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Systematic Review

Malnutrition in older adults: how interprofessional teams see it? A systematic review of the qualitative research

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1

Abstract

Background: The understanding of health care providers' experiences involved in malnutrition treatment is a key component that should be explored.

Objective: This systematic review aimed to explore the views and perceptions of community health care providers related to malnutrition and its management for older adults, through synthesizing the qualitative studies.

Methods: Six electronic databases were used to search relevant articles. Qualitative research synthesis using Sandelowski and Barroso's method and thematic synthesis were used to broaden the range of methodology in this study. Joanna Briggs Institute (JBI) Critical Appraisal Tools for Qualitative Research was used to enable judgement about the strength of qualitative research.

Results: A total of four qualitative studies of health care providers' views and perceptions related to malnutrition in older adults were analysed. The results showed that there are three main themes that reflect their malnutrition experiences: (i) knowledge and skills about malnutrition, (ii) management of malnutrition and (iii) the need for collaborative teams.

Conclusion: While health care professionals understand about the aetiology of malnutrition, however screening for malnutrition is not routine in their practice. Proper education and training about nutritional care is needed. Dietary changes and public education are preferable over oral nutritional supplements. Some solution and recommendations for management of malnutrition in older adult such as supportive interventions include environmental changes, nutritional counselling, food modification, oral nutrition supplement and pharmacotherapy if needed, routine screening and multidisciplinary approach.

Key words: Ageing, community medicine, geriatrics, multidisciplinary care, nutrition/diet, primary care

Introduction

The World Health Organization estimates the proportion of older persons aged ≥ 60 years old will increase to 22% of the world

population by the year 2050 (1). Older people tend to be more prone to nutritional deficiencies due to accumulation of diseases resulted in malnutrition (2). Malnutrition can be defined as a state of deficiency

Key Messages

- Education and training about nutritional care is needed
- Dietary changes and public education are preferable over oral nutritional supplements
- Malnutrition in older adults needs interprofessional approach

of nutrition, excess or imbalance of energy, protein or other nutrients, causing negative effects on tissues, organ function and health outcome (3). Based on the European Society for Clinical Nutrition and Metabolism (ESPEN), malnutrition is diagnosed based on the combination of at least one phenotype criterion (i.e. non-volitional weight loss, low body mass index or reduced muscle mass) and one aetiology criterion (i.e. reduced food intake, malabsorption or severe disease with inflammation) (4).

The prevalence of malnutrition varies significantly across different health care settings (5). Among community settings, prevalence of malnutrition and risk of malnutrition is estimated to be 5–35% and 4–97%, respectively, in nursing home settings (6).

Based on a systematic review by Fávoro-Moreira *et al.*, several significant risk factors of malnutrition in older adults such as age, frailty, excessive polypharmacy, general health decline, constipation, dementia, cognitive decline, eating dependencies, loss of interest in life, poor appetite, dysphagia and swallowing impairment (2). Consequences of malnutrition can involve multiple aspects and social isolation and become severe enough to be life threatening (7).

However, while most health care providers view malnutrition in older adults as a major problem, in fact presently the awareness related to malnutrition is very low and there is not appropriate attention on prevention and treatment (8). Many individuals including health care providers are unaware of the prevalence of malnutrition and have limited access to resources to receive additional nutrition training (9). Medical doctors reported inadequate training in nutrition education, knowledge and skills, and expressed feeling less efficacious to provide nutritional care to patients (10).

Malnutrition is a complex problem due to older individuals' condition and situation and needs a multidisciplinary treatment approach. This is underlined by the European Council that recommends a multidisciplinary approach in order to solve malnutrition involving the undernourished person and the health care workers, the caregivers, the public, the policy makers and society stakeholders (6). Accordingly, the importance of Interprofessional Collaboration (IPC) in health care involving physicians, nurses and dietitians has long been recognized, however this collaboration especially concerning malnutrition for older adults is still limited (11).

The understanding of health care providers who are involved in the IPC team is a key component that should be explored. The aim of this review was to explore the views and perceptions of health care providers especially in community settings related to malnutrition and its management for older adults, through synthesizing the available qualitative studies. Community setting was chosen because health care providers in the community are the gatekeepers to health care and are closer to the older adults (5). Furthermore, there are high numbers of older adults who are malnourished or at risk of malnourishment who live in community settings. By understanding their views and perceptions, the review aimed to understand these health care providers in order to better manage malnutrition problems in older adults who live in community settings and to support efforts at IPC.

Methods

We performed a systematic review to analyse the qualitative findings about care providers' views or perceptions regarding malnutrition in older adults. We used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Guideline to plan, conduct and report this systematic review.

Eligibility criteria

Studies were included in this systematic review that fulfilled the eligibility criteria. All qualitative studies, which used data collection (e.g. focus group, interview) and analysis (e.g. framework analysis, thematic analysis) and explored the views or perceptions of health care providers regarding malnutrition in elderly (e.g. barrier, understanding, management), were included. We included both community settings and nursing homes for this study. The searches identified in this study were published from 2016 to 2020 in English. The studies that used quantitative design, conference abstracts, commentaries and reviews were not included.

Search strategy

The search strategy used the following databases: Medline, Cochrane, Scopus, Ebsco Host, Science Direct and Google Scholar. For the initial search, we did not restrict the results by date to find all potentially relevant article. After conducting the initial search, we used inclusion criteria to include only publications in the last 5 years. The search used the following keywords: 'family physician', OR 'general practitioner', OR 'nurse', OR 'dietitian', AND 'elderly' OR 'older person' OR 'older adult' AND 'view', OR 'perception', AND 'malnutrition', OR 'undernutrition', OR 'malnutrition management' AND 'Qualitative', 'Qualitative study', OR 'Qualitative research'.

Initially, two reviewers (FM and ASL) screened the titles for relevance. For the next step, we selected abstracts from potentially relevant titles based on the inclusion and exclusion criteria. As the last step, we obtained full-text articles of relevant abstracts. We used Mendeley software to manage the references and any duplicates were removed.

Data extraction

Studies on each population, setting and focus were collected using a data extraction form. The data were extracted by aim, research question, study design, subject and main result, by one reviewer (ASL) and checked by another reviewer (FM). With the data from included studies as the starting point, the reviewers (FM and ASL) went through the manual coding process using pen and paper. Then, the remaining codes were compared and used to identify and generate the main themes.

Data synthesis

Qualitative research synthesis (QRS) using Sandelowski and Barroso's methods was used in this study. The QRS approach was used to interpret findings from the qualitative research. The discussion was structured according to Sandelowski and Barroso's six steps: (i) conceiving the synthesis, (ii) searching and retrieving

literature, (iii) appraising findings, (iv) classifying findings, (v) synthesizing findings into meta-summaries and (vi) synthesizing findings into a meta-synthesis (12). Thematic synthesis was used to broaden the range of methodology. The results from each paper was coded then organized into meaningful groups (themes). Next, these themes were reviewed, categorized and defined as main themes and sub-themes by both reviewers (FM and ASL). These themes were discussed with the other authors (DH, EPSS, HK) and then combined to address the research question.

Bias prevention

We conduct several points to minimize bias such as define inclusion and exclusion criteria with detail sufficient to minimize variation of interpretation. We reduce ambiguity as much as possible and conduct transparency through tracing the resulting flow and reporting the studies that were excluded with reason of exclusion.

Results

The search resulted in 1480 articles after removing 13 duplicates. All of the studies had titles and abstracts in English. Two reviewers (FM and ASL) screened the titles and abstracts for relevance based on the eligibility criteria. After screening, 1468 were excluded because 286 of the studies were not reporting about malnutrition in adults, 1075 did not report the views or perceptions of health care providers, 102 were quantitative studies and 5 were literature reviews.

There were 12 articles that were reviewed for full text. As the result, a final number of four studies were analysed. The flow chart of articles through the review process is shown in Figure 1.

Study characteristics

This systematic review included four qualitative studies from Ireland, Sweden, UK and Austria. Mostly the studies used semi-structured interviews. The studies explored points of view or perceptions of health care providers, which show the importance of malnutrition (13), their role in malnutrition management (13–15) and also their needs for IPC (13–16). The subjects of these studies totalled 109 participants consisting of GP, nurses and dietitians. The setting of this study was community settings and nursing homes. Table 1 lists the included studies.

Study quality

We used the Joanna Briggs Institute (JBI) Critical Appraisal Tools for Qualitative Research. These tools were used to enable judgement about the strength of the qualitative research. JBI Critical Appraisal Tools for Qualitative Research consist of 10 checklist questions to address the appraisal (17).

Qualitative synthesis

Four studies of this review focused on views of health care provider in community setting related to malnutrition in older adults. The results showed three themes: (i) knowledge and skill about

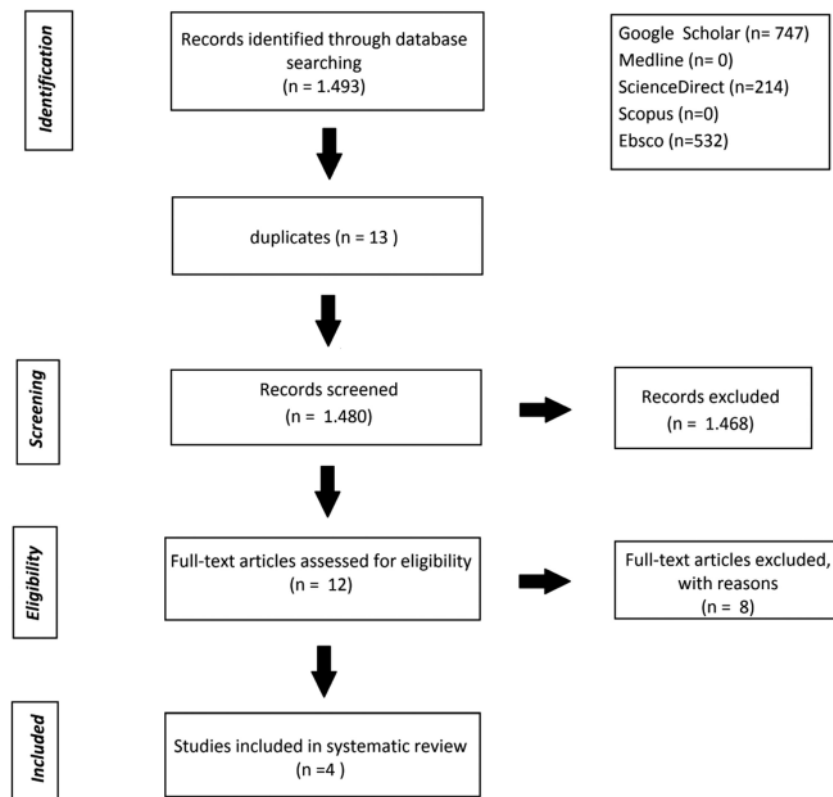


Figure 1. Flow diagram of evidence search and selection.

Table 1. Description of included study

Study	Country	Health care profession	Sample size	Setting	Methods	Finding
Dominguez <i>et al.</i> (2020)	Ireland	GPs	16 participants	Community setting	Semi-structured face to face interview and chart-stimulated recall interview	Malnutrition is a secondary concern Responsibility for malnutrition and oral nutritional supplement management Reluctance to prescribe ONS
Fors <i>et al.</i> (2018)	Sweden	Registered nurses	8 participants	Nursing homes	Semi-structured interview with qualitative descriptive design	Participation in nutritional care equals information Nutritional care out of remit and competence
Avgerinou <i>et al.</i> (2020)	UK	General practice (general practitioners, practice nurses, health care assistants), community multidisciplinary team and dietitians	7 focus groups with 60 health professionals	Primary care and community setting	Focus group and additional semi-structured interview	Understanding and Identifying malnutrition Management of unintentional weight loss in the community Challenges to addressing malnutrition Potential solution
Roller <i>et al.</i> (2016)	Austria	Physicians, nurses, dietitians and nutritionists	25 participants	Nursing home	Semi-qualitative with structured interview	Factors that affect nutritional therapy in nursing home: Macro level: academic education of dietitian, general financing Meso level: kitchen food, further education for nursing staff, interdisciplinary cooperation

ONS, oral nutritional supplement.

malnutrition, (ii) management of malnutrition and (iii) the need for collaboration teams. We included some participants' quotes.

Knowledge and skill about malnutrition

There was a common understanding of multi-factorial aetiology of malnutrition from health professionals with different backgrounds. Although malnutrition in older adults is an important, however GPs reported not screening systematically and viewing malnutrition as the secondary concern. However, the screening of malnutrition was more often done by nurses than referred to dietitians.

General practitioners—'We do not probably screen for malnutrition in a structured way as we possibly should...' (13)

Nurse—'...I will do a MUST [Malnutrition Universal Screening Tool] score and normally refer on to dietitians; I might provide some basic advice but I'm no expert'. (16)

The majority of health care providers experienced challenges in identifying malnutrition of older adults and they saw this problem from their different points of view. They felt there was a lack of training and knowledge in nutritional care for health care providers in the community.

General practitioner—'No, there's no formal training...I don't think we've ever formally had any nutrition training' (16)

Dietitian—'Further education of nursing staff and academic education of dietitian is one of macro level factors that affect nutritional therapy' (15).

Management of malnutrition

First, the approach of malnutrition management in older adults is dietary changes when possible and trying to avoid prescribing oral nutritional supplements (ONS) except if it was absolutely needed.

General practitioner—'If a bit of custard pudding or rice pudding would do the job, I think sometimes ONS are just not needed'. (13)

Registered nurse—'My initial thought is always complete nutritional supplement drinks ... We met with the dietician yesterday and talked about this, and then he said that these [nutritional supplement drinks] are actually the last way out/option...' (14)

Usually, the GP will give dietary education directly, and the dietitian delivers the Food First advice on food enrichment.

Dietitian—'...an awful lot of dietitians just fall straight back on nutritional supplements; they don't actually use the thing that sets us apart from every other health professional, which is our knowledge of food'. (16)

On the community level, the media generated public health campaigns will raise awareness and change attitudes in healthy eating for older people. Community centres that provide nutritional information, weight measurements and referrals to other services will improve the education of at-risk individuals.

Dietitian—'...it's almost getting every health and social care and voluntary person up to the same level, singing from the same hymn sheet, so that we can all give a consistent message...' (16)

In malnutrition management, involving the older persons in their nutritional care is an important strategy. However, in fact, the lack of time, underestimation of the older persons' willingness and ability, and some other nursing care tasks were prioritized as more important than nutritional care, were the main reasons why nurses did not involve older people in their nutritional care.

Registered Nurse—'If we would have been better in our information, and included...yeah, particularly the different options. If we really had taken the time to go through it and to check, as there actually are many interventions...' (14)

The need for collaborative teams

There was a lack of support for managing malnutrition in community settings reported by the GPs. The GPs need more support from dietitians and community nurses in identifying patients with the risk of malnutrition and help them to manage the malnutrition problem.

General practitioner—'It would be great if there was more community intervention for malnutrition management. It should be public health nurse and at the level of community support and we could do with more dietitians'. (13)

Once the health care professional identified someone who was malnourished, the patient will be commonly referred to a dietitian or meals provision service.

Nurse—'I think we're good at screening all our patients for malnutrition, and definitely picking up those who are in the more obvious malnourished category and making onwards referrals...' (16)

Nutritional care in older adults with malnutrition is challenging. Teaming up with other health care professionals could provide several benefits; however, it could be a barrier due to the differences in perspectives on nutritional care that reflect a separation and distance in the working relationship.

Registered nurse—'I don't deal with the GP as much. If I would have some bigger issues with a patient, [then] I would contact the dietician, but not the GP. I don't really think they are much into this issue'. (14)

Furthermore, the interdisciplinary team is still needed in order to improve and will positively affect the nutritional therapy.

Nurse—'Interdisciplinary cooperation is top 10 factors that affect nutritional therapy rates by experts'. (15)

Discussion

Malnutrition is one of the significant causes of morbidity and mortality in older adults with many factors that contribute. The systematic review showed that the views or perceptions of health care providers in community settings are related to their knowledge and skills, nutritional management and the need for interprofessional teams.

Based on the qualitative studies in the systematic review, the knowledge and skill of health care providers theme indicated that health care providers understand about aetiology of malnutrition. However, the screening of malnutrition is not the first priority for them. This finding is in line with a study by Beelen *et al.* (18) that mentioned dietitians in primary care felt that older people are not screened routinely by GPs.

Lack of awareness about malnutrition and its health risks will reduce the effectiveness of nutritional treatment, and it is essential that this problem or barrier should be solved (18). Some barriers of nutritional screening implementation include lack of organizational culture recognizing its importance, lack of staff education and training, and the staff perception of clinical judgement that is more important than using tools (19).

On the other hand, malnutrition care recommendations have already been outlined by the ESPEN Expert Group stated the

significant gap of knowledge and limitation of advice are affected by the lack of specialist training especially for doctors and nurses (5). This statement is in line with the finding that health care providers need proper nutrition education and training.

Lack of sufficient education among health care staff is a major barrier that causes malnutrition to be often poorly recognized and undertreated. The lack of knowledge and skills are seen as the main reasons why adequate interventions for malnutrition are not implemented. The proper education and training about nutritional screening and current guidelines are definitely needed. Therefore, concerning malnutrition needs to be included as part of the curriculum. The formal education and existing courses on malnutrition should be adapted or developed (20).

Furthermore, malnutrition causes negative consequences such as loss of weight, lean body mass and lower quality of life. Malnutrition needs management to improve the nutritional status in older adults. The results show that health care providers agree with dietary changes as the first-line approach rather than ONS. Beelen *et al.* (18) stated that nutritional status can be improved with energy and protein supplements as well as with dietetic counselling. In dire situations, the ONS will be given as the last option (18).

Besides dietary changes, successful nutritional management will be improved by patient involvement. Older adults should be empowered and reinforce to take responsibility for their health. Some factors that cause difficulties to involve patients such as workload can be solved by also involving family members to provide nutritional care for older adults (21). In community settings, supportive advice and education by community health care professionals especially nurses are important and can influence the functional outcomes and diet of older adults (19).

Based on the ESPEN guideline on clinical nutrition, solution and recommendations for older adult with malnutrition are supportive interventions, nutritional counselling, food modification and interprofessional or multidisciplinary approach (4). Early detection through nutritional screening should be performed within first 24–48 hours after first contact and repeat it on regular interval e.g. after several days (6). Older adult with malnutrition be supported by pleasant dining environment and encouraged to share their mealtime with other. Family and older adult with malnutrition could be offered to participate in nutritional education and counselling (4). Malnutrition in older adult also related with eating disturbance. Treatment strategies involve environmental changes, ONS and pharmacotherapy if needed (22). Furthermore, older adult who malnutrition also has high risk for frailty that common in geriatric syndrome. Loss of weight that one of criteria in frailty should be minimized to prevent malnutrition (23).

Nutritional intervention should be part of multidisciplinary team with collaboration of dietitian, nurse, medical doctor, also family member and patient himself (4). This systematic review also showed that management of malnutrition is complex and needs interprofessional or multidisciplinary teams. Research by Roberts *et al.* (19) supports this result explaining that management of older adults with or at risk of malnutrition should be multidisciplinary. Health care providers have to understand the right timing for making referrals to other professionals in line with the local care pathways (19). Dietitians with expertise in nutrition care can play an important role and be supported by the efforts nurses and physicians to strengthen the network of interdisciplinary cooperation. Health professionals from various disciplines need to understand their own and other professionals' roles (20).

This study was a novel systematic review of qualitative literature in the area of malnutrition which draws on data from four different countries. The number of studies included in this systematic review was limited due to the low number of qualitative studies available to explore insights from health care providers in community settings. Future qualitative research would be more comprehensive by involving health care professionals not limited to physicians, nurses and dietitians. Insights from developing countries also need to be explored.

Conclusions

Malnutrition is one of the health problems in elderly persons with high morbidity and mortality. Nutritional knowledge and skills, management of malnutrition and the need for multidisciplinary teams are the main themes of this systematic review. Some solution and recommendations for management of malnutrition in older adult such as supportive interventions include environmental changes, nutritional counselling, food modification, ONS and pharmacotherapy if needed, routine screening and interprofessional approach.

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Declaration

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