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THE ANALYSIS OF QUALITY OF LIFE IN DIABETIC PATIENTS CONSUMING ORAL DIABETIC AGENTS

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Abstract

Background. *Diabetes mellitus is one of chronic metabolic disorder characterized by hyperglycemia and abnormalities in carbohydrate, fat, and protein metabolism because of insulin insufficiency. Diabetes mellitus is a chronic disorder which have consequences in patients' quality of life.*

Objective. *The research aimed to find out the description about quality of life in diabetic patients and the influence of delivering drug information to the quality of life in diabetic patients who got oral diabetic agents in Puskesmas Umbulharjo 1 Yogyakarta.*

Methods. *The research was a cohort study at Puskesmas Umbulharjo I. The inclusion criteria were all diabetic patients who got oral diabetic agents and had been receiving the medication for at least one month in Puskesmas Umbulharjo I, patients who are willing to be the respondents, dan the living place of the patients can be reached by the researcher. The exclusion criteria was a patient who had complicated disorder. There were 18 patients in the research who had inclusion criteria. The data being analyzed was a primary data to identify quality of life that was measured using SF-36 questionnaire Indonesian version.*

Outcome measured. *Quality of life domain in diabetic patients*

Results. *The result of the research indicated that 8 domains were a (1) general health perceptions (2) physical health problem (3) physical activities (4) emotional problems, (5) social activities (6) bodily pain (7) vitality and (8) general mental health. The result from eight domains showed that there was no corellation between the provision of drug information and quality of life in diabetic patients ($p > 0.05$). In the other results showed that there was a significant corellation between patient's adherence and quality of life in diabetic patients in three domains such as general health perceptions, vitality, and general mental health ($p < 0.05$).*

Conclusion. *In conclusion, the provision of drug information did not affect the quality of life of patients with diabetes mellitus ($P > 0.05$), whereas the effect of compliance to quality of life resulted that compliance of patients significantly influenced the quality of life of patients with diabetes mellitus in 3 domains, namely physical activities, vitality, and general mental health ($p < 0.05$).*

Keywords : *Diabetes mellitus, quality of life, delivering drug information , SF-36 questionnaire*

INTRODUCTION

Diabetes mellitus is defined as a disease or a chronic metabolic disorder with multiple etiology characterised by high blood sugar levels accompanied with disturbance of carbohydrate metabolism, lipid and protein as a result of insulin function insufficiency. Insufficiency of insulin function may be caused by impaired or deficient production of insulin by the beta cells of Langerhans pancreas gland, or due to the lack of responsiveness of body cells to insulin (Anonim, 2005).

The development of the concept of HRQOL (Health-related Quality of Life) or the relationship of health and quality of life improved in line with world health clinical research in healthcare. HRQOL instruments are divided into general and disease specific instrument. Instruments Study Short Form 36 (SF-36) is one common instrument that has been widely used to measure the HRQOL disease chronic pain and other common illness (Magnus et Al, 2007).

Research on quality of life is expected to obtain an overview of the level of quality of life of patients with diabetes mellitus who consumed oral hypoglycemic drugs, so it will obtain the suitable model for the provision of drug information on patients with diabetes mellitus.

METHODS

Subjects

The study subjects were all the patients of diabetes mellitus and get oral hypoglycemic drugs in *Puskesmas Umbulharjo I* in April-May 2012 who meet the criteria for inclusion and exclusion criteria. Inclusion criteria for the study were all patients of diabetes mellitus that receive oral hypoglycemic drugs and were undergoing treatment at least 1 month in *Puskesmas Umbulharjo I*, patients who were willing as a respondent, and the respondent could be reached by researchers. Exclusion criteria for the study were patients who experienced complications of other diseases.

Research Data Collection

Data collected in the form of primary data obtained from research subjects by using an instrument that has been tested, the Indonesian version of the SF-36. The patient's quality of life data collection done at home while visiting a patient's home, to see the remaining amount of oral hypoglycemic drugs that have been drunk. Before conducting interviews and questionnaires, it should be ensured that the selected respondent is in compliance with the criteria of inclusion.

Analysis of results

In this stage, the processing and analysis of the results of the study are to analyze the influence of drug information and adherence to the quality of life of patients with diabetes mellitus who consumed oral hypoglycemic drugs. Quality of life of patients assessed by the SF-36 questionnaire, which contained 8-will do assessment domains, namely the domain of general health perceptions, physical health problem, physical activities, emotional problem, social activities, bodily pain, vitality, and general mental health. From the domains, then do the scoring with a scale of 0 to 100 with 100 being the highest level.

RESULTS AND DISCUSSION

This study was conducted on 18 patients who fit the inclusion and exclusion criteria. Measurement of quality of life is intended to compare and differentiate between two different therapy with moral values and high morbidity (Spilker, 1996). To measure the quality of life of the patients, the study used the SF-36 instrument. The SF-36 instrument is a general instrument that can be used to measure the quality of life of patients in various clinical disorders whether the type is chronic illness or specific diseases.

Diabetes mellitus is a chronic disease type, so it can analyze the patient's quality of life using SF-36 instrument. The SF-36 has 8-scale profile of functional health; the limitation of physical activity due to existing health problems,

social activity limitations due to physical and emotional problems, whole body pain, general mental health, restriction of daily activities due to emotional problems, vitality of life, and general health outlook (Wata, 2007). Seven domains are analyzed by the Independent T-test with a level of 95% while the emotional state of domain analyzed by 2-related samples.

In Table I are data on the effect of drug information to the quality of life. Provision of drug information was limited to how to take the medicine and the rules of use, due to time constraints. The results showed that administration of drug information does not differ significantly ($P > 0.05$) on the quality of life of patients in either eight domains, namely

general health, physical functioning, physical condition, emotional state, physical function, bodily pain, vitality, and mental state. So it can be concluded that the provision of drug information to patients does not affect the patient's quality of life. This can occur because the information presented is only how to take the medicine and the rules of use, so there are some other things that can affect the patient's quality of life such as compliance of the patient.

Influence patient compliance to the quality of life can be seen in Table II. Compliance is defined as the extent to which a person's behavior in terms of using medication (is defined by how far a person's behaviour in terms of drugs usage), following a diet, or

Table I. The Effect of Drug Information on Patient's Quality of Life

	Function Domain	Average \pm SD	P	Significance
With Drug Information	KU	56.93 \pm 17.19	0.817	Not Significant
Without Drug Information		58.79 \pm 16.33		
With Drug Information	FF	67.22 \pm 33.64	0.242	Not Significant
Without Drug Information		82.22 \pm 15.43		
With Drug Information	KF	38.88 \pm 39.74	0.675	Not Significant
Without Drug Information		30.55 \pm 42.89		
With Drug Information	KE	363.495 \pm 125.896	0.181	Not Significant
Without Drug Information		363.495 \pm 125.896		
With Drug Information	FS	72.22 \pm 27.79	0.696	Not Significant
Without Drug Information		76.38 \pm 14.58		
With Drug Information	NT	58.61 \pm 22.77	0.657	Not Significant
Without Drug Information		63.05 \pm 18.65		
With Drug Information	V	53.33 \pm 19.36	0.704	Not Significant
Without Drug Information		56.66 \pm 17.13		
With Drug Information	KM	69.77 \pm 19.09	0.854	Not Significant
Without Drug Information		68.00 \pm 21.07		

changing inlife style in accordance with medical advice or health workers advice. As increasing patient compliance does not arise, it is expected that drug resistance can be detrimental (can harm/can be harmful) to the patient itself, the environment, recurrence and death (Melanie, 2009).

Oral hypoglycemic drug compliance seen from the remaining number of oral hypoglycemic drugs provided by the pharmacists in *Puskesmas* Umbulharjo I that were drunk by patients, whether in accordance with the amount that should be taken or not, and be seen as doing the interview at the patient's home.

From the results gained, showing that compliance was not effected significantly ($P > 0.05$) in five domains, namely the domain of general health, physical functioning, emotional health, social functioning, and bodily pain. But compliance significantly effects ($P < 0.05$), on the 3 domains, namely the domain of physical health, vitality, and mental health. It can be concluded that compliance significantly influence the quality of life of patients.

Overall, based on the test results of the Independent T-test, it showed that the provision of drug information and patient compliance give no significant effects on the public health domain. Itcan be seen in the table the value of

Table II. Compliance Influenceon Patient'sQuality Of Life

	FunctionDomain	Average \pm SD	P	Significance
Obedient	KU	59.58 \pm 18.11	0.632	Not Significant
Disobedient		55.71 \pm 14.61		
Obedient	FF	85.00 \pm 10.27	0.064	Not Significant
Disobedient		61.87 \pm 35.14		
Obedient	KF	52.50 \pm 44.79	0.032	Not Significant
Disobedient		12.50 \pm 18.89		
Obedient	KE	362.995 \pm 126.224	0.181	Not Significant
Disobedient		362.995 \pm 126.224		
Obedient	FS	78.75 \pm 15.64	0.345	Not Significant
Disobedient		68.75 \pm 27.54		
Obedient	NT	61.50 \pm 17.00	0.082	Not Significant
Disobedient		60.00 \pm 25.10		
Obedient	V	62.50 \pm 16.20	0.042	Significant
Disobedient		45.62 \pm 15.90		
Obedient	KM	78.80 \pm 11.63	0.011	Significant
Disobedient		56.50 \pm 20.88		

significant effect of drug information on the quality of life of patients is 0.817 ($P > 0.05$) and the value of the significant influence of compliance to the quality of life of patients, namely 0.632 ($P > 0.05$).

In the domain of physical function, it can be assessed how the ability of a patient's daily activities such as walking, bending, and lifting heavy loads, whether the health conditions of physical function may result in limitations of the patient through physical activity. From the research, the provision of drug information does not affect the physical function domain. It can be seen the value of significance is 0.242 ($P > 0.05$), and compliance did not affect the physical function domain, can be seen the significant value is 0.064 ($P > 0.05$). It can be concluded that the provision of drug information and patient compliance has no effect on physical function domain, whereas Wiyanti (2012) stated that the physical function domain effect on age.

In the domain of physical conditions can be assessed how much physical state interfere in the work and activities of daily living. From the research data that the provision of drug information does not affect the physical state visible domain of significant value in the table is 0.675 ($P > 0.05$), whereas the effect on patient compliance domain visible physical state of significant value in the table is 0.032 ($P > 0.05$), so it can be concluded that the given drug information or not given drug information does not affect the quality of life of patients but blindly obedient or not patients have a significant effect on the quality of life of patients is the physical state that disrupt their work and daily activities.

In the emotional state domain, it used statistical analysis with 2 related samples, it can be seen some aspects of the patient-related mood in doing the work and activities of daily living. Provision of drug information and patient compliance has no effect on the emotional state of the domain, can be seen from the data table of significance values are 0.181 and 0.181 ($P > 0.05$), so it can be concluded that with the drug information was given or not, and how the

patient obedient or not, can not affect the patient's emotional state. From patient interviews, most of them stated that emotional disorders such as anxiety do not interfere the patient in performing daily activities or their work.

In the domain of social function, it can be evaluated that the patient's health or emotional disturbance can disrupt activities or social activities of the patient's family, friends, neighbors, or groups. Provision of drug information and patient compliance has no effect on physical function domain can be seen in the table of significance values 0.696 and 0.345. It can be concluded that given or not given the drug information and how the patient obedient or not, has no effect on social functioning of patients. And from the interviews, it is found that many patients say health or emotional disorder that is often felt they did not interfere with patient's activity or social activities to family, friends, neighbors, or groups.

In the bodily pain domain, it can evaluate pain intensity and impact of pain on daily activities both at work and activities inside and outside the home. Provision of drug information and patient compliance has no effect on bodily pain domain views of significant value in the table, namely 0.657 and 0.882. It can be concluded that given or not given the drug information and how the patient obedient or not had no significant effect on the patient's pain.

In the domain of vitality, it evaluate the level of fatigue, fatigue, and lethargy are often perceived by the patient. Provision of drug information does not affect the vitality domains, but the effect on patient adherence vitality domain can be seen from the significant value of 0.657 ($P > 0.05$), and 0.042 ($P < 0.05$). How obedient or not the patient will have an impact on patient quality of life, especially its vitality because one of the complaints experienced by patients with diabetes mellitus is weak body, then the non-adherent patients taking the medication more frequently complain of weak entities.

In the mental health domain, it evaluate general mental health including depression, anxiety, and behavior control emotions by the patient. Provision of drug information does not affect the mental health domain, but the effect on patient compliance mental health domain, it can be seen from the significant value of 0.854 ($P > 0.05$), and 0.011 ($P < 0.05$). How obedient or not the patient will have an impact on the quality of life of patients, especially in mental health patients, as diabetes mellitus is a disease that is difficult and long to be cured, it can make mental health patients reduced the impact on patient adherence. In the study of Wiyanti (2012), quality of life of diabetes mellitus patients, there are 2-type influential domains, one of them is mental health, that is influenced by the duration of the disease.

CONCLUSION

Based on the results of a study of 18 patients with diabetes mellitus and the use of oral hypoglycemic drugs, showed that of the 8 domains tested, provision of drug information does not affect the quality of life of patients with diabetes mellitus ($P > 0.05$), whereas the effect of adherence to quality measurement life result that compliance of patients significantly influence the quality of life of patients with diabetes mellitus in 3 domains, namely physical health, vitality, and mental health ($p < 0.05$).

RECOMMENDATION

It is still needed to conduct research on patients' compliance and quality of life with diabetes mellitus for evaluating treatment with time to improve the provision of information and frequency of medications, as well as increasing the number of research samples.

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