

FACTORS FOR EFFECTIVE IDENTIFICATION OF PATIENTS AT NUTRITIONAL RISK IN CLINICAL PRACTICE: THEMATIC ANALYSIS OF QUALITATIVE RESEARCH

DEJAVNIKI UČINKOVITEGA PREPOZNAVANJA PREHRANSKO OGROŽENIH PACIENTOV V KLINIČNI PRAKSI: TEMATSKA ANALIZA KVALITATIVNIH RAZISKAV

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Review

ABSTRACT

Keywords:

nutritional care, nutritional screening, barriers and accelerators, health professionals, nurses

Introduction: Despite the high prevalence of malnutrition in patients at all levels of healthcare, early prevention and treatment of malnourished patients are often neglected and overlooked in clinical practice. The aim of this systematic literature review was to identify the factors considered most important by healthcare professionals in the identification and treatment of malnourished patients or those at risk of malnutrition.

Methods: A systematic literature review of qualitative research was conducted. Documents published in scientific journals in English from 2011 to 2021 were searched in the PubMed (MEDLINE), CINAHL and ProQuest databases. The results were analysed with a thematic analysis of qualitative research findings.

Results: From the search set of 1010 results, 7 sources were included in the final analysis. Factors identified by health professionals as important in the identification and treatment of malnourished patients in clinical practice were grouped into five themes: unclear organizational structure; indefinite structure of nutritional care; poor continuity of nutritional care; lack of knowledge and skills of health professionals; lack of time and human resources.

Conclusions: Health policy must provide resources for nutritional care for patients at all levels of health care on the initiative of the highest professional bodies at the state level. To improve the nutritional care of patients in clinical practice, the management of health care institutions must promote and enable the professional and organizational establishment of clinical nutrition as a regular medical activity of the institution, develop clinical nutritional pathways, and promote evidence-based clinical practice and interprofessional collaboration.

IZVLEČEK

Ključne besede:

prehranska obravnava, prehransko presejanje, ovire in pospeševalci, zdravstveni delavci, medicinske sestre

Uvod: Kljub visoki razširjenosti podhranjenosti pri pacientih na vseh ravneh zdravstvenega varstva sta zgodnja preventiva in zdravljenje podhranjenih ali prehransko ogroženih pacientov v klinični praksi pogosto zapostavljena in spregledana. Za razvoj potencialno učinkovitih strategij za uvedbo prehranskega presejanja in učinkovite prehranske terapije za paciente s prehranskim tveganjem je pomembno poznati že raziskane dejavnike, ki ovirajo takšno klinično prakso. Namen sistematičnega pregleda literature je bil analizirati dejavnike in ovire učinkovitega prepoznavanja prehransko ogroženih pacientov, ki so jih pri svojem delu prepoznali zdravstveni delavci.

Metode: Uporabljen je bil sistematični pregled literature, izveden v podatkovnih bazah PubMed (MEDLINE), CINAHL in ProQuest. Iskalni pojmi so bili: medicinske sestre, zdravstveno osebje, prehransko presejanje, prehranska ocena, podhranjenost, odnos, ovire in posredniki. Vključili smo raziskave objavljene v znanstvenih revijah, v angleškem jeziku, od leta 2011 do 2021. Rezultati so bili analizirani s tematsko analizo ugotovitev kvalitativnih raziskav.

Rezultati: Iz iskalnega nabora 1.010 zadetkov smo v končno analizo vključili 7 virov. Dejavnike, ki so jih zdravstveni delavci opredelili kot ključne pri prepoznavanju in obravnavi prehransko ogroženih pacientov v klinični praksi, smo združili v petih temah: klinična prehrana ni organizacijsko strukturirana kot del zdravstvene dejavnosti; struktura prehranske podpore je nedorečena; prehranska podpora ni kontinuirana; pomanjkljivo znanje in usposobljenost zdravstvenih delavcev na področju klinične prehrane; pomanjkanje časa in kadrovskih virov.

Zaključki: Zdravstvena politika, na pobudo najvišjih strokovnih organov na ravni države, mora zagotoviti resurse za prehransko obravnavo pacientov na vseh ravneh zdravstva. Za izboljšanje prehranske obravnave pacientov v klinični praksi morajo vodstva zdravstvenih ustanov spodbujati in omogočati strokovno ter organizacijsko umeščanje klinične prehrane kot redno zdravstveno dejavnost zavoda, razvijati klinične poti za prehransko podporo pacientov, spodbujati na dokazih temelječo klinično prakso in medpoklicno sodelovanje strokovnjakov.

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1 INTRODUCTION

Despite the high prevalence of malnutrition in patients at all levels of healthcare and clinical guidelines emphasizing that early identification of patients at nutritional risk is critical for early prevention and treatment of malnutrition, its importance is often neglected and overlooked in clinical practice. Malnutrition is defined as a condition resulting from inadequate intake or absorption of nutrients, leading to altered body composition, cell mass and consequently decreased physical and mental function, as well as impaired clinical outcome due to disease (1). The recent definition of malnutrition developed by the European Society of Parenteral and Enteral Nutrition (ESPEN) is based on three aetiologies: starvation-related malnutrition without inflammation, chronic disease-related malnutrition with mild to moderate inflammation, and acute disease- or injury-related malnutrition with pronounced inflammation (2).

The prevalence of malnutrition in patients at all levels of healthcare is confirmed by several studies. Most studies have focused on acutely ill patients in hospitals, nursing home residents and elderly patients. A multicentre NutritionDay (nDay) study involving 25 European countries and a total of 10,863 patients found that 30% of patients in hospitals were at risk of malnutrition, while 12.9% of patients were malnourished (3). In a systematic review by Bell et al. (4), the prevalence of malnutrition in nursing home residents ranged from 20% to 39% in most studies, and 47% to 62% of residents were at risk of malnutrition. The pooled prevalence of malnutrition in community-dwelling older people in the European countries included in the systematic review by Crichton et al. (5) ranged from 0.8% to 11.0%.

Malnutrition can exacerbate the effects of chronic disease management and lead to an increased risk of complications during treatment, increased mortality and poorer quality of life for patients during and after treatment (6). All these negative consequences of malnutrition also have a negative financial impact on the healthcare system, as the treatment of malnourished patients increases the number of visits to the primary care physician or home visits and directly correlates with longer hospital stays and increased hospital readmissions due to complications (7). Scientific evidence and clinical practice show that the nutritional management of patients, which includes clinically oriented nutritional interventions to prevent, detect and treat malnutrition, significantly reduces morbidity and short- and long-term mortality in patients and saves many healthcare costs (7-12).

Nutritional care of patients in clinical practice must be scientifically based, standardized, planned and systematic. It should include several interrelated steps defined in nutritional pathways. Nutritional screening is the first

step in this process, which aims to identify patients at nutritional risk. It is performed with appropriate validated tools, within the first 24-48 hours of initial contact with the patient and must then be repeated at regular intervals. There are several nutritional screening tools that cover all the major areas that increase a patient's risk of malnutrition, namely weight loss, decreased food intake and the presence of disease (1, 13).

To develop potentially effective strategies for implementing nutritional screening and effective nutrition interventions for patients at nutritional risk, it is important to define the main barriers and facilitators that exist in clinical practice. Modifying or removing barriers and using existing facilitators can improve nutritional care for patients at all levels of healthcare. The aim of the systematic literature review was to identify the factors considered by healthcare professionals to be most important in the effective identification of patients at nutritional risk and their continued nutritional treatment.

2 METHODS

Since the importance of nutritional care has already been scientifically proven, but is rarely fully implemented and not all factors for its effective implementation are known, we decided to conduct a systematic literature review of qualitative research.

2.1 Document identification methods

Using the model PICO (Patient/ Problem, Intervention, Comparison and Outcome), we created the following keywords: nurses, health personnel, nutrition screening, nutrition assessment, malnutrition or protein-energy malnutrition, attitude, barriers and facilitators. Key words and the Boolean operators AND and OR were used for the search strategies. Documents were searched in online bibliographic databases: PubMed (MEDLINE), CINAHL, and ProQuest. The search was limited to English-language full-text articles published between 2011 and 2021.

2.2 Selected publications

We identified 1010 publications and 51 duplicates were excluded. During a quick review of the titles and abstracts of the included articles, we identified and included 6 additional relevant publications using the "link to similar articles" browser in PubMed. The PRISMA protocol (Preferred Reporting Items for Systematic Review and Meta-Analysis) was used to display the results of the literature review (14) (Figure 1).

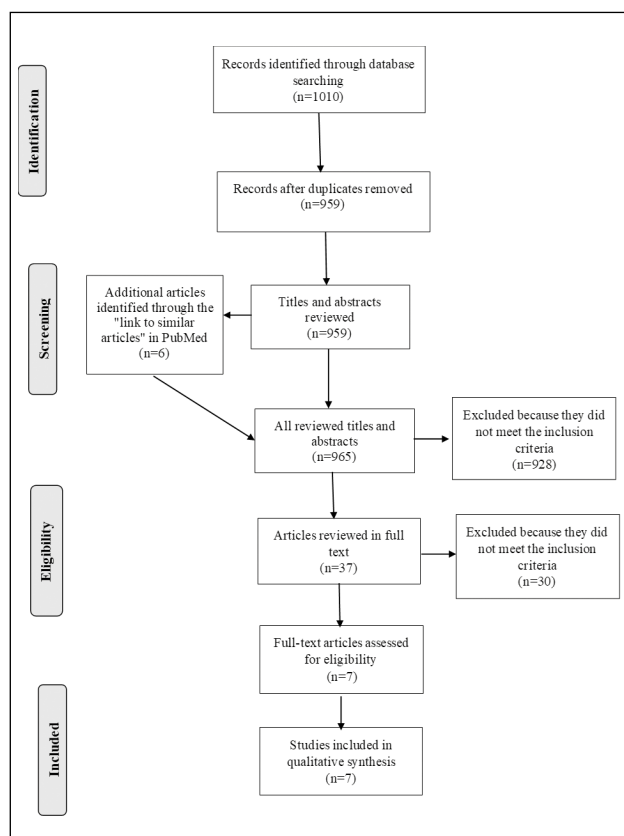


Figure 1. Results of the literature review based on the PRISMA method.

2.3 Quality assessment of the review and description of the data processing

We included descriptive qualitative research that reached the seventh level of evidence in Polit & Beck’s hierarchy of evidence (15). The quality of the included research was assessed using the established COREQ tool (Consolidated Criteria for Reporting Qualitative Research Tool) (16). Data analysis was conducted through content analysis followed by a thematic synthesis method based on the thematic analysis of the qualitative research findings (17).

3 RESULTS

Table 1 shows the main findings of the included studies, and refers to the factors that hinder or accelerate the effectiveness of nutritional care for patients in clinical practice.

We recognised forty-eight codes and five categories, and the main results were grouped into five themes: unclear organizational structure; indefinite structure of nutritional care; poor continuity of nutritional care; lack of knowledge and skills of health professionals; lack of time and human resources.

3.1 Unclear organizational structure

The healthcare environment can have a significant impact on the implementation of nutritional care for patients in clinical practice. It is more likely to be carried out where the organization takes responsibility for its implementation, has clear expectations about it, and considers nutritional care as a priority of organizational and clinical leadership

Table 1. Authors, health system setting and country, research design, research sample, barriers and facilitators to nutritional care.

Study (author, year)	Health system setting, country	Research design	Research sample	Results - barriers and facilitators to nutritional care
Green et al., 2014 (18)	Primary care - community health care. United Kingdom.	Descriptive qualitative research design.	20 community nurses.	6 thematic categories: supportive organizational culture; time and resources for screening and intervention; simplicity and acceptability of screening tool; professional judgement as good as screening; need for training and sharing of best practice; enhancing communication between care settings.
Chapman et al., 2015 (23)	Tertiary health. United Kingdom.	Descriptive qualitative research design.	80 healthcare professionals (nurses, physicians, dietitians).	5 thematic categories: nutritional screening policy; knowledge and education; organizational constraints; multidisciplinary working; effective nutritional practice.
Eide et al., 2015 (19)	Tertiary care. Norway.	Descriptive qualitative research design.	16 nurses.	5 thematic categories: loneliness in nutritional care; need for competence in nutritional care; low flexibility in food service practices; system failure in nutritional care; neglect of nutritional care.

Study (author, year)	Health system setting, country	Research design	Research sample	Results - barriers and facilitators to nutritional care
Håkonsen et al., 2019 (20)	Nursing homes, home care sector, home nursing sector. Denmark.	Descriptive qualitative research design.	14 healthcare professionals (nurses, social and health service helpers, social and health service assistants).	6 explorative themes: lack of uniform and systematic communication affects nutritional care practices; experiential knowledge of primary workers affects daily clinical decisions; different attitudes towards nutritional care result in differences in quality of care; differences in organizational culture affect quality of care; lack of clear responsibilities for nutritional care affects how daily care is delivered; lack of clinical leadership and priorities makes nutritional care invisible. 2 explanatory themes: absent inter- and intra-professional collaboration and communication impedes optimal clinical decision-making; quality deterioration due to poorly established nutritional care structure.
Hestevik et al., 2019 (21)	Acute geriatric hospital care and home care. Norway.	Descriptive qualitative research design.	23 healthcare professionals (nurses, activity therapist).	2 main themes and 6 subthemes: Theme 1: meeting patients with complex nutritional problems, with the subthemes: It's much more complex than just not eating; seeing nutrition as part of the whole. Theme 2: the structure of nutritional care, with the subthemes: nutritional routines; lack of time for individualized nutritional care; lack of interdisciplinary collaboration in nutritional care; meeting challenging situations with limited resources in home care.
Avgerinou et al., 2020 (22)	Primary care. United Kingdom.	Descriptive qualitative research design.	60 healthcare professionals (physicians, nurses, dietitians).	4 thematic categories: understanding and recognising malnutrition; management of unintentional weight loss in the community; challenges in addressing malnutrition; possible solutions.
Verwijs et al., 2020 (24)	Primary care. Norway.	Descriptive qualitative research design.	41 healthcare professionals (physicians, nurses, dietitians, social workers, cooks). 21 malnourished older adults (≥ 65 years), 5 caregivers.	6 thematic categories: causes of malnutrition; knowledge and awareness; recognition and diagnosis of malnutrition; communication; accountability; food preparation and provision.

(18-20). Although nutritional screening was implemented in some clinical settings as a tool to assess patients at nutritional risk, healthcare professionals generally relied on their own subjective professional judgment, clinical experience and "common sense." In some cases, nutritional screening was performed only after the patient reported weight loss or decreased appetite (18, 19, 21, 22). Existing clinical guidelines were often poorly applied in clinical practice, and nutritional treatment of patients was considered only as a form of nonmedical patient care. The quality of nutritional care and treatment of patients often depended on the individual interest of healthcare professionals in clinical nutrition (20).

3.2 Indefinite structure of nutritional care

Healthcare professionals expressed very different and also conflicting views about taking responsibility for the continuing nutritional care of patients at nutritional risk. They expressed uncertainty about the role that each professional group (physicians, nurses and dietitians) should play in the nutritional care of patients. They called for a multidisciplinary approach in which responsibilities and competencies for the nutritional care and treatment of patients are formally divided between the different professional groups, and for better communication and collaboration between them (19-21, 23, 24).

Dietitians defined physicians as those most able to identify malnourished patients and diagnose nutritional disorders. However, identifying patients with malnutrition was often of secondary importance to primary care physicians. Physicians recognized malnourished patients during primary treatment of their other clinical conditions or diseases rather than as a distinct clinical condition to be systematically diagnosed and followed up (22). Nurses frequently expressed frustration and feelings of loneliness at the lack of physician involvement in the nutritional care of patients. Dietitians were recognized by health professionals as useful and necessary professional collaborators in the nutritional treatment of malnourished patients, but their availability in certain healthcare organizations was too low (19, 21). With the implementation of nutritional screening, it has been shown that autonomy in providing comprehensive nutritional care to the patient allows nurses to use their clinical knowledge and skills more effectively in clinical practice (18, 23).

3.3. Poor continuity of nutritional care

Poor prospects for referring patients for further nutritional assessment and treatment emerged as one of the most important barriers, especially when referral was not possible (18, 21). On the other hand, patients were sometimes referred to a physician only for the physician to prescribe an oral nutritional supplement (18). The lack of a protocol for follow-up of patients at nutritional risk has been shown to be an important factor contributing to poor continuity of nutritional care (21).

In the study by Verwijs et al. (24), the lack of exchange of written information about the patient's nutritional status between different profiles of healthcare professionals was pointed out. In the study by Håkonsen et al. (20), the continuity and quality of nutritional care were mainly affected by the different use of nutritional terminology by different groups of healthcare professionals, and by different standards of nutritional care for patients in different health facilities within the same level of healthcare. Incorporating nutritional screening into clinical practice and nursing documentation can improve its implementation; however, continuity of nutritional care can be difficult when findings about the patient's nutritional status are recorded in different documentation, reducing the transparency of the patient's comprehensive nutritional care (19, 23). Nurses emphasized that the patient's nutritional status was not adequately recorded in nursing documentation, which is necessary for continuity of the patient's nutritional care between different levels of healthcare (18). Similar findings were found in a study by Verwijs et al. (24), in which information about the patient's nutritional status was incomplete, delayed or not documented at all in discharge records. The quality of documentation of patients' nutritional status was compromised by the lack of time

of medical staff, and the poor quality of documentation proved to be a barrier to effective ongoing nutritional care of patients. This presented a deficit in the patient's transition between different health care environments and levels of healthcare (21).

3.4 Lack of knowledge and skills of health professionals

Healthcare professionals frequently expressed a lack of knowledge and skills to identify and treat patients at nutritional risk. Continuing education and training were highlighted as important for improving the implementation of nutritional screening in clinical practice, and the importance of practical training in the use of screening tools when working with patients was emphasized (18, 19, 24). Nurses and physicians emphasized that there is a lack of basic education in the field of nutrition in undergraduate education (22, 23). Håkonsen et al. (20) found that functional education and training to develop and deepen expertise in nutritional support is not systematic and regular, and that training is usually conducted as "decoding of practices from peers" when working with patients. In the study by Hestevik et al. (21), healthcare professionals highlighted that organizations do not provide sufficient support for nutrition training and they often have to attend it in their spare time as part of food company promotional events.

3.5 Lack of time, staff and other resources

Nurses cited lack of time and human resources as one of the most important barriers to effective implementation of nutritional care for patients, especially in relation to the large number of patients treated, extensive nursing and medical documentation, the large number of priority medical treatments for patients, and entering data in the information system (18, 20, 21, 23). The increased time to perform nutritional screening in clinical practice was also significantly affected by the availability of appropriate and functioning weight scales (19). Primary care physicians pointed out the problem of limited time to treat patients, which affected the quality of nutritional care provided to patients (22).

4 DISCUSSION

4.1 Systematic literature review results

The findings of the systematic literature review of qualitative research highlighted key factors that healthcare professionals consider important for the effective identification of patients at nutritional risk and their ongoing nutritional care in daily clinical practice. The systematic review included research conducted in different healthcare settings and at different levels of healthcare delivery, and we identified five main factors common to all.

Our findings showed that poor continuity of nutritional support was one of the most important factors negatively affecting the quality of nutritional care provided to patients. In particular, the following were highlighted as important components of this factor: poor chances of referring a malnourished patient for further treatment; lack of protocols for nutritional care; lack of exchange of written information about the patient's nutritional status between different healthcare professionals; inconsistent use of nutritional terminology between different healthcare professionals; inconsistent standards of nutritional care for patients; and incomplete documentation of patient discharge (18, 20, 21, 24). A similar conclusion was reached in the study by Mersini et al. (25), which examined the impact and success of Albanian nutrition policy implementation. Lack of institutional/infrastructural support, lack of intersectoral coordination, and lack of effective collaboration between different sectors and institutions were obstacles to the implementation of their nutrition policy plan.

The implementation of clinical nutrition pathways, their integration at all levels of the health system and the establishment of a multidisciplinary team that includes a clinical dietitian in addition to the physician and nurse, must become one of the priorities of health systems. Implementation should be guided by clinical guidelines for the prevention, diagnosis and treatment of malnutrition and other nutritional disorders (2, 26). Nutritional screening, performed with a validated screening tool, provides the basis for further evidence-based nutritional treatment of the patient. Some studies have shown that the lack of a "key person" with specific knowledge in clinical nutrition (nurse) to support, promote and control the development of new procedures may hinder the effective implementation of nutritional screening in clinical practice (27). In addition, clinical dietitians who are frequently present on the wards and educate nurses and physicians can act as motivators and promoters of successful nutritional care (28).

Our findings show that health professionals expressed uncertainty about their roles, responsibilities and competencies due to the indeterminate structure of nutritional care for patients, and emphasized the need for formal regulation in this area and the introduction of an effective multidisciplinary approach (19-21, 23, 24). The multidisciplinary nutrition team is a group of specially trained and educated health professionals in clinical nutrition, including physicians, dietitians, nurses, pharmacists and other relevant professionals (2). When there is no specialized nutrition team, nutritional care is provided by the basic team of physicians, nurses, physiotherapists, pharmacists, etc. Nutritional care provided by multidisciplinary teams is effective when their work is focused on solving the patient's individual

problems, is based on evidence-based practice, and a collaborative approach is taken in clinical practice (29). According to our findings, the lack of knowledge and skills among health professionals is another important barrier to effective nutrition-related care for patients (18-20, 22-24). Healthcare professionals often have to rely on their own professional judgment and clinical experience when assessing patients at nutritional risk (18, 19, 21, 22). Therefore, health professionals emphasized the lack of support from the health facility management in providing nutrition-related care to patients and considered the influence of the facility management as a crucial factor in assuming professional responsibility (18-20).

4.2 Potential for clinical practice and further research

The results of our systematic literature review identified barriers that may significantly impede the implementation of effective nutritional care for patients at nutritional risk. Our findings can help healthcare providers consider and implement appropriate strategies to improve this clinical practice. According to our findings, it is important to examine organizational culture, multidisciplinary collaboration, roles and responsibilities of health professionals, continuity of nutritional care for patients, and protocols and standards currently used in clinical practice.

5 CONCLUSION

Health policy must provide resources for nutritional care for patients at all levels of healthcare on the initiative of the highest professional bodies at the state level. The main barriers to the implementation of effective nutritional screening and nutritional support for patients in clinical practice are primarily related to the poor organization of nutritional care in healthcare institutions and the lack of knowledge of health professionals about clinical nutrition. To improve nutritional care for patients in clinical practice, the management of healthcare institutions must promote and enable the professional and organizational establishment of clinical nutrition as a regular medical activity in the institution.

6 LIMITATIONS

Limitations in methodological quality have been noted in some studies, particularly in the area of the researcher's relationship with study participants.

CONFLICT OF INTEREST

The authors declare that no conflicts of interest exist.

FOUNDING

No funding has been received for the conduct of this study and/or preparation of this manuscript.

ETHICAL APPROVAL

The method used in this systematic literature review involves no ethical issues and therefore no ethical approval was necessary.

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