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How to Promote Healthy Nutrition Among Elderly living in Residential Nursing Homes.

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THESIS ABSTRACT

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The purpose of this study was to explain how some basic nutritional interventions could be used to promote healthy nutrition among the elderly who are living in residential nursing homes. The goal of this research was to explore how healthy nutrition could be promoted among the elderly. The writers intended that this study would be beneficial to nurses and nursing homes managers, and that awareness on the importance of promoting healthy nutrition among the elderly would be created. This thesis was conducted by the Seinäjoki University of Applied Sciences (SeAMK).

The research method used to collect data and analysis was literature review and inductive analysis was also used in searching for materials. Articles were selected from credible databases (SeAMK FINNA, CINHALL, GOOGLE SEARCH) and guidelines from renowned organizations such as WHO and THL. Information was extracted using different keywords such as healthy nutrition, the elderly, nurses, nursing interventions. 13 articles were chosen, and five themes were analyzed which were, individualized meal, adequate food portion, the environment, nursing staff education and role of family during mealtime.

The findings suggested that the factors that promotes healthy nutrition were, Individual meal plan, resident's personal involvement, the environment, family participation and lastly, nursing staff training. Nurses can make use of the interventions globally. The writers suggest that more research is needed in the area of physical exercise and nutrition.

¹ Keywords: Elderly, Healthy Nutrition, Residential nursing home, nursing interventions.

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Terms and Abbreviations

WHO	World Health Organization
THL	The Finnish Institute of Health and Welfare
NHS	National health scheme
CCK	Cholecystokinin
OECD	Organization for Economic Co-operation and development
Ruokavirasto	Finnish Food Authority
Residents	A person who lives in a particular place or who has their home there
Anorexia of ageing	A reduction in appetite and food intake because of ageing
Sarcopenia	A condition characterized by loss of skeletal muscle mass and function

1 INTRODUCTION

The World Health Organization (WHO, 2018) predicts that the number of people aged 65 years and above will increase to about 1.5 billion in 2030. It adds that, developed nations are more likely to experience more of this trend and a lesser percentage in developing countries. The organization states that although the increase in average life expectancy of the elderly in the last decade is viewed as a great achievement to mankind, this comes with health challenges associated with aging such as mental and physical wellbeing. It is therefore very important to provide a healthy nutritious diet to the elderly in order to improve their overall well-being.

Furthermore, The Finnish Institute for health and welfare explains that Finland has one of the oldest populations in Europe and since the population of the elderly is growing rapidly, it will also require an equal increase in services (THL, 2018).

The Finnish food authority (Ruokavirasto) states that nutrition and food recommendation for the elderly people plays an important role in the promotion of health, functional ability and quality of life of the elderly. It further points out that a healthy nutrition thus affects the overall health of the elderly and increase their ability to recover speedily whenever they fall sick. More so, the authority suggests that diet for elderly should vary, be colorful, tasty and it should be rich in protein in order to maintain muscular strength. (Ruokavirasto, 2019.)

The goal of this research is to explore how healthy nutrition can be promoted among the elderly. This study will be beneficial to health care professionals, on how to improve the provision of healthy nutrition to all residents in Finland and globally. This thesis is done in co-operation with Onnela Ryhmäkoti Nurmo (a government owned elderly care home in Finland).

2 NUTRITION OF THE ELDERLY PEOPLE

In this section, there will be a collection and definition of concepts. With this knowledge, nurses will be able to make comparisons and gain some guidance on how elderly nutrition can be improved upon.

2.1 Ageing

Ageing is an inevitable and irreversible age-related process associated with a number of health modifications/changes which include a decline in physical ability resulting from loss of bone and muscle mass, weight loss, lower metabolic rate, decline in kidney function, decreased sexual activity, decrease in mental capacity as well as an increase in the risk of diseases (Ian, 2011). Ageing can be defined as a decline in functional capacity in organisms with time as a dependent variable. Ageing is a result of both biological and external factors (Malavolta & Mocchegiano, 2016). On a biological standpoint, it results from the accumulation of degraded molecules and cells over time leading to a reduction in functional capacities (WHO, 2015).

Other factors influencing ageing include retirement or death of loved ones. Diseases and conditions associated with ageing include diabetes, depression, dementia, hearing loss, pressure ulcers and osteoarthritis. However, ageing is an individual variable, that is it differs from person to person as no two people can have the same experiences due to differences in the body's mechanism of repairing and compensating its own internal damage. (Malavolta & Mocchegiano, 2016). Even though ageing is associated with frail health conditions, there are a few factors that can influence its quality such as genetics, nutrition, living environments, sex and communities (WHO, 2015). According to Kuh et al (2013), the proportion of the aged population is estimated to double from 26% to 50% between the years 2010 and 2050. This rise is because of improvements in life expectancy and lower fertility rates in younger adults. Ageing can be considered as a success of human endeavor through improved nutrition, education, public health, and lifestyle changes.

Gerontology is a human science that studies the psychological, social and biological dimensions of ageing (Håkan, Bulow & Kazemi, 2015). This stage of life is regarded as the final segment of life span which to an extent is affected by the quality of the earlier years in a person's life. Some landmarks of quality ageing include lower incidence of diseases, high

cognitive and physical functional capacity. Furthermore, nurses and health care professionals are therefore obliged to attain some level of education and training to efficiently manage these changes that comes with ageing. They can support the elderly by promoting positive perspectives that try to focus on their inner strengths rather than focus on the diseases and disfunctions associated with the process. (Ian, 2011.)

2.2 Healthy Nutrition and its Importance to the Elderly

Nutrition is the combination of a variety of components such as proteins, carbohydrates, fats and minerals necessary for survival, growth and development of the body's biological unit. (Malavolta & Mocheiano, 2016). Food contains chemicals called nutrients which the body needs for growth, maintenance and repair. There are basically six classes of nutrients which are carbohydrates, fats, proteins, minerals, vitamins and water some of which are produced by the body while some are supplemented from food. (Lutz, Mazur & Litch, 2014.) Every person has the right to good nutrition irrespective of the setbacks on health such as disease, functional capacity and mental health status. According to the Finnish food recommendation authority, Ruokavirasto (2020), the foundation of health and wellbeing is established on good nutrition as it helps in speeding up recovery from disease, sustains psychological and social wellbeing, strengthens the immune system and sustain the quality of life in old age creating a possibility of living for a longer time at home. The interest to eat as well as food choices change with age as a result of change in taste, lifestyle, mental health, mood and diseases which tends to affect the appetite and motivation to eat resulting to a reduction of the quantity of food, proteins, vitamins and mineral uptake, also time is an important factor as to when nutrient intake from a meal is maximized (Burton, Wilmot & Griffiths, 2018).

However, an adequate intake of daily nutrients is fundamental to good health that must be attained by the older people to stabilize their welfare and functional capacity. In residential care homes, the food distribution is most often done in a decentralized way. That is, the food is prepared somewhere else and brought to the unit for dispensing. The Finnish food recommendation authority recommends a caloric intake of about 1600kcal per serving as a basic diet energy level for a small person who is not very active. While the most suitable is the basic portion meal size which contains about 1800-1900kcal and a protein level of about 18%. The basic meal portion is made up of a vegetable side dish cooked or fresh,

carbohydrates such as potatoes or cereal and high protein food such as fish, poultry, red meat, egg or plant protein sources, bread, fat spread and butter milk. (Ruokavirasto, 2020.)

In the same vein, the Finnish Food Agency (Ruokavirasto, 2020), recommends a high intake of fiber by the older adults in the form of cereals and vegetables as high fiber diets promotes bowel function, prevents constipation and a protein intake of about 1,2-1,4g/kg. An adequate intake of protein will reduce the need for energy and prepares the body for a fast recovery in a situation of surgery, disease, or acute stress. Also, sugary drinks and foods are not recommended as they are detrimental to the dental health while cholesterol levels are checked through the consumption of unsaturated fats due to the health benefits, they possess such as glucose metabolism, prevention and treatment of diabetes type 2 and secondary prevention of coronary heart disease. It is emphasized that protein should be provided at every meal. Nutrition can also be supplemented with oral nutritional supplements, vitamins and other mineral products especially for clients who follow a vegan diet as they may not be getting enough protein from plant-based protein sources.

All nutrients have 3 main functions which are, they serve as a source of energy, support growth and maintain tissue and aid in the regulation of basic body processes. For example, nutrients such as proteins, fats and minerals aid in the maintenance of body tissue as well as growth. Vitamins also help in the regulation of some chemical processes such as the dispersion of fluids in the body. (Lutz et al, 2014.) The rate of biological ageing isn't solely attributed to the genes but with other lifestyle habits inclusive such as smoking, stress, exposure to sunlight that all tend to accelerate the ageing process. However, healthy lifestyle changes can alter the rate of health decline positively with nutrition being fundamental. A reduction in caloric intake is recommended as it favors muscle toning, improves immune function, and delays the overall onset of age-related chronic diseases and mortality while sustaining the quality of life. (Marsman et al, 2018.)

Another importance of a healthy diet to the elderly is that a quality diet supplemented by an adequate intake of fruits and vegetables nourishes the body with a variety of micronutrients and bioactive compounds which enhances physical, emotional health and a satisfying life. Also, promoting the consumption of vitamins and minerals through the uptake of dietary supplements has been shown by studies to be associated with a fall in the rate of mortality risk. There by reducing public health costs. (Marsman et al, 2018.)

2.3 Malnutrition and Dehydration

Food can make someone healthy or unhealthy depending on the quantity, quality, frequency, and emotional satisfaction derived from it. This tells how a particular food can maintain and improve health as well as delay, prevent and treat diseases. (Malavolta & Mochegiano, 2016.) Malnutrition refers to insufficient, excessive or an imbalanced nutrient uptake by the body due to a malfunction or a disease (WHO, 2020). An excess or deficiency of one or more nutrients can result in physical abnormalities and mental disfunctions. The concept can therefore be understood in two ways which are, undernutrition and over-nutrition. Good nutritional habits for the elderly are vital as it maintains their functional capacity, quality of life and fights against morbidity and mortality (Ruokavirasto, 2020).

Anorexia which is an eating disorder is very common among the elderly due to the presence of factors such as depression, swallowing problems, medications, oral problems, infections and diseases. For example, a person with dementia might not remember to eat leading to sarcopenia which is a condition characterized by the loss of muscle mass. In addition, Moley argues that the right diagnosis of malnutrition is a significant decrease in body weight of more than 5% in 6 months from a person that is not undergoing any therapeutic dieting. It is therefore important for health care professionals to constantly monitor for weight loss in the care of elderly persons and use nutritional screening tools such as questionnaires for those at risk of undernutrition. (Moley, 2018.)

Due to the challenges ageing comes with, elderly people have less water in their bodies, reduced thirst urge, reduced appetite levels which subsequently reduces the amount of fluid gotten through food leading to dehydration. Dehydration is when the body is not getting enough fluids which could be detrimental to health. Signs of dehydration include, dry mouth, reduced need to urinate, dark urine, headache, fatigue, increased body temperature. Factors accounting for dehydration include memory losses as the older person may not remember to drink, loneliness and the fear of incontinence. (Ruokavirasto, 2020.)

According to the National Nutritional Council (2020), it recommends that about 1-1,5 liters of fluid should be taken per day which is about 5-8 glasses and a bit more on hot weather days as there is more fluid loss through sweating. The fluids recommended include water, mineral waters, milk, butter milk, yoghurt drinks, milk shakes and 100% fruit juices while the

consumption of sugary drinks should be limited as it is detrimental to the dental health and alcohol should also be avoided as it affects some body processes such as metabolism.

3 FACTORS CONTRIBUTING TO REDUCED FOOD INTAKE IN THE ELDERLY

Ageing can be said to be a multi-dimensional process as elderly people experience changes in physiological, mental, social and sociological aspects of their life which in turn affects nutritional intake. As people grow older, the desire to eat declines consequently increasing the risk of malnutrition as they are unable to meet up with the nutrient needs. The reduction in appetite in elderly people can be referred to as anorexia of ageing. (Kaur et al, 2019.) The anorexia of ageing is an age-related weight loss that occurs when appetite and food intake are insufficient to maintain a normal body weight. There are several factors accounting for this condition such as age-related pathophysiological factors, psychological factors, genetic factors and lifestyle factors. Physiological factors accounting for a reduction in food intake are commonly related to factors such as sensory impairment, peripheral hormones, changes in gastrointestinal tract and oral health are a leading cause of anorexia of ageing. (Dent, Hoogengandijk & Wright, 2018.)

3.1 Physical Factors

There are so many hormones that affect nutrient intake in old age. For example, the cholecystikinin (CCK) hormone commonly known as the satiety hormone is responsible for causing satiety. It is responsible for short term food regulation. The main function of this hormone is the activation of neurons in the brain cell which causes a reduction in the frequency of meal as well as slowing gastrointestinal emptying. Also, this hormone further inhibits the production of ghrelin which is another hormone responsible for increasing appetite. Therefore, elderly people have a higher concentration of these hormones than the younger adults which is a primary reason why food intake reduces as they grow older. (Boer, Horst, & Lorist, 2013.)

Moreover, the ability to enjoy food relies on the olfactory, gustatory and visual senses (Boer et al, 2013.). Generally, elderly people have a significant deficit in identifying different odors as compared to adults which greatly contributes to little or no interest to eat (Makowska et al, 2011). Ageing is also associated with several disease conditions that greatly influence on the sense of smell such as, upper respiratory tract infections, Alzheimer's disease,

Parkinson disease and dementia. These impact food intake negatively as the positive influence of smell on seeing food which increases appetite is absent. The sense of taste works particularly hand in hand with the olfactory. As a result of altered neural activity in the brain, there is a decrease in the sensitivity of the mouths taste buds which renders food tasteless. (Boer et al, 2013.)

A decline in the sense of taste and smell affects the way elderly people perceive food, reduces the satisfaction derived from eating and results to a decline in the quality and quantity of nutrient intake. Moreover, ageing is accompanied by dry mouth, hyposalivation and reduced thickness of the mucus membrane which directly affects the sense of taste and consequently leads to a reduction in food intake. (Kaur et al, 2019.) The visual sense is also an important influence over nutrition as it is closely connected with smell and taste as it is involved in identifying, discriminating, and selecting food products. Ageing however is accompanied by a decline in vision which directly affects food intake (Boer et al, 2013.) Aside from age related physiological changes, food intake in elderly people is also affected by psychological and social changes such as depression, mood, and alcoholism.

3.2 Psychological Factors

Depression is a common mental disorder in the elderly accompanied by loss of appetite with weight loss being the most common symptom and characterized by a loss of interest in life which can greatly affect food intake (Boer et al, 2013.) Elderly people become more selective in their food choices as they age. This as a result of anxiety and the inability to eat certain foods due to sensory issues for example lumpy foods which can be avoided because of swallowing or chewing difficulties. It is therefore important to identify the risk factor in order to prevent anorexia of ageing afore hand. (Dent et al, 2018.)

Depressive moods which are clearly seen through negative feelings and moods are also a common characteristic of the elderly population that impact food intake adversely. According to some studies, the feeling of sadness causes a reduction in appetite levels while on the other hand, happiness tends to increase appetite. The reward system can be an important tool in combating mood related nutritional problems even though ageing causes changes in its structural and functional capacity. Dopamine can be referred to as the chemical messenger of this system. Dopamine is a neurotransmitter in the body responsible for how a person feels pleasure. Mood manipulators can therefore be used to initiate positive

feelings such as providing specific products that are highly desired by the elderly person which tends to leave them with a rewarding feeling. This experience can affect the mood positively and hence, increase the desire to eat more. (Boer et al, 2013.)

Depression can also be induced by the consumption of large amounts of alcohol which consequently has a direct impact on the amount of food intake. When depression sets in as a result of high alcohol consumption, food intake is affected because, alcohol limits brain areas like the hypothalamus involved in food regulation from functioning properly. Even though alcohol contains a lot of calories, it is not rich in nutrients, so it leaves the consumer full and interferes with the calories to be gotten from food ingestion therefore leading to weight loss. (Boer et al, 2013.) However, consumption of alcohol in moderate amounts can impact nutritional status positively by stimulating appetite and enhancing social interaction which can improve on food intake (Wham et al, 2010).

Several studies have been carried out which studies the relationship between elderly persons who live alone and those that live in family environments and their nutritional habits. Loneliness is a common phenomenon for people in old age as most families and children do not live with their parents due to school, work and other modern lifestyle activities. According to a research conducted by Ramic et al (2011), to find out the difference between food intake between elderly people living alone and those living in family settings, the results showed that people who lived alone had a significantly low BMI as compared to those who lived in family environments as they had lower appetites and consumed very less calories, fruits and vegetables.

Another common cause of loneliness experienced by a vast number of elderly people is widowhood. Widows and widowers are at a high nutritional risk as they face changes in their social relationships for example not adapted to taking care of own needs and relationships or having no one to cook for. Losing a loved one might have a tremendous impact on one's daily life routines with nutrition inclusive as this induces negative feelings which directly have an impact on food intake. A couple that lives together have the possibility of preparing meals together and in large quantities, eating together which motivates and improves food uptake. (Wham et al, 2010.)

3.3 Social Factors

Poverty is another common problem faced by the elderly. It can lead to increase stress levels and depression which then causes a fall in the quantity of food intake. Poverty can result to the inability to purchase a variety of food products which implies lower variety of meals and reduced food intake (Boer et al, 2013).

The admission of an elderly person into a residential care home be it according to or against their wish is a major event in their live as it comes with life modifications on their habits, food choices, physical and social environments (Divert et al, 2015). This transition from an independent or family-oriented environment into a nursing home is a great change to the elderly person that adaptation comes with time. This change can alter eating habits and patterns as environmental change is accompanied by time schedules, planned meals with little or no personal preferences. (Boer et al, 2013.) However, by making some improvements on the food environment and ensuring food quality, food intake can be influenced positively.

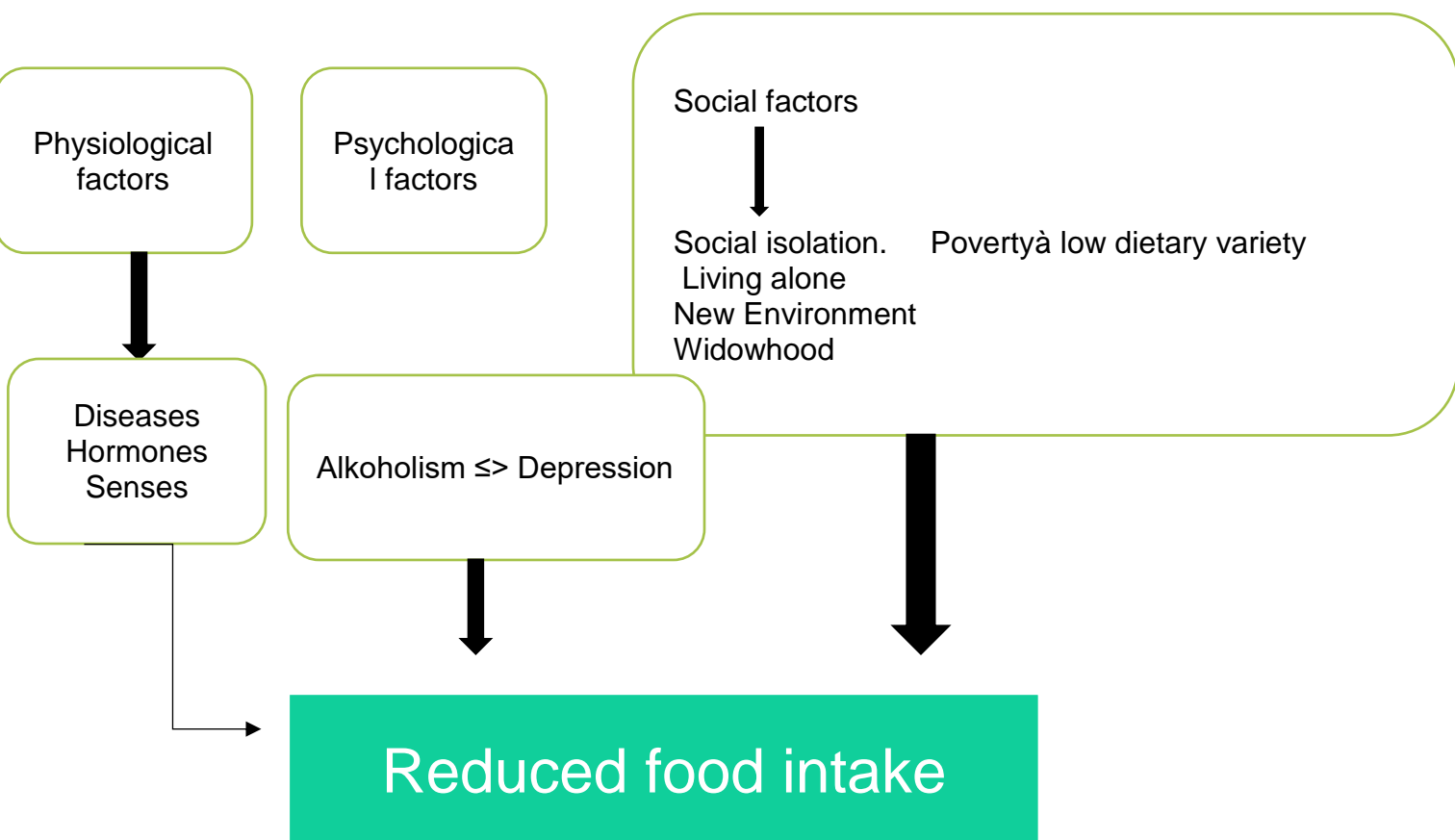


Figure 1. Interactions between social and psychological factors influencing food intake in older persons (Boer, Horst, & Lorist, 2013)

4 INSTITUTIONAL CARE IN FINLAND

The municipalities in Finland organize many services for the elderly to make their lives easier and to enable them to live in their own homes for as long as possible. If you have a municipality of residence in Finland, then you are you are entitled to receive the services that your municipality offers. (Info Finland, 2021.)

According to the OECD Health policy study 2013:

” Finland is one of the few OECD countries to have a national quality framework for care of older people. The framework specifies key dimensions of quality of care such as prevention and early intervention, comprehensive assessment, and workforce, and standards to be met. Guidelines for elderly care published by the Ministry of Health and Social Affairs help municipalities monitor attainment of a set of targets for elderly care and reduce variation in quality across municipalities. There is also a National Curriculum for long-term care workers with a vocational education programme lasting three years. This length is similar to the training for care workers in Japan and is one of the longest in the OECD”. (OECD, 2013.)

Additionally, Suomi.fi (2021), (a web information service In Finland) states that Finland’s aim is to help all older people to go on living at home for as long as they can. The Care at a nursing institution is only considered when other ways are no longer enough to meet the older person’s needs of care and attention. Institutional care for older people is either short-term rehabilitation care or long-term care. Short-term institutional care aims to help the older person to cope at home and/or to support a family member who cares for the older person. The purpose of short-term institutional care is to prevent the need for permanent institutional care.

Long-term care at an institution is intended for those older people who need a lot of care and whose care cannot be organized safely in any other way. The decision is made on medical grounds. Older people in long-term care usually have several illnesses, and they need nursing and help from more than one carer at a time in their daily lives. In institutional care, all older persons have a primary carer, who also keeps in touch with their families. (Suomi.fi, 2021). Furthermore, municipalities are given more detailed defined obligations to plan their activities so that they meet the needs of the aging population efficiently.

4.1 Residential Homes

According to the National institute on aging, a nursing home, also called skilled nursing facilities, provide a wide range of health and personal care services. Their services focus on medical care more than assisted living facilities. Furthermore, these services typically include nursing care, 24-hour supervision, daily meals, and assistance with everyday activities. Rehabilitation services, such as physical, occupational, and speech therapy, are also available. The organization explains that Some people stay at a nursing home for a short time after being in the hospital. After they recover, they go home. However, most nursing home residents live there permanently because they have ongoing physical or mental conditions that require constant care and supervision. Besides, some facilities have only housing and housekeeping, but many also provide personal care and medical services. Many facilities offer special programs for people with age-related diseases such as Alzheimer disease and dementia. (National Institute on Aging, 2017.)

Likewise, The National Health scheme (NHS, 2019), explains that Care homes can reduce the stress of looking after your health and care. It lists some of the reasons why the elder may need the services of a nursing home and those reasons includes: Someone who is struggling to live alone, someone who has a need assessment, and a care home is suggested to be the best choice, or someone who has a complex medical condition that needs specialist attention during the day and night. More so, nursing homes can offer personal care but there would be one or more qualified nurses on duty to provide the required nursing care.

4.2 The Role of Nurses in Nursing Homes

Finnish nurses association (2013), points out that, the aging of the population and increasing number of long-term illnesses and people with multiple illnesses is a growing challenge. Therefore, different types of skills and services are required for care and rehabilitation as well as prevention. Nurses are increasingly responsible for monitoring the condition of patients with long-term illnesses and bear the primary responsibility for contacting next of kinds.

Apart, from their supervisory role, nurses have specific tasks to do. They are also responsible for the total care of the residents by initiating treatment plans and administering medicine. Also, they prepare IVs, draw blood, give injections, and measure vital signs.

Furthermore, nurses' responsibilities goes even further as they are required to monitor the health of their residents and to make sure that the residents are getting the proper care. Additionally, nurses are responsible for interacting with the resident's family by reporting any changes in the resident's health or living situation. (Assistedliving.org, 2021).

4.3 Nursing interventions

Nursing intervention are those activities that are carried out by nurses, in order to treat their patients. Furthermore, nursing interventions consists of four distinct parts, namely: assessment, planning, implementation and finally evaluation. Additionally, during the planning process nurses must chose an intervention that has the ability of improving the nutritional state of the elderly. More so, nurses are expected to improve patients feeding ability by making sure that the concerned patient is involved in the feeding process. (Potter & Perry, 2011.)

Nutritional counselling can be defined as ‘a supportive process to set priorities, establish goals, and create individualized action plans that acknowledge and foster responsibility for self-care. Diet instructions and nutritional support are adapted to individual preferences and circumstances (individual, tailored intervention), to create meaningfulness that motivates a change from unfavorable eating and meal habits to healthy nutritional behavior. Therefore, applying this approach to intervention related to disease-related malnutrition in the elderly seems advisable. The intended goal is to bring about a change in the elderly person’s nutritional intake of energy, protein, and micronutrients. Besides, teaching about nutrition to the elderly is an essential intervention in the care of the elderly people’s nutrition. (Pedersen, Pedersen & Damsguaards al, 2016.)

Documentation in nursing is the process of storing a record of information. In all specialty of nursing. It involves accurate, detailed documentation that shows evidence of the extent and quality of the patient care which was provided by the nurses, the outcome of that care, and treatment and education that the patient received, understood, and still needs. Documentation is a vital communication tool among health care team members. Commonly, decisions, actions, and revisions related to the patient’s plan of care are based on documentation from multidisciplinary team members. (Stout, 2019).

5 RESEARCH PURPOSE AND QUESTION

The purpose of this thesis is to explain how some basic nursing interventions can be used to improve healthy nutrition among the elderly. The aim of this research is to assess nurses experiences in promoting healthy nutrition for the elderly living in residential nursing home.

RESEARCH QUESTION.

What are the nutritional interventions in promoting healthy nutrition for the elderly?

6 DATA COLLECTION PROCESS.

Literature review will be used for this study. The search for literature was done by conducting a search on databases and search engine. Search engine was mainly to acquire information and to broaden the knowledge of the writers on the research topic from organizations who are in charge of providing nutritional guidelines. While the search using databases was done in order to obtain evidenced-based articles that are relevant to the research question.

6.1 Literature Review

A literature review can be defined as a comprehensive study and interpretation of literature that relates to a particular topic, which includes the identification of a research question and the analysis of different literature that are relevant to the research. Furthermore, a literature review can be described as vital tool in the analysis of a research, and it is crucial in research because it usually summaries the available literature on the chosen topic (Aveyard, 2014). Also, a literature review was defined as a critical appraisal of the current collective knowledge on a subject, that must be informative, it could be personal but unbiased, it should be a well-balanced view that consists of the researchers' findings and should equally provide a clear result (Winchester & Salji 2016).

More so, in scientific fields, literature reviews are in high demands, this is as a result of the increasing production of various scientific journals. However, summaries from the gathered articles need to be compiled and analyzed in a professional manner. Usually, the researcher can get ideas from the articles, which provide answers to the research question(s). (Pautasso, 2013.)

According Salminen (2011), a descriptive literature review is the most common type of literature review, and it can be characterized as an overview without strict and exact rules. The searched literature is wide, and the selection of the literature is not limited. The topic that is being researched can be described comprehensively.

6.2 Data Search and Selection

The data collection process includes: the search, the selection and the analysis. The researchers searched for relevant publications using primary databases such as EBSCO(CINAHL), SeAMK FINNA, PubMed and GOOGLE SCHOLAR. The search started on the 2nd of January 2021. Different key words were used for the search such as: nutrition, elderly, ageing, healthy and combinations such as healthy nutrition, nutrition for the ageing, and nursing intervention. These search terms were arrived at from the research question.

The researchers limited the search only to articles that were published between 2011 and 2021 were used and only articles that were published in English language were selected. About 939 articles were found from the databases and the researchers narrowed it down to 42. Finally, 12 articles were suitable for this topic, therefore, articles were selected after reading the abstracts.

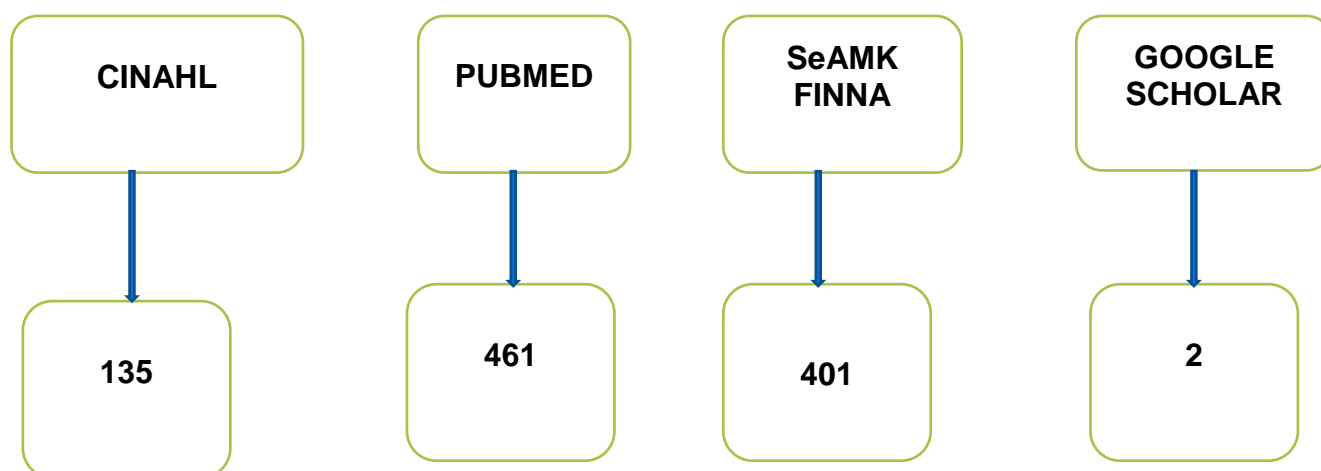


Figure 2. Search from Databases.

6.3 Inclusion and Exclusion Criteria.

Inclusion and exclusion criteria are made up of clear and concise recording of why the criteria are selected in the search process. Furthermore, the writers point out that the inclusion criteria may include, for example: the date of publication or the language of

publication. (Gerrish & Lathlean, 2015.) However, in this research, the writers made use of articles that were published between 2011 and 2021, because it is mandatory to use recent publications and articles that are published in academic journals in such a research. Also, some key words were used in the search for literature and at the end, only articles that are relevant to the topic were selected. The writer also made sure that only articles that are available in full text online were selected.

Criteria use to narrow down publication search results.

INCLUSION CRITERIA.

- o Scientific articles.
- o Articles published between 2011 and 2021.
- o Articles published in English.
- o Available in full text.
- o Abstract is available.
- o Published in academic journals.

EXCLUSION CRITERIA.

- o Non-scientific articles.
- o Published before 2011.
- o Published in other languages.
- o Not fully available (needs registration with money).
- o Abstract not available.
- o Not published in academic journal.

6.4 Inductive Content Analysis

Inductive content analysis process comprises of three stages, namely: the preparation, organization and finally, the reporting of result. Meanwhile, the preparation stage is made up of gathering of articles, picking the most suitable information contained in the articles for analysis and also processing the articles. Furthermore, the process of organization consists of clear coding, development of contents and extraction. (Elo et al, 2014.)

6.5 Ethicality and Validity

The systematic follow up of ethical guidelines is of crucial importance when conducting or writing a research especially when conducting one that concerns human subjects. As nurses, we are expected to work in a compassionate, respectful and unique manner. While conducting an academic research involving human subjects, it is important to remember that the results will be applicable and so the authenticity of information is vital. (Manton et al, 2014.)

Ethics can be defined as a principle that tells us how we should behave, that is it clarifies the nature of right and wrong, good or bad. Although a major draw-back to ethicality is plagiarism. There are several definitions of plagiarism. Stanford university defines it as “the use without giving reasonable credit to or acknowledging the author or source of another person’s original work, whether such work is made up of codes, formulas, ideas, language, research, strategies or other forms”. (Waseem, Rifat & Colin, 2018.)

Additionally, plagiarism is a serious offence that can attract punishments such as expulsion depending on the laws governing individual institutions. With this in mind, during the research, literature gathering, analysis and interpretation has been done following strict ethical and scientific guidelines as well as SeAMK’s guidelines. Moreover, the data search has been limited to scientific articles and publications by original authors. Meanwhile both researchers of this study have understood the meaning of plagiarism properly and have concluded to avoid its usage in all forms throughout the course of carrying out this research.

Validity in a research refers to the accuracy and truthfulness of scientific findings (Maruyama & Ryan, 2014). The writers intend to use all information gathered during this study accurately

and with all honesty, besides we will make sure that we send our write-up to our supervisors through e-mail from time to time, for assessment and possible corrections.

7 FINDINGS OF THE STUDY

During the data analysis, five (5) major intervention roles have been arrived at, which provides answers to our research question, in providing a healthy nutrition for the elderly living in a residential nursing home. These main interventions are individualized meals, effect of environment on food uptake, nursing staff education on resident's nutrition and the role of family during mealtimes.

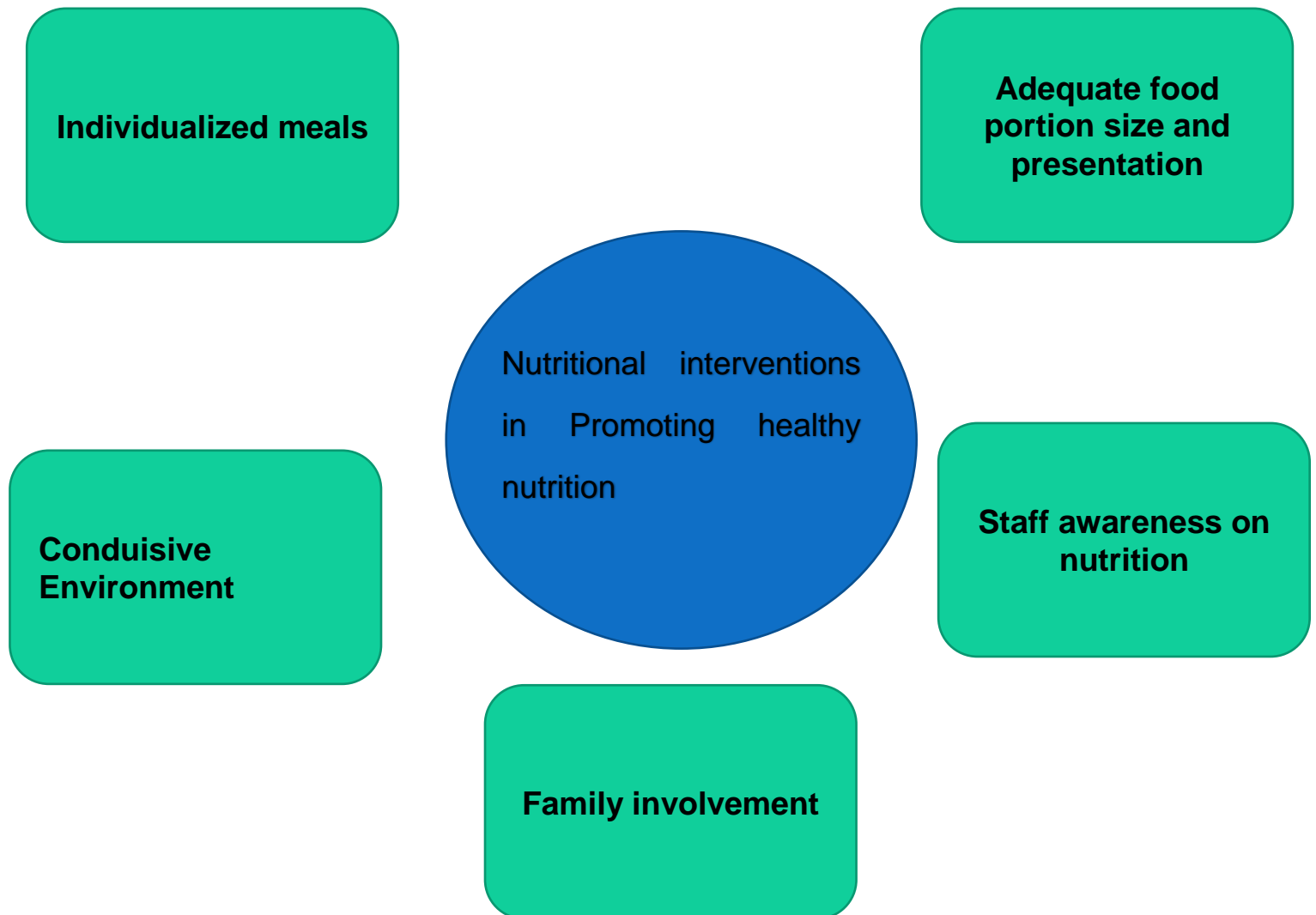


Figure 3 Major Interventions of the Findings.

7.1 Individualized Meals

Pezzana et al (2015), in a research emphasized the importance of planning an individualized nutritional care plan. The authors stated that in planning the meal for elderly, the client's state of health must be put into consideration, such as insulin dependence for diabetes, client with one form of allergies or another, like lactose intolerance.

Additionally, client's physical condition must also be considered when planning a nutritional care plan, this is because some client may have swallowing problems due to a health condition. Also, elderly clients who have chewing problems which is a common occurrence, health care professionals should consider this and make appropriate adjustments in the preparation of meals (Pezzana et al 2015).

Therefore, clients' involvement in making food preferences should also be considered before making the meal plans. According to the researchers, making food choice can help increase client's food intake. Furthermore, relatives of the elderly clients should also be consulted and they should have an input when drawing up the meal plans. (Pezzana et al 2015).

7.2 Adequate Food Portion size and Presentation

Bogacka et al (2019) in their research titled: "Diet and nutritional status of elderly persons depending on their place of residence" suggests that the major problems in elderly nutrition are insufficient consumption of high energy protein and deficiencies in vitamins and minerals. They examined two group of the elderly, both groups were made up of underweight and obese people. It was shown that the place of residence of examined people affected their diets and nutritional status. In both cases, elderly people living in nursing homes are at risk of being underweight or overweight which occur as a result improper or unbalance nutrition.

The physical presentation of food and snacks during mealtimes have an impact on nutrient intake. That is, the choice and designs of plates sizes, spoons, cups and glasses. The use of larger cutleries with a significant increase in the portion size can increase food intake in elderly. Moreover, the addition of food coloring as well as spices makes food appealing to the eyes and increases the food aroma which tends to increase the willingness to eat in the elderly people. (Stroebel-Benchop et al, 2016.)

Similarly, Pilgrim et al stated that Poor appetite appears to be a problem in older people living in nursing homes, which can lead to weight loss and nutritional deficiencies, and associated poor healthcare outcomes, including increased mortality. They added that understanding the root cause of the problem, will help nurses and other healthcare professionals to know how to identify elderly with such problem and how to offer a solution. Furthermore, a decline in appetite may signify an acute illness. The writers argue that necessary intervention can be applied on time, if the problem of under eating arises in an elderly person which can lead to malnutrition. (Pilgrim et al 2015).

According to Volpe et al (2016) suggests that, dietary interventions is one of the ways of preventing obesity among the elderly. Pfrimer et al also concluded in their study that one of the problems of nutrition with elderly, is assessing dietary patterns, adequacy of portion sizes (small, medium, and large). The study showed that controlling portion sizes is very important (Pfrimer et al,2013). Sjögren et al (2018), also stated that it is beneficial to involve older people in their own care. However, it is important for the nurses to get a deeper understanding of what matters to patients and to nurses who are in position for the delivering nutritional care in an often-difficult environment.

7.3 Conducive Environment

There has been a wide report of decline in food intake among the elderly and also a lack of motivation to eat. The authors defined the eating environment as," the social interactions among the residents in a nursing home the distractions that may be taking place, its presentation, the portion size, how it is served" (Bucknix et al 2017). Furthermore, elderly people tend to consume more food when eating with other people such as friends and family. Through the organization of lunch and dinner groups, inviting friends and neighbors, this creates room for social interaction leading to an increase in the time spent in eating and consequently to the quantity of food consumed (Stroebe-Benchop, Depa & Castro, 2016).

Similarly, social interaction in elderly during mealtime can lead to an increase in the quantity of food consumed through social modeling. That is, people are very likely to copy and imitate the eating behaviors of the people they eat with thereby adapting to their consumption

habits, chewing speeds, food choices and quantity of food intake which can positively affect meal consumption. (Stroebe-Benchop et al, 2016.)

Moreover, basic modifications of the nursing home's restaurant facility like decorations as well as colors that give it a homely, warm and welcoming environment can have a positive impact on food intake. The presence of certain distractions such as television and music has been seen to have a positive impact on food intake positively. Generally, music is said to have some stress reducing properties as background music during food time influences food enjoyment and satisfaction. However, attention should be paid on the type and loudness of the music as too loud music can interrupt conversations during mealtime thereby decreasing the amount of food intake. Additionally, residents can be given the opportunity to make personal music preferences on music choices which will lead to a pleasant experience. Consequently, this will lead to more time spend on dining table and an increase in food intake. (Stroebe-Benchop et al, 2016.)

7.4 Staff Awareness on Nutrition

Dementia accounts for a greater cause malnutrition and dehydration in elderly people living in residential nursing homes. As a result, they are easily exposed to weight loss, falls, confusions, pressure ulcers, impaired wound healing and urinary tract infections (Lea et al, 2017). Feeding and assisting residents at the residential care home is a key aspect of care vital in fighting against malnutrition and ill health as well as functional decline. The techniques of food provision and feeding assistance are very important which calls for the need of nutritional knowledge. The staff has a major role to play in maintaining resident's nutritional and fluid requirements in achieving quality ageing. A lack of nutritional knowledge hinders the staff from recognizing the challenges faced by old people especially those affected by dementia and when to seek help from nutritional experts. The inadequacy of knowledge with regards to nutrition will affect the provision of specific micro and macro nutrients essential for a healthy life. (Beattie et al, 2013.)

However, staff awareness on nutrition such as identifying hunger and thirst, acquiring knowledge on the nutritional needs, mealtime practices and attitudes as well as knowledge and understanding about different methods of feeding and managing nutritional

complications such as constipation can impact food intake positively in elderly people. These will result in improvements on the general quality of life. Staff nutritional education can be organized through short courses on swallowing difficulties in elderly and nutrition education at cooking schools or as part of undergraduate healthcare studies involving topics concerning the preparation of meals suitable for people with dysphagia and assistive techniques to help in the intake of food and fluids. (Lea et al 2017.)

Staff can also be educated on nutrition and hydration issues such as weight loss and malnutrition. Staff can be made aware of the fact that, even though weight loss is a part of ageing, it could also mean that the residents are not getting enough micronutrients, calories, vitamins and fluids which tends to affect their weight. Therefore, observation and documentation of eating patterns especially for residents with communication difficulties is very important. (Lea et al, 2017.)

Beattie et al (2013), also suggests that staff can be trained through nutritional assessment activities such as weekly weight measurements, assessing the percentage of meal consumed and the ability to chew and swallow.

7.5 Family Involvement

According to Wu et al (2020), the person providing the eating support to the elderly person has the prospective of influencing the amount of food intake. Residents at the long-term care facilities are at risk of malnutrition due to staff burn out, job dissatisfaction and time factor, which in turn can lead to a decline in cognitive function, increase hospital re-admissions as well as morbidity and mortality rates. These challenges therefore call for the need of seeking eating support so as to improve on the amount of food intake during mealtimes as mealtimes are very task and time focused which tend to exert a lot of pressure on the staff.

The involvement of family in the care of their loved ones during mealtime can be seen in two dimensions. That is, a means by which they stay connected with their family while on the other hand they influence the amount of food intake. (Wu et al, 2020.). The mere presence of a family in the facility has a dramatic impact on the environment and atmosphere as evident by the smile on the residence face at the sight of their relative. (Petersen et al, 2014)

Also, when the resident is being fed by a relative, there is more time dedicated in the process, thereby, making room for a calm atmosphere and giving the family an opportunity to spend more time with them. Also, there is a chance for the family members to be a part of the care process which leaves them with a feeling of satisfaction and gives the family a chance to monitor the care quality. (Durkin et al, 2014)

8 DISCUSSION

The number of people above 65 years of age in the world is stipulated to be at a drastically increasing rate. Though this is considered an achievement in an economy, in relation to quality health services, there are a lot of health challenges associated with ageing. Based on the findings from the final articles, malnutrition is a major phenomenon plaguing the quality of life of elderly people living in residential homes resulting from both internal and external factors such as diseases, physiological changes, environmental and social factors. It is an age-related problem that is difficult to evade but early diagnosis and good nursing interventions as well as personal initiative or will power on the part of the elderly people can help to manage it. Malnutrition can be diagnosed by assessing the body mass index (BMI), quantity of food intake, body weight, MNA. These results are beneficial in identifying people at risk of malnutrition, people suffering from malnutrition and people that are healthy.

Nurses have a vital role to play in preventing and managing malnutrition in elderly through different nursing interventions which include. Staff training and awareness education programs on the importance of nutrition and essential nutrients needed by the body. Elderly people are affected by several disease conditions such as dementia which tend to affect their willingness to eat as some may not remember anymore leading to adverse weight changes, falls, confusions and longer wound healing times. There is therefore the need for continuous staff training on the importance of food nutrients to the body and on health and on different ways of delivering food and improving on food intake. These could be arranged periodically through short courses on food and nutrition.

Individual nutritional care plan is another strategy that can improve on food intake that is, taking residents preferences of food choices and health conditions can greatly influence food intake as they feel involved in decisions concerning their care plan. Providing an ideal food portion with an adequate proportion of carbohydrates, proteins, vitamins, and minerals as well as bearing in mind the ideal quantity that is, large, small and medium according to individual preferences also acts as a contributing factor to food intake.

The physical environment also has a major role to play as some studies have shown that, some elderly people tend to eat more in calm and quiet environments than when accompanied with noise as it might be interrupting conversations during the mealtime (Divert et al, 2015). However, personal preferences can be taken into consideration on what kind

of environment they would prefer as everyone has different choices. Eating with others in an appealing beautiful environment can also improve on overall food intake.

These interventions according to earlier studies conducted, have helped to minimize the risk of malnutrition while ensuring a healthy life as well as quality ageing in elderly people living in residential homes.

9 CONCLUSION, RECOMMENDATION AND LIMITATION

It is a known fact that the population of the elderly globally is increasing, and this has been a major concern in the healthcare sector. Since, the aging process comes with various changes which can affect the nutritional intake of the elderly. It is, therefore, important for health care worker especially nurses working in nursing residential homes and also the managers to provide a sustainable solution to the problem of malnutrition, that is affecting the elderly negatively everywhere. This study has shown the importance of promoting healthy nutrition in elderly, as this helps not only in the prevention old-age related diseases but also the overall maintenance of good health in old age. Additionally, this study has shown various interventions that can be used by nurses working with the elderly and these interventions will help in a great way to provide good nutritional care for the elderly who are living in nursing residential homes globally.

The writers would like to recommend; firstly, that an individual periodic nutritional assessment of the elderly be made by nursing homes. This would help to provide the exact nutritional need of individuals and also be able to notice any changes as per the nutritional requirement of the elderly and make the necessary amendment. Secondly, the writers, would have like to recommend that a future research on physical exercise and its impact on nutrition in the elderly be carried out.

The most prominent limitation, encountered by the writers, in the course of writing this thesis was the process of searching for articles. It was almost impossible to find articles that deals directly with nursing interventions of elderly nutrition, there were literature on nursing interventions in other areas.

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