

NURSES ROLE IN THE PREVENTION OF MALNUTRITION

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Abstract

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| Title Nurses role in the prevention of malnutrition |
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| <p>Malnutrition is one the growing global health issues among elderly and it is often unnoticed. Hence, the aim of our research is to recognize what are the nurse's role in the prevention of malnutrition in elderly care settings. The purpose of this thesis mainly focuses to contribute accurate and adequate knowledge among nurses about the significance of implementing of proper nutritional care in the prevention of malnutrition. Likewise, how nurses can enhance welfare among elderly through effective nutritional care. The method of study applied in this thesis was descriptive literature review which inductive content analysis selected to analyze our articles. The materials for the review brought together by using various electronic data-bank like CINAHL, EBSCO, Google Scholar and PubMed to find peer reviewed articles.</p> <p>After articles analyzation, it was found that nurses can play an important role in the prevention of malnutrition with proper nutritional assessment and implementing nutritional care based on nutritional score in elderly care. Nurse can recognize nutritional status or malnutritional problems of elderly by using different assessment measures like nutritional screening, anthropometric measures, physical examination, and history and diet assessments. Likewise, nurses can create individualized nutritional care plan based on nutritional need of elderly in the prevention of malnutrition which includes High energy and high protein food, oral nutritional supplements, enteral and parental nutrition.</p> <p>Even though nurses can play many roles in the prevention of malnutrition, the reviewed articles say nurses still need more competency to effectively recognize nutritional problems among elderly. Also, Considering and teaching the elderly on their various dietary needs is also significant in the prevention of malnutrition. So, it is significant to get more nutritional education and training for nurses to strengthen their nutritional knowledge and competency to effectively assess nutritional problems and to prevent malnutrition in elderly care settings.</p> |
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Työn nimi

Sairaanhoitajien rooli aliravitsemuksen ehkäisyssä

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Tiivistelmä

Aliravitsemus on yksi ikääntyvien ihmisten kasvavista globaaleista terveysongelmista, ja sitä ei usein huomata. Siksi tutkimuksen tavoitteen on tunnistaa sairaanhoitajan rooli aliravitsemuksen ennaltaehkäisyssä vanhusten hoitopaikoissa. Tämä tutkimuksen tarkoituksena on tarjota riittävät ja tarkat tiedot sairaanhoitajille oikean ravitsemuksen toteuttamisen merkityksestä aliravitsemuksen ehkäisemisessä. Sairaanhoitajat voivat parantaa vanhusten hyvinvointia tehokkaan ravitsemushoidon avulla. Tässä opinnäytetyössä käytetty tutkimusmenetelmä oli kuvaileva kirjallisuuskatsaus, jossa on analysoitu artikkeleita induktiivisen sisältöanalyysimenetelmän avulla. Tutkimuksen tiedot kerättiin käyttämällä erilaisia atk-pohjaisia tietokantoha, kuten CINAHL, EBSCO, Google Scholar ja PubMed.

Artikkeleiden analysoinnin jälkeen todettiin, että sairaanhoitajat voivat tärkeässä roolissa aliravitsemuksen ehkäisemisessä asianmukaisella ravitsemus arvioinnilla ja ravintopisteisiin perustuvan ravitsemushoidon toteuttamisella vanhusten hoidossa. Sairaanhoitaja voi tunnistaa vanhusten ravitsemustilan tai aliravitsemusongelmat käyttämällä erilaisia arviointitoimenpiteitä, kuten ravitsemusseulonta, antropometriset toimenpiteet, fyysinen tutkimus sekä historia ja ruokavalion arvioinnit. Samoin sairaanhoitajat voivat luoda yksilöllisen ravitsemussuunnitelman, joka perustuu ravitsemukseen ikääntyneiden tarpeisiin aliravitsemuksen ehkäisyssä, johon sisältyy runsaasti energiaa ja runsaasti proteiineja sisältävä ruoka, erilaiset ravintolisät joko enteraalisesti tai parenteraalisesti.

Vaikka sairaanhoitajilla voi olla monia rooleja aliravitsemuksen ehkäisemisessä, tarkistetuissa artikkeleissa sanotaan että sairaanhoitajat tarvitsevat vielä enemmän pätevyyttä vanhusten ravitsemusongelmien tunnistamiseksi. Myös vanhusten ymmärtäminen ja kouluttaminen heidän erilaisesta ravitsemuksellisesta asemastaan on myös tärkeää. Se on merkittävä, jotta saisimme lisää ravitsemuskoulutusta sairaanhoitajille heidän ravitsemustietonsa vahvistamiseksi ja pätevyys ravintoongemien tehokkaaseen arviointiin ja aliravitsemuksen estämiseen vanhusten hoitopaikoissa.

Avainsanat

Vanhukset, aliravitsemus, hoito, ehkäisy

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LIST OF ABBREVIATION

| | |
|--------|--|
| WHO | World Health Organization |
| BMI | Body Mass Index |
| MNA-SF | Mini Nutritional Assessment Short Form |
| ONS | Oral Nutritional Supplement |
| MUST | Malnutrition Universal Screen Tool |
| MUAC | Mid-Upper Arm Circumference |
| ANH | Artificial Nutrition and Hydration |
| PN | Parenteral Nutrition |
| EN | Enteral Nutrition |

1 INTRODUCTION

Malnutrition is a condition occurs due to deficiency in the intake or absorption of nutrients that causes changes in physical structure such as reduction in lean body mass and changes in the total mass of all cellular elements in the body, resulting to decreased intellectual and physical capacity and diminished recovery from illness. If malnourishment remains unnoticed, it will lead to somatic, mental, operational, and medical changes. Elderly individuals are more prone to malnutrition affiliated with various factors that mainly due to several disease conditions. Likewise, communal, and physiological aspect can intervene regular eating habits of older individuals particularly those who have difficulty with cooking or shopping. (Holdoway, 2019).

Nutrient is an essential component to maintain good health among old people and its influence each step of aging. Malnutrition and associated problems are well known in this group and it causes changes in overall body function, more specifically reduction in physical abilities and muscle functions, decline in bone density, impaired function of immune system, poor cognitive level, anemia, unhealed wound, poor outcome after surgery and more hospital admissions. Also, changing social and economic conditions left alone elderly people at home and its often disrupts regular eating habits or it brings more consequences associated poor nutritional intakes. (Amarya, Singh, Sabharwal, 2015).

Malnutrition in the elderly is one of the main growing issue around the world and it can hinder the progress of health of old people. Poor protein and caloric intake raised level of infections and deaths among older inhabitants especially those who live in elderly establishments. Transforming rules and procedure of institutions get this group more susceptible to under nourishments. More specifically, it worsened general wellbeing of older people in our society. The cross-sectional study conducted in Europe shows that above 60% of elderly inhabitants is under the condition of poor health status due to malnourishments. And this problem is more common among people living in long-term care facilities due to depression, poor cognitive and functional status and dysphagia also raised the level of malnutrition in elderly. Therefore, it is incredibly significant to take proper nutritional assessment and planned nursing interventions to avoid malnutritional problems among elderly. It is widely accepted various type of nutritional assessment can be useful to find out nutritional risk of elderly and this tool also helpful to guide the professionals to implement proper nutritional care that mainly intended to improve health status of the elderly people. (Damo, Doring, Alves, & Portella, 2018.)

Above prospects gives clear picture about elderly are more prone to nutritional deficiency associated with poor health status and changing socio-economic situations. Obviously, it is significant for nurses to recognize early signs of malnutrition based on nutritional assessments to overturn fundamental causes and to create suitable nursing care plan for elderly person. So, the aim of our thesis is to recognize about nurse's role in the prevention of malnutrition in elderly care settings. Purpose of the thesis is to raise awareness among nurses about the importance of implementing nutritional care based on nutritional assessment in the prevention of elderly malnutrition.

2 MALNUTRITION IN ELDERLY

2.1 Definition of Malnutrition

Malnutrition in the elderly is defined a nutritional condition that results from eating a diet that is deficient in nutrients or in large quantities to the point of causing health problems in the body (Ray, Laur & Golubic 2014). However, other research defines as a faulty or inadequate nutritional status; undernourishment characterized by insufficient dietary intake, poor appetite, muscle wasting and weight loss. Also, malnutrition is a condition that results from eating a diet in which one or more nutrients are either not enough or are too much such that the diet causes health problems. (WHO 2016.)

Malnutrition has been recognized as a common problem among aged residents living in institutional care facilities. In Europe, the population of those aged 65 years and 80 years are expected to increase from 17% to about 30% by 2020 and those of 80 years old and above are predicted to triple in numbers. (Mak & Caldeira 2014.)

2.2 Signs, Symptoms and Causes of Malnutrition in Elderly.

Unintended weight loss is one of the main symptoms of nutrition deficiency. Mostly elderly symptoms of malnutrition are something which some elderly can feels and reports, while the signs of malnutrition the caregivers such as nurses or doctors detect. Certain cases, weight reduction is fast and very quickly noticeable. In some other cases, drop of weight gradually appear over several periods. Further signs associated with malnutrition are xeroderma, eczema, dry hair, broken nails, lesion around mouth, fatigue, nervousness, reduce night sight and aching joints. Likewise, nutrition deprivation can lead to mental problems such as reduction in level of attention and depression. (Willis, 2017).

Malnutrition can occur due to various reasons such as physical, psychologic, and social causes. First up all, Diseases like cancer and liver abnormalities may cause to reduce old person`s desire for food and drink as well as certain medical conditions like Crohn`s disease can interrupts the process of digestion of food and absorption of nutrients into the body. Overall, age related changes and associated health conditions affect their ability to cook or consumption of food. Secondly, many of the elderly in our society separated from others due to physical barriers such as immobility or hearing impairment resulting them left alone enjoy the meal at home. Absence of social bonds from others around mealtime frustrated their regular eating habits and make this people more vulnerable to malnutrition. Lastly. mental health issues can lead to malnutritional problems in elderly. Psychological disorders such as depression and anxiety or high level of psychological distress, eating

disorders and substance abuse can cause alterations of mental status in elderly individuals particularly which affect their mood and desire to eat. (Stuart, 2018.)

2.3 Consequences of Malnutrition

Malnutrition in older adults can lead to development of chronic diseases and poor health outcomes. Nutrient Deficiencies is common in elderly mainly by the reason of poor consumption and assimilation of food. Vitamin B12 and folate deficiency occurs due to decline of intrinsic factor related with aging. Consequently, the assimilation of vitamin B12 and folate is not properly happened in the stomach. Those vitamin deficiencies can arise medical conditions such as heart diseases, degradation in skeletal bone, malignant growth in the colon and rectum, loss of memory and depression. Likewise, Vitamin D deficit and immune dysfunction more prevalent in elderly mainly due to variations in the gastro-intestinal tract and poor eating habit and this will increase possibility of loss of bone mass, poor physical movement, and more falls and risk of broken bones. Decline of function of the immune system can contribute higher susceptibility to disease like sepsis, cancer and autoimmune disorder and poor outcome from vaccinations. (Cororan et al, 2019).

Sarcopenia and frailty are a main impact of malnutrition. Specifically, Loss of muscle mass and weakness is a result of inadequate intake of leucine and vitamin D in the diet due to hesitation of food and poor physical movement. Adding enough protein to the diet can enhance size of muscle in old people by preventing nutritional insufficiency. (Landi,Calvani, Tosato, Martone, Ortolani, Saveria, & Marzetti, 2016).

Age associated changes in the gastrointestinal system can affect nutrient intake of the body. Recurrent undernutrition can alter the structure and function of pancreatic exocrine gland, circulation to the gut, structure of villous and absorbability of small intestine. As a result, large intestine fail to sock up fluids and electrolytes and excretion of ions in the stomach and this condition will leads to diarrhea in poorly nourished individuals. (Saunders, Smith 2010).

3 NURSES ROLE IN THE PREVENTION OF MALNUTRITION

Mostly health care system, appropriate and adequate nutritional supports are linked with the patient's quality of life and cost-effective services delivery. Malnutrition prevention needs to be implemented and appropriately methods should be applied by nurses due to the dramatic increase in morbidity and mortality in the elderly. Required procedures such as early screening, anthropometric measurement, laboratory assessment, historical background and daily diet assessment can be implemented early as well (Russell 2019). In addition according to Mcclinchy 2015 studies shows that, improving patients health is a result of the efforts of the nurses and nutritionist to ensure that the care provided is in line with the patient's needs (Jefferies, Jahnsen & Ravens, 2011).

Prevention means actions aimed at eradicating, eliminating, or minimizing the impact of disease and disability. Nurses are tasked with improving health through evidence-based recommendations and encouraging individuals to receive preventative services such as screenings, counselling, and precautionary medications. The concept of prevention is best defined in the context of levels, traditionally called primary, secondary, and tertiary prevention. Primary prevention are the measures taken to provide individuals with knowledge to prevent onset of a target condition. However, this type of prevention, nurses play the part of educators that provides information and counselling to communities that encourage positive health behaviours. Generally primary prevention is the most economical way to take care of elderly health. However, Secondary prevention creates an early detection of the diseases and identifies people with big risk or early disease through regular screening and care to prevent the onset of the disease. Once recognised, nurses work with them to reduce and control manageable risks, changing individual's lifestyle options and use early detection procedures to detect diseases in their beginning stages when treatment may be more effective. Tertiary prevention refers to the treatment of available disease that present in patients. Nurses play part in educating and advice individual about care plan and make any additional behaviour changes to improve health condition (WHO Eastern Mediterranean 2020).

Among of the preventive factors used by the nurses to prevent malnutrition consist of screening tools like Mini Nutrition Assessment form, Nutrition Risk Screening, Malnutrition Universal Screening Tools, Nutrition Risk Index and Malnutrition Screening Tools. Through different setting these tools are used to diagnose the risk of malnutrition or by showing which stage is the malnutrition. Through set of questions usually asked form the

patients at risk and once completed they can give a clear image if the patients are at risk of malnutrition or not. (Banks 2017.)

According to Cascio & Logomarsino (2017), the screening result should be done perfectly since the result obtained from the screening play a big major function in the prevention of the patients from the malnutrition. Nurses are responsible to examine the elderly's health in care homes. Recording the patient weight and Malnutrition Universal Screen Tool (MUST) score help to identify nutritional status of elderly individuals. If patient is malnourished or at risk of undernutrition, nurses can advise to patients for consultations from dietitians or speech therapist. While dealing with malnourished people, nurses accept individualized approach that mainly consider elderly people health and way of life. In such a way, nurses can arrange texture modified food, small and frequent meals as well as flexible mealtime based on the personal needs to maintain regular eating habits and proper nutritious status. Every individual has own food preference while selecting their menu plan. Most importantly nurses in the care homes should give more attention to the eating habits and nutritional needs of individuals that can help to minimize the number of malnourished cases in elderly homes. On other hand, even in the community or in the nursing homes, elderly people must be at the center of menu planning to avoid malnutrition. (Willis, 2017).

Nurses play a significant role in the diagnosis and prevention of malnutrition with cooperation with other members of medical team in hospital. Nurses always get opportunity primarily meet patient in the care process especially that help nurses to notice early symptoms of malnutrition. The responsibility of nurses is various in nutritional care that includes physical examinations, anthropometric measurements, blood sampling, nutritional education, implementation of nutritional care and monitoring of the patient. Accurate implementation of task by nurses make feasible by other members of medical team to diagnose malnourished patient or person at risk of malnutrition. On other hand, it helps to take necessary measures by medical team to prevent complications associated with malnutrition's. (Pierzak, 2019).

4 THE AIM AND PURPOSE OF THE THESIS

The aim of this thesis is to examine using the literature review to recognize about the nurse's role in the prevention of malnutrition in elderly care settings. Purpose of the study is to provide accurate and adequate information among nurses about significance of executing effective nutritional care in the prevention of malnutrition. In addition to this, how nurses can improve wellbeing among elderly through the effective nutritional care.

Our research question of the study is as follow:

- 1) What is the role of nurse in the prevention of malnutrition in elderly care settings?

5 METHODOLOGY

A literature review is a critical review of comprehensive research and hypothesis relating to a specific subject. It is a practice of review and summary of previous work to generate outline of the knowledge or information on that topic. Its objective is to provide the reader advanced with present writings on a topic and give the framework for another objective, like the reason for later study in that domain. A written literature review collects information from various sources, and it comprises clean explore and option strategy. Good organizing is very essential to increase the speed and comprehension of the literature. (Cronin, Ryan & Coughlan, 2008).

Literature review supports intensifying the effectiveness of evidence-based nursing research by compiling diverse data accessible on any subjects. Healthcare workers are frequently needed to upgrade new information or study that value their clinical practices. Literature review enables professionals to reach entire knowledge in the form of only one record (Aveyard, 20109). The significance of literature review be an examination and clarification of previously available result of research studies. Thus, it gives recommendations for latest useful findings and research methodologies (Rowley and Slack, 2004). For this reason, conducting a literature review is a practical way to organizing information of clinical trials (Gray, 2016,62). Nurse's role in prevention of malnutrition in elderly care settings are fundamental to acknowledge in reflection of enhancing quality care of elderly and nurse's knowledge. Certainly, this is such a miscellaneous topic that unlikely be reviewed in single study. In this context, undertaking a literature review will support to collect and synthesis the results of f numerous research studies about nurse's role in the prevention of malnutrition in elderly care into single record.

This research mainly based on descriptive literature review, which is one of the four methods utilized to carry out a literature review. It concentrates on unveiling interpretable paradigm from current publications. Descriptive review is an organized process comprising inclusive literature search to gather essential articles, filtering and specify designs and trends among articles (yang et al,2012). Descriptive review has extraordinary benefits such as efficient to examine unquantified subjects or issues, has possibilities to combine qualitative and quantitative process of data collection. Clearly, shorter time needed than quantitative research and has opportunity to notice the phenomenon in natural and steady surroundings (Research Methodology).

5.1 Data collection

Collecting reliable data is a significant part of study in all kind of research. It is a practice of assembling and analyzing the information on concentrated variables in an established framework to answer the targeted questions and for produce new results (Elo, Kääriäinen, Kanste, Pölkki, Utriainen, kyngäs, 2014). There are several methods to gather the data. Information is gathered through study of former published articles connected to the theme. The information retrieval for this literature review was gathered from the databases CINAHL, EBSCO, Pub med and Google Scholar. At the time of data search, Boolean search operators like AND, OR was applied to discover the results of data that are related to the topic. The search words that we applied to explore our article were: Malnutrition, elderly people, prevention, nutritional assessments, nurses' role, and nursing interventions.

The practice of choosing research for a literature review comprised of two steps. The first step implies going through the titles and abstracts of the articles which encounter the inclusion criteria. The second stage requires analyzing entire text of each materials. (Bet-tany–Saltikov 2012, 84.) So, our collected data were re-viewed by the heading, and abstracts that read. Appropriate articles were selected based on the pre-established re-search question and inclusion criterions. The inclusion guidelines covered articles which were limited to a time frame of 2008-2019, were in English language, had full text access, were peer-reviewed, and responded research question (Table 1).

Table 1. Inclusion and exclusion criteria

| INCLUSION CRITERIA | EXCLUSION CRITERIA |
|---|--|
| Peer-reviewed journals | Non peer reviewed scientific journals |
| Full -text published articles | Scientific journals only with abstract |
| Publish between 2007-2019 | Publications before 2007 |
| Articles published in English language | Articles published in other languages |
| Articles that are related to the research studies | Duplicate copies |

Regarding inclusion and exclusion criteria, below gives the main key words the researcher applied for finding of the articles. Table 2 displays databases, search words, year, results and chosen articles for the study.

Table 2. Searched Databases

| Databases | Search words | Year | Results | re-viewed | Selected articles |
|----------------|---|------------------|-------------|-----------|-------------------|
| Cinahl (EBSCO) | Malnutrition AND prevention AND nurse's role OR nursing interventions AND elderly | 2007-2019 | 79 | 20 | 4 |
| | Malnutrition AND prevention AND nutrition assessments and elderly | 2007-2019 | 25 | 8 | |
| EBSCO | Malnutrition and prevention AND elderly AND nursing homes | | 30 | 15 | 3 |
| | | 2007-2019 | | | |
| Google scholar | Malnutrition AND Prevention AND elderly OR aged AND Nurses role | 2012-2019 | 1320 | 25 | 7 |
| Pub med | Malnutrition and Prevention and Elderly | 2007-2019 | 78 | 10 | 1 |

The content of the chosen article was reviewed to ascertain the significance of the data to the research topic and the 15 articles were chosen to give answer to the research questions. Appendix 1 includes of the last elected articles besides that the name of the author, aim and result of the study.

5.2 Data analysis

In literature review, data synthesis is a method of gaining knowledge from the results, conclusion, and dialogue of previous published articles as a mean to meet the research question (Kiteley and Stogdom.2014). Thus, 15 full-text peer reviewed article were reviewed and examined by each thesis author and later considered carefully together to gather more reliable information's. The selected materials had been examined using data reduction, data review and data comparability and then creating summary and confirmation of data from the listed materials.

Inductive content analysis used to analyze the article to provide answer to the research questions. First up all, we read selected article repeatedly to obtain knowledge and to comprehend content of the articles. Thereafter, we gathered all the data on computer from the chosen articles which specifically respond our research question were data obtained. The purpose was to produce new and clear explanation among this research by choosing most relevant and meaningful data and creating codes. Hence, every valuable information that was revealed in the abstract, summary, findings and dialogue section of the articles were separated into various group based on their resemblance. Thus, themes were made by categorizing retrieved data that are identical together. Lastly, research paper was re-examined to ensure that the latest themes appropriate for the research question (Aveyard,2014.) Finally, the subthemes were identified, and they were named: nutritional assessment for elderly, nutritional education, and Individual nutritional care for elderly.

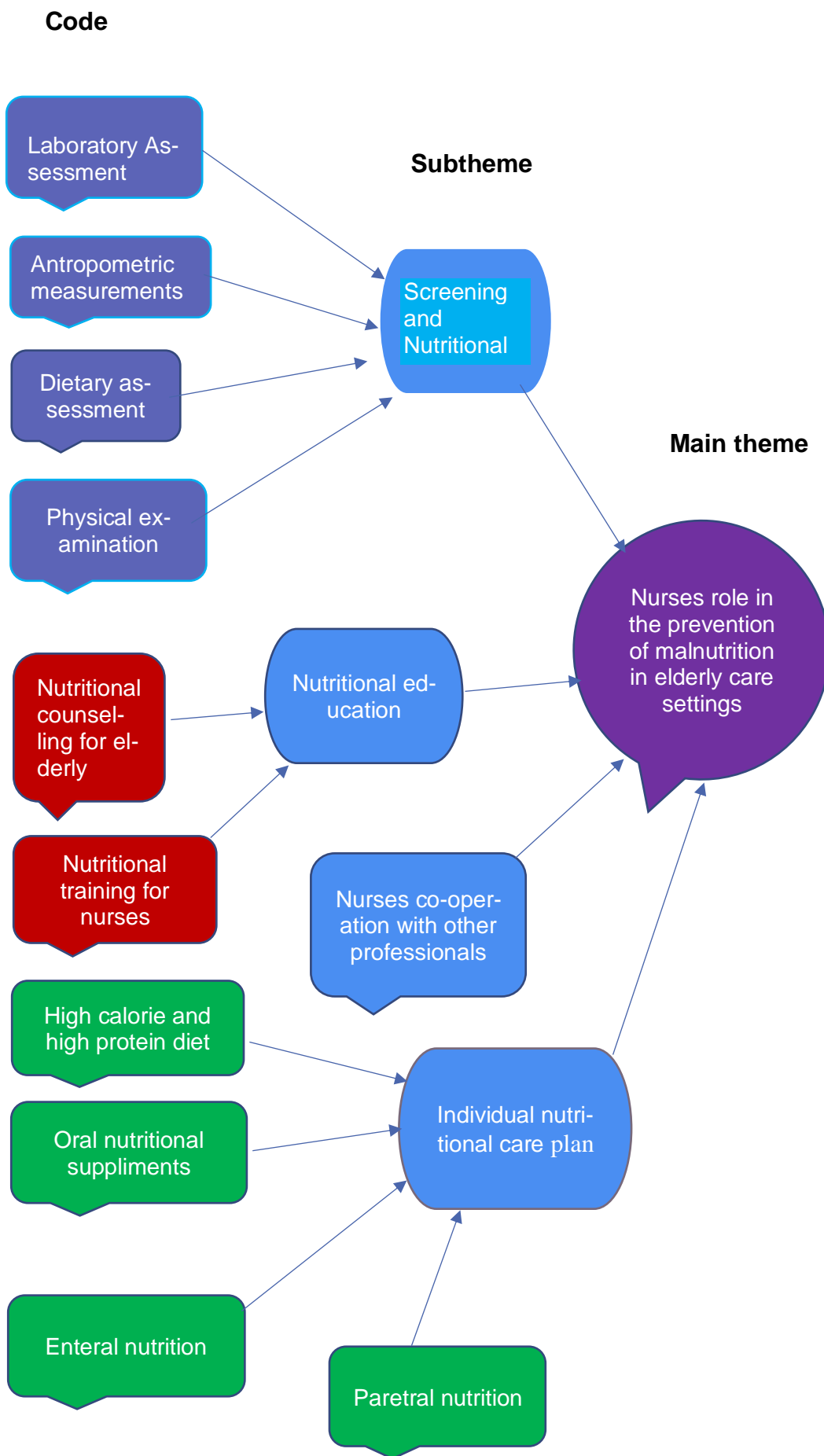


Figure 1. Theme formulation for the research question

We have selected 15 peer reviewed articles to answer research question. We created codes by realizing the content of the data and then classified into sub-themes. From the different sub themes, main theme generated. Findings are derived from these sub themes and main themes.

| Main theme | subtheme | Codes | Original text and Author Name |
|---|------------------------------------|---|--|
| Nurse's role in the prevention of malnutrition | Nutritional assessment for elderly | Screening tools Physical examination and history Dietary assessment Anthropometric assessments | Nurses review screening, physical examination, diet, and physical examination to improve restrictions accordingly to prevention skills. Likewise, nurses as other professionals participate in the assessment (Saunders, Smith & Stroud 2018, 157.) |
| | Nutritional education | Nutritional education for nurses. Nutritional counselling for elderly | Once a dietary assessment has been conducted, it is essential to provide teaching on what food in the client's diet is healthy and should remain and which should be replaced with healthier alternatives. (Wallace 2007,129) Many older people at risk of malnutrition live at |

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| | | <p>Nurses co-operation with other professionals and patients</p> | <p>home and will have initial contact with their primary healthcare team who could review their nutritional status and deliver appropriate dietary advice, supported by local care pathways that include dietetic referral where appropriate. (Volkert, Beck, Cederholm, Cereda, Cruz-Jentoft, Goisser; Pourhassan,2019).</p> <p>Collaborating with RDNs daily and identifying nutritional needs can more readily convert into a therapeutic nutrition plan. Nurses have the opportunity to share weights, percent of meal intake, and overall nutritional status with RDNs in multiple venues. (Philips, & Quatrara, 2014.)</p> <p>Nurses play a key multi-disciplinary role as they have the most contact with patients and often initially provide nutrition screening, referral, and facilitation of recommendations to adjust a diet plan and implementation of a special diet modification with patients, their family, or significant carer. (Xu, Parker, Ferguson, & Hickman, 2017).</p> |
| | | | <p>To make screening effective the most important stage is to implement the</p> |

| | | | |
|--|---|---|--|
| | Individual nutritional care for elderly | <p>High caloric and high protein diet</p> <p>Oral nutritional supplements</p> | <p>appropriate nutritional care plan. MUST screening tool provides care plans which can be implemented according to the degree of malnutrition. (Mceville,2017)</p> <p>If a patient is found to be either malnourished or at risk of becoming malnourished, a care plan is to be devised and implemented to either correct or prevent the onset of malnutrition. (Jefferies, Johnson, & Ravens,2011).</p> <p>When a person is malnourished, a high calorie and protein diet is required to meet the person's nutritional requirements. Some of the ways to ensure this energy dense diet would be to aim for three meals and three high-calorie/protein snacks per day. The snacks subject to an individual's dietary preference and capacity to swallow textures. (Blaikley, 2015).</p> <p>Older people with higher protein intake lose lean body mass slower, lose less when losing weight and increase muscle mass more if they increase weight. In marked malnutrition, severe illness or injury, protein intake should be 1.2–1.5 g/kg/day or 2.0 g/kg/. (Gabrovec, Veninšek, Samaniego, Carriazo, Antoniadou, & Jelenc ,2018).</p> <p>ONS should be prescribed and used when needed and will typically be used in addition to the</p> |
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| | | | <p>Nurses have an essential role to play in providing the daily care and monitoring for patients requiring PN. From observations (temperature, heart rate, blood pressure) that could show the first sign of CRBSI, to the meticulous recording of fluid intake and output, blood glucose levels, weight, MUST score and EN intake, which will enable the NST to assess GI function and response to the nutritional treatment. (Wyer, 2017).</p> |
|--|--|--|--|

6 FINDINGS

6.1 Nutritional screening and assessment for elderly

Nutritional screening is significant in elderly individual to identify risk of malnutrition and for providing further assessment and implementing effective care plan for patients. Nutritional screening risk assessment should be done in patients within the first 24 hours of admission of hospital and following that regular screening should be performed during their stay. Person with malnutritional problems should be assessed by nurses to recognize nutritional deficiency, nutritional needs and for to examine the causes to create appropriate nutritional care plan for patients. There are various tools are available in clinical setting to carryout nutritional screening and assessments. The Mini-Nutritional Assessment (MNA) is a simple, rapid, and reliable tool for assessing nutrition in the elderly in the community and in hospital. It consists of eighteen components to identify nutritional deficiency or at risk of malnutrition. The Mini Nutritional Assessment short-form (MNA-SF) is also reliable tool to identify nutritional condition of person and has six questions regarding diet, weight loss, movement, disease conditions, neuropsychological problems, and anthropometrical measurements. The Malnutrition Screening Tool is another choice to recognize patients at high risk for nutritional deficiency and its questions mainly concerning recent loss in weight and appetite. Similarly, Malnutrition Universal Screening Tool (MUST) is useful to evaluate body mass index (BMI), weight loss problems and illness to determine malnutrition and obesity among elderly. Finally, the Nutritional Risk Screening mainly used in hospitals to specify undernourished patients based on risk screening score like poor appetite, weight reduction, Low Body Mass Index, and severity of ailments. (Avelino-Silva, & Jaluul, 2017.)

When progression of malnutrition become a problem, additional assessments should be taken to prevent the malnutrition. Comprehensive nutritional evaluation such as patient dietary assessment, physical examination, anthropometric measurements, laboratory assessments needed to evaluate patient condition to understand patient nutritional problem's and curb malnutrition by suggesting appropriate nutritional care to patients. (Esquivel, 2018.)

Nurses have the expertise and great responsibility to ensure that clients nutritional needs are met by providing good nutrition screen and appropriate nutrition advice to improve health condition. However nurses play a key multidisciplinary role as they have the most contact with patients and often initially provide nutrition screening, referral, and facilitation

of recommendations to adjust a diet plan and implementation of special diet modification with clients and their families. Nutritional supports involve all health professionals, such as dietitians, nurses, medical staff, and speech and language therapists. These supports should occur at all levels, entailing nutrition screening, assessing, planning, implementing, evaluating and monitoring the delivery of evidence-based care in order to maximise health outcomes (Mcclinchy, Williams, Gordon, Cairns, & Fairey, 2015).

However, nurses working across both primary and secondary care have inadequate knowledge in both their nutrition education and their pivotal role in helping to detect risk factors to improve patients' health outcomes, likewise nurses raise awareness of their role in nutritional supports for their patients and clients. Moreover, interprofessional and collaborative working is also encouraged to improve patients' health outcomes as they also play a significant role in understanding the importance of nutrition basics and need to be able to explain the facts about healthy food choices to patients (Murphy & Girot, 2013)

Physical examination and History

Unintended weight loss in elderly people implies loss of muscles and diminished ability to perform activities of daily living. According to Saunders, Smith & Stroud (2008) studies shows that, taking various body test can prevent dramatic increase and reduce malnutrition in elderly. However, this assessment may be helpfully in assessing the factors that affect nutritional intake and the nutrition status that has been affected. Other signs of malnutrition can be observed with symptoms such as dry hair and skin, hollow cheeks and sunken eyes, and weight loss. In addition, such examinations include the removal of dentures to check for tooth decay or poor dental cavity that impedes proper food use. Some elderly with iron or zinc deficiency may show symptoms of the irritated tongue that prevent them from eating food or vegetables.

Generally, patient history provides information on past and present patient status of 18 which includes patients medical report, test performed and nutrition history. In addition, it displays the ability to perform the activities of daily life in which this condition of patient formation can be achieved. Information obtained can identify the person at risk for malnutrition and determining possible measure. Likewise, the factors contributing to malnutrition can be assessed based on the patient's medical history in prevention. (Saunders, Smith & Stroud 2018.)

Dietary assessments

Dietary assessment is among other methods used to prevent malnutrition in elderly. Methods of nutritional assessment includes well-documented dietary dairies by the patients and questions about the food received during the day. These questions indicate the type and amount of food consumed by the person as well as the avoidance foods. Some elderly with poor memory nurses advise them with hep of relatives to obtain the such information and consider that elderly aged over 71 need more nutrients like calcium, vitamin B12 due the changes that occur in the body and psychological needs. (Suominen 2007.)

However, collaborative work should be done between nurses and specialists to improve eating habits and some activities related to the nutritional needs of the elderly. This includes strong relationship between nurses and other professionals discussing eating disorders such as mood swings and swallowing challenges. Likewise, nurses should contact speech therapist to determine swallowing challenges and how to solve their problems. In addition, a nutritionist should not be left out so that nurses can find guidelines related to the nutritional status of the elderly. (Söderhamn 2009.)

Elderly Anthropometric Assessment

Anthropometric tests represent an important part of the nutritional assessment for the elderly. These units include weight, height, body circumference, knee-length, body mass index, and waist-to-waist ratio. If there is any weight difference, the responsible adult is at risk of malnutrition. Therefore, nurses can use these unit's intervals as an identification of a person at risk and the elderly with an affected nutritional status. Thus, height measurements can be obtained by measuring their knee-length which is not affected by aging. (Saunders, Smith & Stroud 2018.)

Laboratory Data

Laboratory values together with screening tool increased possibilities to assess nutritional condition of the elderly persons who are at risk of malnutrition. Measurements of leptin, albumin, hemoglobin, and total cholesterol are valuable marker to specify nutritional status of an individual. More clearly, it is significant to evaluate the laboratory value of albumin, lymphocytes, and cholesterol to identify protein deficiency in the body. And those blood values decline on the account of poor protein in the diet. Level of Vitamin D and vitamin B12 can also recognize through the proper blood test. Low level of vitamin d in the body

mainly increase the risk of immobility, poor endurance and falls. Vitamin B12 deficiency can lead to condition such as anemia. (Esquivel & Monica K,2018). Studies done by Marisons (2017) , reveal that nurses also can use laboratory data as tests to help identify elderly at risk of malnutrition or have been affected by malnutrition as well as other measure such as physical examinations and nutrition records.

6.2 Nutritional Education care for elderly

In recent years studies shows that understanding nutrition status of the elderly, it is the best to improve the education and skills of the nurses and other health professionals on how to address the nutritional challenges currently facing the elderly. This is because there are several studies on the need to improve nutrition among adults with sudden emergencies. (Suominen, Kivisto & Pitkala 2007).

Nutritional training for nurses

Generally, nurses need nutrition education skills and experience on carrying for the elderly. These includes elderly assessment in nutrition intake and how to improve their nutritional status in the future. Likewise, nurses require daily training to improve them in raising awareness of nutrition risk factors and effectively provide care that focuses on the issue of diet, disease prevention, and general wellness. Understanding this concept will enable nurses to have interact and consult with other institutional professionals such as dietitians, doctors, or nutritional therapists. (Hopkinson 2015.)

However, educating elderly and their families about nutritional health is perfect approach. Thus, nutrition education plays important role during the process of intervention in the nutrition of the elderly. In addition to nursing home needs to be provided with resources such as training, care, and the use of the essential equipment to ensure the implementation of guidelines for promoting healthy nutrition practices. (Merell, Philpin, Warring, Hobby & Gregory 2012, 212-213.)

Reviewed studies have shown that these measures are compulsory part of nutritional measures in the maintenance of an adult's nutrition. This intervention intends to be upgrading mealtime habits, and the environment in which the food is consumed. The practices involved in mealtime interventions are improving food, the eating environment, changing food services, providing feeding support, and staff training. (Whear, Abbott, Thompson-Coon, Bethel, Rogers, Hemsley, Stahl-Timmins & Stein 2014).

Also, some studies have shown that food intake with protein and energy intake increases nutrition for the elderly during meals. Feeding aids also help nurses identify eating disorders such as swallowing and chewing problems as well as assessing the water intake of the elderly. By adjusting the food structure according to the ability to chew and swallow among the elderly will improve their feeding support. (Arvanitakis, Beck, Coppens, De Man, Elia, Hebuteme, Henry, Kohl, Lesourd, Lochs, Peper-sack, Pichard, Planas, Schinder, Schols, Sobotka & Van Gossur 2008, 481-488.)

Nutritional counselling for elderly

Nutritional education considered as primary steps of treatment in the management of malnutrition. It mainly focuses to encourage healthier eating pattern by providing information related to nutrition and healthy food habits. Existing policy suggest undernourished elderly or those who at the risk of malnutrition need to get several nutritional teachings by nutritionist to realize significant of healthy diet and to stick in with healthy diet practices. On other hand, elderly at higher risk those who lives at home may be impossible to keep in touch with nutritionist due to various issues. In that case, primary health care nurses can examine health status of elderly once they contact with health care professionals and carry out necessary referrals to dietitian when there are additional services needed. (Volkert, Beck, Cederholm, Cereda, Cruz-Jentoft, Goisser; Pourhassan,2019).

According to Pederson & Damsgaard (2012), nutritional education mainly intended to provide support for care priorities and setting up goals to initiate personalized action plan that endorse elderly to participate in self-care. This involves giving advice to elderly in what way to continue healthy nutrition by means of providing dietary guidelines and support which are arranged on personal choices. The planned idea is possible to make changes in elderly persons dietary consumption of energy, protein, and micronutrients. On other hand, giving nutritional advice is one of the nurse's responsibility as part of nutritional care. Nurses can assess and identify risk of malnutrition so; they can implement the care based on person`s nutritional need. For this reason, it is significant to give right guidelines for clients regarding what food they need to consume to maintain healthy nutrition in the body. (Wallace 2007,129)

Nurses co-operation with other professionals and patients in care co-ordination

Nurses play a big role to maintain good nutritious status for patients in participating of care with other health care professionals. Based on regular assessment, nurses can implement or modify therapeutic nutritional care plan with the co-operation of registered nutritionist by recognizing nutritional requirement of patient. Nurses can answer about patient

weights, proportions of food intake as well as entire nutritional condition while dealing with dietitian in various settings. Likewise, sharing the information with other professionals give an awareness into patient capability to take the meals due to various health issues that can contribute required care for patients from multi-professionals. Care coordination with actively involving dietitians and medical doctors help the nurses to line with treatment and take steps towards wellbeing of patients. (Philips, & Quatrara, 2014.)

Proper and fair dietary supplement from nurses can promote affordable care and wellbeing among older people. Nurses can contribute significant function on that task which complete the duty of nutritionist by providing sufficient nourishment to the patient. As part of nutritional care, nurse provides Dietary advice and nutritional screening to patients. Nutritional screening is vital to recognize patients who are already malnourished or at chance of getting poor nourishments in elderly care settings. In such a case, nurses can support the patient by taking necessary steps to prevent malnutrition in emergency. Therefore, Nurses should be capable to clarify the patient about the importance of choosing healthy diet by the insight of nutritional fundamentals. In this respect, nurses are supposed to give education about healthy food habits to maintain good nutritional status among elderly. (Xu, Parker, Ferguson & Hickman, 2017.)

6.3 Individual Nutrition Care Plan for Elderly

McEvelly (2017) and Jefferies, Johnson, & Ravens (2011) studies emphasize that individualized nutritional care plan immediately should be created and implemented based on the patient needs to either rectify or prevent the start of malnutrition once malnutritional problems recognized in patients. McEvelly's study emphasizes personalized care plan needs to be put into practice based on MUST score or on the severity of malnutrition. Nutritional plan should be determined to meet treatment goal such as sustain or raise body weight, strengthen or increase entire consumption and to boost healing of the wounds and also meant to prevent forward drop in nutritional condition of patients. Routine supervision and assessment should be included in the care plan to know the advancement of the treatment goal. Person with MUST score of 2 or above need to start immediate treatment to prevent further decline of health conditions. Jefferies, Johnson, & Ravens study brings out review from the dietitian is very significant to create ideal care plan and its certification in the medical record to guarantee that the patient dietary requirements are accomplished. The nutritionist can cooperate with nursing staff to address the implementation of care

plan relevant to nursing care such as maintaining and recording of the patient intake and output chart. Also. It is significant the care plan should be talked with other members in the care team to ensure everyone participation in the care process and to get best result from the care.

High calorie and high protein diet

High calorie and protein diet are the food first approach to address nutritional problems in elderly. Most effective way to carry out this is through supplying small quantity of meal which contains higher energy to meet persons full nutritional needs. This diet usually advice patient with low body mass index and higher MUST score. Daily recommended intake of energy -rich diet must be included three meals and three snacks. This diet enriched with high in calories and protein to meet nutritional need of the elderly. Appropriate snacks should be added to the diet to meet nutritional need of the individual like whole yogurts, rice pudding, glass of milk, milkshake, and ice-cream. Personal food habit and capability to gulp the texture need to be recognize before offering the meal or snack to the elderly person. Similarly, fortified food is another option to promote protein and caloric uptake in elderly. In certain way, nurses can accomplish this task like adding up extra nutrients to normal diet such as porridge with cream, vegetable with cheese source and mashed potatoes with butter. Homemade fruit juice or milk shake are an additional choice to increase surplus calories and proteins into an individual diet. This drink is mainly mean for individuals either with poor appetite or no desire to meal especially people with eating disorder. In addition to this, primary evaluation is vital via physician to meet essential requirements of person in particular directing patient with various illness. Appropriate therapeutic regimen should be arranged for patients based on physician order to get maximum benefit from the treatment. For example, patient with diabetic disease low sugar and high fat diet is crucial like full fat milk products and low sugar puddings. (Blaikley, 2015).

Research conducted by Gabrovec, Veninšek, Samaniego, Carriazo, Antoniadou, & Jelenc (2018) reveals protein diet plays an important role in the prevention of frailty that can improve overall wellbeing by reducing risk of frailty in elderly individuals. High protein diet is useful to gain weight, improve total body muscle mass and can minimize weight loss issues. Moreover, use of high protein diet in older people enhanced total bone mineral density and it also considerably reduced fracture of hip bones. Recommended daily intake of protein in elderly individual 1.2-2.0g/kg/day especially people with malnourished. Higher protein intake combined with vitamin d and calcium supplementation can make greater changes in total volume of muscle tissue in elderly.

Oral Nutritional supplements

According to Duna (2008) and Johnson (2017) study shows Oral Nutritional supplements improve nutritional condition of the elderly especially when diet is not sufficient to tackle regular nutritional needs of the body. This supplements always be recommended to provide only with proper nutritional recommendations and adding nutrients to food. Duna study reveals the efficiency of this supplement is depending on in accordance with intake. Features that influence the elderly people to choose or adherence with this product mainly taste and temperature of the drink as well as recognizing the reasons for consumption. Likewise, it is very significant consider time for supplement with accurate recording for better adherence with these supplements. Provision of this supplement is not ideal just before or just after the meal because it can affect regular food intake of elderly. Johns studies highlight this supplement widely used in clinical settings cost efficient way to handle malnutrition. The practice of this supplement in care homes and community improved general wellbeing among the elderly by minimizing rate of falls, infections, pressure ulcer, post-operative complications, and enhanced rate of wound healing.

Enteral Nutrition

According to Dorner, Posthauer, Friedrich, & Robinson (2011) and Zhu, Cui, H., Chen, Jiang, Li, Dong, & Sun (2020) study shows Artificial nutrition feeding are beneficial for older adults who have had surgery, trauma, a stroke, burns and normal or partial gastrointestinal function. Enteral feeding can assist the patients to recover from this condition and help them to return normal quality of life. Energy and nutrient requirements, Nutrient formula, ideal path for enteral nutrition should be fitted for patient when nurses creating the care plan. Also, monitoring the condition of the patient during the treatment can help the nurses to realize the outcome of care or to modify the care plan based on patient needs and it can prevent potential complications associated with enteral feeding. Zhu, Cui, H., Chen, Jiang, Li, Dong, & Sun study reminds, health professionals need to be considered patient age and other disease conditions as well as electrolyte and acid base level in the blood need to be balanced before implementing this care. Dorner, Posthauer, Friedrich, & Robinson study emphasize, that nurse can provide careful attentions while taking a decision related to placement of enteral feeding for older adults. It is significant nurses should inform the patients before the placement of enteral tube that can ensure patient full involvement in the enteral nutritional therapy. Nurses should have higher competency in

such a case to take better decisions while administering, and monitoring EN nutrition for patients.

Parental nutrition.

Parental nutrition (PN) is useful and secure treatment method which is aimed at to provide sufficient nutrients to the body either central or peripheral vein. This treatment mainly recommended to supply appropriate nutrition when individuals nutrient need is not enough through enteral feeding. On other hand, this therapy is possible and efficient to provide adequate nutrition in elderly. As we know, oral and enteral nutrition are the first-line option for nutritional support in clinical settings. However, it is very significant to start this treatment directly in seriously ill or famine patients to prevent loss of body weight and related complications. The condition for starting this therapy when oral and enteral nutrition is impracticable for patient with severely undernourished or oral and EN nutrition is not sufficient to meet patients nutritional needs over weeks.(Volkert, , Beck, Cederholm, Cruz-Jentoft, Goisser, ,Hooper, & Sobotka, 2019.)

According to Wyer (2017), Nurses have significant role in the administration of parental nutrition. Checking vital signs or its variation gives clues to nurses, does patient have any kind of Catheter-related blood stream infection related with parental therapy. Regular monitoring of intake and output, blood sugar levels, weight, Nutritional score support other health professionals to assess Gastrointestinal function of patient and to coordinate parenteral nutritional care based on patient need. Also, nurses follow strict aseptic technique while inserting peripheral cannulas and connection and disconnection of central venous access devices to ensure safe parenteral therapy for patients. It is possibility to occur Central Venous Catheter and metabolic complications during therapy which can be prevented with proper assessment and monitoring by nurses.

7 DISCUSSION

Malnutrition among older adults is common, it is related with enhanced morbidity, poor quality of life, and impairment in activity and functional ability. Nurses working with older patients play a pivotal role in the prevention of malnutrition by recognizing patients that at risk of malnutrition. So, aim of the current thesis was to identify about the nurse's role in the prevention of malnutrition in elderly care settings. The review showed nurses can prevent malnutrition among elderly with proper nutritional assessment and by implementing appropriate nutritional care based on severity of malnutrition. However, study shows nurses still need more nutritional education and training to update their knowledge and for more competency in the way to assess and carryout appropriate nutritional care and prevent malnutrition among elderly people.

This section discusses the review findings in relation to previous studies. Prevention of malnutrition is essential to protect the elderly and to avoid excess burden of economy in a general sense (Russel 2019). According to WHO Eastern Mediterranean 2020 reveals, prevention means actions aimed at eradicating, eliminating, or minimizing the effects of disease and disability. In this context, nurses can carry out substantial responsibility in primary, secondary, and tertiary prevention of malnutrition. In primary prevention, nurses play the part of educators that provides information and counselling to communities that encourage positive health behaviors. As part of secondary prevention, Nurses conduct regular screening to diagnose disease, specify elderly with increased risk factors that can also encourage her to provide regular care to prevent in the onset of disease. Tertiary prevention means the treatment of existing disease in patients. Nurses at this point are responsible with helping individual execute a care plan and make any additional behavior modifications necessary to improve conditions. The research conducted by Banks (2019) reveals nurses use screening tools in clinical settings to diagnose the risk or the severity of malnutrition like Mini Nutrition Assessment form, Nutrition Risk Screening, Malnutrition Universal Screening Tools, Malnutrition Screen-ing Tool and Geriatric Nutrition Risk index.

Result of the study shows nurses play significant role in the prevention of malnutrition. The research conducted by Avelino-Silva, & Jaluul, 2017 emphasize nurses is usually the primary healthcare professional to conduct nutritional screening risk assessment within the first 24 hours of admission of hospital. And following that nurses are responsible to carry out regular screening during patient stay at hospital. Person with malnutritional problems should be assessed by nurses to recognize nutritional deficiency, nutritional needs and for to examine the causes to create appropriate nutritional care plan for patients.

There are various tools available in clinical setting to carry out nutritional screening and assessments. The Mini-Nutritional Assessment (MNA) is a simple, rapid, and reliable tool to identify nutritional deficiency or at risk of malnutrition among elderly in the community and in hospital. The Malnutrition Screening Tool (MST) is another choice to recognize recent weight loss and reduction in appetite. Similarly, Malnutrition Universal Screening Tool (MUST) is useful to evaluate body mass index (BMI), weight loss problems and illness to determine malnutrition. Another study conducted by Esquivel, 2018 reveals, comprehensive nutritional assessment can carry out by nurses like dietary assessment, physical examination, anthropometric measurements, laboratory assessments to evaluate patient nutritional difficulties and to curb progression of malnutrition.

Nurses also perform a vital role in the implementation of nutritional interventions combined with other multi-professionals to prevent malnutrition among elderly care settings. According to McEvilly (2017) and Jefferies, Johnson, & Ravens (2011) study emphasize individualized nutritional care plan immediately should be created and implemented by nurses based on the patient needs either to rectify or to prevent the start of malnutrition once mal-nutritional problems recognized in patients. McEvilly's study emphasizes personalized care plan needs to be put into practice based on MUST score or on the severity of malnutrition. So, nurses nutritional plan should be determined to meet treatment goal such as sustain or raise body weight, strengthen, or increase entire consumption and to boost healing of the wounds. In this regard, Individual nutritional care plan for elderly includes high calorie and high protein diets, oral nutritional supplements, parenteral and enteral nutrition's to meet personal nutritional needs. Research done by Blaikley (2015) highlights high calorie and protein diet can address nutritional problems in elderly. Daily recommended intake of energy -rich diet must be included three meals and three snacks. Nurses can carry out most effective way this is through supplying small quantity of meal which contains higher energy to meet persons full nutritional needs. The use of ONS can improve nutritional condition of the elderly. The practice of this supplement in care homes and community improved quality of life among elderly with minimizing rate of falls, infections, pressure ulcer, post-operative complications. Importantly, nurses should provide careful attention while offering nutrients for elderly and It is advisable not to offer this nutrient too near or just after a meal in order to get sufficient intake or to have good compliance with this supplement (Duna 2018 & John-son 2017).

Similarly, parental, and enteral therapy is also beneficial for elderly when oral nutrition is insufficient to meet daily nutritional requirements. Most importantly, it is a nurse's

responsibility to consider elderly energy and nutrient requirements, Nutrient formula, ideal path for enteral nutrition before implementing the enteral nutrition to prevent complications associated with this therapy (Dorner, Posthauer, Friedrich, & Robinson (2011) and Zhu, Cui, H., Chen, Jiang, Li, Dong, & Sun (2020). On the other hand, parenteral nutrition is recommended for severely malnourished patients when oral and enteral nutrition become insufficient to meet person nutritional demands. According to Wyer 2017, Regular monitoring of intake and output, blood sugar levels, weight and nutritional score can enable other health professionals to assess Gastrointestinal function of patient as well to coordinate par-enteral nutritional care based on patient need.

It is significant to provide nutritional education for nurses and elderly to eradicate malnutritional problems in elderly care settings. Nurses can encourage to develop healthier eating pattern by providing information related to nutrition and healthy food habits (Volkert, Beck, Cederholm, Cereda, Cruz-Jentoft, Goisser; Pourhassan,2019). Educating the registered nurses about the nutritional status of elderly act as preventive measures. Nursing professionals should be educated and trained to raise awareness in the nutritional care of the older people that can enhance the competency of nurses to assess nutrition status, nutritional intake, nutritional risk factors, issue of diet and related illness (Hopkinson 2015).Also, nutritional training supports the nurses to implement appropriate nursing care plan, that mainly includes practices such as mealtime routines, feeding assistance, dining environment and offering appropriate diet for patients (Whear, Abbott, Thompson-Coon, Bethel, Rogers, Hemsley, Stahl-Timmins & Stein 2014).

7.1 Ethical consideration

Throughout scientific writing engineering, it is said to be good when the authors follow the regulation guidelines provided by the school and involve in the use of appropriate methods such as the correct use of information, confidentiality, harm, and bias in accordance with research ethics (Ranjit Kumar 2014). In addition, authors are fully aware of the research and the result of the study includes its application if there are no adverse effects of research. Likewise, no harm was done to any participants of the research process either physically or mental included as confidentiality was kept in mind during all process and all the authors used where mentioned.

7.2 Trustworthiness

Trustworthiness explained as the believability of the researcher's findings such that all the researcher has done is designing, carrying out and reporting the research to make the results credible. However, we used inductive data analysis because authors desire to collect, analyses, investigate, understand, and then evaluate how nurse's roles in the prevention of malnutrition in elderly. However, authors tried to conclude the study as simple as possible to clearly understand the findings and all ethical considerations were considered throughout the data analysis process. There are two ways to analyses qualitative content analysis which are inductive and deductive. We have used Inductive way to analyses the collected data and it consisted of three main stages: Preparation, organization and reporting of findings. In first stage, author collected the relevant data to his research. In the organization stage, author organized the data to create categories and concepts. In the final stage, author reports the results by describing the content of the categories explaining the research questions themes. (Reid 2009).

The aim of the study was to find out nurse's role in the prevention of the malnutrition in elderly. Validity refers to the extent to which the results of research and testing are intended to be measured (Kimberlin & Winterstein 2008). However, according to Noble & Smith 2015, reliability refers to the position of the experiment performed, and the results remain the same regardless of the number of times repeated. Legitimacy and reliability are also important research elements and make the author responsible - and able to do his or her job.

Trustworthiness criteria are usually proposed to evaluate the credibility, dependability, comfortability, and transferability of a qualitative study. Credibility is described as it "deals with the focus of research" and "refers to the confidence in how well the data address the intended focus." (Elo, Kääriänen, kanste, Pölkki, Utrianen & Kangäs, 2014). Credibility is about how sure is the researcher about the truth of the study's findings. Authors have done all best to present data in the best way possible while keeping in mind the credibility. As dependability being the second component of trustworthiness is described as a study that is consistent and could be repeated by other researchers. However, if someone wants to do research on a similar topic, a person would be able to have enough information to replicate the study and to get the same results as in your study. (Elo, Kääriänen, kanste, Pölkki, 21 Utrianen & Kangäs, 2014). The authors find this study to be compatible and could be found in other studies with similar contexts.

The third component is comfortability described as the data of findings is represented as it is without any biased decisions or personal influences. (Elo, Kääriäinen, Kanste, Pölkki, Utrianen & Kangäs, 2014). The authors have presented the results truthfully without any personal interest or motivation. The final component is transferability, explained as “the extent to which findings can be transferred to or have applicability in other settings or groups.” (Polit & Beck, 2017). According to the authors, the findings of this study are transferable and can be applied to other studies with similar contexts. The authors have maintained the criteria of trustworthiness to the best of their knowledge in this study. Validity refers to the degree to which a research result measures what it is intended to measure (Kimberlin & Winterstein 2008). However, according to Noble & Smith 2015, reliability refers to the consistency of a test conducted, and its result remains the same irrespective of the number of times repeated. Our studies were carried out by reviewing the most recent and relevant articles to investigate nurse’s role in the prevention of malnutrition in the elderly. The authors have mentioned the criteria of trustworthiness to the best of their knowledge in this study.

7.3 Limitations and further studies

The study conducted by reassessing most appropriate articles to realize nurse’s role in the prevention of malnutrition in elderly care settings. The results of this study showed nurses has significant role to fight and eradicate malnutrition in the future with proper nutritional assessment and by implementing proper nutritional care based on nutritional risk score in elderly care. The study also recommends additional review on this topic since limited research undertaken on this theme. Further review should be focused regarding the effect of drugs addressing the malnutritional problems among elderly needs to be more realized. The author will recommend additional nutritional training of healthcare professionals for proper assessment of malnutrition and for recognition of older people’s nutritional needs. Also, strict policies come into force in elderly care settings to undertake routine nutritional assessment to eliminate malnutrition and related consequences among elderly.

8 CONCLUSIONS

In summary, the author's conducted this research is to recognize regarding the nurse's role in the prevention of malnutrition in elderly care settings. Study suggest that there are many ways nurses can take steps to prevent malnutrition in elderly. First up all, Nurses can recognize malnutrition or at risk among elderly by using validating nutritional screening tools and evaluating nutritional status of elderly. Mini nutritional assessment (MNA) and Malnutritional universal screening tools (MUST) are reliable and validated tools that nurses currently using to assess the severity malnutrition among elderly. Secondly, nurses can implement appropriate individualized nutritional intervention based on nutritional risk score or severity of malnutrition. However, nurses still need nutrition education and training improve their competency to assess nutritional status or to identify risk of malnutrition. Also, nutritional education and training to nursing staffs on the nutritional needs can encourage nurses to create appropriate nutritional intervention to manage and enhance healthy living of elderly.

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APPENDICES 1.

| Author and Journal | Name of the study | Aim of the study | Result of the study | |
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| 1. | Esquivel, Monica K, American journal of lifestyle medicine ,2018 | Nutritional assessment and intervention to prevent and treat malnutrition for fall risk reduction in elderly populations. | Importance of timely nutrition screening can be used to identify malnourished individuals and trigger nutrition intervention and services. ³ | Study reveals general importance of managing and treating malnutrition to prevent falls in elderly. |
| 2. | Amarya, S et al, Clinical Gerontology and Geriatrics ,2015 | Changes during aging and their association with malnutrition. | the purpose of this article is to provide information with an educational overview of essential nutritional aspect associated with changes in aging. | Study reveals importance of eating nutritious food may help to protect people against major age-related disorders. |
| 3. | Reid, K. F., & Fielding, R. A. Exercise and sport sciences reviews, 2012 | Skeletal muscle power: a critical determinant of physical functioning in older adults. | Study focused on examining lower extremity muscle power as a more discriminant variable for understanding the relationships between | The study shows that higher velocity lower intensity resistance training and can improve physical functioning in older adults to a greater extent |

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| | | | impairments, functional limitations, and resultant disability with aging. | than traditional slow velocity resistance training. |
| 4. | Volkert, D et al. Clinical Nutrition, 2019 | ESPEN guideline on clinical nutrition and hydration in geriatrics. | It gives evidence-based recommendations for clinical nutrition and hydration in older persons to prevent malnutrition in elderly | Result of the study recommend that all older persons routinely be screened to identify malnutrition and effective nutritional intervention supported by nurses to prevent malnutrition. |
| 5. | Philips, W et al. MEDSURG Nursing, 2014 | Feed the patient"- A Barrier Removed. | This study focuses feeding the patient is paramount to battling malnutrition in hospitalized patients. | Registered Nurses can implement nutritional care with the support of registered dietitian. |
| 6. | Xu, X et al. Contemporary Nursing Journal, 2017 | Where is the nurse in nutritional care? | This article provides awareness about the nurse's role in the nutritional care. | The study reveals nutritional education is significant among nurses to provide evidence based nutritional care to patients. |

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| 7. | McEvelly, A. British journal of Community Nursing, 2017 | Causes of malnutrition in older adults and what can be done to prevent it. | This article aims to give a brief overview of the potential contributing factors of malnutrition. | This article discusses how contributing factors of malnutrition can be addressed and what can be done to prevent or manage them. In addition to this, this article discusses how and when screening for malnutrition should take place in the community and the appropriate actions to take when malnutrition is identified. |
| 8. | Blaikley, C, British Journal of community Nursing, 2015 | Use of oral nutrition supplements in the diet of malnourished older people. | This article focuses reasons for malnutrition, how to assess malnutrition, and ways to provide a diet high in calories and protein. | Nurses play a vital role in preventing and helping to overcome a patient's risk of malnutrition. |
| 9. | | Malnutrition and the Older Adult: Care | This article discusses the prevalence of malnutrition, the role of | Multidisciplinary working is key to establishing evidence-based |

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| | Dunne A. <i>British Journal of Nursing</i> , 2008 | Planning and Management. | screening and practical steps towards improving nutritional management in older people. | nutritional screening tools and resources to effectively manage malnutrition through provision of an appropriate dietary interventions to minimize malnutrition in hospital |
| 10. | Zhu, M et al. <i>Aging Medicine</i> , 2020 | Guidelines for parenteral and enteral nutrition in geriatric patients in China. | The study gathered new evidence in the field of elderly nutritional support at home and abroad particularly in geriatric patients in China. | New standardized guidelines established for nutritional support in elderly |
| 11. | Wyer, N. <i>British Journal of Community Nursing</i> , 2020 | Parenteral nutrition: indications and safe management. | The aim of this article is to provide an overview of what parenteral nutrition It will describe the process of nutritional assessment, and considerations when choosing venous access. | This study discusses. Catheter-related and metabolic complications can occur during the delivery of PN; how these complications can be avoided or minimized. Finally, the pivotal role of the nurse in the |

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| | | | | assessment and ongoing care of patients who require PN will be highlighted, including skills required to administer PN safely. |
| 12. | Gottschall, C et al. Journal of Human Nutrition and Dietetics, 2019 | . Predictive and concurrent validity of the Malnutrition Universal Screening Tool using mid-upper arm circumference instead of body mass index. | The present study aimed to evaluate the performance of MUST with MUAC in place of BMI to identify nutritional risk and predict prolonged hospitalization and mortality in hospitalized patients. | The study shows the presence of nutritional risk detected by the MUST-MUAC increased the chance of prolonged hospital stay by 1.9-fold and mortality by 3.2-fold. |
| 13. | Jefferies, D., Johnson, M., & Ravens, J. <i>Journal of Clinical Nursing</i> , 2011 | Nurturing and nourishing: the nurses' role in nutritional care. | Researchers joined forces with health professionals to devise a policy explaining nurses' role in improving nutritional care of their patients. | Nurses can support oral nutrition of their patients with focused mealtime, management of mealtime environments, management of staff mealtimes and a designated nutrition support nurse in each clinical area to monitor and evaluate the |

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| | | | | implementation of the policy. |
| 14. | Gabrovec, B., Veninšek, G., Samaniego, L., Carriazo, A. M., Antoniadou, E., & Jelenc, M. European journal of internal medicine, 2018 | The role of nutrition in ageing: a narrative review from the perspective of the European joint action on frailty—advantage JA. | This study examines the role of nutrition in ageing in general, malnutrition and the risk of frailty, individual nutritional factors as the risk factors of frailty and lastly nutritional interventions that have a significant role in frailty. | Malnutrition increases the risk of frailty. The Mini nutrition assessment is a validated tool used for screening and assessment for malnutrition. Vitamin D and protein supplementation is beneficial Frail patients who are at an elevated risk of falls and fractures. |
| 15. | Johnson, N. British specialist nutrition association, 2017 | Elderly care homes: Hydration and nutrition | National screening survey provide a country wide picture on malnutrition prevalence | Research shows prevalence or risk of malnutrition higher in care homes. |

