional status than overweight nutrition status. Based on the analysis of researchers, the incidence of overweight occurs mostly in children aged 10 years as many as 47 respondents (46.1%). Of the 36 overweight children 18 of them were male.

Description of Physical Activity in Children in Primary School 33 Rawang, Padang City

Based on the results of research in Primary School 33 Rawang, Padang City in 2018, it shows that the majority of respondents have low physical activity, as many as 69 respondents (67.6%) and the rest respondents have high physical activity as many as 33 respondents (32.4%). This is in line with the research conducted by Ermona, (2018) where in the study found most of the respondents had low physical activity.

The lifestyle of children who have inactive physical activity is influenced by

technological developments that currently invite children to tend to do physical activities that use less energy (Amelia, 2017). Lifestyle changes that lead to a decrease in physical activity, such as going to school by riding a vehicle and lack of playing or exercising and recreation with friends and home environment or that do not allow children to play outside the home, causing children to play computer / games more often, play station, watch TV or video rather than doing physical activity or sports.

Based on the results of research conducted on children in Rawang Elementary School 33, 69 respondents had low physical activity. While from 33 respondents who have high physical activity. According to research conducted by Putri, Angkasa & Nuzrina (2017) children who have mild activity are at risk of 2.5 times overweight than children who have high physical activity.

Based on the results of research conducted from 102 respondents who had high physical activity, 14 respondents (42.4%) were 10 years old. While from 69 respondents who had low physical activity, 47.8% of them were children aged 10 years.

According to Crouter, Salas, & Wiecha (2017) interventions that can be given using fitness equipment such as treadmills, elliptical machines and strength training equipment for 60 minutes. The activity was carried out 3 times a week for 10 weeks and the result was a decrease in body mass index.

Gerards (2012) suggests an innovation intervention that nurses can apply to parents of children with overweight / obesity, namely through the Triple P Lifestyle program which includes the provision of adequate nutrition, physical activity, and effective parenting.

The implementation of this intervention is to improve healthy eating patterns for children, increase physical activity, achieve normal weight, reduce compelling parenting (authoritarian) and too permissive, improve parental communication about health and nutrition, and reduce stress on parents to improve children's health.

Relation of Physical Activity to Overweight Events in Children in Rawang Elementary School 33

Based on the results of research on the relationship of physical activity with the incidence of overweight in children in Primary School 33 Rawang, Padang City in 2018 it was found that 35 respondents (53.0%) with the classification of the Non Overweight category had high physical activity. A total of 35 respondents with an Overweight category classification had low physical activity. The statistical test results obtained p = 0,000 which means that there is a significant relationship between physical activity and the incidence of dancing, soccer and badminton. This is in line with Suryani's research, et al (2017) which said that the majority of types of physical activity carried out were 2 types of activities Variations in activities are cycling, swimming, jogging and soccer. A child who is lazy to move or physical activity will be at risk or vulnerable to obesity as well as vice versa children who are overweight will tend to be lazy to move so that it can result in a lack of movement experience, physical fitness level will be relatively poor (Iswati, 2016).

Overweight in school-age children.

Based on the results of this study, the majority of types of physical activity that are often carried out are 3 types of activities. Variations in activities are rope jumps, chases, brisk walking, cycling, marathons, gymnastics, swimming, baseball,

CONCLUSION

Based on the results of the research that has been carried out regarding the relationship between physical activity and the incidence of Overweight in children in Primary School 33 Rawang, Padang City

in 2018, the following conclusions can be drawn:
1. A small portion of the nutritional status of children in Primary School 33 Rawang is in the category of Overweight (35.3%) and Non Overweight (64.7%).
2. More than half of the respondents had low physical activity, as many as 69 respondents (67.6%), and a small number of them, 33 respondents (32.4%) had high physical activity.
3. There is a significant relationship between physical activity and the incidence of overweight in school-aged children in Primary School 33 Rawang, Padang, with a value of p <0.05, which is 0,000.

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THE EFFECT OF OXYTOSIN MASSAGE ON COLOSTRUM AT THE MATERNAL ROOM PURIHUSADA HOSPITAL TEMBILAHAN

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Abstract

Not all postpartum mothers post immediate breast milk as soon as the baby is born, because breast milk is a very effective interaction between mechanical, neural and hormonal stimuli that affect the burden of oxytocin, this condition can be a low spreader for exclusive breastfeeding infants, 40, 4% in Indragiri hilir. Massage oxytocin is one solution to overcome not smooth milk production. Oxytocin massage is massage the whole spine (vertebrae) to the fifth-sixth costae bone and is an attempt to stimulate the hormones prolactin and oxytocin after delivery. The aim of the study was to determine the take effect of massage therapy to the expenditure oksitosin colostrum and using quasi experiment research design and research design post test only control group design. Total sample as many as 32 samples. Data were collected using observation sheet. The statistical test was the Chi-Square. The results of study showed there were from the average time spending there was colostrum on experimental group was 5 hours and 42 minutes, while the control group was 10 hours and 40 minutes. Average Period spending there colostrum on 5,775 cc experimental group while the control group was 3,413 cc. Statistical test results at longer spending there colostrum(p-value = 0.002). While the findings of the statistical test on period spending there colostrum (p-value = 0.011). Then massage can effective against oxytocin old and term spending there colostrum. It is expected that the health workers to be more active in carrying out massage colostrum in order to accelerate the release of colostrum that is needed by the infant.

Keywords : Oxytocin Massage, Colostrum

INTRODUCTION

Women are one of the creatures who get the grace of God Almighty to be able to conceive, give birth and breastfeed. The nature given to women is marked by the reproductive devices they have, namely the uterus and all its parts, to the place where the fetus grows in the womb, and the breast to be able to breastfeed the child when it is born, meaning that all women have the potential to breastfeed their children. its potential to be able to conceive and give birth (Perinasia, 2010).

Breastfeeding gives children the best start in human life. Mother's milk can educate and improve the quality of the nation's young generation, every baby who is breastfed will have natural immunity to the disease because ASI contains a lot of antibodies, active immunity substances that will fight the entry of infection into the baby's body. Approximately 40% of under-five deaths occur in the first month of a baby's life, with breastfeeding reducing 22% of infant mortality under 28 days, thus infant and under-five mortality can be prevented through exclusive breastfeeding early from the time the baby is born at the beginning of his life (Roesli, 2007).

Giving breast milk to babies starts from giving colostrum. Colostrum is a type of milk produced by the kelenjer of milk in the final stages of pregnancy and several days after the birth of the baby. Colostrum is yellow and thick. Colostrum

is important for babies because it contains a lot of nutrients and body defense substances. Colostrum (IgG) contains lots of carbohydrates, protein, antibodies, and a little fat. Colostrum also contains substances that make it easier for babies to defecate for the first time, called meconium. This cleanses bilirubin, which is dead red blood cells produced during birth (Proverawati, 2010).

According to UNICEF, the average coverage of exclusive breastfeeding in the world is 38%. Exclusive breastfeeding target is 80%. According to the monitoring of nutritional status in 2016, the Directorate General of Public Health (Ministry of Health, 2017) the percentage of babies who get exclusive breastfeeding up to 6 months is 29.5% while the percentage of babies getting exclusive breastfeeding is 0-5 months of age is 54%. While for Riau province the percentage of babies who get ASI Exclusive up to the age of 6 months is 25% and the percentage of babies getting exclusive breastfeeding is 0 to 5 months of age as much as 39.7%. In Indragiri Hilir district the number of babies received exclusive breastfeeding was 4665 people or 40.4% of 11552 targets (Indragiri Hilir District Health Office, 2017). Barriers to exclusive breastfeeding are influenced by various factors, including breast milk does not immediately come out after the child is born or less milk production, difficulty in sucking the baby, the condition of the mother's nipples that do not support, working mothers, the influence of promotion of formula milk, and the pain that the mother feels after give birth.

Problems from the mother that arise during breastfeeding can be started before the delivery (antenatal period), during the early post partum and postpartum period. The problem of breastfeeding can also be caused by special circumstances. In addition, mothers often complain about their babies often crying or refusing to suckle. It is often interpreted that the milk is not enough or the milk is not tasty, so it often causes the decision to stop breastfeeding (Maliha et al. 2011).

Not all post-partum mothers immediately remove breast milk because breastfeeding is a very complex interaction between mechanical, nerve stimulation and various hormones that influence oxytocin expenditure. The release of the hormone oxytocin is influenced by the baby's suction is also influenced by receptors located in the ductal system, if the ducts widen or become soft then oxytocin is released by hifofise in a reflector which acts to squeeze milk from alvioli (Endah, 2011).

The intervention that can be done to help increase the expenditure of colostrum in post partum mothers is by oxytocin massage. Oxytocin massage is a massage performed along the vertebrae until the fifth rib, sixth and is an attempt to stimulate prolactin and oxytocin after giving birth (Sulistyawati, 2009).

The results of the preliminary study on November 20, 2017 were conducted in the midwifery room at Purihusada Tembilahan Hospital. Midwives say they have never done oxytocin massage when giving care to post partum mothers, both to stimulate the release of breast milk, overcome bleeding, and stimulate uterine contractions. They are more likely to use breast care therapy, pharmacological therapies such as intravenous oxytocin and also counseling. So methods to increase breast milk productivity through non-pharmacological therapies such as oxytocin massage therapy have never been applied.

From the description above, the researcher was interested in conducting research on the effect of oxytocin massage on colostrum expenditure in postpartum mother in the midwifery room Purihusada Hospital, Tembilahan.

METHOD

This study aims to analyze the effect of oxytocin massage on length and the amount of colostrum expenditure in post

partum mothers. The population in the study were all spontaneous post partum mothers in the Purihusada Tembilahan Hospital Midwifery Room with a sample size of 32 people consisting of 16 treatment groups and 16 control groups. Data was collected by experimental techniques and direct observation of spontaneous post partum mothers. The inclusion criteria in this study were (1) postpartum mothers with spontaneous labor; (2) has not released colostrum in the first 2 hours post partum; (3) do not consume ASI smoothing drugs; (4) good nutrition (Lila $\geq$ 23.5 cm); (5) not currently in active radio treatment; (6) not suffering from HIV; and (7) HBsAg is negative. The exclusion criteria in this study were mothers and infants who died.

Data collection was conducted on April 1, 2018 until May 31, 2018 by conducting oxytocin massage at 2 hours post partum and observing the time of colostrum removal, as well as observing the control group. Positions for oxytocin massage can be done by the mother face down on the table or face down on the back of the chair. Then look for the most prominent bone on the back of the neck / 7th cervical vertebrae. From the point of the bone protrusion down below approximately 2 cm and the right left approximately 2 cm. Place your fingers to massage at that position. Massaging can use the left and right hand thumbs or the left and right index fingers. For mothers who are obese, they can position their hands in the fist, then use the bones around the back of the hand. Start massage with a slow circular motion straight down to the bra line and can also be extended to the edge. Massage oxytocin is done twice a day with a duration of 3-5 minutes.

Univariate data analysis in this study to determine the average length of time spent and the amount of colostrum expenditure in each group of post partum mothers who performed oxytocin massage and who did not do oxytocin massage, while bivariate analysis to determine the

effect of oxytocin massage on colostrum removal with statistical tests Chi Square and level of significance = 0.05.

RESULTS
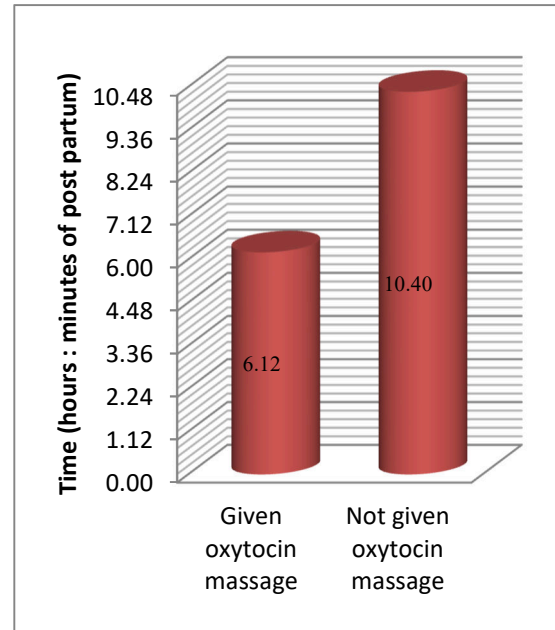
Figure 1. Average length of release of colostrum in mothers post partum

From Figure 1, the results of the analysis show that the average duration of colostrum removal in the group of post partum women given oxytocin massage is 6 hours 12 minutes post partum. The fastest duration of colostrum is 3 hours 20 minutes and the longest is 13 hours 10 minutes post partum. Whereas for the post partum group of women who were not given oxytocin massage, the average expenditure of colostrum 10 hours 40 minutes post partum was obtained. The fastest duration of colostrum is 4 hours 10 minutes and the longest is 20 hours 5 minutes post partum.

From Figure 2, the analysis results showed that the average amount of colostrum expenditure in the post partum group of women given oxytocin massage was 5.775 cc with the lowest amount of colostrum expenditure 0.3 cc and the

highest 10 cc. Whereas for the post partum group of women who were not given oxytocin massage, the average amount of colostrum expenditure was 3,413 cc with the lowest amount of colostrum expenditure 0.1 cc and the highest 7.4 cc.
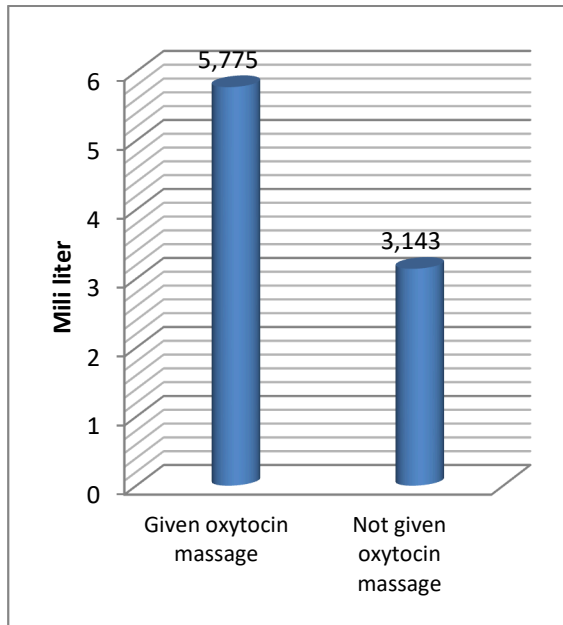
Figure 2. Average Colostrum Expenditures for Post Partum Mothers

Table 1. The effect of oxytocin massage on the duration of colostrum removal in post partum mothers

Oxytoci n Massage	Duration of Colostrum Expenditures				Total		P Value	O dd Ratio
	2-12 Hours Post Partum		>12 Hours Post Partum					
	f	%		%	f	%		
Give n oxytocin massage	1 5	9 3,8		6,3	1 6	1 00		
Not given oxytocin massage	8	5 0		50	1 6	1 00	0, 015	1 5
Tota l	2 3	7 1,9		28, 1	3 2	1 00		

The results of the analysis of the effect of oxytocin massage on the length of

colostrum removal in postpartum mothers showed that there were 15 (93.8%) mothers who were given oxytocin massage with colostrum removal time at 2-12 hours post partum. Whereas among women who were not given oxytocin massage, there were 8 (50%) mothers with long duration of colostrum removal at 2-12 hours post partum. The results of the statistical test obtained a value of $p = 0.015$, it can be concluded that there is an effect of oxytocin massage on the duration of colostrum removal in post partum mothers. From the results of the analysis obtained the value of Odds Ratio (OR) = 15, meaning that mothers who were treated with oxytocin massage had a 15 times chance of expending colostrum in 2-12 hours post partum compared to mothers who were not given oxytocin massage.

Table 2. The effect of oxytocin massage on the amount of colostrum expenditure in post partum mothers

Oxytoci n Massage	Expenditures for Colostrum				Total	P Value	Od d Ratio
	≥ 5 cc		< 5 cc				
	f	%	f	%	f		
Give n oxytocin massage	1 0	6 2,5	6	3 7,5	1 6	00	0,011	11,6 67
Not given oxytocin massage	2	1 2,5	1 4	8 7,5	1 6	00		
Tota l	1 2	3 7,5	2 0	6 2,5	3 2	3 00		

The results of the analysis of the effect of oxytocin massage on the amount of colostrum expenditure in postpartum mothers found that there were as many as 10 (62.5%) mothers who were given oxytocin massage with the expenditure of colostrum> 5 cc. Whereas among women who were not given oxytocin massage, there were 2 (12.5%) mothers with the expenditure of colostrum> 5 cc. The

results of the statistical test obtained a value of p = 0.011, it can be concluded that there is an effect of oxytocin massage on the amount of colostrum expenditure in post partum mothers. From the results of the analysis obtained the value of Odds Ratio (OR) = 11, 667, meaning that the mother who performed oxytocin massage had an opportunity of 11,667 times experiencing the amount of expenditure of colostrum> 5 cc compared to women who were not given oxytocin massage.

DISCUSSION
Duration of Colostrum Expenditures

Based on the results of the study, it was found that the average duration of colostrum removal in the group of post partum mothers who had oxytocin massage was faster (6 hours 12 minutes) compared to the group of post partum women who were not given oxytocin massage (10 hours 40 minutes). According to Dewi (2011), one way for babies to get colostrum at the beginning of their birth is to massage oxytocin or stimulation of the spine, the neurotransmitter will stimulate the medulla oblongata to send messages to the hypothalamus in the posterior pituitary to release oxytocin which causes the breast to excrete milk faster than in groups that did not take oxytocin massage.

Post partum mothers immediately excrete breast milk because breastfeeding is a very complex interaction between mechanical, nerve stimulation and various hormones that influence oxytocin expenditure. The release of the hormone oxytocin besides being influenced by baby suction is also influenced by receptors located in the ductal system, if the ductus widens or becomes soft then oxytocin is released by hifofise in a reflector which acts to squeeze milk from alvioli. The intervention that can be done to help increase the expenditure of colostrum in post partum mothers is by oxytocin massage. Oxytocin massage is a massage performed along the vertebrae until the fifth rib, sixth and is an attempt to stimulate prolactin and oxytocin after giving birth (Sulistyawati, 2009).

Based on the results of the study, the results obtained p value 0.015. Thus that p value (0.015) is smaller than alpha (0.05) so Ha can be accepted. This shows that there is an effect of oxytocin massage on the length of colostrum removal in post partum mothers in the midwifery room at Purihusada Tembilahan Hospital. With an OR value of 15, which means that oxytocin massage has a 15-fold effect on the length of time spent colostrum in post partum mothers.

This research is in line with research conducted by Rezza Fahlilani Zamzara, et al. (2015) stating that there is an effect of oxytocin massage on the time of colostrum removal with a value of p = 0.05 with the title Effect of Oxytocin Massage on Colostrum Removal Time. This is caused by the massage of oxytocin which affects the release of colostrum which gives a stimulus to vertebrates up to the 5-6th rib, thus increasing posterior pituitary stimulation to excrete the hormone oxytocin. Oxytocin will then stimulate contraction of myopithelial cells in the breast to spray milk. this stimulation is then continued to the hypothalamus through the spinal cord, so that the hypothalamus will suppress the expenditure of factors that trigger prolactin secretion, then the hormone prolactin will stimulate the cells of alveoli that make milk, therefore massage oxytocin is effective against the release of colostrum in postpartum mothers.

Expenditures for Colostrum

Mother's milk should be given as soon as the baby is born. The first milk that lasts about 4-5 days, is still in the form of colostrum. The amount of colostrum secreted every day ranges from 10-100 cc, with an average of 30 cc. The milk actually came out after the fifth day.

Based on the results of research conducted on 16 respondents in the group of post partum mothers who were treated

with oxytocin massage, the average amount of expenditure for colostrum was 5,775 cc. Whereas the results of research conducted on 16 respondents in the post partum group of women who were not treated with oxytocin were found to have an average expenditure of colostrum of 3,413 cc.

This research is in line with the research conducted by Siti Nur Endah (2011) that the amount of colostrum released in the control group was an average of 0.0289 cc while the average amount of colostrum expenditure in the treatment group was 5.333 cc.

Thus it is known that the amount of colostrum expenditure in the group of post partum mothers who performed oxytocin massage had an average amount of colostrum production more than the group of post partum mothers who were not given oxytocin massage. This is influenced by an increase in colostrum or ASI production influenced by factors, one of which is breast care and physiological factors that can be done by intervention in the form of oxytocin massage which can stimulate the breast milk glands to produce breast milk. Oxytocin hormone functions to stimulate smooth muscle contraction in the alveolar wall and the canal wall so that the milk is pumped out. Oxytocin reflexes affect a mother's feelings, thoughts and sensations. This hormone affects the muscle cells surrounding the milk-making channel to contract or contract so that the milk is pushed out of the milk production channel.

Based on a statistical test of the effect of oxytocin massage on the amount of colostrum expenditure obtained p value 0.011. Thus that the value of p (0.011) is smaller than the alpha value (0.05) so Ho can be rejected which means that there is an effect of oxytocin massage on the amount of colostrum expenditure in post partum mothers with an Odd ratio of 11.667 which means that oxytocin massage has an effect of 11.667 times total

expenditure of colostrum in post partum mothers.

This research is not in line with the research conducted by Siti Nur Endah (2011). The results showed that oxytocin massage had no effect on the amount of oxytocin production with a p value of 0.93.

In this study, it was shown that oxytocytic massage had an effect on the amount of colostrum expenditure in post partum mothers. According to Dewi (2011), the colostrum volume is 150-300ml / 24 hours, in fact not all post-Partum mothers can directly excrete colostrum. One way for babies to get colostrum at the beginning of their birth is to intervene in the form of oxytocin massage which can stimulate the kelenjer of breast milk to produce breast milk. Oxytocin hormone functions to stimulate smooth muscle contraction in the alveolar wall and the canal wall so that the milk is pumped out. Oxytocin reflexes affect a mother's feelings, thoughts and sensations. Massage oxytocin which affects the release of colostrum which gives a stimulus to vertebrates up to the 5-6 cost so that it increases posterior pituitary stimulation to excrete the hormone oxytocin, therefore oxytocin massage has an effect on the amount of colostrum expenditure in post partum mothers.

The oxytocin hormone originates from the back of the hypothetical gland found at the base of the brain. As with the hormone prolactin, this hormone is produced when the nerve endings around the breast are stimulated by baby suction. Oxytocin enters the blood towards the breast, making the breast muscles constrict and is called the oxytocin hormone. This event is called the let down reflex. The reaction of the operation of the hormone oxytocin can be felt when the baby suckles in the mother's breast. The breast gland will shrink so squeeze the milk to get out. Many women can feel their breasts squeezed while breastfeeding, indicating that milk starts flowing from the milk

factory (alveolli) to the milk storehouse (latiferous duct).

CONCLUSION

The average duration of colostrum removal in the group of post partum women who were given oxytocin massage was 6 hours 12 minutes, and the average duration of colostrum removal in the group of post partum women who were not given oxytocin massage was 10 hours 40 minutes.

The average amount of colostrum expenditure in the post partum group given oxytocin massage was 5.775 cc, and the average amount of colostrum expenditure in the group of post partum women who were not given oxytocin massage was 3.413 cc.

There is an effect of the implementation of oxytocin massage on the length of time spent colostrum with p value = 0.018. There is an effect of the implementation of oxytocin massage on the amount of colostrum expenditure with p value = 0.011.

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Research Articles for Poster Presentation

FACTOR ANALYSIS RELATED TO DIET DIABETES MELITUS PATIENT COMPLIANCE

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Abstract

Compliance with the treatment of diabetes mellitus is a behavior of patients undergoing treatment, following a diet, or following other lifestyle changes in accordance with medical and health advice. The purpose of this study was to determine the analysis of factors related to dietary compliance of Diabetes Mellitus Patients in the working area of Harapan Raya Health Center. The design of this study uses an analytical approach to multiple logistic regeresi test analysis with the sample set is 100 people with diabetes mellitus numbered 100 people. The research instrument used questionnaires and observation sheets with data collection methods through secondary data and primary data through the process of interviews and field conservation. The results of this study indicate that occupational factors provide opportunities for 7,255 times to affect the compliance of the diabetes mellitus diet (C.I. 2,302 - 22,869). The factors of age, knowledge, and family support provide an opportunity of 0.124-0.467 times affecting the compliance of the diabetic diet. Whereas the variable that becomes counfounding is the variable of support for health workers. It is recommended that Harapan Raya Puskesmas use data from this research to improve adherence to diabetes mellitus patients through the role of their health workers.

Keywords: Diabetes Mellitus, Compliance

INTRODUCTION

Diabetes mellitus (DM) is a group of metabolic diseases with characteristics of hyperglycemia that occur due to abnormal insulin secretion, insulin work, or both (American Diabetes Association, 2006). Clinically there are two types of DM, namely type 1 DM caused by an absolute lack of insulin due to autoimmune processes and type 2 DM which is the most cases (90-95% of all cases of DM) which generally have a background disorder starting with insulin resistance (Soegondo , 2007). Type 2 DM is slow and progressive, so it runs undetected because the symptoms experienced by patients are often mild such as fatigue, irritability, polyuria, polydipsies, and wounds that are long healed (Smeltzer and Bare, 2008).

Based on research conducted by Abdurrachim (2008) in Banjarmasin, 71.1% of Diabetes Mellitus patients were not adhering to the recommended diet program, the variables related to non-compliance were knowledge (p value 0.003), attitude (0.10), support family (0.25). Likewise, a study conducted by David (2013) on the analysis of factors related to dietary adherence in DM patients in Kemiri Muka Village Depok found that 75% of Diabetes Mellitus patients were not adherent to the recommended physical activity / exercise. The dominant variables that affect non-compliance are knowledge (0.001) and the role of officers (0.007) after being controlled by education, attitudes, and work.

According to Green (Notoadmojdo, 2010) there are several factors that can influence changes in client behavior to become obedient or disobedient to treatment programs, which among them are influenced by predisposing factors (knowledge), supporting factors (education) and motivating factors (family and officers).

The results of the preliminary survey conducted by researchers when patients visited Harapan Raya Health Center have not found a factor that causes patient non-compliance in running a diet program. In general, patients said that they still needed information, family support and staff to run a diet program. Based on the background above the researchers were interested in researching the Analysis of Factors Associated with Compliance with Diabetic Patients in the work area of Harapan Raya Health Center in 2018.

METHOD

This research method uses analytical research with a crossectional design with statistical tests of multiple logistic regression to determine the dominant factors that influence the adherence of diabetic mellitus diets. Data collection of this study using a checklist sheet. The researcher gathered respondents by collaborating with the Leader of the Chronic Disease Control and Management program (Prolanis) in a meeting room at Harapan Raya Health Center. Filling out the questionnaire was accompanied by researchers to avoid bias in answering because of the age factor of the respondents. This study uses a multivariate statistical test analysis that is multiple logistic regeresi with a significance value of $\alpha \leq 0.05$.

RESULTS AND DISCUSSION

Characteristics of respondents generally respondents aged aged (58-79 years), as many as 75 people (75%), female sex as many as 61 people (61%), low education as many as 88 people (88%), not working as many as 69 people (69%), the respondents obeyed the diet program as many as 64 people (64%), had poor knowledge of 55 people (55%), received support from the family as many as 55 people (55%), and received support from the health staff of 50 people (50 %).

Table 1 shows that old age is mostly obedient to the diet program as many as 50 people (66.7%). The results of the statistical test with the chi square test obtained p value 0,000> 0.05, there was no significant relationship between age and diet compliance (p Value 0.470). This study is in line with Liu (2004) 's study of the ability of older adults to remember in monitoring their glucose four times in a predetermined time. In his study stated that there was no relationship between age and adherence in the management of DM dietary compliance.

Table 1 Diet Age, Gender, Education, Work, Knowledge, Family Support, Health Support Relationship with Diet Compliance

Variabel	Diet Compliance				Total		P Value	OR Ci 95%
	No		Yes					
	n	%	n	%	N	%		
Young	11	44,0	14	56,0	25	100		1,571
Tua	25	33,3	50	66,7	75	100	0,470	(0,624-3,960)
Gender:								
Man	14	35,9	25	64,1	39	100	1,000	
Women	22	36,1	39	63,9	61	100		
Education:								
Low	31	35,2	57	64,8	88	100	0,903	
Hignt	5	41,7	7	58,3	12	100		
Work:								
No	18	26,1	51	73,9	69	100	0,004	
Yes	18	58,1	13	41,9	31	100		
Knowledge:								
Low	20	53,1	19	48,7	39	100	0,020	
Hight	16	26,2	45	73,8	61	100		
Familiy Support:								
No	21	56,8	16	43,2	37	100	0,002	
Yes	15	23,8	48	76,2	63	100		
Health Support:								
No	17	34,0	33	66,0	50	100	0,853	
Yes	19	38,0	31	62,0	50	100		
Total	**36**	**36,0**	**64**	**64,0**	**100**	**100**		

Table 2 shows that the male sex is mostly obedient to the diet program, which is 25 people (64.1%). The results of the statistical test with the chi square test obtained p value 0,000> 0.05 there was no significant relationship between sex with dietary compliance (p Value 1,000). Tania's research (2016) shows that there is no significant relationship between sex with diet compliance in DM patients. The meaninglessness of sex with dietary compliance can be caused because sex is not a factor that is directly related to compliance behavior as expressed in the

theory of Health Belief Model or model of health beliefs.

Table 3 shows that low education is largely obedient to the diet program as many as 57 people (64.8%). The results of the statistical test with the chi square test obtained p value 0,000> 0.05 there was no significant relationship between education and diet compliance (p Value 0.908). According to Heryati (2014) someone who is more educated will have more knowledge than someone who has a lower level of education because education is the main basis for success in treatment. Several studies in Indonesia also showed results similar to this study where the level of education did not have a significant effect on dietary compliance in DM patients.

Table 4 shows that the respondents who did not work were mostly obedient to the diet program as many as 51 people (73.9%). The results of the statistical test with the chi square test obtained p value 0,000 <0,05, there was no significant relationship between education and diet compliance (p Value 0,004). Odd Ratio (OR) 3,923 with Confidence Interval (CI) 95% 1,606-9,583 means that respondents who do not work give an opportunity 3,923 times to comply with diet programs compared to respondents who work. Macgilchrist's research (2010) states that there is a relationship between work status and adherence to dietary management of DM patients. People with DM who have low income are less obedient in managing a diet compared to people who have high income. This is because people who have low income have less chance to buy food that is in accordance with the diabetic diet than those with high income.

Table 5 shows that respondents who have good knowledge are mostly obedient to the diet program as many as 45 people (73.8%). The results of the statistical test with the chi square test obtained p value 0,000 <0,05, there was no significant relationship between education and diet compliance (p Value 0,020). Odd Ratio (OR) 2,961 with Confidence Interval (CI)

95% 1,267-6,915 means that respondents who have good knowledge give an opportunity of 2,961 times obedient to a diet program compared to respondents who have poor knowledge. This research is in line with the research conducted by Tania (2016) in outpatient type 2 DM in Fatmawati General Hospital, stating that respondents who had a good level of knowledge were 12.5 times more obedient in the diet compared to respondents who lacked knowledge. The results also show that the level of knowledge is a risk factor for adherence to diets carried out by type 2 DM patients. The lack of knowledge can hinder compliance behavior in health because sufferers will find it difficult to follow recommendations from health workers, so people with diabetes mellitus have good knowledge better understand and understand about the recommendations in managing the diet.

Table 6 shows that the respondents who received family support were mostly obedient to the diet program as many as 48 people (76.2%). The results of the statistical test with the chi square test obtained p value 0,000 <0,05, there was no significant relationship between education and diet compliance (p Value 0,002). The value of Odd Ratio (OR) 4,200 with Confidence Interval (CI) 95% 1,757-10,038 means that respondents who received family support gave the opportunity 4,200 times to comply with diet programs compared with respondents who did not receive family support. The Senuk study (2013) described the results that family support had a relationship with adherence to the DM diet. These results are also supported by research from Susanti (2013) which states that family support has a relationship to patient diet compliance.

Table 7 shows that the respondents who lacked the support of health workers were mostly obedient to the diet program as many as 33 people (66.0%). The results of the statistical test with the chi square test obtained p value 0,000> 0.05, there was no

significant relationship between education and diet compliance (p Value 0.835).

After bivariate analysis, a multivariate analysis was conducted which aims to determine the most dominant relationship between the dependent independent variables

Tabel 8 Modeling 1

Variabel	P Value	OR	95% CI For exp (β)	
Age	0,182	0,439	0,131	1,470
Gender	0,776	1,168	0,401	3,400
Education	0,801	0,817	0,170	3,925
Work	0,001	0,115	0032	0,416
Knowledge	0,006	0,224	0,077	0,645
Family Support	0,000	0,115	0,036	0,370
Health Suppor	0,538	0,705	0,231	2,148

Tabel 9 Modeling 2

Variabel	P Value	OR	95% CI For exp (β)	
Age	0,190	0,452	0,138	1,483
Gender	0,758	1,182	0,408	3,424
Work	0,001	8,621	2,398	30,995
Knowledge	0,006	0,224	0,078	0,646
Family Support	0,000	0,117	0,037	0,373
Health Suppor	0,552	0,715	0,236	2,161

Tabel 10 Modeling 3

Variabel	P Value	OR	95% CI For exp (β)	
Age	0,116	0,437	0,136	1,211
Wok	0,001	8,252	2,371	28,726
Knowledge	0,005	0,223	0,077	0,641
Family Support	0,000	0,117	0,37	0,369
Health Suppor	0,563	0,721	0,238	2,182

Tabel 11 Modeling 4

Variabel	P Value	OR	95% CI For exp (β)	
Age	0,195	0,467	0,148	1,476
Work	0,001	7,255	2,302	22,869
Knowledge	0,004	0,216	0,075	0,618
Family Support	0,000	0,124	0,040	0,379

Tabel 12 Modeling 5

Variabel	P Value	OR	95% CI For exp (β)	
Work	0,001	7,255	2,302	22,869
Knowledge	0,004	0,216	0,075	0,618
Family Support	0,000	0,124	0,040	0,379

Table 12 shows the final modeling of multivariate analysis that the dominant factors that influence DM dietary compliance are factors of work, knowledge, and family support. Job factors provide opportunities for 7,255 times to affect the compliance of the diabetes mellitus diet (C.I. 2,302 - 22,869), and knowledge factors, and family support provides an opportunity for 0,124-0,467 times to affect the compliance of the diabetic diet. Whereas the variable that becomes counfounding is the variable of support for health workers.

CONCLUSION

Based on the description of the results of the research and discussion, the author draws conclusions as follows:
1. Respondents who obeyed the diet program were 64 people (64%),
2. Variables that have a causal relationship with adherence to the diabetes mellitus diet are age, work, knowledge, and family support.
a. Job factors provide opportunities for 7,255 times to affect the compliance of the diabetes mellitus diet (C.I. 2,302 - 22,869).
b. The factors of age, knowledge, and family support provide an opportunity of 0.124-0.467 times affecting the compliance of the diabetic diet.
3. Variables that do not have a causal relationship with adherence to the diabetes mellitus diet are gender, education, and support for health care.

SUGGESTION

It is recommended for the Puskesmas to take advantage of the results of this study to increase competency in supporting the compliance of diet programs in people with diabetes mellitus.

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NURSING STUDENTS' KNOWLEDGE AND ATTITUDE IN PEKANBARU ABOUT RESPOND TIME TRIAGE BEFORE CLINIC PRACTISE AT THE EMERGENCY ROOM

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Abstract
Medical officer's knowledge, attitude, and skill at the emergency room is very needed in the clinical decision taking so that there is not the fault in doing the choice in triage however in handling the patients can be more optimal and directed. One of the rooms which were visited by the nursing students is emergency room. The research aimed to determine the nursing students knowledge and attitude in Pekanbaru about respond time triage before clinic practice at the emergency room. The research used the qualitative research type by the cross sectional research design. The sample this study was the nursing students were which would enter the clinic practice in the emergency room amount of 171 students. The used sampling technique was sampling total by using inclusion and exclusion criteria. The used instrument was knowledge and attitude questioner about respond time triage. The data management accords to editing, coding, processing, cleaning and tabulating. The used data analysis were analysis univariate with the SPSS help. The research showed that there were the good knowledge as many as 120 students (70,2%), bad knowledge as many as 51 students (29,8%); good attitude as many as 97 students (56,7%) and bad attitude as many as 74 students (43,3%). Conclusion for triage so that not fault when doing triage.

Keywords : Respond time triage, knowledge, attitude

INTRODUCTION

Ability for one health facility overall in the role forwardness and quality as the patient referral center from the pre hospital, with resemble from the emergency room ability (Hardianti, 2008). Emergency room has the role as the primary gate for the emergency patients. emergency condition is one clinic condition where the patients need the sooner medical action for saving alive and following disability (Constitution for Republic of Indonesia number 44 about Hospital, 2009).

Hospital, especially emergency room has the purpose so that achieving the optimal health service for the patients quickly and correctly and integrated in handling the emergency degree however able to avoid the disability and mortality risk (*to save life and limb*) with respond time as long as 5 minutes and definitive

time < 2 hours (Basoeki and friends, 2008). Patients' mortality and pain can actually be reduced or avoided by any improvement effort in the health service, where one of it with increasing the emergency service (Gurning and frinds, 2014).

One emergency room officer must be able to work at the emergency room in overcoming all emergency case, so with this training, the emergency for all officers must always effort the efficiency and affectivity in giving the service. The emergency room officers should as possible as effort to save the patients as many as possible in the time as rapid as possible if the emergency condition which comes to heal at the emergency room. Officers' knowledge, attitude and skill of emergency is needed in taking the clinic concession so that it not happened the fault in doing the choice when triage is taken so that in

handling the patients can be more optimal and directed (Oman, 2008). Triage was adopted form France "Trier" with meaning to group or choose (Ignatavicius, 2006 in Krisanty, 2009). Triage has the purpose to choose or group all patients which need the help and set the grouping priority (Oman, 2008). Triage has the important function at emergency room especially many patients come in the same time. It aimed to certain so that the patients were handled based on the emergence sequence for the intervention need. Triage was also needed to group the patients to the match valuing and handling area and then helping to descript the type of the case at emergency room (Kartikawati, 2012).

Based on the research journal of Wa Ode Isnah Sabriyanti and friends (2012) with tittle the factors which relates to on time in handling the case on the first time respond at Emergency room of surgery and non-surgery at dr. Wahidin Sudirohusodo's hospital was found the on time outcome in handling the matched surgery emergency room case as many as 67,9% and unmatched 32,1%. Based on the outcome from journal was found the important relation between the Emergency room officer knowledge degree through the triage action based on the priority and existence of the relation between attitude through the triage action based on the priority. Gurming and frinds (2014) also researched about the emergency research with title relationship of the emergency room officer's knowledge and attitude degree through the triage action based on the priority stated that it was found the relationship between the health officers' knowledge and attitude through the triage action.

Nursing diploma program is the educations which will soon outcome the vocational nurse, the education is taken for three years (Effendy M, 2016). Nursing students are the most students which internship at the hospital, it is at government or nongovernment hospital. One of the rooms which are visited by the nursing students is emergency room.

Emergency room is the entrance at the hospital. In this room it is needed the expert to serve every coming patients.

Then every students must want to enter the room, they must be provided the excellent knowledge about handling the emergency especially about respond time at the triage room. The nursing students which enter to the emergency room should get the emergence study, so that they know how to serve the patients which are in this room. With the knowledge it can influence the attitude or action for the students in handling the patients in the emergency room.

Pekanbaru is the capital city of Riau province, here there are 5 nursing study programs, they are nursing diploma study program of Abdurrab University, nursing diploma study program Stikes Payung Negeri, nursing diploma study program of Muhammadiyah University, Academy of Nursing of Dharma Husada and nursing diploma study program of Poltekkes Kemenkes of Riau. Based on the interview outcome which was operated through ten nursing diploma study program students in Pekanbaru were 6 students didn't know about respond time at the emergency room and 4 students knew about the respond time at the emergency room.

Besides in the research interview also operated the observation in the emergency room about the action which was operated by the students at emergency room from 5 students, 4 students couldn't act in usual on the patients which visited at the emergency room. Based on the above introduction study then the researcher was interested to operate the research about how the nursing students' knowledge and attitude contribution in Pekanbaru about respond time triage before emergence clinic practice.

The research general purpose is to determine the nursing students' knowledge an attitude in Pekanbaru about respond time triage before emergence clinic practice in 2018.

METHOD

This research used the qualitative research type by the research design which was used cross sectional. This research was operated on all nursing diplomas in Pekanbaru Riau, by the used sampling technique was total sampling with conserving the inclusion and exclusion criteria:

Inclusion criteria
1. The nursing students who would join the emergency clinic practice
2. The nursing students who studied the emergency nursing
3. Students who presented when the research occurring

Exclusion criteria
1. The students were in vacation
2. The students who didn't present when researching

The used research instrument for this research was each questioner which was accorded to the questioner about the knowledge and attitude about respond time triage in the emergency room. The data management steps accorded to editing, coding, processing, cleaning and tabulating. The data analysis was gradually operated, they were univariate analysis used the SPSS program help.

RESULT

No	Variable and category	F	Persentage (%)
1	Genre		
	• Male	56	32.75
	• Female	115	67.25
	total	171	100
3	Information source		
	• Ever	155	90.64
	• Never	16	9.36
	total	171	100
3	knowledge		
	• Good	120	70.2
	• Bad	51	29.8
	Total	171	100
2	Atittude		
	• Good	97	56.7
	• Not good	74	43.3
	Total	171	100

DISCUSSION
The nursing students' knowledge about time triage

The research outcome was found the good knowledge as many as 70,2% (120 respondents) and bad knowledge as many as 29,8% (51 respondents). According to Notoatmojo in Wawan and Dewi (2011), the outcome knowledge knows, and it happens after holding the sense through one curtained object. The sense through object to the human's five senses is sight, hearing, smelling, tasting, and touching on self. On the sense time until out coming the knowledge is very influenced by the perception notification intensity through object. Each of them, the human's knowledge is found to the eyes and ears.

According to Wawan and Dewi (2011), the education is the guidance which is given somebody through the other people' growth to the dreams which specify the human to make and fulfill the life to achieve the safety and happiness. The education is needed to get the information for example the things about the medical so that it can increase our life quality.

According to Iqbal Chayatin, Rozikin and Supradi (2007) the higher somebody's education the easier they receive the information and the more the knowledge they have. The knowledge is not only found from the education but it can also be found from the directly or indirectly good information.

This research is resemble with Gurning's and friends research (2012) with title relationship of the emergency room officer's knowledge and attitude through the Triage action based on the priority.

According to the researcher's assumption, the nursing students' knowledge who is well got because the education level which is taken by the students although finished and the students have found the emergency nursing subject that in the subject is found the discussion primary about the respond time triage, and enhanced to the students found the information source outside most such as

about 90,64% with finding the information besides meeting in the class about respond time triage.

Nursing students' attitude about respond time triage

The research outcome was found the good attitude: 56,7% (87 respondents) and not good attitude : 43,3% (74 respondents). Attitude is reaction or respond which are still closed from somebody through the stimulus or object (Fitriani, 2011). Attitude is the inclination responds (positively or negatively) through the curtained situation or object. Attitude is not from born, but it is learnt and formed based on the experience and practice as long as the individual growth. Azwar (2008), said that the attitude form was influenced by some factors, they were privacy experience, culture, other people and emotion factor in the self-individual.

Attitude is believed to influence on the somebody's behavior forming after belief and motivation. Attitude is reaction or respond which are still closed from the somebody through stimulus or object. Attitude manifestation can't be directly seen but can only be interpreted first from the closed behavior. Actually, attitude shows the connotation existence of the reaction conformity through the curtained stimulus in daily life is the emotional reaction through the social stimulus (Budiharto, 2013).

The research is resemble with the Gurning's and friends research (2012) with title relationship of the emergency room officers' knowledge and attitude through the Triage action based on the priority.

According to the research assumption, the students' attitude changes through respond time triage because the students have had the knowledge, experience, intelligence and enhancing the age. The students' negative attitude through respond time triage is influenced by some factors they are patient's situation which is crowding, lack triage bad whether the patients come in the same time.

CONCLUSION
Based on the operated research and discussion, then it can be concluded as:
1. Each of the respondents with the good attitude as many as 70,2%
2. Each of the respondents have the good attitude as many as 56,7%.

SUGGESTION
For researcher
The research outcome can hopefully be become as the reference or addition source if existed the following research especially for the other parties who want to learn about the nursing knowledge about respond time in handling the emergence in triage room.

For the nursing diploma study program in Pekanbaru
The research outcome can hopefully be become the idea for the education institution to know how the students' preparation to visit to the emergency room at hospital.

For hospital
The research outcome can hopefully be become the idea for the hospital as the used place for the students' clinic practice to give the enrichment more before entering the clinic practice to emergency room at hospital.

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EFFECT OF HEALTH EDUCATION WITH SELF INSTRUCTIONAL MODULE ON ATTITUDE ABOUT DIABETES MELLITUS IN TYPE 2 DIABETES MELLITUS PATIENTS IN RSUP DR. M. DJAMIL PADANG

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Abstract
Number of diabetes mellitus cases have been increasing every year. Diabetes mellitus patient needs to get information about diabetes mellitus at least after the diagnose were given. Nurse as an educator could give education for diabetes mellitus patient, so that there will be change diabetes mellitus patient attitude. Verbal education need an additional tool such as a modul, in purpose patient can re-evaluate the material that they already get. The purpose of study was to test the impact of education using self instructional module to level of attitude about diabetes mellitus to diabetes mellitus patient type 2. This research used quasi experimental by one group pretest postest design with 29 person samples in total with diabetes mellitus type 2 diagnosis. Data collection using questionaire. Statistic analysis using wilcoxon test. The resulst showed that there were differences of attitude before and after education by self instructional module (p= 0,000). Hopefully this research can be use as health education media in an attempt to upgrade the attitude of diabetes mellitus patient type 2.

Keyword: Self instructional modul, diabetes mellitus type 2, health education

INTRODUCTION

Diabetes mellitus commonly called DM is one of the non-communicable diseases characterized by blood sugar levels that increase beyond the normal limits (ADA, 2016). Efforts to prevent diabetes are three stages: primary, secondary and tertiary prevention. Compliance of patients to undergo treatment for chronic diseases is generally low so that it becomes one of the obstacles to achieving treatment goals. For this reason, it is necessary to control diabetes by providing education to patients with diabetes mellitus.

There have been many methods and media used in the world of education so that the message to be conveyed is achieved and there is an increase in attitudes for patients with diabetes mellitus. Methods that have been widely used such as lecture methods by conducting counseling on patients or families, seminars and oral education using leaflets and posters (Zagade & Patil, 2012).

Modules are one of the media that has advantages such as easy to store and can be used repeatedly, does not involve many people and makes it easy for people to recall the contents of messages contained in the module (Utomo, 2000). The use of the self instructional module is simple and easy to understand, according to the prevention of complications of diabetes mellitus (Varghese, 2013). The research conducted by Varghese (2013) on the effectiveness of self-instructional modules on knowledge, attitude and practice of complications among diabetic patients showed that the self-instructional module was effective for increasing the knowledge of patients with diabetes mellitus.

One of the goals of education is to increase knowledge so that attitudes and lifestyle changes occur so as to increase compliance that affects quality of life (Thomas et al, 2016). Based on research by Ratnasari (2004) outpatient diabetes mellitus patients have a low level of

knowledge and attittude, which is around 51.61%.

The results of the study by interviewing nurses in several health centers and hospitals in the city of Padang, there are many patients with diabetes mellitus. The data of visits to the diabetes clinics at Dr. RSUP M Djamil Padang is the most visited in the outpatient category. The average number of patients per day is 50 people. Education verbally that is often done in diabetic patients. The types of media currently available at hospitals are posters with limited numbers. From the results of the interview, the patients did not to know use of the health education method by using modules that can be utilized by patients independently to increase knowledge so that there is a change of attitude in patients.

METHOD

This study used a quasi-experimental design with one group pretest posttest with a sample of 29 people diagnosed with type 2 diabetes mellitus in the Internal Medicine Polyclinic of Dr. RSUP M. Djamil Padang in April - May 2017. The sampling technique used was a non probability sampling technique with consecutive sampling. The inclusion criteria of the respondents in this study were: patients were willing to be research respondents, type 2 DM patients and respondents could read and write Indonesian.The exclusion criteria of the study respondents were: patients with visual impairments.

Data collection was carried out using the characteristics of respondents and instruments of attitude for patients with diabetes mellitus. In this study the instrument used was a modification of the DAS questionnaire with 15 statements. Bivariate analysis in this study was conducted to analyze the relationship between attitudes before health education and attitudes after health education. Analysis using the Wilcoxon test statistical test. In this study using a significance level of 0.05 and 95% CI.

RESULTS
Univariate Analysis

The average age of type 2 diabetes mellitus respondents was 52.03 (95% CI: 48.13-55.94) with a standard deviation of 10.27. The following characteristics of respondents are education, rate income, family history are categorical data. So that the analysis is carried out with the number and percentage can be seen in the following table 1.

Table 1 Distribution of Respondents Based on Education, Income, Family History at Dr. RSUP M. Djamil Padang May-June 2017(n = 29)

Characteristics	f	%
Education		
Low	10	34,5
Medium	11	37,9
High	8	27,6
Rate Income		
Low	13	44,8
High	16	55,2,
Family History		
Have family history	12	41,4
Don't have familyhistory	17	58,6

Univariate analysis of attitudes before and after intervention is done by calculating the median, minimum and maximum values because the data are abnormally distributed and are numeric variables.

Table 2. Distribution of Respondents' Attitudes Before and After Health Education Interventions About Diabetes Mellitus in Dr. RSUP M. Djamil Padang May-June 2017 (N = 29)

Variabel	Median	Min-Maks	95% CI
Pre Test	41,00	32-60	39,69-43,61
Post Test	49,0	45-53	48,31-50,30

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Table 3 Analysis of the Effect of Health Education on Respondents' Attitudes Before and After Intervention at Dr. RSUP M. Djamil Padang May-June 2017 (N = 29)

Attitudes	Median	Min-Maks	p value
Pre test	41,0	32-60	0,001*
Post test	49,0	45-53	

* significant at α: 5%

The results of the statistical test showed that there was the effect of self-instructional health education module on respondents' attitudes before (pre-test) and after (post-test) with a p value of 0.001

Table 4 Analysis of the Relationship between Characteristics and Attitudes in Type 2 Diabetes Mellitus Patients after Intervention at Dr. RSUP M. Djamil Padang May-June 2017 (N = 29)

Variabel	ATTITUDE		p value
	Median	Min-Maks	
Age			**0,052**
Elderly (45 – 65 years)	48,0	45,0-53,0	
Adult (26 – 44 years)	51,50	46,0-53,0	
Rate Income			**0,400**
Low (<Rp. 1.950.000/months)	49,0	45,0-53,0	
High (≥ Rp. 1.950.000/months)	485,0	46,0-53,0	
Information			**1,000**
Not yet exposed	49,50	47,0-52,0	
Exposed	49,0	45,0-53,0	
Family History			**0,123**
Have Family History	50,50	46,0-53,0	
Don't have family history	49,0	45,0-52,0	

From the results of the analysis obtained there is no significant relationship between attitudes about DM between the characteristics of respondents (age, income, exposure to information and family history) after being given self-instructional health module education.

Table 5 Analysis of the Relationship between Respondents (Education) Characteristics and Attitudes about Type 2 Diabetes Mellitus after Intervention at Dr. RSUP M. Djamil Padang May-June 2017 (n = 29)

Variabel Education	Attitude		p value
	Median	Min-Maks	0,121
● Low	47,50	45,0-52,0	
● Middle	49,0	46,0-53,0	
● High	50,50	47,0-53,0	

The results of the analysis in table 5 obtained p value of 0.121, which means there is no significant relationship between attitudes about DM between the education level of respondents in the low education group and respondents in the secondary and high education groups after being given a self-instructional health education module.

Multivariate Analysis

Mutivariate analysis in this study is a linear regression analysis of prediction models, where the purpose of this analysis is to find out the most dominant variable factors related to the dependent variable.

Table 6 Bivariate Selection

No	Variable	p value	Note
1.	Age	0,044	Yes
2.	Education	0,048	Yes
3.	Rate income	0,487	No
4.	Information	0,917	No
5.	Family history	0,140	No

Table 7 Multivariate Attitude Final Modeling

Variabel	Attitude					
	B	St. Error	Beta	R Square	t	p value
Const	47,76	2,31			20,63	0,001
Age	1,51	1,12	0,26		1,35	0,18
Education	0,65	0,65	0,20	0,23	1,00	0,32
Family history	-1,04	0,942	-0,20		-1,11	0,27

Multivariate modeling of attitude variables when seen in table 7 above is

obtained, the R square value of 0.231 means that the three variables (age, education level and history of disease) can explain attitude variables by 23.1%, while the rest are explained by other variables. From the statisticalistic test results, the value of p value for the three variables is 0.082, which means that the overall linear regression equation is not significant.

DISCUSSION
Attitudes About Diabetes Melitus

Attitude is a person's reaction or closed response to an object. Attitudes are the influence, rejection, judgment of either the likes or dislikes of a psychological object (Muller, 1992). Based on the univariate analysis, the study obtained a median pre test value of 41.0. The minimum value of the pre-test of the respondent's attitude was 32 and the maximum value of the pre-test of knowledge was 60. The median value of the respondent's post-test attitude after health education was 49.0. The minimum value of the post test of the respondent's attitude is 45 and the maximum value of attitude post test is 53. Some studies show that there is a change in attitude after health education is carried out. Among them is a study conducted by Utami (2008) which resulted in a change in attitudes in mothers with p value 0.001 and the percentage of positive attitudes before intervention was 53.97% and after a positive attitude intervention was 74.04%. Redjeki (2005) obtained the results of differences in respondents' attitudes regarding stimulation of child development between before and after health education (p value 0.001).

According to Allport (1954 in Notoatmodjo, 2005) the attitude component consists of three, namely: 1) cognitive component, in the form of beliefs or beliefs, ideas and concepts of objects, this component is also often called a view especially concerning issues or controversial issues. Based on this component shows how the beliefs or opinions or thoughts of the respondents towards the development of the disease; 2) Affective component, concerning emotional life or evaluation of objects. This emotional aspect has the deepest root as a component of one's attitude. Based on this component, it shows how respondents assessed whether monitoring the progress of their disease (type 2 diabetes mellitus) is beneficial and has a positive impact; 3) Psychomotor components, which are components of attitudes that have a tendency to act. In this study, we have not examined the psychomotor stage. Changing the attitude of diabetic patients will be more difficult than increasing knowledge because each person's attitude will be different for an object.

The factors that influence the formation of an attitude (Azwar, 2010), are: a) personal experience involves emotional factors so that attitudes will be more easily formed. Experience will directly influence the formation of the next attitude will affect behavior (Breckler and Wiigins, 1989 in Azwar, 2010), b) culture, if someone lives in a culture that has certain habits then someone will tend to support the habit. The culture of living and being raised will have an influence on the formation of one's attitude (Ajzen & Fishbein, 2005), c) mass media / information that has been obtained by someone will influence the formation of one's opinions and beliefs so that suggestions will lead someone to a certain attitude and d) Daily diabetes patients' experience of diabetes can shape attitudes and influence learning readiness and the application of diabetes self-care skills. The family also influences the attitude and willingness to learn about diabetes mellitus patients. Patients with diabetes mellitus will have a more positive attitude to study diabetes if the family is cloudy about this diabetes education (Soegondo, 2004). Attitude is the stability of the results of processing thinking, emotional or affective nature and if there is a positive change in this because there is a need that is strong and influential.

Effect of Self Instructional Module (SIM) Health Education on Attitudes About Diabetes Melitus

The results of statistical tests in this study indicate a difference in attitudes of respondents before (pre-test) and after (post-test) given. This shows the influence of health education on the attitude between before and after being given health education.

This study is also in line with the research of Dewi (2007) which stated that there was a significant attitude increase (p = 0.001) in the intervention group after being given health education. This shows that the health education provided is very useful to increase positive attitude in stimulating the development of children under five. Attitude is the stability of the results of processing thinking, emotional or affective nature and if there is a positive change in this because there is a need that is strong and influential. Setiawati and Dermawan (2008) state that health education is a dynamic force that can affect one's physical, mental, emotional and ethical development. Health education is a stimulus that affects the mindset and pattern of individual attitudes. With the increase in respondents' knowledge of type 2 diabetes mellitus, it will lead to a positive increase in attitudes towards the ability of respondents to treat their illness.

Relationship between Respondents' Characteristics Against Attitudes After Health Self Instructional Module Education
Age

The results of the analysis in this study obtained a p value of 0.052 (p> 0.05) which means that there is no significant relationship between attitudes about DM between the age of the respondents in the elderly group and the adult group after being given a self-instructional health education module. This study is not in line with Varghese & Naidu (2013) with 60 respondents found that 59.6% of respondents in middle-aged age had a good

attitude while the young adult age group showed a good attitude of only 22%. The results of statistical tests show that there is a significant relationship between the age of the respondent and prevention of complications of diabetes after being given health education (p <0.001).

Dewi's research (2007) stated that there was a significant attitude increase (p = 0.001) in the intervention group after being given health education. This shows that the health education provided is very useful to increase positive attitude in stimulating the development of children under five. Attitude is the stability of the results of processing thinking, emotional or affective nature and if there is a positive change in this because there is a need that is strong and influential. Setiawati and Dermawan (2008) state that health education is a dynamic force that can affect one's physical, mental, emotional and ethical development. Health education is a stimulus that affects the mindset and pattern of individual attitudes. With the increase in respondents' knowledge of type 2 diabetes mellitus, it will lead to a positive increase in attitudes towards the ability of respondents to treat their illness.

Age also affects one's attitude, with increasing age the experience gained also increases (Maulana, 2009). Experience and information obtained during life will shape one's attitude. The factors that influence the formation of an attitude (Azwar, 2010), are: a) personal experience involves emotional factors so that attitudes will be more easily formed. Experience will directly influence the formation of the next attitude will affect behavior (Breckler and Wiigins, 1989 in Azwar, 2010), b) culture, if someone lives in a culture that has certain habits then someone will tend to support the habit. Residential culture will have an influence on the formation of one's attitude (Ajzen & Fishbein, 2005), c) mass media / information that has been obtained by someone will influence the formation of one's opinions and beliefs so that suggestions will lead someone to a certain

attitude and d) patient experience Daily diabetes about diabetes can shape attitudes and influence learning readiness and the application of diabetes self-care skills.

Income

For income variables in the study obtained a value of p value of 0.400 (p> 0.05) which means there is no meaningful relationship attitude about DM between the income of respondents in income groups below the UMR with respondents in the income group above the UMR after being given a self-instructional health education module. The results of his research above are not in accordance with the opinion of Notoadmodjo (2010) that income is one of the factors that influence a person to gain knowledge which will eventually lead to the attitude of the individual to be more positive in responding to something. The proportion of patients with diabetes mellitus with impaired blood sugar tolerance (TGT) and Fasting Blood Sugar (GDP) tends to be higher in groups with lower education (Ministry of Health, 2014). Based on Rabi's research (2006) respondents with high income have a low prevalence of type 2 diabetes mellitus compared to low-income respondents. Income is often attributed to lifestyle and the costs of handling diabetes mellitus that will affect diabetes mellitus.

The researcher conducted a brief interview with the respondent and generally said he liked the daily diet menu related to fat both fried foods and side dishes that are accustomed to meat and offal. This will increase dyslipidemia, a disorder of lipid metabolism which is characterized by an increase in LDL cholesterol and triglyceride levels, and a decrease in HDL levels in the blood. Increasing the proportion of dyslipidemia in the community is caused by the habit of consuming various foods low in fiber and high in fat (Thomas & Kapoor, 2016). So that in this study although as many as 44.8% of respondents in this study had income below the minimum wage but lifestyle and eating habits would increase

the prevalence of type 2 diabetes mellitus which would affect the attitude of respondents to diabetes mellitus so there was no relationship attitude towards DM among respondents who high income with low income respondents.

Education

Based on the results of this study, the educational variables towards attitudes about DM are known that the p value is 0.121, which means there is no significant relationship between attitudes about DM between the education level of respondents in the low education group and respondents in the secondary and high education groups after being given a self instructional health education module . This research is not in line with Varghese & Naidu (2013) with 60 respondents, 61.7% had a high education level, 48.3% had a low education level, 33.3% had a low education level and had a low attitude as much as 71 , 7% of the prevention of complications of diabetes mellitus. The results of the analysis of the influence of the level of education on the prevention of diabetes complications showed that the majority of respondents after being given health education had a good attitude that was as much as 48.3% while 31.7% showed a low attitude towards preventing diabetes complications. The statistical test results obtained that the level of education with prevention of diabetes complications obtained a significant relationship with p value <0.001.

Education provides additional insight for someone. A person's level of education will have an impact on the person's knowledge. With someone's knowledge, it is hoped that it will be able to change one's attitude towards the better ones according to their knowledge. The higher a person's education, the more one's absorption of information will be captured, so that it will be easier to receive information (Notoadmodjo, 2006). The level of education will influence a person in behaving especially in motivating attitudes in health development (Wattanakul, 2012). According to the Utami study (2008) it was

found that there were changes in attitudes in respondents with p value <0.001 with a percentage of positive attitudes before intervention 53.97% and after the intervention in the form of positive attitude health education became 74.04%. Attitude is a person's reaction or closed response to an object. Attitudes are the influence, rejection, judgment of either the likes or dislikes of a psychological object (Muller, 1992). Health education is a stimulus that affects the mindset and pattern of individual attitudes. The level of education will influence a person in behaving especially in motivating attitudes in health development (Wattanakul, 2012). A person's attitude about an object basically contains two aspects, namely positive aspects and negative aspects. Someone even though with certain knowledge through a formal education but does not attempt to carry out activities to upgrade his knowledge, it can create a negative attitude towards that knowledge.

Information Exposure

In the study for information exposure variables, obtained a p value of 1,000 (p> 0.05) which means there is no significant relationship between attitudes about DM between exposure to information about DM in groups that have never been exposed to information with groups that have been exposed to information after being given education health self instructional module. Someone who has been exposed to information will produce knowledge, so that the more often someone is exposed to information, the more knowledge will be gained (Maulana, 2009). Information can be obtained through various available media, both electronic, audiovisual and print media.

The study was conducted by Zagade & Patil (2012) that as many as 82% of respondents obtained information on diabetes mellitus from television and 77.5% received information from print media. Hail of research by Isaac, Walipo & Ismal (2005) that as many as 91.2% of respondents had received prior information.

In the Sentana study (2016) with a sample of 40 people, 75% of respondents had received information about diabetes. Providing information at Dr. RSUP M. Djamil Padang began when respondents were known to suffer from diabetes mellitus or respondents came first to seek treatment at the hospital. The information provided is in the form of oral both about the disease or things that the patient must do with daily life.

This information is more often done in one direction and does not monitor whether the patient has understood and implemented it or not. So that there is no significant relationship between attitudes about DM between exposure to information about DM in groups that have never been exposed to information with groups that have been exposed to information after being given self-instructional health module education.

Family history with diabetes mellitus

Family history of type 2 diabetes mellitus in this study is known through the questionnaire contents of the respondents' characteristics that were given to the respondents by the researchers. According to Oskup & Schult (2005) experience formed by having a family history with a history of certain diseases is one of the factors that influence individual attitudes. Experience will directly influence the formation of attitudes (Azwar, 2010).

The results of the analysis in this study obtained a p value of 0.123 (p> 0.05) which means there is no significant relationship between attitudes about DM between family history in groups that have a family history with groups that have no history of DM after being given self-instructional health education module. Someone's habits will also affect one's attitude. The experience of everyday respondents about diabetes will shape attitudes and readiness to learn and the application of skills in diabetes self-care. The family also affects the attitude of diabetic patients. Respondents will have a more positive attitude if the family also

supports health education. Respondents with a family history of diabetes mellitus have experience about diabetes but knowledge and attitudes about diabetes are not only derived from experience with families who have a history of diabetes. Experience will shape attitudes and influence learning readiness and application of appearance in diabetes self-care (Soegondo, 2004). Family history also influences the attitude and willingness to learn about diabetes mellitus patients. Patients with diabetes mellitus will have a more positive attitude to study diabetes if the family supports this diabetes education (Soegondo, 2004). In this study the response that had a family history of type 2 diabetes mellitus was that most of the siblings who did not live at home so that the respondents could not make the experience not repeated as a source of knowledge and attitude.

Dominant Factor Analysis of the Characteristics of Respondents with Attitudes

Multivariate modeling for attitudinal variables when seen in table 5.15 above is obtained, the R square value is 0.231 which means that the three variables (age, education level and history) can explain attitude variables by 23.1%, while the rest are explained by other variables. From the statisticalistic test results, the value of p value for the three variables is 0.082, which means that the overall linear regression equation is not significant. This is because in this study using respondents with homogeneous groups.

CONCLUSION

Based on the results of this study it can be concluded:
1. Characteristics of the respondents most of the respondents had the age of the elderly, most had secondary education background, had income above the UMR West Sumatra, did not have a family history of type 2 diabetes mellitus and had received information about diabetes mellitus.

2. There is the influence of self instructional module health education on the attitude of patients with diabetes mellitus
3. There was no relationship between the characteristics of respondents (age, education, income, information and family history) with attitudes after being given health education in patients with diabetes mellitus, except in the secondary education group with the higher education group, there was a relationship between knowledge about DM
4. There are no dominant factors of characteristics (age, education, income, information and family history) with attitude after being given health education in patients with diabetes mellitus.

ACKNOWLEDGEMENTS

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MATERNAL MACRONUTRIENT STATUS IN CORRELATION PREGNANCY OUTCOME

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Abstract
Background: The recapitulation in 2015 at the neonatal nursing installation of RSUD Arifin Achmad in Riau province, low weight newborn baby always become the highest case, which in 2015 as many as 153 people. Objective: To determine influence of the macronutrient status (carbohydrate, protein, fat) in correlation pregnancy outcome at RSUD Arifin Achmad of Riau province. Method: The research used Case Control design, observation analitytic which was quantitative. Operated the observation and directly interaction with the maternity as the respondent by using technique of consecutive sampling. The research sample was amount 74 respondents, they were the first group was 37 maternities with the low birth weight as case group and second group was 37 maternities with the normal birth weight as control group. The research instrument was food frequency questioner (FFQ). The data was analyzed by using the Chi-square test, with meaning if p <0,05. Result: There were influence macronutrient status carbohydrate (p=0.026), fat (p=0,002), protein (p=0.000) in correlation pregnancy outcome at RSUD Arifin Achmad of Riau province. Conclusion: The pregnancy maternal with low intake the carbohydrate, protein, fat were not accordance with standart which was recommended risking pregnancy outcome with the low weight newborn. It is suggested for the program from RSUD Arifin Achmad to repair the family's nutrient according to the family's program which knows about nutrient. However the pregnancy maternal and maternal which has the baby and toddler can role as the agent of change for the family so that applies the healthy life-style

Keywords : Pregnancy maternal, Low Birth Weight, Pregnancy Outcome, Macronutrient

INTRODUCTION

The Infant's mortality rate in Indonesia reaches 32 in 1000 alive births. The reduction is not too significant than in 2007, that is 34 in 1000 alive births, the infant's mortality rate becomes 23 in 1000 alive births (SDKI, 2013).

Low birth weight is one of the risk factor which has the contribution as many as 60 until 80% through all neonatal mortality. Based on the basic health research in 2013 stated that the infant's percentage (0 until 59 months) with the low birth weight as many as 10,2 %. The highest low birth weight percentage in center Sulawesi province (16,8%) and the lowest is in North Sumatra (7,2%) and in Riau (9%).

Low birth weight case in Pekanbaru from 20.891 alive babies were found 93 (0,44%) the low birth weight status (2013), where as in (2014) from 21.697 alive babies were found 123 (0,6%) low birth weight, it showed that there was the low birth weight case amount increasing was caused the low birth weight because lack of the nutrient supply in the content which could cause the fetus growth was obstructed by Intrauterine Growth Reterdation (IUGR) (Dinkes Pekanbaru, 2014). Based on the Recapitulation in 2015 at the neonatal nurse installation of General Hospital of Arifin Achmad of Riau province. The low birth weight always became the highest case. Where the happened rate always increased in every years. In the last year was in 2013

as many as 145 people, in 2014 as many as 147 people, in 2015 as many as 153 people.

The nutrient problem is the cause indirectly for the maternal's and child's mortality can actually by the pregnancy maternal with the bad nutrient status by causing the baby with low birth weight with the 10 until 20 more for death than the enough weight.

The factors which influent the infant's weight when getting birth, one of the it is the nutrient supply as long as pregnancy. There is the significant correlation between the maternal's protein consumption on the last month and the infant's size when getting birth. The worse the maternal's nutrient the less infant's birth weight and length. Beside that the mineral definition on the maternal as long as the pregnancy also has the pre-birth affect that is the neurologic and immunologic function on the infant (Boer, Bakel, Hooervorst, Luijten, Vries, 2009).

The maternal's supply can enter to the fetus through the umbilical cord which is connected to the maternal's body. The condition is fulfilled by the fetus nutrient need according to the nutrient supply notification from the adequate food so that the fetus growth corrects to adequate (Indreswati, Hardiansyah, Damanik, 2008). The enough for pregnancy maternal's food is seen from the maternal's weight increasing when pregnancy. The total average for the pregnancy maternal's weight increasing about 10 until 15 kgs that is 1 kg on the first trimester and for more on the second and third trimester. Started on the second until third trimester, the weight increasing average is 0,3 until 0,7 kgs in a week (Aritonang, 2010). Body Mass Index of pre- Pregnancy is the more influent factor through the birth weight (RR=3,8), the maternal who has the weight increasing as long as the pregnancy less 9,1 kgs has the risk for the weight birth infant < 3000 grams (Irawati, Triwinarno, Salimar, Raswanti, 2003). Supported by the Low birth Weight gives the contribution as many as 60 until 80% through the neonatal mortality, where the happen for The Low birth weight because the nutrient supply lack which can cause the fetus growth obstructed by Intrauterine Growth Reterdation (IUGR), so the student was interested to study "Maternal Macronutrient Status in Correlation Pregnancy Outcome at RSUD Arifin Achmad Riau Province".

The purpose of this study was to determine influence of the macronutrient status (carbohydrate, protein, fat) in correlation pregnancy outcome at RSUD Arifin Achmad of Riau province.

METHOD

This study used the case control maintain. The study type was quantitative observational analytic which was operated directly observation and interaction with the childbirth maternal as the respondent at the general hospital of Arifin Achmad of Riau province on March until August of 2018. The study was operated after getting the agreement from Medical Faculty Ethic Commission of Riau University. The study sample amount 74 respondents, first group was 37 childbirth maternals with Low birth weight as the case group and second group was 37 childbirth maternals with the normal birth weight as the control with the maternal who got birth the alive baby, breath and preterm birth age, able to communicate and dispose to be respondent. The sample taking by the concecutive sampling technique. Macro nutrient status independent variable (Carbohydrate, Fat, Protein). Gestational weight again. With pregnancy outcome dependent variable (newborn's weight). All study samples were interviewed about the name, age, weight before pregnancy, weight before childbirth, mother's tall, weight, food which was consumed as long as preganancy for Carbohydrate, fat, protein based on the Food Frequency Questionnaire of semi quantitative questioner so that it could be determined the consumed food content, nutrient frequency, feed for every consuming in consumed food management.

The nutrient value counting in every consumed food by converting all food categories in a day and denying the weight (gram) every food content with the consumption frequency. Energy consumption degree (%) was counted by the nutrient value average which was found based on the interview outcome divided by value average of the WNPG table nutrient (2012) multiplied by 100%. The nutrient of carbohydrate, protein, fat is typed to be good (RDA 80-100%), low (RDA<80%), over (RDA> 100%).

After processing the category of the carbohydrate, protein, fat status and gestational weight gain and then operating coding and data management with the statistical analysis using software of IBM SPSS statistic 22. There is maternal macronutrient status (Carbohydrate, Fat, Protein) in correlation pregnancy outcome between case group and control determined by the Chi-Square test, meaning $p<0,05$.

RESULT

Table 1 Age Characteristic of Maternal In RSUD Arifin Achmad Riau Province

Characteristic	Total	%
Maternal of Age (Years)		
15 - 25	22	29.7
26 – 35	39	52.7
36 – 45	13	17.6
Total	74	100
New born weight		
Normal (> 2500 gram)	37	50
Low Birth Weight (<2500 gram)	37	50
Total		100%

Table 2 Macronutrient Carbohydrate, Fat, Protein In RSUD Arifin Achmad Riau Province

Variable	Group				Total	
	Normal		Low Birth Weigth			
	F	%	f	%	f	%
Macronutrient Carbohydrate						
Enough	10	27	6	16.2	16	21.6
Low	7	18.9	18	48.6	25	38.8
Over	20	54.1	13	35.1	33	44.6
Total	37	100	37	100	74	100

Macronutrient Fat						
Enough	16	43.2	7	18.9	23	31.1
Low	9	24.3	24	64.9	33	44.6
Over	12	32.4	6	16.2	18	24.3
Total	37	100	37	100	74	100
Macronutrient Protein						
Enough	21	56.8	5	13.5	26	35.1
Low	6	16.2	26	70.3	32	43.2
Over	10	27	6	16.2	16	21.6
Total	37	100	37	100	37	100

Table 3. Influence Maternal Macro Nutrient Status and Gestational Weight Gain In Correlation Pregnancy Outcome At RSUD Arifin Achmad Riau Province

Macro Nutrient Carbohydrate	Birth Weigth				Total		p
	Normal		Low Birth Weight				
	F	%	f	%	f	%	0.026
Enough	10	27	6	16.2	16	21.6	
Low	7	18.9	18	48.6	25	33.8	
Over	20	54.1	13	35.1	33	44.6	
Total	37	100	37	100	74	100	
Macro Nutrient Fat							0.002
Enough	16	43.2	7	18.9	23	31.1	
Low	9	24.3	24	64.9	33	44.6	
Over	12	32.4	6	16.2	18	24.3	
Total	37	100	37	100	74	100	
Macro Nutrient Protein							0.000
Enough	21	56.8	5	13.5	26	35.1	
Low	6	16.2	26	70.3	32	43.2	
Over	10	27.0	6	16.2	16	21.6	
Total	37	100	37	100	74	100	

Table 3 showed that from total 16 respondents with the enough carbohydrate supply each getting birth the baby with the normal birth weight as many as 10 respondnets (27 %) and only 6 respondents (16,2%) which gets low birth weight. Respondent with low carbohydrate supply each getting birth with low birth weight as many as 18 respondents (48,6%) and 7

respondents (18,9%) gets birth with the normal birth weight. But respondent with the carbohydrate supply each gets birth the normal birth weight as many as 20 respondents (54,1%) and residue getting birth with the low birth weight as many as 13 respondents (35,1). After operating chi square test was found (p=0.026), so that there was the carbohydrate macro content influence in the correlation with pregnancy outcome at the General Hospital of Arifin Achmad of Riau province.

Total 23 respondents with enough fat supply each getting birth the baby with normal birth weight as many as 16 respondnets (43.2%) and only 7 respondents (18,9%) which get birth with low birth weight. Respondent with the low fat supply each gets birth with low weight as many as 24 respondents (64,9%) and 9 respondents (24,3%) get birth with the normal birth weight. But respondents with over fat supply each gets birth as many as 6 respondents (16,2%). After operating the chi square test was found (p=0.002), so that there is the influence of the fat macro nutrient in the correlation with pregnancy outcome at the general hospital of Arifin Achamd of Riau Province.

The respondent category with the enough protein supply each gets birth the baby with the normal birth weight as many as 21 respondents (56,8%) and only 5 respondents (13,5%) which gets birth with the low birth weight. Respondent with low protein supply each getting birth with low birth weight as many as 26 respondents (70.3%) and 6 respondents (16.2%) get birth with the normal birth weight. But respondent with the over protein supply each getting birth the normal birth weight as many as 10 respondents (27.0%) and residue getting birth with low birth weight as many as 6 respondents (16,2%). After operating chi square test was found (p=0.000), so that there was the protein macro nutrient influence in the correlation with pregnancy outcome at the General Hospital of Arifin Achmad of Riau Province.

DISCUSSION

Maternal calory gestational status were positively associated with mean birth weight. Macronutrient and micronutrient staus plays a major role by affecting birth weight and other birth outcomes and is influenced by dietary intake before and during pregnancy (Tyagi, Toteja, Bhatia, 2017).

Fat has an important role for fetal growth, if the fetus needs fat it will be transferred through the placenta. The discovery of babies with stunted growth with low birth weight is caused by hormonal imbalance or poor absorption of the mother's body during pregnancy so that the transfer of fat to the fetus is not perfect and the baby's need for fat becomes less and disrupts fetal growth (Muthayya, 2009).

Nulliparous women with unrecommended gestational weight gain IOM standards have a chance to giving birth a low birth weight of 2.16 times and multiparous women have a chance to giving birth to babies with low birth weight of 1.56 times (Haugen et al.,2014)

CONCLUSION AND SUGGESTION

The pregnancy maternal with low intake the carbohydrate, protein, fat and weight gain were not accordance with standart which was recommended risking pregnancy outcome with the low birth weight. It is suggested for the program from RSUD Arifin Achmad to repair the family's nutrient according to the family's program which knows about nutrient. However the pregnancy maternal and maternal which has the baby and toddler can role as the agent of change for the family so that applies the healthy life-style.

ACKNOWLEDGEMENT

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ANALYSIS OF PHYSICAL DIMENSIONS OF LIFE QUALITY ON HEMODIALISA PATIENTS: MIXED METHOD STUDY

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Abstract
Hemodialysis is an action to maintain life in patients with kidney failure. This action aims to increase life expectancy and improve quality of life. The purpose of this study was to analyze the quality of life of hemodialysis patients seen from the physical dimension. This study uses a mixed method with sequential explanatory strategies. Quantitative research sample with 66 respondents. Quality of life is measured using the (WHOQoL-Bref) instrument and analyzed using the mean. Qualitative research uses 6 participants and data collection with interview guidelines. Data analysis applies interactive model analysis techniques. This research was conducted at Ahmad Moechtar Bukittinggi Regional Hospital. The results showed 36 people (54.5%) respondents had poor quality of life, with the lowest score on the statement points carrying out physical activity. The lack of quality of life in the physical dimension was assessed by the lack of ability of respondents to do light exercise, fatigue and lack of compliance in maintaining food and fluid intake. Therefore, there needs to be support from the family in increasing the motivation of respondents to increase light physical activity and maintain food and fluid intake so as to improve the quality of life.

Keyword :Hemodialisa, Quality of Life, Physical dimension

INTRODUCTION

Chronic kidney failure is a complex disease and is experienced by more than 700 thousand people in Indonesia. According to the 2014 IRR, the majority of kidney failure patients were in the age group 45 - 54 years, namely 31% and age 55 - 64 years as many as 31% with the highest sex, namely men. While the chances of living for one-month patients with hemodialysis are 87.3% higher than the 1-year life opportunity which is 46.7%.

The usual number of CRF patients will continue to increase, reflecting the growing elderly population and the increasing number of patients with diabetes and CRF hypertension also causing health problems or complications that can threaten the health of patients. The five major complications that occur in CRF patients are anemia, hyperlipidemia, nutrition, osteodistrophy and cardiovascular (Thomas et all, 2008).

With the increasing number of CRF patients, kidney replacement therapy is very necessary to maintain the lives of patients. Kidney replacement therapy is done is hemodialysis. Hemodialysis in people with CRF will prevent death and prolong life expectancy. However, hemodialysis does not cure and restore disease. Patients will still experience many problems and complications and various changes in the shape and function of the system in the body (Smeltzer & Bare 2015).

Some complications that are often experienced by patients with hemodialysis include hypotension, air embolism, chest pain, pruritus, balance disorders during dialysis, nausea and vomiting, painful muscle cramps, and increased uremic levels in the blood (Smeltzer and Bare 2015). Aisara et al. (2018) stated that patients undergoing hemodialysis had the most clinical picture in the form of moderate nutrition 94.2%, followed by 7-10g / dl Hb

68.3%, anemia conjunctiva 62.5%, peripheral edema 53 , 8%, 1st degree hypertension 32.7%, weak, tired, lethargic as much as 30.8%, and nausea 12.5%. This funding can affect the quality of life of patients with chronic kidney failure in carrying out daily activities.

Hutagaol's (2017) study of the quality of life of patients with CRF who underwent hemodialysis said that the quality of life was less than 58% of respondents. Other research states that as many as 75% of respondents are in moderate quality of life (Dewi et al., 2015). This shows that there are still many patients undergoing hemodialysis who have poor quality of life. To complete the data, quantitative and qualitative research is needed so that more valid information can be obtained. The purpose of this study was to analyze the physical dimensions of quality of life for hemodialysis patients; mixed method research.

METHOD

The design of this study is a mixed method with sequential explanatory strategy, consisting of a sequence of quantitative and qualitative analysis. The purpose of this strategy is to identify variable components through quantitative data analysis and then collect qualitative data to expand available information based on quantitative data. This study identifies, explores, and analyzes the quality of life from physical dimensions in hemodialysis patients. The study population was the entire study subjects, namely all patients with Chronic Kidney Failure at Bukittinggi Hospital who underwent routine hemodialysis with an average number of patients per month at 71 people. The number of research samples for quantitative data was 66 people with inclusion criteria for CRF patients undergoing hemodialysis in RSAM and willing to become respondents. Whereas qualitative sampling in this study begins with purposive sampling with the criteria of being willing to be a respondent, patients with Chronic

Kidney Failure undergoing routine hemodialysis and domiciled in Bukittinggi. Qualitative data was obtained from 6 participants. Data collection activities are carried out in a place that is conducive and comfortable for participants and researchers. The place of research is carried out at a place agreed by the researcher and the participant and can avoid outside interference. The study was conducted in the Hemodialisa room of Achmad Moechtar Bukittinggi hospital.

Quantitative research data collection was carried out using a quality of life questionnaire. The questionnaire consists of 5 questions that represent each physical component of quality of life (no. 1-5). Answer categories are very often (SS), often (S), rare (J), never (TP). Quantitative research testing using the validity and reliability test of the quality of life questionnaire. Reliability tests in this study have been carried out with Cronbach's Alpa reliability test with the result of reliability is 0.884.

After all the data in the quantitative research has been collected and data analysis is carried out, then the qualitative data collection is carried out through interviews with participants taken from respondents in quantitative research. The interview guideline instrument was developed from the aspect of quality of life of the physical dimension based on quantitative research. Data analysis applies interactive model analysis techniques with data collection stages, data reduction, data presentation, and conclusion drawing. Aids in research are notebooks, voice recorders and other writing instruments that help in completing data collection and interview guidelines.

RESULT

Data analysis for quantitative is done by using computerization by first editing, coding, entry, cleaning, processing. Quantitative data produce a description of the categories of respondents' characteristics and the quality of life with

physical dimension categories of patients undergoing hemodialysis. The frequency distribution of respondents' characteristics was seen based on age, sex, and length of time undergoing hemodialysis.

Table 1 Demographic data of respondent (n=66)

Respondent characteristics	n	(%)
Age (years)		
25-35	9	12,3
36-45	12	18,5
46-55	19	29,2
56-55	16	24,6
≥ 66	10	15,4
Gender		
Male	36	54,5
Female	30	45,4
Undregoing hemodialysis		
New (< 2 years)	43	65,2
Old (≥ 2 years)	23	34,8

Based on table 1, the characteristics of patients based on age are highest in the age range 46-55 years (29.2%). The sex of the most respondents was male 36 (54.5%) and the old category underwent hemodialysis, most respondents underwent hemodialysis in the category <2 years which amounted to 34.8%.

Other quantitative data produced is the category of patient's life quality in physical dimension shows that among the five aspects in the physical dimension of quality of life, the lowest average on the point of doing physical activity is doing a routine of sports activities that do not require great energy such as walking, light exercise with a value of 2.58. While in general the physical dimensions of the quality of life of the average respondent showed that 54,5 % respondent have a good quality of life and 45,5 % respondent have less good quality of life. The quantitative data obtained are shown in the following table:

Tabel 2. Description the quality of life category of patients undergoing hemodialysis in physical dimension aspects (n=66)

Item Quality of life	Mean	SD
Do personal higyene	3,45	,768
Activity	2,58	1,024
Physical apearence	3,26	,686
Overcoming complication	2,95	,812
Limit intake	3,09	,696

Tabel 3. The quality of life category of patients undergoing hemodialysis in physical dimension aspects (n=66)

Quality of Life Category	n	(%)
Good Level	36	(54.5)
Less Good Level	30	(45.5)

Based on the data above, obtained the quality of life of research respondents who underwent hemodialysis at the good category (54.5%). This means the quality of life in physical dimension of patients undergoing hemodialysis in Dr. Achmad Mochtar Bukittinggi is good enough.

Qualitative research results were developed from five items of questions about the quality of life of the physical dimensions consisting of doing personal hygiene such as: bathing, brushing, dressing, etc., doing routine exercise activities that do not require great energy such as walking, light exercise , maintain physical appearance, overcome complications due to hemodialysis therapy, limit food and fluid intake.

Based on personal hygiene, hemodialysis patients say they can still do personal hygiene activities such as bathing, brushing their teeth, dressing and toileting themselves without being helped by others. The patient said there were no problems in carrying out personal hygiene activities. It's just that the frequency of personal hygiene becomes reduced, for example, bathing only once a day, brushing your teeth also decreases. Here are some expressions from respondents.

"... *there are no problems in cleaning themselves, can still take a shower, brush my teeth into my own toilet .... (P.1).* "

". ... *if the bath can still be alone, it doesn't need to be helped is still strong ... brushing teeth and others also can still .... (P.2)*"

"*.... I can do shower by my self...sometimes just once, brush my teeth just when i take a*

shower ... dress by myself, I can not be helped .... (P.4)".

An overview of activities in carrying out routine exercise activities that do not require large amounts of energy such as walking relaxed, light exercise, respondents complained about the lack of light activities that can be done. Respondents rarely resorted to leisure and other sports. Activities that can be carried out by the village administration - sometimes are household activities such as cleaning the house, cleaning the yard. As revealed by the following patients:

"....the activity has been reduced, which can be done sometimes, sweeping the house, washing dishes, cooking can also still be ... if there is no sport, there is no activity at home ... (P3)"

"... ... the daily activities that I do are reading newspapers, sweeping the yard ... I used to walk early around the house, but because now I am often tired, I rarely do that anymore ... sometimes it's still too, but yes it's not like it used to ... just feel tired (P1) "

"...... never walk or exercise, just at home ... (P4)" .

When viewed from physical appearance, patients who perform hemodialysis can still maintain a good physical appearance. Patients can still dress neatly. Researchers can also see that the appearance of patients during hemodialysis is quite good. According to interviews with patients, patients say that patients can carry out activities related to appearance independently without being helped by others. Examples are dressing, combing hair, and using other accessories. This can be seen from the expression of the following patients:

".... I Can.. I can maintain my appearance

... when dressing, i can still do it myself ... (P1)"

"... Keeping the appearance can still be ... for example combing hair can be alone, wearing clothes and others also don't need help ... (P2)"

"... I usually don't have a problem with maintaining appearance, I always maintain a neat appearance ... combing my hair, ironing clothes as well as I can myself ... until wearing the hijab can also be alone ... there is no problem .... (P4)".

The fourth dimension in the physical dimension of quality of life assessed in hemodialysis patients is the second lowest point among the five points, namely in overcoming complications that occur during hemodialysis. Some respondents said that while undergoing therapy had experienced several complications such as unstable tension, nausea, low HB, which caused the patient to drop, the legs often felt cramped. Like the expression from the following patients:

". ...... sometimes my tension goes up, sometimes down, I got nausea ... if that happen, i immediately consult a doctor ... (P1)"

"... the Hb is usually often low, sometimes if the Hb is very low the body usually drops once ... now this can be treated at the hospital again ... once a few times like that ... (P4)"

"... to overcome so as not to drop, usually I try to keep food and drink because we are limited by the liquid ... sometimes it is difficult, but considering the condition it has to be done .... (P6)"

The last point of the physical dimension of quality of life assessed is in limiting food and fluid intake. Hemodialysis patients claim it is quite difficult to limit food and fluid intake. But

this is not a very big problem because of the support from the family to always remind patients. Patients also have high motivation to maintain food and fluid intake. Sometimes patients complain that it is difficult to maintain but not often. As the expression of the following patients:

"... *the hardest thing is to keep the liquid, because it's thirsty ... while the amount of fluid is limited ... sometimes if thirsty it can be more than it should ... but not often ... (P1)*"

"... *I can take care of food, I do not eat that is challenged by doctors and nurses, because I want to be healthy ... so do I, I can keep my drink ... (P2)*"

"... *Actually, it is difficult to limit eating and drinking, but I have to keep food and drink in accordance with the doctor's recommendation, because otherwise my disease will get worse, my children depend on me ... I still have small children while husband no longer exists ... so I have to be strong for the children .... (P4)*"

DISCUSSION

Hemodialysis is a process of renal replacement therapy using a semi-permeable (dialiser) membrane membrane, which functions like a nephron so it can remove metabolic waste products and correct fluid and electrolyte balance disorders in patients with kidney failure (Black & Hawks, 2005; Ignatavicius, 2006).

The quality of life of patients with chronic renal failure undergoing hemodialysis therapy is a matter of concern for health professionals. This is due to physical and psychological changes that occur in patients. Physical changes originating from chronic kidney failure that have reached the stage V are not only limited to the kidney system. Other body systems can also be affected and cause a decrease in health status and quality of life. Many changes that occur in patients with chronic kidney failure, namely, physical changes, separately, each physical change has the potential to reduce quality of life (Tallis, 2005).

Patients can survive by undergoing hemodialysis therapy, but still leave a number of important issues as a result of hemodialysis therapy. Hemodialysis aims to maintain the quality of life of patients (Brunner & Suddart 2002). The quality of life obtained is quite good and the highest lifespan is 14 years (Rahardjo, 2006).

The World Health Organization (WHO) explains that health is not only free from diseases and weaknesses, but also the presence of physical, mental and social welfare. These things are a problem in patients with hemodialysis because in the disease there is a decrease in quality of life which covers the 4 aspects (Lacson 2010).

Done, it was found that more than half of the respondents had poor quality of life. Of all the items the respondents' points that get the lowest score are on the point of doing light activities such as doing light exercise such as walking relaxed. Furthermore, the lowest value is in overcoming complications due to hemodialysis. Patients who undergo hemodialysis are lacking in activities. The activities that can be carried out are activities related to the household only.

This is supported by research by Rosiah et al. (2017) which states that there is a change in the fulfillment of activity requirements while undergoing hemodialysis. This study states that the ability of participants to experience changes when before illness and after illness or during hemodialysis. Some participants experienced a change in activity because they experienced several complaints that resulted in the ability of daily activities.

Johansen (2000) in Rosiah et al (2017) also mentions that the level of physical activity in clients undergoing hemodialysis is in the range of 20% -50% lower, a decrease in physical activity is influenced by a poor health condition, lack

of awareness of physical activity and factors psychology, depression.

In addition to physical activity, the lack of quality of life of patients was also seen from several complaints related to complications as long as patients underwent hemodialysis. Some of these complaints are changes in blood pressure, often feeling tired, low Hb and ever dropping. Barkan et al (2006) state that other complications that can occur during undergoing hemodial procedures are hypotension, cramps, chest pain, low back pain, itching, fever, chills, bleeding, electrolyte imbalance. Another study from Aisara et al (2018) on the clinical picture of CRF patients undergoing hemodialysis in M Djamil Padang Hospital showed that 68.3% of patients had low Hb levels (7-10g / dl), grade 1 hypertension was 32.7 %, weak tired and lethargic as much as 30.8% and 12.5% nausea.

Complications in these patients greatly affect the quality of life of patients. This complication is also influenced by diet and fluid patterns during hemodialysis in HD patients. This is very important to note because excessive fluid intake can increase weight gain, edema, wet bronchi in the lungs, swollen eyelids and shortness of breath caused by excess fluid in the body. If this happens, it will result in a decrease in quality of life.

Restriction of food and fluids in HD patients is indeed difficult to obey. Fahmi and Hidayati (2016) stated that from some of the literature studied it was found that the self care ability to manage fluid in patients with chronic renal failure undergoing hemodialysis was still low. This can cause a decrease in the quality of life of patients. Obstacles in limiting fluid and food in patients can be minimized by the presence of family control and increased motivation from the patient himself. Patients must be able to understand that by limiting fluid or food, it will improve the quality of life.

CONCLUSION

Renal failure is irreversible, that is, it cannot become normal again, so that the intervention carried out by the patient is only to maintain existing kidney function and to do hemodialysis to replace kidney function to eliminate the body's metabolism. Patients undergoing hemodialysis had the most clinical picture in the form of moderate nutrition, anemia conjunctiva, peripheral edema, hypertension, weak, tired, lethargic, and nausea.

This funding can affect the quality of life of patients with chronic kidney failure in carrying out daily activities. The results showed 36 people (54.5%) respondents had poor quality of life, with the lowest score on the statement points carrying out physical activity. The lack of quality of life in the physical dimension was assessed by the lack of ability of respondents to do light exercise, fatigue and lack of compliance in maintaining food and fluid intake.

Therefore, there needs to be support from the family in increasing the motivation of respondents to increase light physical activity and maintain food and fluid intake so as to improve the quality of life.

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THE DIFFERENCE BETWEEN STUDENT'S CLEAN AND HEALTHY LIFE BEHAVIORS AT SCHOOL X AND Y BASED ON HEALTH PROMOTING SCHOOL ACTIVENESS

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Abstract
The purpose of this study was to prove the differences between clean and healthy life behavior in students at Elementary School X and Elementary School Y based on Health Promoting School (HPS) activeness. This was a comparative approach. Subjects were 85 students of grade V. The research instrument was questionnaire. Data analyzed by "t" test. Univariate analysis of elementary school X has an average knowledge score = 9.68, attitudes score =49.15,and practice score = 7.26.Elementary School X has an average level of knowledge score 8.44, attitudes score 45.59, and practice score 6.19. The results of the bivariate analysis ofknowledge P value = 0.002 <0.05 attitude P value = 0.001 <0.05 and the practice = 0.033 <0.05.There were differences in knowledge, attitudes and practice at elementary school X and at elementary school Y. It means the students whose schools was active on Health Promotion School activities (Elementary School X) have proven to have practiced hygienic and healthy life behavior.The principal could reactivate Health Promoting School by guidance of the public health center workers. The health office were advised to foster schools by competition among schools.

Keywords: Cleans and healthy behavior, health promoting school, student

INTRODUCTION

Based on data World Health Organization (WHO), every year around 2.2 million children in developing countries die due to various diseases caused by lack of safe, sanitary and poor hygienic drinking water. There was evidence that adequate sanitation, safe water supply, garbage disposal systems, and hygiene education can reduce diarrhea mortality by 65% (Maimun, 2016). While in Indonesia, the prevalence of helminthiasis is still relatively high at 32.6% and is dominated by Ascarislumbricoides, Trichuristrichiura, Hookworm, Strongyloides, Necaturamericanus worms. Worm disease is most commonly found in families located in rural areas and sub urban suburbs are very closely related to environmental behavior and hygiene (Anthonie, 2013).

Children aged (6-10 years) are vulnerable to attack by various diseases related to hygienic and Healthy Life Behavior. There is plenty of evidence that adequate sanitation, safe water supply, garbage disposal systems, and hygiene education can reduce diarrhea mortality by 65%. Health promoting school is a health promotion in schools that is expected to improve health behavior of school communities more effectively (Health ministry RI, 2013). Health promoting school iscombineeducation and health programsto foster health as essential of lifeand instill the values of hygienic and Healthy Behavior. It is important to control and prevent diseases from an early age. Hygienic and healthy behavior indicators in schools are washing hands with water flows and using soap, throw garbage in its place, eating healthy snacks in the school canteen,

using sanitairlatrines, regular and measured exercise, eradicating mosquito larvae, not smoking at school, weighing weight and measuring height body every month.

The results of a study conducted by Astuti (2015), there were differences in clean and healthy behavior in students at urban and rural schools. Hygienic and healthy living behavior of school in the city is better (58.82%) compared to school in the village (28.84%). Students who school in the city accustomed to practice the five PHBS indicators;wash their hands with flows water and using soap, using sanitair latrines, exercise regularly, not smoking, and disposing of garbage in its place.

Preliminary survey of elementary school X, a private school in the city of Yogyakarta which has actively health promoting school program, has facilities to support students on hygienic and healthy living practices such as sinks with soap, healthy canteens, trash bins that have been distinguished, as well as various posters and no students who snack outside the school during break. Whereas elementary school Y, a state school in Sleman district, D.I. Yogyakarta, which has inactive health promoting school. Observation results, it were seen limited food sold in the canteen, the foods were unhealthy snacks and the students bought snack outside of school during break, the school also has no adequate facilities such as no soap on sink, no various kinds of posters, and the rubbish bin that has not been distinguished according to the garbage.

METHOD

This research was a comparative studies,conducted at Elementary School X, which active on implement Health Promotion School and elementary school Y which not active on implement Health Promotion School. The sample was students at grade V, the number of students at elementary school X are 53and students at elementary school Y are 35. Collecting data conduct in May 2018.

The results of the validity test on the student hygienic and healthy life questionaire were valid with a critical value $\geq$ 0.3 r count. The reliability test results revealed the value of cronbach alpha on knowledge 0,935 attitude 0,943 and action 0,958. This is interpreted as a reliable research instrument so that measurements can be made consistently over time.

RESULTS
Normality test

The significance value (p) of the knowledge about clean and healthy life behavior of the students at Elementary School X = 0.71> 0.05 while score of knowledge of students at Elementary School Y = 0.137> 0.05. It was concluded that the result of student's knowledge about clean and healthy life behavior has normal distributed. The score of significance value (p) on the attitude at Elementary School X = 0.286> 0.05 while the students at Elementary School Y = 0.478> 0.05. It was concluded the results of research data on student's attitudes about clean and healthy life behavior has normal distributed. The score of significance value (p) on the practice of students at Elementary School X= 0.279> 0.05, while practice of students at Elementary School Y = 0, 425> 0.05. It was concluded the data on student's practice about clean and healthy life behavior has normal distributed.

Homogenity Test

Data is declared homogeneous if the probability value or P> 0.05. In this study homogenity test of knowledge has a sig value of 0.537> 0.05, the result of the attitude was 0.266> 0.05 and the results of the practice was 0.344> 0.05. It was concluded that the homogeneity test data of clean and healthy life behavior was declared homogeneous.

Descriptive Analysis

The results of the descriptive test are seen in the average knowledge, attitudes and practice in Elementary School X and in Elementary School Y, as follows:

Table 1. Mean of Knowledge, Attitude and Practices of Students in Elementary School X and Elementary School Y

School	Knowledge	Attitude	Practice
Elementary School X	9,68	49,15	7,26
Elementary School Y	8,44	45,59	6,19

Based on table 1 the average of knowledge, attitude and practice of the students at Elementary School X was higher than the average of knowledge, attitude and practice of the students at Elementary School Y. The results of respondent's knowledge about clean and healthy life behavior at Elementary School X have a maximum scores 15, minimum scores 6 and mean 9,68, whereas Elementary School Y have maximum scores 11, minimum scores 5 and mean 8,44.60. The results of attitudes about clean and healthy life behavior at Elementary School X have a maximum scores 60, minimum scores 42 and mean = 49.15, while the results of attitudes about clean and healthy life behavior at Elementary School Y have a maximum scores 58, minimum scores 39 and mean = 45.59.

The results of respondent's practice regarding clean and healthy life behavior at Elementary School X have a maximum score 13, a minimum of 3 and a mean of 7.26. While the results at Elementary School Y have maximum score 13, minimum 2 and mean 6.19.

Generally, students at Elementary School X has a higher score than Elementary School Y. For all items the question of knowledge about clean and healthy life behavior, all respondents in elementary school X and Y answered correctly the question "snacks that were flown by flies were not good for health", and all respondents in Elementary School X and Y answer the question about "not flush the toilet after using its caused disease" incorrectly. Look like respondents did not understand about environmental borne disease. Although the answers of elementary school students Y were quite good for some question, but from observation, the canteen at Elementary School Y has not posters on wall and students also seem attracted to bought snacks outside of school because snacks in the school canteen were not tasty and often run out on the second break. Condition of the canteen in Elementary School Y was not clean.

The students at Elementary School Y said agree on the item question "Sports was done at least 1 time in 1 week". Actually Elementary School Y conducted mass gymnastics every Friday. All the students answered agree with statement "weighing weight and measuring height once in six month". They has not a rule to forbidden smoke at school area and has not a poster to remind the school community.

Elementary School X has active health promoting school, whereas health promoting school at Elementary School Y already exists, but it runs passively, so students do not get health education properly. Elementary School X has several programs such as a visitting doctors who work by contracts for every week to conduct health checks, to held immunization counseling and to improve health knowledge. Elementary School X has a healthy canteen providing hygienic and healthy food, there are also have posters to educate students about nutrients through the canteen. The students at Elementary School X used to using soap when clean their hand because school provides a sink and hand washing soap in front of each student class. There were some posters forbidden to smoke while in school too.

This study supported by Cletus (2014), with the results of the study at Lekok sub-district showed that clean and healty life behavior at risk group has less scores than non risk group, knowledge about clean and healthy life behavior at risk grup also has less score than non risk. Candrawati (2015) found that implementation health promoting school at Sub District Kedung Kandang Elementary

School, in Malang Municipal, was quite good, clean and healthy life behavior of the student's was quite good and there was relationship between implementation of health promotion school with clean and healthy life behavior. Kusuma (2014) said that health education held in health promoting school at Public Elementary School in Plalangan Gunung Pati was quite good, also clean and healthy life behavior and there was relationship between health education and clean and healthy behavior.

Hypothesis testing

Hypothesis testing in this study using t test (independent sample t test) at a significant level of 5%. The t test were intended to determine the magnitude of the difference between clean and healthy life behavior in students at Elementary School X,a private schools, which the school is active on health promotion school, and Elementary School Y, a state schools and the school is inactive on health promoting school. T-test results of knowledge can be seen in table 2 below:

Table 2. T test level for "knowledge"

	Standard Deviation	P Value	n	Lower	Upper
Elementary School X	1,773	0,002	53	0,489	1,995
Elementary School Y	1,544		32		

Table 2 shows that the standard deviation value of Elementary School X = 1,773, while standard deviation value of Elementary School Y = 1,544. Based on 95% P value = 0.002, it is less than 0.05.It can be concluded that there were difference of knowledge about hygienic and healthy life behavior at the students of Elementary School X and Elementary School Y.
Table 3shows the results of the t-test attitude, can be seen below:

Table 3. t test for "attitude"

	Standard Deviation	P Value	n	Lower	Upper
Elementary School X	4,757	0,001	53	1,535	5,580
Elementary School Y	4,157		32		

The results of independent samples t-test attitudes 95% IK value 1,535 - 5,580. Standard deviation value of Elementary School X = 4,757, while Elementary School Y = 4,157. P Value = 0.001, it is less than 0.05. It can be concluded that there were difference of attittude about clean and healthy life behaviors at the students of Elementary school X and Y.
Table 4 shows the results of the t-test Practice, can be seen below :

Table 4. t test for "practice"

	Standard Deviation	P Value	n	Lower	Upper
Elementary School X	2,049	0,033	53	0,088	2,065
Elementary School Y	2,481		32		

Standard deviation value of Elementary School X =2,049, while Elementary School Y =2,5481. Based on the 95% P Value = 0.033, it is less than 0.05. It can be concluded that there were difference of practice of hygienic and healthy life behaviors at the students of Elementary school X and Y.

This research was different to Febriani (2018). It showed that there is no significant difference in a healthy lifestyle between class VIII students at Junior High School apply go green through Health Promoting School, students are expected to be able to instill healthy attitudes and behaviors in themselves and be able to help others. Elementary School X has active Health Promoting School. So, the students at Elementary School X has knowledge, attitude and actions were better than the students at Elementary School Y.Elementary School X already has facilities to support healthy life behavior their students, but Elementary School Y has lack facilites, for example they did not have room of health promoting school,they did not have a healthy canteen,and they did not provide soap in the sink. This is a problem for students to practice clean hands by soap at school. Based on the results of a study in Pacitan District Elementary School, there was a significant relationship between

health promoting school program and student's healthy life style.School which have active Health Promoting School will have health education programs, cadre or health rangers and children immunization at school. Through the Health Promoting School program, the mindset of students was formed that are familiar with the cleanliness and personal health (Ardian, 2012).

The difference of student's knowledge at Elementary School X and Y may be related to health promoting school activeness. When students has good health knowledge, they will understand about relationship daily healthy lifestyle with disease, because children know which is good for health and which is not good for health. For example, corelation between knowledge of the cleanliness and illness will be able to control the habits (patterns) of a better life. To realize an attitude to be concrete action, a supporting factor or a possible condition was needed, including facilities (Notoatmodjo, 2014).

CONCLUSION

Based on comparing two Elementary School, the research found there are differences on student's clean and healthy life behavior at Elementary School X and Elementary School Y. It is important to reactivate Health Promoting School at Elementary SchoolY becauseit can develop knowledge, attitudes and practice clean and healthy life behavior of the students. Health Promoting School at Elementary School X to keep increasing activeness and increase a number of student participation in clean and healthy life behavior. Health Center in the regions of Elementary School Y should coaching Health Promoting School and conduct stratification to evaluate of health promoting school. Health Office was expected to make healthy school competitions regularly to motivate students, teacher and headmaster to increase knowledge, attitude, and practice clean and healthy life behavior.

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STUDENT ATTITUDE ABOUT MIDWIFE PROFESSION TO STUDENT LEARNING OUTCOMES AMONG MIDWIFERY STUDENTS IN RESPATI UNIVERSITY YOGYAKARTA

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Abstract

One of health workers who involve directly toward maternal and child health service is midwife. According to Raharjo (2009) there were 230.000-250.000 midwives in Indonesia. The number of midwives more than the number in villages. It is expected the midwives are competent and professional. This study aim was to determine relationship students attitude toward midwife profession and learning achievement of second semester students of DIII Midwifery. This study was a descriptive analytic by cross sectional approach. The Populations were all of second semester students of DIII Midwifery Program. The samples were 143 students taken by proportionate population. This study analysis was used Spearman Rank. The result showed that there were students attitude toward midwife profession significantly associated with learning achievement (p value= <0,05). There were a relationship between students attitude to midwife profession and learning achievement of second semester students of DIII Midwifery Program at UniversitasRespati Yogyakarta.

Keywords: Attitude, midwife profession, learning outcomes

INTRODUCTION

One health worker who is directly involved in maternal and child health services is a midwife. Midwives have an important task in providing guidance, care and counseling to pregnant women, childbirth with their own responsibilities and providing care to newborns. This includes prevention, detection of abnormal conditions in mothers and children, and carry out medical emergency measures.

According to the Ministry of Health BPPSDMK data in 2006 there were 79,152 midwives and 308,396 nurses or about 35 midwives and 138 nurses per 100,000 each per population, where as according to PODES 2006 there were 80,000 midwives or if an average of about 1 midwife per village. DIII midwifery students as a prospective midwife who will work in the community must be skilled and understand the role of their functions and competencies that must be possessed, aware of the development of the midwife profession especially in the development of midwife education. Another thing that must be understood by every midwife to become a professional midwife is to have a good attitude towards the midwife profession.

The attitude of students about the midwife profession is related to learning outcomes where attitudes and motivation are aspects that greatly determine the success of students, both during education and after graduation and work in carrying out their profession as professional midwives.

He attitude of students about the midwife profession is related to learning achievement where attitudes and motivation are aspects that greatly determine the success of students, both during education and after graduation and work in carrying out their profession as professional midwives. Positive perceptions of students about the midwife profession are continuously needed to help students concentrate on the given teaching

material. Thus, it will have an impact on improving student learning outcomes (Aiyuda, 2009).

METHODS

The type of research is a descriptive analytic study, with a crossectional approach. This study measures the relationship of student attitudes about midwife profession with student learning outcomes in the second semester DIII Midwifery study program at Respati University Yogyakarta. The population in this study were all Midwifery DIII Students in Semester II of the 2012-2013 academic year in Respati University Yogyakarta which amounted to 225 people. Samples in this study were taken proportionally to population size. The samples of this study were 144 students.

The instrument of this study used was a questionnaire. This study used descriptive univariate analysis by calculating the frequency distribution of the research variables while in the bivariate analysis using the Spearman.

RESULT

Table 1. Frequency Distribution Of Respondents based On Characteristics

Characteristics	Frequency	Percentage
Age (Th)		
17	5	3,5
18	46	32,2
19	58	40,6
20	29	20,3
> 21	5	3,5
Parents education		
SD	22	15,4
SMP	39	27,3
SMA	45	31,5
PT/Akademi	37	25,9
Parents income		
Rp.1.000.000-Rp.2.900.000,-	38	26,6
Rp.3.000.000-Rp.5.000.000,-	82	57,3
> Rp.5.000.000,-	23	16,1

Based on Table 1, it can be seen that the respondents in this study were mostly 58 respondents or 40.6% are 19 years. It is known that the respondents in this study were mostly 45 respondents or 31.5% of their parents had education graduated from high school and it was known that the respondents in this study were mostly 82 respondents or 57.3% of their parents had an income of Rp. 3,000,000 - Rp.5,000,000,

Table 2. Student Attitudes to Midwife Professionals

No	Student Attitudes to Midwife Professionals	F	%
1	Positive	80	55,9
2	Negative	63	44,1

Based on Table 2, it is known that most of the 80 respondents or 55.9% of respondents attitudes to the midwife profession are positive.

Tabel 3.Cross Tabulation Of Student Attitudes to Midwife Profession With Learning Outcomes

Characteristics	Student Attitude				Total	
	Positif		Negatif			
	F	%	F	%	F	%
Age						
17	3	2,1	2	1,4	5	3,5
18	22	15,4	24	16,8	46	32,2
19	35	24,5	23	16,1	58	40,6
20	19	13,3	10	7	29	20,3
>21	1	7	4	2,8	5	3,5
Total	80	55,9	63	44,1	143	100
Education Of Parents						
SD	10	7	12	8,4	22	15,4
SMP	28	19,6	11	7,7	39	27,3
SMA	22	15,4	23	16,1	45	31,5
PT	20	14	17	11,9	37	25,9
Total	**80**	**55,9**	**63**	**44,1**	**143**	**100**
Income of Parents						
Rp. 1.000.000-2.900.000	27	18,9	11	7,7	38	26,2
Rp. 3.000.000-5.000.000	36	25,5	46	32,2	82	57,3
Rp. >5.000.000	17	11,9	6	4,2	23	16,1
	80	55,9	63	44,1	143	100

Based on Table 3, it is known that most of the 59 respondents or 41.3% of their learning outcomes are good.

Table 4. Cross Tabulation Of Student Attitudes Towards Midwife Professionals With Learning Outcomes

| Characteristics | Learning achievement | | | | | | | | Total | |
| | Very good | | Good | | enough | | less | | | |
	F	%	F	%	F	%	F	%	F	%
Age										
17	1	.7	2	1,4	1	.7	1	.7	5	3,5
18	3	2,1	15	10,5	3	2,1	25	17,5	46	32,2
19	11	1,4	24	16,8	4	2,8	19	13,3	58	40,6
20	1	.7	16	11,2	3	2,1	9	6,3	29	20,3
>20	0	.0	2	1,4	1	.7	2	1,4	5	3,5
Total	16	11,2	59	41,3	12	8,4	56	39,2	1	100,0
Parent education										
SD	3	2,1	6	4,2	0	.0	13	9,1	22	15,4
SMP	6	4,2	20	14,0	4	2,8	9	6,3	39	27,3
SMA	5	3,5	20	14,0	4	2,8	16	11,2	45	31,5
PT	2	1,4	13	9,1	4	2,8	18	12,6	37	25,9
Total	16	11,2	59	41,3	12	8,4	56	39,2	143	100,0
Parent income										
Rp 1.000.000- Rp 2.900.000	4	2,8	21	14,7	0	.0	13	9,1	38	26,6
Rp 3.000.000- 5.000.000	11	7,7	26	18,2	9	6,3	36	25,2	82	57,3
> 5.000.000	1	.7	12	8,4	3	2,1	7	4,9	23	16,1
Total	16	11,2	59	41,3	12	8,4	56	39,2	143	100,0

Based on table 4 that the age of the respondents, it can be seen that most of them are 24 respondents or 16.8% aged 19 years with good academic achievement. based on parental education, it can be seen that most of them are 20 respondents or 14.0% of their parents' education graduating from high school with good academic achievement. Based on the income of the respondents' parents in this study, most of them were 26 respondents or 18.2% of their parents earned> 3,000,000- IDR 5,000,000, with good academic outcomes.

Table.5 Relationship between Student Attitudes toward Midwives' Professionals and Learning outcomes

| Variable | | Learning achievement | | | | r-cont | p-value |
		Very good	good	Enough	less		
Attitude	Positive	14 (9,8)	48(33,6)	6(4,2)	12(8,4)	0,571	0,000
	Negative	2 (1,4)	11(7,7)	6(4,2)	44(30,8)		
Total		16(11,2)	59(41,3)	12(8,4)	56(39,2)		

Based on Table 5 it is known that most of the 48 respondents or 33.6% of respondents have student attitudes towards the positive midwife profession and good learning outcomes. Based on the calculation results obtained r-count = 0.571> r-table = 0.159 (p-value is smaller than α = 0.05). This means that there is a significant relationship between student attitudes to the midwife profession and learning outcomes. The closeness of the

relationship between student attitudes to the midwife profession and learning outcomes is low (r = 0.571). Further can be interpreted, if the attitude of students to the midwife profession increases, the outcomes of learning will increase. The attitude of students towards the midwife profession is increasing in the sense that students understand, understand, behave positively in the profession of midwives, which will have an impact on increasing the learning outcomes of the students of the midwife concerned.

DISCUSSION
Characteristics of respondents

The results of the age characteristics of the respondents showed that most of them were 58 respondents or 40.6% aged 19 years. This shows that in terms of age of respondents in the Study Program DIII Midwifery II University Respati Yogyakarta mostly teenagers early to mid. 19 years of age is the right age for education in the second semester of college because at that age the respondent has reached maturity. According to Slameto (2005), learning will be more successful if the child is ready or mature. Maturity here is the phase where the growth of a person in which his body's instruments are ready to carry out new skills. According to Monks, Knoers, and Haditono (2002) ages 19-20 years are adolescence as an important period, transitional period, period of change, age problems, a period of seeking self-identity, age raises fear, an unrealistic period, and the threshold of adulthood. According to Stein (2002), cognitive intelligence or IQ has been fixed and tends to peak when it is 17 years old, but is constant throughout adulthood and decreases in old age.

Parental education is known that the respondents in this study were mostly namely 45 or 31.5% of the education of par ents of high school graduates. Education is basically all planned efforts to influence providing protection and assistance so that participants have the ability as expected.

Education can also be said as a process of personal maturation. The level of education is a factor that helps determine whether or not an individual absorbs, is motivated and understands the information obtained. The level of education of a person shapes values for someone especially in accepting new things (Notoatmodjo, 2010).

Parental income is known that the respondents in this study were mostly 82 respondents or 57.3% of their parents had an income of Rp. 350,000,000 - Rp 5,000,000, - one's economic status would also determine the availability of facilities needed for certain activities, so that this socio-economic status will affect one's knowledge.

Student attitudes to the midwife profession

The results of the analysis showed that almost all of them were 80 respondents or 55.9% of the respondents' attitudes towards the midwife profession were positive. This shows that the majority of student attitudes towards the midwife profession are good. The positive attitude of the student towards the midwife profession can show that the student has been able to understand the things related to the midwife profession well and give a positive response. Students have an understanding of advantages and disadvantages in undergoing the profession as a midwife. This can be interpreted that students have been able to direct themselves to explore the midwife profession better.

A positive attitude can be formed through a certain process. The positive attitude of students can be formed, one of which is caused by the influence of educational institutions, namely the UNRIYO campus where students study midwifery. Through student education institutions will gain an understanding and planting of basic values about the midwife profession. This will shape the attitude of students towards the midwife profession as a result of the planting of the basic values obtained by the education process

undertaken. In line with the opinion of Azwar (2011) mentioning educational institutions is a system that has an influence in forming attitudes due to laying the foundation of understanding and moral concepts in individuals. Positive attitudes of students are indicated by positive responses or responses related to the midwife profession and the tasks carried out by midwives. Students appreciate and positively assess that midwives are professions that provide health services to the community, especially maternal services. Students also agree that before becoming a midwife must go through an education program aimed at becoming a midwife. Students respond positively that midwives must also have a range of scientific knowledge. A positive response was also seen from students agreeing to carry out their professional duties. Midwives must comply with the existing code of ethics. Students also agree that the fair midwife profession is rewarded for services to the community.

A positive attitude towards midwives is very important for a student who studies midwifery. This can be explained because a positive attitude is one of the basic capital of students in educating midwifery majors who will deliver to become a midwife. Positive attitude makes students happy to pursue education, enthusiasm and motivated to work as a midwife. This will have a good impact on the educational process undertaken by students so that they can support the achievement of competencies as well as achievement in learning. In line with the opinion of Notoatmodjo (2003) which states the attitude at the responsible stage, an individual will be responsible for everything he chooses with all risks and strives to achieve the goal.

The results of this study concluded that students have a positive attitude towards the midwife profession, in this condition, students are expected to be able to implement these attitudes in their learning activities. The positive attitude and openness of students' thinking are expected to be the basis for improving their skills, competencies, and knowledge during the education process so that competent and quality professional resources will be formed in accordance with the demands of the times. In accordance with Pujati (2008) mentioning increasingly strong developments is absolutely necessary for human resources that are responsive, competitive, and have high mobility in thinking and acting. This can be realized.

Student Outcomes

The results of the analysis showed that most of them were 59 respondents or 41.3% of their learning achievements were good. This shows that most of the learning achievements of the Diploma II Midwifery Student of Respati University in Yogyakarta are good. The results of this study support the research of Fatimah (2009) which shows that learning achievement is good. Student learning achievement as measured by semester learning achievement (IP Semester) is as a result of a learning activity based on measurement and assessment of educational outcomes which is realized in the form of numbers or grades or achievement indexes. To find out the learning achievement, the lecturer takes measurements, then evaluates based on the norms used. The results are manifested in a symbol that usually uses numbers or letters which are commonly referred to as achievement indexes. Learning achievement is the ability possessed by students after receiving lessons. Thus achievement is a result of a person's ability or ability in a particular field in achieving maturity that can be directly measured by a test (Aiyuda, 2009).

Student Attitude About Midwife Profession To Student Learning Outcomes Of Midwifery Students

The results of the Spearman Rank analysis showed that the variable attitudes of students to the midwife profession were significantly related to learning outcomes (p-value = 0.00 <Level of Significant =

0.05). midwifery student. The role of educational institutions in forming these attitudes can be carried out through the educational process carried out, namely by instilling the basic values of the midwife profession. Attitudes can also be formed by providing the widest opportunity for students to obtain information, increase knowledge and insight through various educational facilities in the campus. The breadth of insight students can form a good attitude in the face of changes that occur in the environment. Supported by the Azwar theory (2011), there are several factors that influence the formation of attitudes, including institutions and emotional factors in individuals.

The results of this study support the research of Fatimah (2009) which shows that perceptions of a good midwife profession will have an influence on good learning outcomes. The attitude towards the midwife profession means, what kind of response is indicated by someone who is a prospective midwife towards certain stimuli or objects, which in this case is the midwife's profession. Other factors that influence the process of forming a person's attitude such as personal experience, culture, other people who are considered important, mass media, educational and religious institutions, and emotions within. The attitude of students about the midwife profession is related to learning achievement where attitudes and motivation are aspects that greatly determine the success of students, both during education and after graduation and work in carrying out their profession as professional midwives. Positive perceptions of students about the midwife profession are continuously needed to help students concentrate on the given teaching material. Thus, it will have an impact on improving student learning achievement (Aiyuda, 2009).

CONCLUSIONS
The conclusion of the study are :

1. Most of them are 80 respondents or 55.9% of respondents' attitudes towards the midwife profession are positive.
2. Most of them are 59 respondents or 41.3% Good learning achievement.
3. Statistically the results of the Spearman rank analysis show that the student attitude variable towards the midwife profession is significantly related to learning achievement (r-count = 0.571> r-table = 0.159) or (p-value <Level of Significant = 0.05).
4. The closeness of the relationship between student attitudes toward the midwife profession and learning achievement is rather strong (r = 0.571).

RECOMMENDATION
For the DIII Midwifery Study Program
Can improve students' understanding of the midwife profession by providing information disclosure both from the collection of books and book references, providing information directly and through other information media so as to support the formation of a positive attitude towards students.
For professional organizations (IBI)
Professional organizations to continue to follow up on midwifery graduates in order to be trained according to the midwife profession in order to be able to make quality and competent resources in their fields.
For students
This research can be used as a reference for the importance of an attitude towards an object, namely the midwifery profession to improve mastery of midwifery competencies, to open knowledge about midwifery, which will be useful to run the midwife profession later when graduating.
Next researcher
This research needs to be continued by examining the relationship of attitudes towards learning achievement such as parental support, the environment and so on.

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DESCRIPTION OF CAUSES OF PATIENTS 'PATIENCE RISK OF VIOLENCE BEHAVIOR IN THE SPACE KUANTAN HOSPITAL LIVINGRIAU PROVINCE IN 2018

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Abstract
Risk of violent behavior is the possibility of someone taking action that can injure another person and the environment due to the inability to control anger constructively (CMHN, 2006). The risk of violent or aggressive behavior is behavior that accompanies anger and is an encouragement to act in a destructive form and is still contradictory (Yosep, 2007). According to Riyadi and Purwanto (2009) the factors that support the occurrence of recurrence The risk of violent behavior is biological factors, psychological factors, and socio-cultural factors. The purpose of this research is to find out the description of the causes of recurrence in patients at risk of violent behavior in the Kuantan Room, Handsome Mental Hospital, Riau Province. The type of research used in this study is quantitative and the research design used in this study is descriptive design. The population in this study were all patients at risk of violent behavior in the Kuantan room of the Province of Handsome Mental Hospital of Riau Province, amounting to 48 patients. The number of samples in this study was 30 people. research results to find out the results of the study. The results of the study on the Overview of the Causes of Recurrence of Patients with Violent Behavior Risk in Kuantan Room Riau Province Handsome Mental Hospital in 2013 were 19 respondents (63.1%) based on biological factors, 17 respondents (56.7%) based on psychological factors, 16 respondents (53 , 3%) based on socio-cultural factors. Based on the results of research conducted by researchers, it can be concluded that the risk of majority violence behavior is caused by biological factors.

Keywords: Risk of Violent Behavior

INTRODUCTION

Risk of violent behavior is the possibility of someone taking action that can injure others and the environment due to the inability to control anger constructively (CMHN, 2009). The risk of violent or aggressive behavior is behavior that accompanies anger and is an impulse to act in a destructive and still controversial form (Yosep, 2010).

Nursing problems are most often found in hospitals. The soul is violent behavior, hallucinations, withdrawal, low self-esteem, understanding, suicide, drug dependence, and self-care deficits. Of the eight nursing problems above will have different manifestations, the process of the

occurrence of different problems and so that different treatments are needed. The seven problems are seen as important, between problems with each other. (Ministry of Health, 2009).

Every year the number of people with mental disorders increases. At present there are an estimated 450 million people with mental disorders worldwide. The 2010 World Health Organization (WHO) report states that one in four people will suffer from a mental or neurological disorder. Ministry of Health data in 2009, the number of people with mental disorders in Indonesia currently reaches more than 28 million people with a category of mild mental disorders 11.6 percent and 0.46

percent suffer from severe mental disorders downloaded December 7, 2011).

The results of the WHO study in Central Java in 2009 stated that out of every 1,000 people in Central Java there were 3 people who experienced mental disorders. While 19 people every 1,000 people in Central Java experience stress (Ministry of Health, 2009). 2013 Basic Health Research (Riskesdas) states that 14.1% of Indonesia's population experiences mental disorders from mild to severe. This condition is further aggravated through various natural disasters that occur in almost all parts of Indonesia. To overcome the problem of mental disorders, not only with physical healing when the sufferer is hospitalized, but rather lso need preventive, promotive, therapeutic, and rehabilitation treatments. Factors that cause mental disorders are generally biological factors and external factors (Aimanullah, 2009). Mental nursing is an interpersonal process that seeks to improve and maintain behavior that contributes to functions that are cloned. Client systems can be in the form of individuals, families, groups, organizations or communities. In providing nursing care, nurses believe that the client is a whole and unique human being consisting of bio-psycho-cultural-spiritual aspects. Furthermore, nurses can identify the client's health status that fluctuates throughout the healthy range of illness. The client's health status will influence the client's response which can be assessed from cultural-spiritual bio-psychosocial aspects. In studies, nurses often only focus on biological or physical aspects so that comprehensive nursing care is not achieved (Kelliat, 2009).

Some symptoms that are commonly felt by the family become the reason why patients are taken to the Mental Hospital, namely the existence of low self-esteem, withdrawal, hallucinations, understanding, and violent behavior. Anger is a client reaction that often occurs, it is not uncommon for nurses to not respond to this reaction, because it is not a problem.

Knowing the range and process of anger, the nurse will be able to direct the client to overcome his anger constructively (Kelliat, 2009).

Based on the data obtained by the author from the Medical Records of Pekanbaru's Handsome Mental Hospital in 2018 in the Kuantan room, there were 90 patients. With a percentage of 53.3% of patients the risk of violent behavior, 18.8% of hallucinatory patients, 10% of patients withdrew, 6.7% of patients with low self-esteem, 10% of patients with illiteracy and 1.2% of patients with logore (many talk) with the average length of treatment is 3 weeks to 4 weeks.

Based on the description above there are still many patients who experience a recurrence of the risk of violent behavior, so the authors are interested in examining the title "Overview of the Causes of Recurrence of Violent Risk Patients in Handsome Mental Hospital of Riau Province in 2018. Handsome Mental Disease of Riau Province in 2018.

METHOD

In the study the authors used a type of descriptive research that aimed to identify the picture of the causes of patient recurrence with violent behavior. The location of the study was conducted in the room of Kuantan Handsome Mental Hospital in July 2018. The population is the overall object to be studied (Notoatmodjo, 2010). The population in this study were all patients at risk of violent behavior in the Kuantan room of the Handsome Mental Hospital of Riau Province totaling 48 patients. Samples are certain methods or techniques in taking research samples so that the sample represents the population wherever possible. Samples taken here are patients with a risk of violent behavior with the technique of taking a total sample of the population where all that is present in the population will be sampled in this study (Notoatmodjo, 2010). In managing the collected data, it is processed manually. Data processing steps are as follows:

a. Editing

Editing (checking data completeness), namely checking the data first includes checking the data that has been collected, if there are errors and errors in data collection that can be repaired and can be re-collected.

b. Coding

Coding is the coding of answers with other numbers or codes such as code numbers one, two, etc. for each answer. The collected data is encoded one by one regarding the answers and completeness, then continued with the tabulation.

c. Tabulating

Data tabulation is to compile and calculate the data obtained. After the data is processed, it is then presented in the form of frequency distribution. Data that has been completed is then calculated in accordance with the alternative answers.

This study uses univariate analysis, which is carried out on each variable of research results, calculating the percentage of research results to find out the results that will later be used as a benchmark for discussion and conclusions. This analysis is displayed in the form of a distribution table and presented from each variable.

RESULT

In this chapter the researcher will report what the researcher has done on the date that the researcher has done on July 17, 2018 (for 1 day) in the Kuantan Room of Pekanbaru's Handsome Hospital. The population was all patients with a risk of violent behavior totaling 48 patients.

Frequency Distribution Respondents based on biological factors in Kuantan Tampan Hospital were as many as 37 people and those not based on biology as many as 11 people. Distribution of respondents based on psychological factors as many as 29 people, and based on socio-cultural factors as many as 32 respondents. the results of the study, it can be seen that the distribution of risk factors for recurrence of disease, the violent behavior of patients is a biological factor, which is 37 respondents. According to researchers

biological factors are very influential with the occurrence of the risk of violent behavior based on basic human needs, namely the need for social relations and self-actualization. Where someone really needs social relations to get the purpose of his life.

CONCLUSION

Based on research that has been done in the Kuantan Room of the Province of Handsome Mental Hospital of Riau in 2013, about the picture of the causes of recurrence in patients with risk of violent behavior in the Kuantan Room of the Riau Province Handsome Mental Hospital in 2013 it can be concluded as follows: The risk of the majority of violent behavior is caused by biological factors then because of psychological factors and the least risk of violent behavior is caused by socio-cultural factors

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ATTITUDE AND ACTION OF MOTHER ON IMPLEMENTATION OF CENTRAL ROPE CARE IN BABIES IN POSYANDU KASIH IBU PENGHIDUPAN VILLAGE KAMPAR RIAU

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ABSTRACT

The incidence of newborn infections in Indonesia ranges from 24% to 34%, and this is the second leading cause of death after neonatal Asphexia, which ranges from 49% to 60%. Most infections of newborns are Tetanus neonatorum, which is transmitted through the umbilical cord, because cutting with unclean pests, infection can also occur through the use of drugs, powders, talcum or leaves used by the community in caring for the umbilical cord. The purpose of this study was to determine maternal knowledge about the implementation of umbilical cord care in the Posyandu Kasih ibu in Kampar Riau's Penghidupan villages in 2018. The population were mothers who had babies. The approach taken in this study was a quantitative approach by a simple descriptive method to explains the description of maternal knowledge about umbilical cord care. Using a questionnaire, 40 mothers with research results revealed that more than most attitudes mothers were negative amount 52.5% and maternal actions were not good in carrying out umbilical cord care which were 55%. In order to improve maternal attitudes and actions regarding cord care, health education is needed when the mother will gone home by health workers.

Keywords: Maternal attitude, cord care

INTRODUCTION

The Mortality Rate (IMR) in 2012 reached 23/1000 live births. Where 79% occurred in the first week of birth. The highest incidence of neonatal deaths is neonatal tetanus infection, one of which is due to improper cord care. (Pujiastuti, 2014) Asiyah (2017) states that the incidence of newborn infections in Indonesia ranges from 24% to 34%, and this is the second leading cause of death after neonatal Asphexia ranging from 49% to 60%. Most infections of newborns are Tetanus neonatorum, which is transmitted through the umbilical cord, because cutting with unclean pests, infection can also occur through the use of drugs, powder, talcum or leaves used by the community in caring for the umbilical cord. The 2010 Word Health Organization found an infant mortality rate of 560,000 caused by cord infections. In Southeast Asia the infant mortality rate due to a central infection is 126,000.

Based on the Riau Health Office Profile, in 2015 there were 31 neonatal deaths per 20,751 number of live births, but could not describe the actual IMR data from the population. In order to support the 2015 MDGs, which is to reduce the infant mortality rate to 24 per 1000 live births, one of which is to reduce the number of infections. Especially in the case of umbilical cord infection, which is about 23% to 91%, the umbilical cord that is not treated properly will be infected by staphylococcus Aureus bacteria in the first 72 hours after birth. This is strongly influenced by the behavior of mothers in giving the correct cord care (Astutik, 2015).

Behavior is all human activities or activities, both those that can be observed directly, or those that are not observed directly, by outsiders. (Notoatmodjo,

2012). According to Blom (1908) quoted from Wulandini (2014), in the book socio-cultural and health behaviors dividing behavior is divided into three domains (regions), even though the area does not have clear and firm boundaries. The three regions consist of cognitive areas, affective areas, and psychomotor areas.

Yuliani (2017) states, During treatment in infants requires the role of the mother. Where needed, knowledge, attitudes and actions of mothers who play a role in baby care. Mothers will have less knowledge can cause growth and developmental disorders throughout their lives.

From the results of Erniati's research (2015) stated that low knowledge will cause people to experience difficulties in absorbing information from outside, be it health workers or from other media. Asiyah (2017) low knowledge will cause mothers to experience difficulties in absorbing information about how to treat umbilical cord care in infants. The umbilical cord itself is the main entrance when systemic infection will enter the newborn (Asiyah 2017). Umbilical cord care is needed to prevent infection and accelerate the breaking of the umbilical cord. Basically, umbilical cord infection can be prevented by doing good and correct umbilical cord care, namely the principle of dry and clean treatment. Many opinions about the best way to care for the umbilical cord (Permanasari, DK. 2009). The Ministry of Health (2010) sets the standard for cord care that is in essential neonatal care. Where the umbilical cord care is not to be closed, applying alcohol or povidone iodine is still permitted, but it is not compressed because this will cause the umbilical cord to be moist From the results of the survey conducted at the Posyandu Kasih, the Village Mothers, from 10 mothers, 8 of them still covered the umbilical cord, and 100% did not know that the central treatment was not allowed to be closed. Based on the description above, the researcher wanted to examine the

"knowledge of cord care for mothers in the Posyandu Kasih Ibu Penghidupan Village in Kampar Riau 2018". The purpose of this study was to determine the attitudes and actions of umbilical cord care by mothers in the Posyandu Kasih Ibu Livelihood Village in Kampar Riau 2018

METHOD

This research is quantitative, with a cross sectional approach with literature review, in order to formulate the next theoretical framework of the conceptual framework that produces specific research problems. The research method used is quantitative to answer the problem in the study by using a type of descriptive study design. The research was carried out beginning with a preliminary survey looking at the knowledge of cord care by mothers in the Posyandu Kasih Ibu Penghidupan Village in Kampar Riau. Data analysis used in this study uses univariate analysis with a statistical approach. According to Notoatmodjo (2010), in the data analysis researchers used univariate data analysis, namely the results of calculations and percentages where later the reference would be used to deepen the discussion of the conclusions.

RESULT

From table 1 it is known that the majority of respondents have one child, namely 45% (18 people), respondent education, namely high school as much as 37.5% (15 people), followed by junior high school as much as 25% (10 people) and the work of the mother majority of housewives (IRT) that is 95% (38 people).

Table 1 Distribution of Frequency of Respondents to Mothers at the Posyandu Kasih Ibu Kampar Riau 2018

No	General Data	Total	Percentage
1.	Number of Mother Children		
	• 1	18	45
	• 2	10	25
	• 3	11	27.5
	• 4	1	2.5
	Total	40	100
2.	Education		
	• elementary school	9	22.5
	• Middle school	10	25
	• High school	15	37.5
	• Bachelor	6	15
	Total	40	100
3.	Mother's work		
	• Work	2	5
	• Housewife	38	95
	Total	40	100

Attitude

Table 2. Distribution of the frequency of maternal attitudes in infant cord care at the Posyandu Kasih Ibu Penghidupan Village in Kampar Riau in 2018

Attitude	Total	Percentage
Negative	21	52.5
Positive	19	47.5
Total	40	100

From the results of the study it was found that most of the maternal attitudes were negative at 52.5% (21 people) and positive maternal attitudes were 47.5% (19 people).

Psycomotor

Table 3 Distribution of Frequency of Actions of Mother Carrying Out Baby's Cord Care at the Posyandu Kasih Ibu Penghidupan Village in Kampar Riau in 2018

Psycomotor	Total	Percentage
Good	18	45
Less good	22	55
Total	40	100

From the results of the study it was found that most of the mothers' actions were not good in carrying out umbilical cord care which was 55% (22 people), and the mother's actions were good in carrying out umbilical cord care which was 45% (18 respondents). From the results of the study it was found that more than most of the mother's knowledge was good at 65% (26 people) and not good at 35% (14 people).

DISCUSSION
Attitude
The results of the study revealed that most of the negative maternal attitudes were 53.5% (21 people) and positive attitudes were 47.5% (19 people). In accordance with the 9-year compulsory education (elementary and junior high school) launched by the government.

Distribution of maternal education was obtained 60% (24 people) mothers with low education (elementary school, junior high school) and 40% (16 people) had higher education (high school and undergraduate).

According to Notoatmodjo (2010), education is one of the factors that influence a person's way of thinking, as well as taking one's attitudes and decisions. The higher a person's education, the more he will pay attention to health and safety for himself, his family and the surrounding environment.

The formation of one's attitude is determined by personality, intelligence, and interest. Attitude can change or always change is the result of experience (educational results). Someone in the attitude can not always adjust, so that there is a need that is desired by other parties. (Wulandini, 2016).

Actions
From the results of the study it was found that most of the mothers' actions were not good in carrying out umbilical cord care which was 55% (22 people), and the mother's actions were good in carrying out umbilical cord care which was 45% (18 respondents).

CONCLUSION
1. From the results of the study it was concluded that the attitude of mothers

regarding cord care was negative at 52.5% (21 people).

2. Maternal actions in carrying out umbilical cord care that is less than 55% (22 people)

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QUALITY OF LIFE ON HEMODIALYSIS PATIENTS IN PSYCHOLOGICAL ASPECTS: A MIXED METHOD STUDY

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Abstract
Chronic Kidney Failure is a disease with a prevalence that is increasing every year. This disease is irreversible, so patients will take hemodialysis to maintain kidney function. This will affects their quality of life that can be viewed from several aspects. This study aim was to determine the quality of life on patients undergoing hemodialysis in terms of the psychological dimension. This study used a mixed method with sequential explanatory strategies. Quantitative research sample with 66 respondents. Quality of life was measured by the WHOQOL-Bref questionnaire regarding the psychological aspects. Data analysis were performed by mean value. Qualitative research used 6 participants and data collection with interview guidelines. Data analysis applies interactive model analysis with collection, reduction, presentation, conclusion. The results showedthat there were 28 people (42.4%) hemodialysis patients who had poor quality of life, with the lowest mean value on emotional points and sadness of patients with their conditions. This poor quality of life affects the patient's self-concept, anxiety, spirituality, and also coping, so that it indirectly also affects the physical condition of the patient. Nurses are expected to be able to provide motivation and psychological support so that the quality of life of patient can be increased.

Keywords: Quality of life, psychological aspects, hemodialysis

INTRODUCTION

Chronic kidney failure is a failure of kidney function for maintain metabolism and fluid and electrolyte balance due to progressive destruction of kidney structure with manifestations of metabolite accumulation (uremic toxic) residues in the blood (Hagita, Bayhakki, & Woferst, 2015). Chronic kidney disease consists of several stages, where the final stage and chronic kidney disease are called end-stage renal disease (ESRD). ESRD is shown by the inability of the inner kidney maintain body homeostasis (Ignatavicius & Workman, 2006).

The prevalence of patients with chronic renal failure was increasing every year. Absolutely in 2007 around 1.1 million people underwent hemodialysis, and projected in 2013 to be more than 2 million people (Indonesian Renal Registry (IRR),

2014). The National Institute of Diabetes Mellitus and Digestive and Kidney Disease (NIDDK) states that between 1980 and 2009, the average prevalence of chronic kidney failure in the US increased to nearly 600% from 290 cases to 1,738 cases per million population. The number of deaths of patients with chronic renal failure also shows an increase from 10,478 in 1980 to 90,118 in 2009 (National Kidney and Urologic Diseases Information Clearinghouse, 2012).

The sequence of causes of kidney failure in new hemodialysis patients in 2014 was dominated by hypertensive kidney disease which was 37% followed by diabetic nephropathy by 27%. Primary glomerulopathy gives a high proportion of up to 10% and Obstruction Nephropathy still gives a figure of 7% which in developed countries this figure is very low

(IRR, 2014). In Indonesia in 2011 there were 15,353 new patients undergoing hemodialysis and in 2012 there was an increase in patients undergoing hemodialysis including 4,268 people so that overall there were 19,621 patients who had just undergone hemodialysis until the end of 2012 on 244 hemodialysis units in Indonesia (Indonesian Renal Registry (IRR), 2014).

Late stage kidney disease (End State Renal Disease / ERDS) must use kidney replacement therapy which is the only option to maintain body function. Kidney replacement therapy that is usually done can be in the form of a kidney transplant or dialysis consisting of peritonial dialysis and hemodialysis. Currently most kidney replacement therapy used is hemodialysis whose numbers from year to year continue to increase (Smeltzer, Bare, Hinkle & Cheever, 2008).

Hemodialysis therapy is a high technology as a replacement therapy to remove metabolic remnants or certain toxins from the blood circulation humans such as water, sodium, potassium, hydrogen, urea, creatinine, uric acid, and other substances through semi-permeable membranes as blood separators and dialysate fluids in artificial kidneys where diffusion, osmosis and ultra filtration occur (Brunner & Suddarth, 2009). Renal replacement hemodialysis therapy is very beneficial for clients with end-stage kidney disease because the kidneys are vital tools in the body that maintain body homeostasis, but hemodialysis therapy does not mean that it is not risky and has no side effects. Various problems and complications can occur in clients undergoing hemodialysis.

Hemodialysis is closely related to the quality of life of the client due to the many complex problems of physical, psychological, social, economic and spiritual conditions due to hemodialysis and disease. Landreneau, Lee and Landreneau (2010) say that the quality of life of clients undergoing kidney transplants is better than patients undergoing hemodialysis. The state of end-stage renal failure patients who depend on the dialysis machine for life will result in changes in their lives.

Quality of life is a concept in health science and clinical practice, describing an individual's perception of their position or condition in life, in the context of culture and system the value they live in, and their relationship to their goals, hopes, standards and interests (Feroze et al., 2011). Quality of life is an ideal condition that should be achieved by everyone including the balance of the physical, psychological, social and environmental dimensions around. In psychological aspects, most of patient showed the confusion and anxiety in the first time doing the hemodialysis. Therefore, it is necessary to explore the experience, the hope of hemodialysis patients in order to continue routinely doing hemodialysis and can improve the quality of their lives even though their lives depend on hemodialysis. The purpose of this study was to determine the quality of life on psychological aspects in patients with chronic renal failure who undergoing hemodialysis as an effort to improve the quality of life in Bukittinggi: a mixed method study.

METHOD

This study was a mixed method study using sequential explanatory strategies, to know about the description on quality of life in psychological aspect of hemodialysis patients in both quantitative and qualitative approachment. There were 66 patients for quantitative research who participated to stated their feeling about their quality of life in psychological aspects during hemodialysis treatment. Sample taken as a total sampling through all the patients who running hemodialysis in the Bukittinggi Government Hospital. Patients running hemodialysis twice a week and their were taken as a sample in a month. Qualitative research uses 6 participants to explain their quality of life during hemodialysis in psychological aspects.

Quality of life is measured by the WHOQOL-Bref questionnaire regarding the psychological aspects. Data analysis was performed using mean value. For qualitative, data were collected by interview guidelines. Data analysis applies interactive model analysis with data collection, data reduction, data presentation, and conclusion. Instrumentation used in this study was questionnaire about the quality of life on chronic renal disease patients which taken based on World Health Organization Quality of Life Instruments (WHOQoL-Bref) (Vahedi, 2010). The questionnaire using likert scale. Ratings for each statement in the form was ranging from "1" (never), "2" (rarely), "3" (often) and "4" (very often). The realibility test was found that the questionnaire is reliable (with the value was 0,884).

RESULTS AND DISCUSSION
Quantitative results

Data analysis for quantitative is done by using computerization by first editing, coding, entry, cleaning, processing. Quantitative data produce a description of the categories of respondents' characteristics and the quality of life categories of patients undergoing hemodialysis. The frequency distribution of respondents' characteristics was seen based on age, sex, and length of time undergoing hemodialysis.

On the table 1, the characteristics of patients based on age are highest in the age range 46-55 years (29.2%). The sex of the most respondents was male 36 (54.5%) and the old category underwent hemodialysis, most respondents underwent hemodialysis in the category <2 years which amounted to 34.8%. Other quantitative data produced is the category of patient's life quality in psychological aspect which showed Less Good Level (42,42%).

The quantitative data obtained are shown in the following table:

Table 1 Demographic data of respondent (n=66)

Respondent Characteristic	n	(%)
Age (years)		
(25-35)	9	(12.3)
(36-45)	12	(18.5)
(46-55)	19	(29.2)
(56-65)	16	(24.6)
≥ 66	10	(15.4)
Gender		
Male	36	(54.5)
Female	30	(45.5)
Undergoing hemodialysis		
New (< 2 years)	43	(65.2)
Old (≥ 2 years)	23	(34.8)

Tabel 2. The quality of life category of patients undergoing hemodialysis in psychological aspects (n=66)

Quality of Life Category	n	(%)
Good Level	28	(42.42)
Less Good Level	38	(57.58)

Table 3 Subscale scores for quality of life in psychological aspects on hemodialysis patients

Variable	a	Mean (SD)	
Psychological Aspects			
I feel so sad with my condition	5	2.65	(0.936)
I am angry or offended if someone else talks about my illness.	1	3.42	(0.745)
I am depressed / anxious because of my current condition.	2	3.03	(0.859)
I am involved in family decision making.	3	2.86	(0.975)
I often experience fear or anxiety about my health.	4	2.85	(0.846)

a= item ranking

Based on the table 3, we know that the highest feeling on psychological aspects showed by hemodialysis patients was "feeling angry if someone else talks about their illness" (mean = 3,42). This feeling showed they still bergaining with their condition.

Qualitative results

The results of qualitative research were developed based on quantitative research using deepth interview showed that the hemodialysis patient still concern about sadness feeling at the beginning of doing hemodialysis. Negative feelings arise when you first find out about chronic kidney failure and have to undergo hemodialysis treatment regularly. Negative feelings that arise consist of feelings of fear, stress, shock, depression (down), sadness, crying and resentment as described below:

"at first, I felt sad about this condition, and often angry and blamed myself" (P2)(P6)

Three participants were afraid because they did not know the treatment procedure, fear of being stabbed by needles and fearing about the future of their young child as described below:

"why does this happen, what about the dialysis process? How long? And what about the fate of my children, they are still small" (P3) (P1) (P2)

Two of the six other participants expressed the perceived stress due to the illness they experienced. Stress arises from dependence on routine hemodialysis therapy twice a week and drink foods that must be limited as described below:

" Thinking that it doesn't feel this so heavy, I think dialysis is only once or twice not continuing this routine " (P4) (P5)

DISCUSSION

The results stated that all of participants revealed weak physiological needs such as anxiety, confusing, bergaining and distress coping since hemodialisis therapy. This is in line with the qualitative research conducted by (Hagita et al., 2015) which states that psychological aspects among hemodialysis patients was obtained themes are psychological responses that arise in participants as negative feelings arise including feelings of fear, stress, shock, depression, sadness, crying and resentment. The description of the psychological response that researchers get is the emergence of feelings of fear, stress, depression and shock.

All participants revealed that negative feelings emerged when they were first diagnosed with chronic renal failure and had to undergo hemodialysis therapy that did not cure but to maintain life. Result also show that the highest feeling on psychological aspects showed by hemodialysis patients was "feeling angry if someone else talks about their illness" (mean = 3,42). This feeling showed they still bergaining with their condition.

This is consistent with the research conducted by (Gerogianni & Babatsikou, 2014) which states that the results of research on respondents who undergo hemodialysis therapy are close to moderate to severe aspects of psychological stress, in line with this study that researchers also get a negative psychological response in the form of stress expressed by 4 participants who face the problem of difficulty in maintaining what they have, such as work, social interaction, and finance and unable to maintain roles and responsibilities. Most patients who participated in the study complained about this problem.

The participant's psychological state decreased since undergoing hemodialysis. Three of the six participants revealed psychological burdens such as boredom, despair and feeling a burden to the closest person. One participant revealed that he felt a burden for his child so that negative feelings always arose, such as despair and thinking it would be better to die. Boredom also occurs because every two times a week must undergo hemodialysis therapy and after returning from the hospital just sleeping and watching TV, the activity was repeated over and over because of dependence on others due to physical weakness.

Research conducted by (Farida, 2015) stated that the psychological quality of participants felt decreased where participants felt embarrassed, despaired and felt guilty which could cause depression in participants, quality of life was also influenced by psychological factors such as anxiety. This is in accordance with the research conducted, namely the quality of participants decreases where participants feel bored, hopeless and feel a burden since undergoing hemodialysis.

Psychological adaptation shown by participants to overcome negative feelings is to accept the situation and surrender to God. According to (Gerasimoula et al., 2015) this psychological response is normal in the initial phase of hemodialysis. After experiencing the denial stage, participants showed a bargaining stage by seeing other clients who were also undergoing hemodialysis. By looking at the condition of other clients who have undergone hemodialysis first, the participants enter the receiving stage, this stage is indicated by the attitude of participants who surrendered and gave everything to God.

CONCLUSION

This study concluded that quality of life on hemodialysis patients in psychological aspect in Dr. Achmad Mochtar Bukittinggi is quite enough good. As the quantitative result, respondent respon the highest feeling on psychological aspects showed by hemodialysis patients was feeling angry and anxious at the first time in running the procedures of hemodialysis. This feeling showed that they still bergaining with their condition. In the qualitative result, negative feelings arise when they first find out about chronic kidney failure and have to undergo hemodialysis treatment regularly. Negative feelings that arise consist of feelings of fear, stress, shock, depression (down), sadness, crying and resentment. Nurses are expected to be able to motivate patients undergoing hemodialysis in improving their quality of life, especially in psychological aspects.

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EFFECTIVENESS OF MAHONI SEED EXTRACT (MAHAGONI SWEITENIA) ON BACTERIA CAUSING SKIN INFECTION

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Abstract

Indonesia is a country that has a large biological wealth and can be developed especially for traditional medicine. Traditional medicine can be used as an alternative medicine for the community because most of the herbs that are medicinal are easily found in the surrounding environment. One of these plants is mahogany (Sweitenia Mahagoni). The part of the mahogany plant that is often used by the community for treatment is the seed. Mahogany seeds are known to contain secondary metabolites of flavonoids, saponins, triterpenoids,and steroids. This study aims to determine the effectiveness of mahogany seed extract on the growth of Staphylococcus epidermidis and Pseudomonas aeruginosa bacteria with a concentration of 25%, 50%, 75%, 100%. This research is a descriptive study in vitro using disc diffusion method. The results of the study have been obtained with the average diameter of inhibitory zones at concentrations of 25%, 50%, 75%, 100% of Staphylococcus epidermidis is 8.3 mm; 9 mm; 9.3 mm; 10.3 mm and against Pseudomonas aeruginosa is 7.3 mm; 7.6 mm; 9 mm; 10 mm. Positive control obtained 20mm and negative control 6 mm (disk diameter). Based on the results above, it can be concluded that mahogany seed extract has an effectiveness against the bacteria that cause infection in the skin.

Keywords: Effectiveness, extract, mahogany seeds, Staphylococcus epidermidis,
Pseudomonas aeruginosa

INTRODUCTION

Infectious diseases are a health problem in the world, especially in developing countries because the level of knowledge and awareness of the health in the population is still relatively low. Infection is a local or systemic reaction due to invasion of germs that enter the body. Infectious diseases are still a major cause of morbidity and mortality in the world. According to WHO in 2011, as many as 25 million deaths worldwide, one third were caused by infectious diseases. Infectious diseases can be caused by four large groups of disease pests, namely bacteria, fungi, viruses and parasites (Gibson, 1991).

Antibiotics are chemicals produced by fungi and soil bacteria, which have the effect of killing or inhibiting germ growth, while their toxicity to humans is relatively small (Tjay et al., 2002). Massive use of antibiotics for therapy and prophylaxis is a major factor in the occurrence of resistance. Many strains of *Pneumococcus, Staphylococcus, Enterococcus,* and *Tuberculosis* have been resistant to many antibiotics, including *Klebsiella* and *Pseudomonas aeruginosa* also resistant (Utama, 2006).

Pseudomonas aeruginosa is a gram negative, aerobic and mobile bacterium using flagellum. *P. aeruginosa* infection

causes disease in various tissues including respiratory tract, eye, urinary tract and skin (Todar, 2004). Treatment of *P. aeruginosa* infection so far uses penicillin-class antibiotics, aminoglycosides and fluoroquinolones. The European Epic Study reports that *P. aeruginosa* has been resistant to several antibiotics, including gentamicin (46%), imipenem (21%), ceftazidim (27%), and ciprofloxacin (26%) ((Dwiprahasto, 2005).

Staphylococcus epidermidis is a gram-positive bacterium and is one of the species of the Staphylococcus genus that is most commonly encountered in clinical importance. Most of these bacteria are normal flora in human skin and mucous membranes. In the past, these organisms rarely resulted in significant infections. However, with the increased use of catheter implants and prosthetic devices, *S. Epidermidis* is an important agent causing nosocomial infections. Treatment of infections against these bacteria is increasingly difficult because of the increasing resistance to various antimicrobial agents and the ability to form biofilms. About 75% of *S. Epidermidis* isolates have experienced resistance to naficillin, oxcillin, methicillin, and penicillin. This high resistance rate will make it difficult to treat infections and increase the cost of patient treatment.

Therefore, along with increasing bacterial resistance must be balanced with the discovery of new drugs. This has led to the discovery of alternative products that are more potent, cheaper, have fewer side effects, and are continuously available in large quantities so that resistance can be overcome. The use of natural materials as traditional medicines in Indonesia has recently increased, even some natural ingredients have been produced fabricated on a large scale.

The use of traditional medicines is considered to have smaller side effects compared to drugs derived from chemicals. Various strategies are used by researchers to search for new antibiotics through the synthesis of pure compounds, the study of specific metabolism of pathogenic microorganisms and exploration of active compounds from natural substances or medicinal plants that have been used by the community to treat infectious diseases (Katzung, 2001).

One of the plants used by the wider community for treatment is mahogany tree (Swietenia Mahagoni). All parts of mahogany trees can be used starting from wood, bark, leaves and fruit seeds. However, the most useful properties for treatment are seeds of mahogany fruit, including treating hypertension, lack of appetite, fever, diabetes mellitus, colds, eczema, and rheumatism (AgroMedia, 2008).

In addition, mahogany seeds are also antiseptic, antioxidant and antimicrobial (Wahyunita, 2011). Further research shows that mahogany seeds contain active compounds of alkaloids, terpenoids, anthraquinones, cardiac glycosides, saponins and essential oils. Several studies have also been carried out to prove the pharmacological activity of mahogany seeds. Sahgal et al. (2009) also proved that the methanol extract of mahogany (S. mahagoni (L.) Jacq.) Seeds had antimicrobial activity against gram positive and negative bacteria. Wahyunita (2011), examined the antibacterial activity of mahogany (Swietenia Mahagoni) seeds against S. Aureus in vitro. In addition, it was also reported by (Dewi & Fauzana, 2017) about the activity of mahogany seed extract on Shigella dysenteriae at concentrations of 25%, 50%, 75% and 100% with a inhibition zone of 6 mm, 8 mm, 8.33 mm, 10, 33 mm.

Therefore, this study was intended to test the antibacterial effectiveness of mahogany seed extract against Staphylococcus epidermidis which represented Gram positive and Pseudomonas aeruginosa representing Gram negative

METHOD

The sample used was mahogany seeds (*Sweitenia mahagoni*) purchased at Central Market, Jalan Agus Salim Pekanbaru. Place and time of research This research was conducted in the Abdurrab University Microbiology laboratory and Muhammadiyah University Pekanbaru. Tools: Asbestos, autoclove, aluminum foil, stirring rod, glass beaker, suction ball, spritus lamp, petridist cup, Erlenmeyer, incubator, sterile cotton swab, ose wire, label paper, rice paper, matches fire, stove, measuring flask, ruler, tweezers, drop pipette, micro pipe, 25 ml measuring pipette, knife, rotary evaporator, test tube rack, spatel, test tube, analytic scales, tissue, spraying container. Materials : mahogany seeds, 2N glacial acetic acid, distilled water, 36N concentrated sulfuric acid, 2N hydrochloric acid bismuth nitrate, potassium iodide, iodine, magnesium powder, mercurium (II) Chloride, ethanol, and spritus, Mueller Hinton Agar (MHA), sterile aquadest strains, 0.9% NaCl infusion, sulfuric acid (1% H2SO4), barium chloride hydrate (BaCl2.2H2O 1.175%), 70% alcohol, 96% ethanol, bacterial strains.

Procedure: 1)Making Simplicia : Mahogany Seeds Weighed 1 kg of mahogany seeds then washed thoroughly, drained then chopped thinly, then aerated at room temperature until dry, then weighed, put the fine simplicia of mahogany seeds into the container, 2)Phytochemical Screening of Simplicia of Mahogany Seeds. Alkaloid test : Simplicia of mahogany seeds as much as 0.5 g were then added 1 ml of 2N hydrochloric acid and 9 ml of distilled water, heated on a water bath for 2 minutes, cooled and filtered. The filtrate obtained was transferred into three test tubes each of 3 drops. Then each tube was added 2 drops of dragendroff, mayer, and Wagner reagents. If a red or orange precipitate is formed, it shows that the sample contains alkaloids, using dragendroff reagent, with the major reagent giving a white or yellow precipitate, with Wagner's reagent giving a brown precipitate (Sangi, Runtuwene, Simbala, & Makang, 2008).

Flavonoid test : Taken 200 mg of simplicia extracted with 5 ml of ethanol and heated for 5 minutes in a test tube. Next, add a few drops of concentrated 2N HCl. Then it was added 0.2 g of mg powder. Positive results are indicated by the appearance of deep red (magenta) in for 3 minutes ((Sangi et al., 2008). Triterpenoid and steroid tests : As many as 50-100 mg of simplicia were taken, glacial acetic acid was added until all samples were submerged, left for 15 minutes then 6 drops of solution were transferred into a test tube and added 2-3 drops of H2SO4 P. The presence of triterpenoids is indicated by the occurrence of orange or purple red steroids are indicated by the formation of blue (Sangi et al., 2008). Saponin test 2 g of simplicia were taken into the test tube, then distilled water was added until the whole sample was submerged, boiled for 2 to 3 minutes, and then cooled, then shaken : vigorously. Positive results are indicated by the formation of foam that is stable 10-15 minutes (Sangi et al., 2008). Tannin test : Simplicia is taken as much as 20 mg plus ethanol until the sample is submerged. Then add 2-3 drops of 1% FeCl3 solution. Positive results are indicated by the formation of a bluish or green black (Sangi et al., 2008).

Making Mahogany Seed Ethanol Extract (*Sweitenia mahagoni*) Weighed 500 grams of mahogany simplicia, put into a 500 ml beaker glass, macerated in 96% ethanol, covered with aluminum foil, soaked for 3 days while stirring, protected from light, maceration repeated 3 times, with the same type and amount of solvent, then filtered with filter paper, maserat was collected, the solvent was evaporated with rotary evaporator until a thick extract was obtained (Depkes RI, Edition III, 1979).

Antibacterial Inhibitory Power Test. Making Mc Standard Solution Farland: Pipette 9% H2SO4 solution as much as 9 ml enter into a test tube, add 1 ml of BaCl2.2H2O 1.175% solution, then shake

it, until a cloudy solution is formed, this turbidity is used as a standard turbidity of the test suspension bacteria. b. Making Bacterial Suspension Burned wire using bunsen fire to smoldering, taken the strain of Shigella dysentriae bacteria with ose wire, then suspended in a test tube containing physiological NaCl, shaken until cloudy, where turbidity is the same as the standard Mc solution. Preparation of Mueller Hinton Agar (MHA): Bacteria Improvement Media Weighed as much as 3.8 grams of media media Mueller Hinton Agar (MHA) put into 250 ml erlenmeyer, add 100 ml of distilled water while shaking, heat until boiling, cover with cotton wool, put the media into the autoclave, cover the autoclave and valve the pipe tightly, sterilize at a temperature of 121^0C for 15 minutes, after enough time the pipe valve is opened, the temperature will drop little by little, remove the MHA (Mueller Hinton Agar) medium from the autoclave, then pour it into each petridist cup.

Antibacterial activity testing: Dip the sterile cotton swab into the bacterial suspension which has turbidity with McFarland, wait until it soaks into the cotton, apply the cotton swab to the Mueller Hinton Agar (MHA) medium until smooth, take the disk amoxicilin using tweezers as a positive control, put pressure as positive control, take a blank disk paper with a diameter of 6 mm that has been sterilized with an oven at 121^0C for 15 minutes, put it on the surface of the media, drop sterile aquadest using 10 microliter micro pipette as a negative control, take blank disk paper on the surface of the media , drop the ethanol extract of mahogany seeds at a dose of 25% using micro pipette 10 microliters, put pressure, do also for 50%, 75% and 100% doses, then incubate in an incubator for 1 x 24 hours at 370C. Measured the inhibitory zone of bacteria formed.

RESULT

Mahogany seeds (*Swietenia Mahagoni*) was carried out with the aim to determine the inhibitory power of ethanol extract on the growth of *Staphylococcus epidermidis* and *Pseudomonas Aeruginosa* bacteria. In this study using mahogany seeds (*Swietenia Mahagoni*) made into simplicia. The production of simplicia is obtained by the stages of the washing process and then drained, after which the sample is weighed and then air dried which aims to reduce the water content contained in the sample. The samples were extracted maceration with 96% ethanol solvent for 3 days while stirring occasionally in a dark container, the purpose of maceration was done to extract the compounds contained in the simplicia which were not resistant to heat (Marjoni, 2016: 20). The purpose of using ethanol to absorb substances in simplicia in accordance with polarity, ethanol can also inhibit the growth of fungi and bacteria (Marjoni, 2016: 29-31). Then the macerate was collected, and the solvent was evaporated using a rotary evaporator until a thick extract was obtained. Furthermore, phytochemical screening of mahogany seeds was carried out. In testing the content of secondary metabolites, mahogany seeds contain triterpenoid, saponin, and tannin compounds. Based on the literature, triterpenoid compounds can inhibit growth or kill bacteria by disrupting the formation of membranes and / or cell walls ((Ajizah, 2004). So, it can be seen that the inhibitory power of these bacteria is caused by the presence of triterpenoid compounds which play a inhibits bacterial growth. This can be seen in (Table 1).

Testing of antibacterial activity against *Staphylococcus epidermidis* and *Pseudomonas aeruginosa* using Muller Hinton Agar (MHA) media because this media is a universal media that is rich in nutrients consisting of yeast extract, meat extracts, plants and simple proteins from other sources. The purpose of Muller Hinton media is used in order for bacterial growth, this seedling medium is usually used routinely in the laboratory (Radji, 2009). Furthermore, the inhibitory testing is done by applying bacteria to the media after compacting. The method used is disc

diffusion, sterile cotton paste is inserted into the bacterial suspense and applied to the media. Next, attach the disk with tweezers and put a little pressure. This research was carried out using concentrations of 25, 50, 75, and 100% which were carried out as many as 3 repetitions which aimed to get more accurate results. The inhibition zone results obtained for *Staphylococcus epidermidis* at concentrations of 25%, 50%, 75% and 100% were 8.3 mm; 9 mm; 9.3 mm; 10.3 mm and the inhibitory zone of *Pseudomonas aeruginosa* is 7.3 mm; 7.6 mm; 9 mm; 10 mm. The negative control does not provide a drag zone, and the inhibitory zone of the positive control is 20 mm. The results of these four concentrations that give the greatest inhibition zone are 100% concentration, because at a concentration of 100% the extract is thicker so that the secondary metabolite content is more than the concentration of 25%, 50%, and 75%. Based on these results it can be seen that ethanol extract of mahogany seed has effectiveness against *Staphylococcus epidermidis* and *pseudomonas aeuroginosa* (Table II)

Table 1. Test results of inhibitory power of ethanol extract of mahogany seeds on *Staphylococcus epidermidis* and *Pseudomonas aeruginosa*

Mahoni seedInhibition Zone ekstract (concentration)	S. epidermidis	P. aeruginosa
25%	8,3 mm	7,3 mm
50%	9 mm	7,6 mm
75%	9,3 mm	9 mm
100%	10,3mm	10 mm
control positif	20 mm	20 mm
control negative	6mm	• mm

Note : 6 mm = disk diameter (does not provide inhibitory power).

Table 2. Phytochemical screening of mahogany seeds.

Secondary metabolite	Result	Note
Triterpenoid	Red colour	Positif
Saponin	Stable foaming	Positif
Tanin	Green colour	Positif
Alkaloid	Mayer, white colour Dragendrof, yellow color Wagner, brown color	Negative
Flavonoid	White colour	Negative

CONCLUSION

The inhibition zone results obtained from *Staphylococcus epidermidis* at concentrations of 25%, 50%, 75% and 100% were 8.3 mm; 9 mm; 9.3 mm; 10.3 mm and the inhibitory zone of *Pseudomonas aeruginosa* is 7.3 mm; 7.6 mm; 9 mm; 10 mm. Secondary metabolite compounds contained in the ethanol extract of mahogany seeds are triterpenoids, saponins, and tannins.

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