**ARCADA**

# THE EFFECT OF LONELINESS ON MALNUTRITION IN ELDERLY PATIENTS

Mohammad Rezaei

| DEGREE THESIS | |
|---|---|
| Arcada Department of Health and Social Work | |
| Degree Programme: | Nursing 2019 |
| Identification number: | |
| Author: | Mohammad Rezaei |
| Title: | The effect of loneliness on malnutrition in elderly patients |
| Supervisor (Arcada): | Pamela Gray |
| Commissioned by: | |

**ABSTRACT:**

The primary objective of the current thesis was to examine the effect of loneliness on malnutrition in elderly patients. Data was collected from secondary sources. King's theory of goal attainment guided the study. The study was guided by two research questions as follows Q1. How does loneliness affect malnutrition in elderly patients?

Q2. What is the role of nurses in caring for elderly patients suffering from loneliness and malnutrition?

The study established that that loneliness is a complex phenomenon which can impair the quality of life among elderly patients. The literature review established that loneliness is significantly associated with malnutrition among older people. Notably, the thesis established that loneliness affects malnutrition by limiting functional capacity, by affecting appetite, and by affecting nutritional intake. The study also established that nurses can help care for elderly patients suffering from loneliness and malnutrition. Loneliness may be alleviated either using group interventions or individual interventions. The study established that nurses should use a multidisciplinary approach in caring for malnourished elderly patients. As dictated by the King's theory of goal attainment, nurses should seek to collaborate with their patients and patients' family in offering disease treatment options. The development of a treatment plan and the subsequent delivery of care should be a shared responsibility between the nurse, his or her patients, and the patients' family as dictated by the King's theory of goal attainment. They should also identify and monitor elderly patients who are at the risk of malnutrition. Specific nurse interventions that can be used to address the problem of malnutrition include nurse-nutritional counseling, additional feeding program, and use of nutritional supplements and appetite stimulants. Nurses should for instance use drugs such as ghrelin, oral nutritional supplements and individualized diet to treat those at high risk of malnutrition. The use of ONS was also seen to improve energy and protein intake among elderly patients. Nurses should also design a volunteer feeding assistance to help malnourished elderly patients. The researcher understands that there are other factors responsible for malnutrition among the elderly and thus suggests other researchers examine them.

| Keywords: | Loneliness, Malnutrition, Nutrition, Elderly Patients/Seniors/Older Adults, Kings Theory of Goal Attainment, Supplements, Nursing Interventions |
|---|---|
| Number of pages: | 45 |
| Language: | English |
| Date of acceptance: | |

**Table of Contents**

# Figures

# Tables

# 1 INTRODUCTION

Malnutrition is a serious and prevalent condition among older adults. It mainly occurs when one eats a diet in which one or more nutrients are too much or not enough such that the diet causes health problems (WHO, 2016). Nutrients may involve minerals, vitamins, protein, calories or carbohydrates. Eating not enough nutrients tend to cause undernourishment while eating too much of a particular nutrient results in what is called over-nutrition. Malnutrition is however used in most cases to refer to undernutrition whereby an individual does not get enough nutrients (Jyvakorpi, 2016). Broadly, malnutrition tends to cover two group of conditions. One of them is obesity, overweight, and diet-related non-communicable diseases-which include cancer, diabetics, stroke, and heart disease (WHO, 2016). The other condition is termed as undernutrition and includes wasting-low weight for body weight, stunting-low height for age, and micronutrient insufficiencies wherein one lacks important minerals and vitamins.

According to (WHO, 2016) malnutrition affects people in every corner of the world. The condition does not selectively affect people but is prevalent in poor countries where most people do not have access to enough nutrients. The international body demands that people consume nutritious foods like fruits and vegetables; legumes; meat and milk; and drinks high in vitamins and minerals. To address the problem, the UN adopted a resolution which proclaims the agency's decade of action of nutrition. The resolution is aimed at catalyzing policy commitments that led to measurable action that address all forms of malnutrition. The main objective of the UN resolution is to ensure that all people, regardless of their status, have access to healthier and sustainable diets (WHO, 2016).

Malnutrition is however not entirely caused by poor nutritional intake. It is sometimes the result of numerous factors including environmental factors, living conditions, socioeconomic status, as well as mental and physical health (Boulos et al., 2017). With increasing age, loneliness and social isolation have become increasingly important issues that affect food intake and nutritional status. Loneliness has in the past been found to be associated with reduced dietary intake. Furthermore, longitudinal studies show that reduced income and social isolation are significant contributors to

increased nutritional risk among older Americans (Boulos et al., 2017). A study by (Eskelinen et al., 2016) established that frequent feelings of loneliness tend to increase the risk of malnutrition among older people. In light of these findings, loneliness has become a key risk factor of malnutrition in older people according to the consensus of nutrition screening initiative. The current dissertation sought to deeply analyze the complex relationship between loneliness and malnutrition in elderly patients. In particular, the study strengthens the knowledge base on the relationship between loneliness and malnutrition among the elderly generation. The study also provides some measures which nurses can employ to help care for and reduce loneliness and malnutrition among the elderly.

# 2  BACKGROUND

The world's population is aging at a fast rate. Studies show that population aging is poised to become a significant social transformation of the 21st century. The impact of population aging will, however, be felt across all sectors including labor, housing, transportation, and social protection. A study by experts at World population prospects show that the number of older people aged over 60 years will double by 2050 and triple by 2100. The study expects the number of elderly people to increase from the current 962 million to 2.1 billion in 2050. Improvements in longevity will be a triumph for most people but will pose serious issues to the global society. It will thus be essential that policymakers and governments be prepared to deal with a higher number of elderly needs at the society level. It is vital that healthcare providers to be well versed with the typical signs and conditions among the elderly, which can either be delayed or prevented (Brownie, 2013).

Personality and health status are the significant predictors of well-being among the elderly. It consists of different interrelated factors such as loneliness and malnutrition. Loneliness is typically an unpleasant and complex emotional response which is characterized by feelings of anxiety. It is the unhappiness that is felt by people who lack the company of friends or someone to talk to. People who tend to have lots of friends do not suffer from sadness and thus it would be proper if lonely people make and connect with friends. Hearing and speech deficits and language barriers which occur during the aging processes may present communication barriers and can foster loneliness (Mangels, 2018).

## 2.1  Malnutrition Among the Elderly

It is generally predicted that elder people perceive themselves as being healthy and assess their health from good to excellent. Despite this high self-image, most older adults are at a risk of malnutrition which occurs in both frail, underweight elder people and obese seniors whose nutritional needs are not met (Hamirudin et al., 2016). Numerous studies have examined the malnutrition phenomenon among the elderly and made worrying conclusions. A study by (Hamirudin et al., 2016) for instance reviewed 54 studies that used valid research approaches and established that 83% of those aged over 65 years are at the risk of malnutrition.  Other studies have

established that malnutrition diminishes one's quality of life and is strongly associated with the risk of short-term mortality (Mangels, 2018; Boulos et al., 2017; Brownie, 2013). The study by (Mangels, 2018) also established that eating alone especially regularly is associated with an elevated risk of malnutrition. In addition, the study established that widowhood and the resultant grief are the leading causes of loneliness and are strongly associated with reduced appetite, low diet quality and a reduction in the enjoyment of meals (Mangels, 2018). These conclusions show that loneliness is a key predictor of malnutrition and is to blame for most cases of malnutrition among the elderly.

## 2.2    Effect of Loneliness on Malnutrition

Human beings tend to have a fundamental desire for healthy and long-lasting relationships with their fellow human beings. Such relationships influence oneself and identity regulation processes and health status. Most individuals find themselves motivated to seek sources of renewed affiliation especially if they sense a feeling of loneliness. Suffering from loneliness means missing some critical parts in one's life and that such vital parts have to be replaced. Most people will turn to alcohol, drugs, and related substances which may worsen their situation (Boulos et al., 2017). The root causes of loneliness remain unclear to most researchers. However, the consequences of loneliness seem to be clear and negative. Lonely people behave differently from those who have healthy relationships. A lonely person will, for instance, have less sleep quality, have more alcohol intakes, and engage in less physical activities. Studies also show that lonely people have a significantly lower BMI than non-lonely people. In addition, lonely people often eat fewer meals during a typical day and experience a loss of appetite, which may result in them being malnourished (Groot & Staveren, 2010).

Numerous studies have investigated the relationship between loneliness and malnutrition (Boulos et al., 2017; Brownie, 2013; Donini et al., 2015). A study by (Eskelinen et al., 2016) for instance examined the association between malnutrition and loneliness among older adults. Findings showed that frequent feelings of loneliness tend to increase the risk of malnutrition among older people. The findings are reliable and generalizable as the study relied upon valid research tools such as random sampling and a large data sample. The findings are corroborated by other studies such as (Boulos et al., 2017) who also examined the correlation between loneliness and

malnutrition. The study showed that loneliness and social isolation are independently related to a higher risk of malnutrition among the elderly (Boulos et al., 2017). It was thus concluded that loneliness and social isolation are two independent and significant risk factors for malnutrition among the elderly. The study is also reliable and generalizable as it used statistical research methods and a large sample comprising of 1200 respondents.

## 2.3    Nursing Interventions

Recent studies show that malnutrition increases with age (Eskelinen et al., 2016; Hamirudin et al., 2016). This means that older adults are more likely to be malnourished than are young people. Malnourished seniors may be thin, of standard weights or obese. Some older adults may appear to be healthy when in fact they are suffering from deficiencies such as vitamin C, zinc, and iron. This may be the case especially to those who take unbalanced and those who suffer from prolonged illness (Esquivel, 2017). Studies have shown that illness influences one's nutritional requirements as additional vitamin C is needed by the body to repair tissues (Donini et al., 2015). Illnesses can also impair one's ability to eat a balanced diet. Nurses can, however, play an essential part in assisting frail older people at the risk of malnutrition (Donini et al., 2015; Esquivel, 2017). They can, for instance, prescribe medicines that affect older people's appetite. Tentatively, improved nutrition results in an increased sense of wellbeing. Nurses can also enable order people to eat a healthy diet (Donini et al., 2015). They can work with the catering staff to improve the diets of older people. They can assist provide essential nutrients like mineral, proteins, and other supplements which can effectively treat the underlying malnutrition. The current thesis seeks to expand the understanding of the role of nurses in caring for elderly patients suffering from loneliness and malnutrition.

3    **THEORETICAL FRAMEWORK**

Theoretical framework is critical to any research study. It is supposed to be the foundation upon which all knowledge is constructed (Osanloo & Grant, 2016). It is used mostly in researches to support and serve as the structure for the rationale for research questions, research objectives, problem statement, and the rationale of the study. It provides a groundwork or a basis for literature review and the methodology used in data collection and analysis. In most cases, theoretical frameworks reflect researchers' understandings and beliefs about the nature of knowledge, how the knowledge exists in relation to observers, and the tools to be adopted in his or her work (Osanloo & Grant, 2016). The absence of a theoretical framework makes the vision and structure of a thesis unclear. TGA is used as the main theoretical framework for the current study.

## 3.1    Overview of Kings TGA

Imogene King developed TGA in 1960 (Gonzalo, 2011). King herself was a US-born nursing professional who dedicated much of her time to studying nursing science. Her theory describes an interpersonal relationship between a nurse and his or her patient in which the two people grow and develop their relationship to attain specific goals (Varghese, 2012). According to the theory, nurses together with their patients should have effective communication, set attainable goals, and work towards the achievement of those goals. King acknowledges that the connection between a patient and his or her nurse can have a significant impact on the set objectives and on how such objectives are met. Other factors that may have an impact on the attainment of the set goals include time, space, stress and the roles undertaken by the nurse and his or her patients (Varghese, 2012). The theory is premised on several propositions, concepts, and interacting systems (Wayne, 2014), which are all discussed as under.

### 3.1.1    Propositions

Kings TGA suggests eight propositions which are progressive (Varghese, 2012). When properly implemented, the propositions can assist nurses in promoting, maintaining, and restoring their patients' health. Nurses can also utilize the propositions as a method of caring for those who are sick, injured, or those who are dealing with terminal diseases (Varghese, 2012). The eight propositions are as follows:

- A transaction will occur when there are constant nurse-patient interactions.
- Goals can be attained only when a transaction takes place
- Satisfaction is experienced by both nurses and patients when the preset objectives are met
- Effective nursing care is possible when goals are attained
- Growth and development are improved when transactions occur within the scope and interaction of a nurse and his or her patient
- Transactions may occur when the performance and expectations of the roles as perceived by nurses and their patients are congruent
- Stress can occur within a nurse-patient relationship especially if there is a conflict in the roles
- A mutual transaction occurs when there is appropriate and effective communication between a nurse and his or her patients (Varghese, 2012)

Nurses are supposed to properly implement these propositions in order to promote and restore their patients' health. They can also adhere to the eight propositions in order to maintain excellent health of their patients (Wayne, 2014). Good health is defined differently by previous research. The current thesis, however, defines good health as a state of complete social, mental, and physical well-being including the absence of malnutrition (WHO, 2018).

### 3.1.2 Main Assumptions

King's TGA is based on the assumption that people are influenced by their personal views about others and their environment. The theory seeks to improve nurse satisfaction and patient health by creating a specific set of assumptions for nurses to use (Wayne, 2014). The theory is based on six assumptions as outlined below:

- The fundamental focus of the nurses and the industry as a whole is to care for all people
- Nurses' goal of providing healthcare can suppose individuals or groups
- People constantly interact with their environment and the people within that environment
- Nurses and patients consistently communicate with each other, allow each other to set goals and then work on attaining those goals
- Patients perceive his or her environment as a method of making transactions either with other things or with other people in his or her vision of being a complete person

- Transactions represent situations that are encountered on a day to day basis. Patients are active participants in a nursing environment, and nurses play an active role in a patient's environment (Wayne, 2014).

The above assumptions are said to be critical to the provision of healthcare. Nurses have to start taking action or responding to situations that support the goal of providing excellent healthcare to each patient (Wayne, 2014).

### 3.1.3 Nursing Metaparadigms

Metaparadigms are described as the ideas that provide the structure for how the nursing should function as a discipline (Williams, 2017). The nursing field is made up and defined by four vital nursing metaparadigm concepts. They include health, person, nursing and the environment. The four concepts constitute the overall nursing metaparadigm. All of the four metaparadigms address the patient as a whole, patients' needs and wellbeing, the patient's environment, and nursing responsibilities. The concept of health, person, and environment related to the recipient of nursing actions. The concept of nursing focuses solely on nurses. The four metaparadigms are explained as under:

*Nursing*

The nursing metaparadigm is said to entail the provision of optimal health outcomes for clients through a mutual nurse-patient relationship (Williams, 2017). The relationship should occur in a caring and safe environment. Kings TGA suggests that nurses should apply principles of communication, professional judgment, nursing knowledge, collaboration, and technology to carry out their roles in achieving the best possible health outcome (Varghese, 2012). The nursing metaparadigm must value a high degree of service and integrate with other metaparadigms for patient wellbeing.

*Health*

King's theory describes health as the state of complete social, mental, and physical wellbeing. Health does not simply mean the absence of infirmity or disease. It is a dynamic condition that results from a number of factors (Williams, 2017). Health and wellness should cover a person's lifespan and his or her cover a patient's lifespan and their genetic makeup, and how the spiritual,

social, intellectual, emotional, and physical well-being is integrated into the healthcare to attain maximum health benefits. The basic idea is that these aspects have a significant impact on patients' wellbeing.

*Person*

King's TGA describes a person as the one receiving nursing care (Williams, 2017). Personal connection is however supposed to include family members and friends that are important to a patient. The nursing care structure has to consider a person's social, health, and spiritual needs in order to effectively improve the well-being of patients. The main idea under TGA is that people are empowered to manage their health with dignity. King opines that persons can think, make goals, and decide upon the best course of action that helps attain their goals.

*Environment*

Environment component is merely the surroundings that influence patients. Environment refers to both external and internal influences and often contends that patients' health is generally impacted by how they continuously interact with their surroundings (Wayne, 2014). Interactions with one's family members, close friends, and other close people form part of one's environment, as are social and physical factors such as technology, economic condition, culture, and social connections. A patient can, however, modify his or her environment in order to enhance his or her health status.

### 3.1.4 Main Interacting Concepts

King's TGA is a systems framework which consists of three interacting dynamic systems (Wayne, 2014). The three systems include the social system, interpersonal system, and the personnel system. Each of the three systems represents organized wholes which are in constant interaction with a patient's environment. The three systems are discussed under the following subheadings.

**Personal System**

Personal systems are said to comprise an individual's perception of space, time body image, and self (Wayne, 2014). These perceptions are important in king's TGA mainly because they influence how people respond to events and objects in their life (Wayne, 2014). Perception is the most significant concept under the personal system mainly because it influences one's behavior. King's TGA argues that personal systems as individuals who are sentimental, rational, and social. These

individuals' experiences are dynamic and alter the structure and functionality of people as they grow and develop over time. The changes in turn influence people's perceptions of self and dramatically affects how people behave or respond to stimuli (Wayne, 2014). The personal system consists of several concepts including body image, space, self, learning, and growth, and development. King's theory assumes that these concepts are all useful in nurse-patient interactions and thus nurses should apply them properly. The system also assumes that individuals are time oriented, action-oriented, purposeful and controlling when it comes to their actions and behavior.

This system comprises of individuals or teams reacting with each other. In the current thesis, an interpersonal system comprises an interaction between a nurse and a malnourished older adult. An interaction between two people such as a nurse and a patient is described as a dyad, three people as a triad and four or more people as a group, small or large. Communication is critical in the nurse-patient interactions and may take any form including verbal and nonverbal forms (Williams, 2017). Collaboration is also essential especially in the attainment of a working nurse-patient relationship and goals. The crucial concepts associated with the interpersonal system include transactions, roles, stress, communication, interactions, and coping (Wayne, 2014). The nurse-patient transaction process is at the core of the king's interpersonal system and is shown in figure 1.
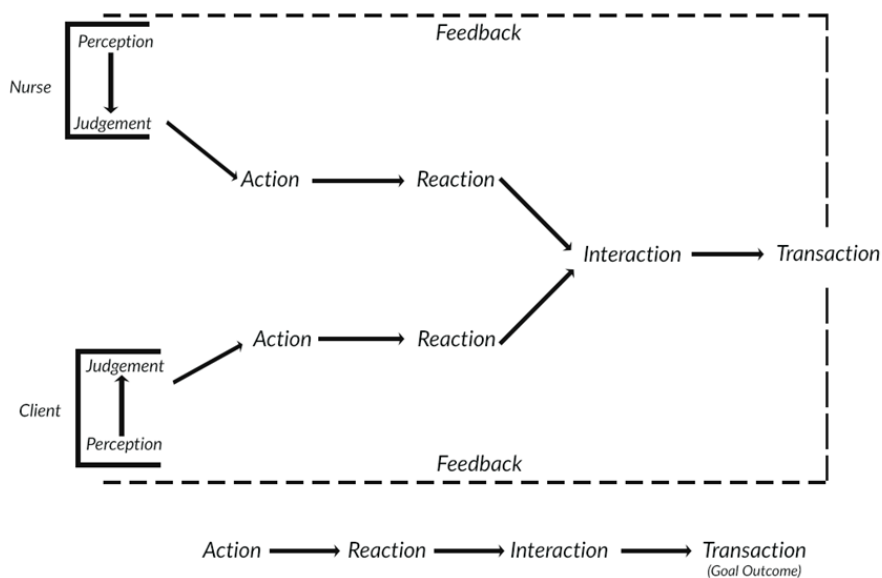


*Figure 1: Process of interaction (Primo & Brandão, 2017)*

The above figure shows that nurses and patients individually bring actions, judgments, and perceptions and together experience reactions to each other, interact with each other, and eventually a transaction occurs at the end of the process (Primo & Brandão, 2017). The transaction is the goal outcome and can either hinder or help attain preset goals.

**Social System**

Social system is particularly important as it shows how nurses should interact with their colleagues, patients, superiors, and the patient environment at large (Varghese, 2012). It mainly shows how nurses interact with different groups with a society that share common interests, values, and goals. It provides a blueprint for social relationships and interaction and establishes the rules that guide the behavior of the interacting parties and courses of action (Williams, 2017).  Social systems can be said to be the organized boundary of systems of social practices, behaviors, and roles that are developed to maintain social values and the mechanisms that regulate the roles and practices. Some examples of social systems include healthcare systems, political systems, and religious systems. The main concepts under the social system include power, authority, control, status, organization, control, and decision making (Williams, 2017).

## 3.2   Importance of King's TGA in the current thesis

As stated earlier, the current thesis uses the King's TGA as the main framework. The use of the theory was informed by the need to have a blueprint for the entire inquiry. The TGA serves as the guide on which the researcher builds and supports the thesis, and as a structure to help define how the researcher methodologically, analytically, and philosophically approached the thesis as a whole. The theory also helped the researcher in organizing themes in a way that would evaluate nursing interventions with respect to patient care.

# 4  AIMS AND OBJECTIVES

Previous studies show that the world's population is aging at a faster rate. In particular, experts at the united nations show that the number of older people aged over 60 years will double by 2050 and triple by 2100 (United Nations, 2018). Empirical studies also show that 83% of those aged over 65 years are at the risk of malnutrition (Hamirudin et al., 2016). Other studies show that loneliness is strongly associated with reduced appetite, low diet quality and a reduction in the enjoyment of meals (Mangels, 2018). These conclusions show that loneliness is a crucial predictor of malnutrition and is to blame for most cases of malnutrition. The current thesis aims to further explore the relationship between loneliness and malnutrition especially in elderly populations. The study hopes to also deepen the understanding of the role of nurses in caring for elderly patients suffering from loneliness and malnutrition. In achieving this aim, the thesis seeks to accomplish two main objectives:

- To examine how loneliness affects malnutrition in elderly patients
- To ascertain the role of nurses in caring for elderly patients suffering from loneliness and malnutrition

## 4.1  Research Questions

The study had to find answers to a number of questions in order to accomplish the above stated objectives. The questions are stated below as follows:

Q1. How does loneliness affect malnutrition in elderly patients?

Q2. What is the role of nurses in caring for elderly patients suffering from loneliness and malnutrition?

# 5   METHODOLOGY

The methodology is an explanation of the methods that a researcher uses in undertaking a study. It is a rigorous examination of the methods that help researchers achieve their research objectives (Mackey & Gass, 2015). It is mainly intended to assist make sure that the research findings are credible, valid, generalizable and reliable. There are different types of methodologies which can be used to accomplish the current research objectives. The thesis is however based on secondary data and thus uses qualitative research methods. The researcher evaluates previous scholarly studies to examine the impact of loneliness on malnutrition among the elderly. The study also examines the intervening role of nurses in caring for seniors suffering from malnutrition and loneliness. The rest of the chapter presents the techniques and approaches used in undertaking the thesis. The chapter includes such subsections data collection techniques, as well as data analysis techniques employed in the study.

## 5.1   Research Design

Research design indicates the plan of where, when, and how data is to be gathered and analyzed (Marczyk et at., 2017). It is intended to help researchers effectively answer his or her research question. It essentially determines the blueprint that has to be used in collecting, measuring, and analyzing data. There are several research designs which can be used in the current thesis. The current study is however qualitative in nature and thus used a qualitative research design. Data is collected from secondary sources through a systematic literature review. The use of literature review is based on the fact that systematic reviews are more comprehensive and thus can help gather data from a large and reliable sample. The current thesis integrates, evaluates, and interprets findings from multiple secondary data sources.

## 5.2   Data Collection

Data collection is an important aspect of any given research paper. It is the process undertaken by researchers in order to find evidence that supports their claims (Dawson, 2019). The researcher had the option of collecting data from either primary sources or from secondary sources. Primary sources provide first-hand data and researchers have to go to the field to collect it. Secondary data on the other hand is gathered from published works such as from books, articles, web pages, or

magazines. The current dissertation used secondary data sources. This was meant to help save time and cut costs. Secondary data was sourced from scholarly articles, books, and reliable online publications. The following sections describe how the data search process was undertaken.

### 5.2.1 Search Strategy

The study was carried out based on the systemic review and meta-analysis of observational studies in epidemiology. The search was conducted based on the following databases; Sage, and PubMed. EBSCO, an integrated database that features several search engines and sources were also used in the search strategy. The search strategy deployed the use of search terminologies. The following search terms were used to ensure that information relevant to the objective of the systemic literature review was achieved; Loneliness, Malnutrition, Loss of Appetite, Depression, and Elderly Patients.

### 5.2.2 Inclusion and Exclusion Criteria

Inclusion and exclusion criteria are said to be the predefined standards that researchers are deployed to help focus a literature search (Aveyard, 2014). The researcher came up with inclusion and exclusion criteria to help maintain trustworthiness and transparency in the literature search process, and also to help produce quality articles that could offer appropriate responses to the two research questions under examination. The inclusion and exclusion criteria were deployed to ensure that studies obtained from the literature search met the expectation of the study. Inclusion criteria featured aspects that other studies had to possess to be included in the research. The following inclusion criteria were used.

- Articles had to be original articles reporting on studies related to health and malnutrition of elderly persons.
- The studies had to be based on the primary findings of a study carried out among elderly persons aged 65 years above
- Studies had to be based on or related to malnutrition.
- Studies had to be presented in the English language

The following exclusion criteria were used;

- Studies based on secondary data were excluded.
- Studies that did not report on ethical consideration and practice were excluded.

- Studies that were not published in a peer-reviewed journal were excluded from the study.
- Studies that lacked a comprehensive executive summary were excluded from the study.

### 5.2.3   Literature Search

The first advanced literature research was conducted on Sage The search phrase, Elderly" AND ''Malnutrition" AND ''Loss of Appetite" AND ''Loneliness' was used.  Zero results were achieved. The search process was then narrowed down to use of the terms 'Malnutrition' and Elderly, which resulted in 1229 hits.  The search criteria were narrowed down to the full-text article. Of these hits, only 748 articles were in full text and had to be screened further. Studies obtained were subject to the inclusion and exclusion criteria.  A total of 15 results were obtained from the search from the Sage database. Based on the final criteria, three studies were featured from this database

In the second search, an alternative database was considered; EBSCO. A more detailed search phrase was used; Elderly AND Malnutrition AND Depression AND Loneliness. NOT before exclusion search terms like children were used to avoid unwanted results.  As a result, 236 search hits were obtained from this database. The search was then limited to a period of ten years, from the years 2008 to current. Studies were subject to the inclusion and exclusion criteria.  Five studies were obtained from this database.

The third search process was conducted, based on the PubMed database. The following search phrase was used; Malnutrition AND Elderly AND Loss of Appetite AND Depression AND Loneliness. The research was limited to full-text free articles that were less than ten years old. The studies were subject to the inclusion and exclusion criteria. The criteria was applied as shown in figure 2 below.

Sage

''Malnutrition'' AND ''Patient''

Full text; Peer Reviewed; 2008-2018

EBSCO

''Elderly'' AND ''Malnutrition'' AND ''Loss of Appetite'' AND ''Loneliness''

Full text; Peer Reviewed; 2008-2018

PubMed

'Elderly'' AND ''Malnutrition'' AND ''Loss of Appetite'' AND ''Loneliness''

Full text; Peer Reviewed;

2008-2018

748

236

82

Reading through Abstract and Full Text Searching for Problem, Methodology and Results

34

Final Search Criteria:  Relations to research questions

Q1.  How does loneliness affect malnutrition in elderly patients?

Q2. What is the role of nurses in caring for elderly patients suffering from loneliness and malnutrition?
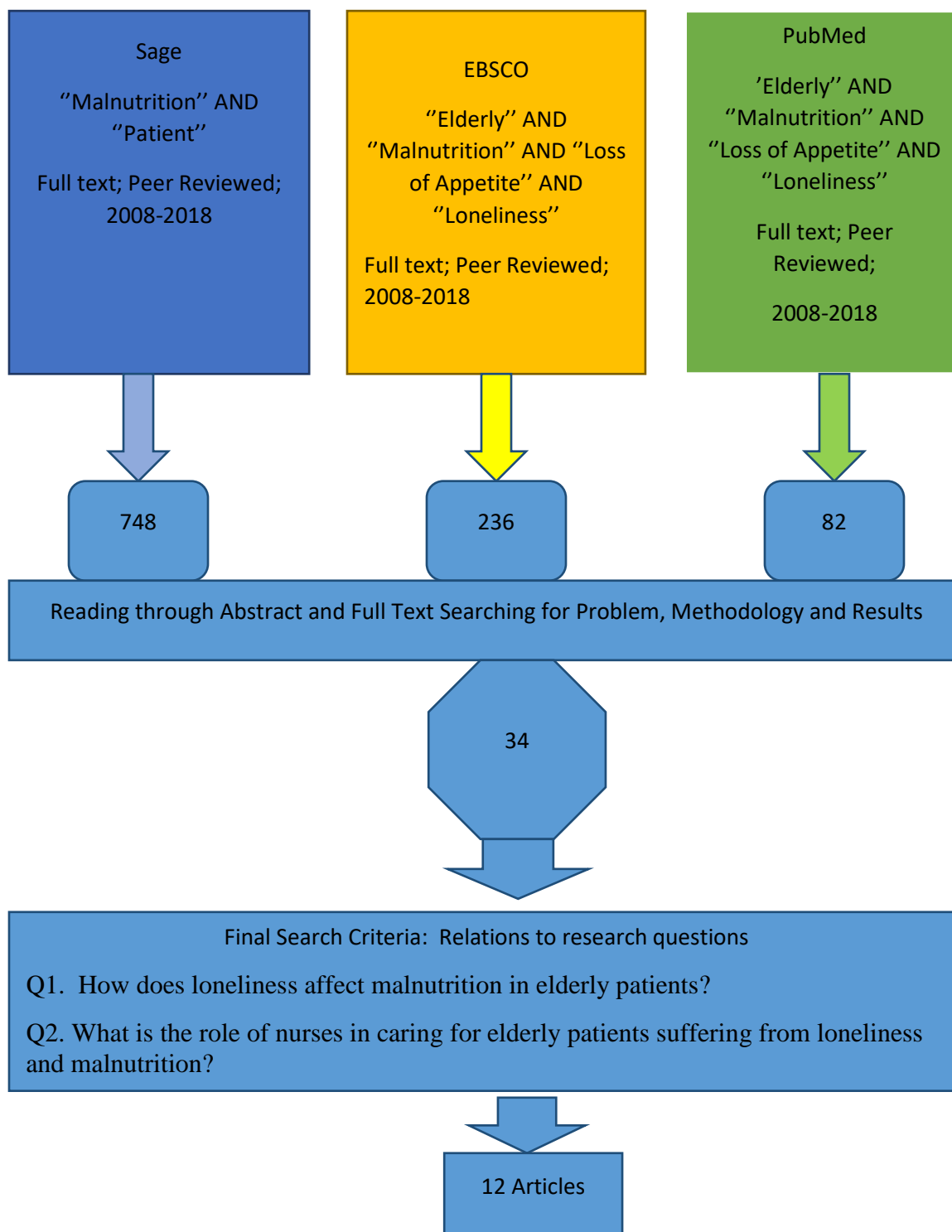
12 Articles

*Figure 2: Flow of the Search Process*

Based on the EBSCO, PubMed and Sage databases, a total of 1066 results were obtained. The studies were then subjected to the final inclusion and exclusion criteria. Studies had to be related to the research objectives. Equally, studies chosen had to answer at least one of the research questions upon which this study is set. Figure 2 above shows the flow of the search process based on the literature review process that has been described above. Table 1 presents the twelve articles from which data was extracted.

*Table 1: The twelve articles used in data extortion process*

| | Articles |
|---|---|
| 1 | Eskelinen et al., 2016. Is loneliness associated with malnutrition in older people?. *International Journal of Gerontology,* 10(1), pp. 43-45. |
| 2 | Boulos et al., 2017. Social isolation and risk for malnutrition among older people.. *Geriatrics & gerontology international,* 177(2), pp. 286-294. |
| 3 | Gardiner et al., 2018. Interventions to reduce social isolation and loneliness among older people: an integrative review. *Health & social care in the community,* 26(2), pp. 147-157. |
| 4 | Kimura et al., 2012. Eating alone among community-dwelling Japanese elderly: association with depression and food diversity. *The journal of nutrition, health & aging,* 166(8), pp. 728-731. LoBiondo-Wood et al., 2013. *LoBiondoStudy Guide for Nursing Research-E-Book: Methods and Critical Appraisal for Evidence-Based Practice.* S .l. Elsevier Health Sciences. |
| 5 | Ramic et al., 2011. The effect of loneliness on malnutrition in the elderly population. *Medical Archives,* 65(2), p. 92. |
| 6 | Arai, K. & Sakakibara, H., 2015. Malnutrition and social isolation among elderly residents of city public housing. *Japanese journal of public health,* 68(2), pp. 379-389. |
| 7 | Cacioppo et al., 2015. Loneliness: Clinical import and interventions. *Perspectives on Psychological Science,* 10(2), pp. 238-249. |
| 8 | Manning et al., 2012. Additional feeding assistance improves the energy and protein intakes of hospitalized elderly patients. A health services evaluation. *Appetite,* 59(2), pp. 471-477. |
| 9 | Hopkinson, J. B., 2015. Nutritional support of the elderly cancer patient: The role of the nurse. *Nutrition,* 31(4), pp. 598-602 |
| 10 | Walton et al., 2008. A volunteer feeding assistance program can improve dietary intakes of elderly patients–a pilot study. *Appetite,* 51(2), pp. 244-248. |
| 11 | Esquivel, M. K., 2017. Nutritional assessment and intervention to prevent and treat malnutrition for fall risk reduction in elderly populations. *American journal of lifestyle medicine,* 12(2), pp. 107-112. |
| 12 | Gardiner et al., 2018. Interventions to reduce social isolation and loneliness among older people: an integrative review. *Health & social care in the community,* 26(2), pp. 147-157. |

## 5.3   Data Analysis

Data analysis is the process in which researchers evaluate their collected data (Taylor et al., 2015). The process involves converting raw figurers and facts into narratives or themes. There are several methods and approaches which can be used in a data analysis process. The current dissertation however analyzed data using inductive qualitative content analysis. The technique is flexible as it can be used with all types in nursing studies, qualitative or quantitative (Vaismoradi et al., 2016). The qualitative content analysis was used to build a model that could help the researcher describe the phenomenon under study in its basic concepts.

The researcher used qualitative content analysis simply because it is flexible and that it helps describe data in an orderly way (Bengtsson, 2016). The technique was also useful as it helped offer vast knowledge concerning the topic under examination. Through qualitative content analysis, the current researcher was able to understand the phenomenon under examination in a scientific way. The technique allowed the researcher an opportunity to examine recurring themes and contents in all the twelve articles. According to (Bengtsson, 2016) the use of qualitative content analysis can help re-examine unique themes to show the meaning of research phenomenon instead of showing statistical implications of specific concepts.

The content analysis method was also relied upon in data analysis because it is inexpensive and can also be used in the analysis of large volumes of data (Bengtsson, 2016). It can also be utilized to analyze data for a broader range of uses and especially in nursing care. All the articles were read thoroughly to help reduce the risk of omitting essential data.

## 5.4   Ethical Considerations

The researcher had to consider several ethical principles before commencing the research process. In particular, the researcher had to consider interpersonal factors, intrapersonal factors, policy factors, community-based factors, and other relevant factors before commencing their studies (Boutin-Foster et al. , 2013). The researcher did not give personal details of other writers to other people.

The current dissertation was guided by the principles of ethical research. The researcher had to abide by the instructions and standards of literature review. The research topic was initially

discussed with relevant persons at the university to help fine tune and narrow the scope. The concerned supervisor was instrumental as she provides some guidance on the researcher should approach the study. Being a literature review, the researcher had to avoid quoting other peoples work without reference. All secondary information had to be written in the researcher's words and referenced properly in accordance with the university guidelines. Personal information including address and place of work were not included in the current dissertation. In so doing, the researcher hoped to maintain respect for other writers' freedom to privacy.

Emerging themes from the twelve articles noted down and presented in an honest manner. There was no need to falsify information. Instead, the researcher had to objectively present findings as they emerged. Previously documented facts and evidence were not influenced by the ideas and opinions. Data collection methods and tools for data analysis were also presented to help the research audience understand the entire research process. Bias, which is a major issue in research papers, was avoided by ensuring that each article was analyzed and interpreted objectively and independently. This helped ensure that knowledge from one article did not influence or affect others interpretation.

# 6 RESULTS

The twelve articles chosen for the study were systematically evaluated. Findings from the review were grouped into two main themes. The main themes show how loneliness affects malnutrition and how nurses can help reduce loneliness and malnutrition among the elderly. Results in relation to the main themes are presented in parts 6.1 and 6.2 below.

## 6.1 Effect of Loneliness on Malnutrition Among Older People

The main aim of the current thesis was to examine the effect of loneliness on malnutrition. In particular, the study aimed at understanding how loneliness causes malnutrition in elderly populations. The study finds that loneliness is a complex phenomenon which can impair the quality of life among elderly patients [1, 2, 3, 4, 5, and 6]. The reviewed articles show that the majority of elderly patients live alone and that loneliness is a common problem among the elderly [1 and 2]. Lonely older adults tend to experience reduced quality of life, cognitive decline, increase in the use of health services and increased mortality [2, 3, and 4]. The main influencing factors of loneliness among the elderly are summarized in figure 3 below.
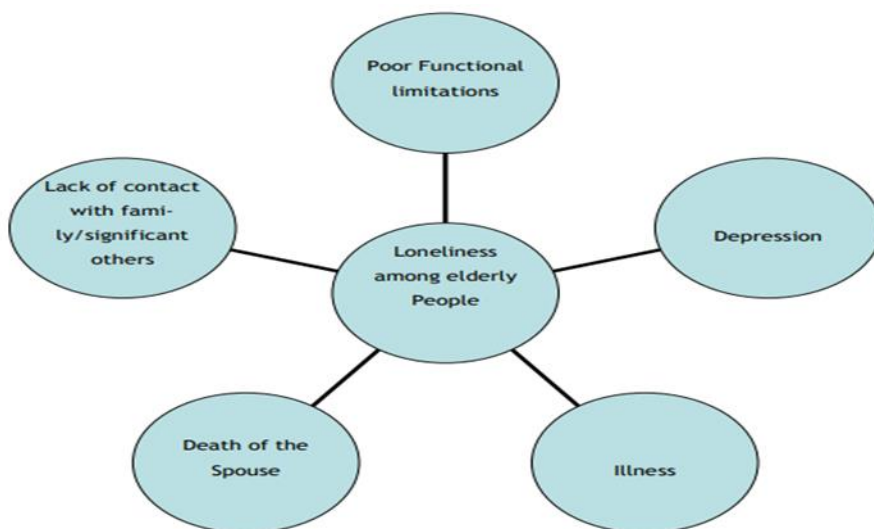


*Figure 3: Influencing factors of loneliness among the elderly [1]*

Figure 3 shows that depression, illness, lack of contact with family and friends, and death of a spouse are the critical causes of loneliness among the elderly [1 and 3].

Through a literature review, it was established that loneliness is significantly associated with malnutrition among older people [1, 2, and 5]. The review showed that loneliness affects malnutrition by influencing one's appetite and nutritional intake levels [5]. Loneliness affects these two essential elements through a decline in cognitive function and declining physical function [5]. A reduction in cognitive function was found to be associated with an increased risk of malnutrition [5]. Several researchers have ascertained that cognitive impairment can impair one's ability to carry out routine duties [1 and 5]. A person may, for instance, forget to cook or eat and as a result, end up being malnourished.

### 6.1.1  Limiting Functional Capacity

Functional capacity can be described as the ability to perform tasks or activities that people consider necessary in their lives [2 and 5]. Loneliness was found to limit one's ability to perform basic tasks such as shopping, cooking, and eating. Limited functional capacity affects one's mobility or senses in a way that results in difficulties in undertaking everyday activities [5]. A lonely elderly patient will, for instance, find it difficult to eat which will, in turn, result in malnourishment.

Functional capacity has different elements including activities of daily living (ADL), mobility and the senses, social functioning, cognitive functioning, and instrumental activities of daily living (IADL) [1,2, and 5]. ADL merely is described as one's ability to perform basic self-care functions such as eating. IADL functions such as shopping and cooking are also necessary particularly because lonely people tend to live independent of others. Loneliness was seen to impair ADL and IADL functions which in turn increase the risk of malnutrition [5]. Impaired ADL and IADL functions imply that the elderly are not able to cook and eat foods or may skip eating.

### 6.1.2  Affecting Appetite and Sleep Patterns

The reviewed articles indicated that loneliness disturbs seniors' appetite [1 and 5]. Lonely people are however affected in different ways. Some older people experience a loss or reduction in appetite and lose their taste for food. Others turn to foods as an emotional coping mechanism. They may consume more food than is necessary and end up becoming overweight or obese. Overnutrition and undernutrition are two forms of malnutrition which need to be dealt with in

order to eliminate malnutrition [5]. Undernutrition, for instance, implies that people eat less, and thus their bodies do not get enough nutrients.

In addition, the literature review showed that loneliness tends to disturb sleep patterns [5 and 6]. It ruins the quality of sleep among older adults, and some articles show that sleep deprivation causes malnutrition. Specifically, sleep deprivation changes the foods that older adults eat. It creates an intense craving for fat and sugary foods that are low in essential nutrients, and that may be harmful to one's immune system. Sleep deprivation also tends to cloud one's judgment in regards to the foods that should be consumed.

### 6.1.3   Affecting the Intake of Nutrients

The literature review showed that loneliness affects the intake of nutrients by lowering one's desire for food, declining cognition, and by reducing physical functioning [1, 2, 5 and 6]. Most of the reviewed articles indicated that lonely people experience a decline in cognitive function which is correlated with a high risk of malnutrition in elderly patients. Cognitive impairment was seen to reduce the elderly's ability to move around doing activities such as shopping or preparing meals. Some of them tend to forget to do regular chores such as eating which is necessary for preventing malnutrition. Some articles indicated that loneliness is not itself a risk factor for malnutrition in a multivariate model [1]. However, the majority of studies overruled this finding by showing that older people living alone eat more poorly and feel worse which affect their nutritional intake [2, 5, and 6]. Loss of a loved one in old age was seen to increase loneliness, grief, and loss of social support all of which have a significant effect on older people's nutritional intake.

### 6.2   Nursing Interventions in Caring for Lonely and Malnourished Elderly Patients

6.2.1   **Nursing Interventions to Alleviate Loneliness**

The literature review shows that loneliness cannot be wholly eliminated with interventions but can be alleviated [7 and 12]. The study analyzed the measures which a nurse can use to alleviate loneliness among the elderly. The study established that there are two categories of intervention which includes group and individual intervention.
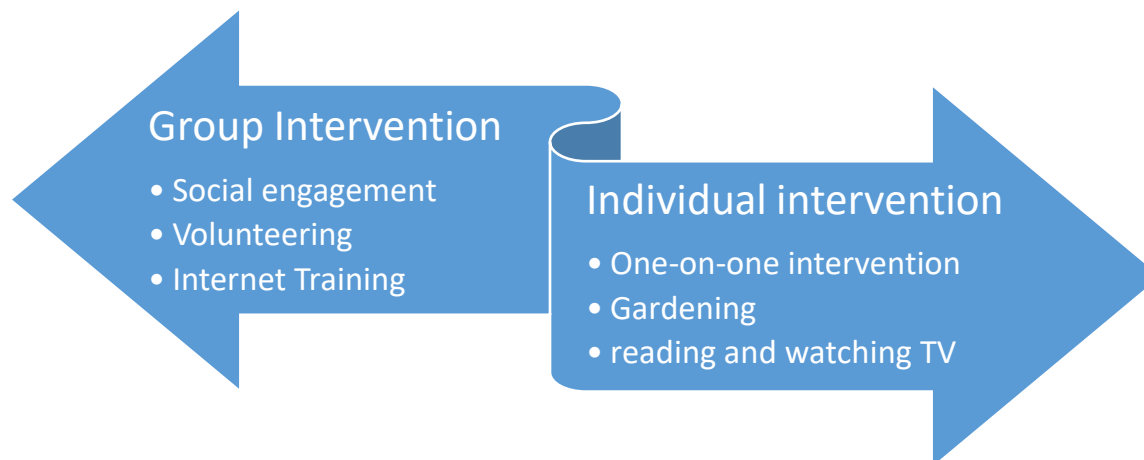
*Figure 4: Nursing interventions in caring for lonely elderly patients*

### *6.2.1.1    Group Interventions*

**Social Engagement**

Most articles mentioned that social engagement can be an effective way of alleviating loneliness among the elderly. Findings show that social engagement comprises activities such as spending time with lovely ones, social interaction with others, community gatherings, and dependency on the performance of ADLs [7 and 12]. A study by (Woolham et al., 2013) indicated that loneliness is strongly associated with social isolation which is strongly associated with poor health and reduced usage of resources. To alleviate loneliness, (de Guzman et al., 2012) found that social engagement intervention has a positive and significant impact on loneliness among older adults. A nurse can use thus device social engagement activities for his or her lonely patients.

**Volunteering**

Volunteering is another potential remedy for loneliness [7]. It has the potential to help lonely elderly people reduce the feelings of being lonely. Nurses need to identify volunteering activities in which lonely elderly patients can engage in [7]. They should communicate this information to their elderly patients as volunteering can help them become socially, mentally and physically active. Older adults need to be motivated to participate in volunteering work as most of them are

idle. Volunteering has both social and individual benefits but most importantly reduces loneliness among the elderly.

**Internet training**

The literature review showed that loneliness could be reduced with ICT interventions [12]. Computer interventions for loneliness include learning how to write documents using computers, browsing the internet and searching for relevant information such as medical information, looking for social events, and learning how to use e-services and how to communicate via the internet [7 and 12]. Video conferencing can also alleviate loneliness as it has been found to lowed loneliness at three months and one week. It was also found to enhance social and emotional support among the elderly significantly.

### 6.2.1.2    *Individual Intervention*

**One-to-one intervention**

Some of the reviewed articles indicated that visits to lonely elderly patients can be a good way of lessening loneliness [7]. The review suggests that health promotion intervention method such as telephone calls, caregiver support, befriending and home visits can be an effective means of alleviating loneliness among older adults [7]. Home visit was identified as the most effective measure for relieving loneliness among older people who live alone. Home visits by healthcare professionals, friends, and family members were seen to increase the elderly people's level of social interaction.

**Gardening**

Gardening is also an excellent method capable of reducing the feelings of loneliness [12]. The literature review showed that involvement in gardening offers several benefits to lonely elderly patients [7 and 12]. It primarily reinforces a sense of purpose and functionality. The results of gardening are highly visible and thus creates a feeling of satisfaction that increases the elderly's self-esteem and perceived value. Gardening is in itself a time-consuming activity and may, thus, be used as a means of reducing the loneliness experience among the elderly [7].

**Reading and Watching TV**

Reading and watching TV can also be used to help alleviate the feeling of loneliness in elderly people [7 and 12]. Nurses can encourage their elderly patient to either read novels, magazines, and articles or watch TV. These activities do not in themselves reduce loneliness but help patients pass

the time and by so doing take their minds off their feelings of loneliness. Watching TV especially in the evening, for instance, can replace the human company that seniors would have had from their partners or friends [7].

6.2.2 **Nursing Interventions to Alleviate Malnutrition**

Following king's theory of goal attainment, preventing and treating malnutrition among older people need multidisciplinary approaches. According to the theory, nurses can manage malnutrition and its effects by improving nutritional intake and appetite among the elderly. The main categories that emerged from the reviewed articles included nutritional screening, supplementary feeding program, nutritional supplement, and pharmacological solution.

### *6.2.2.1    Nutritional Screening and Assessment*

The literature review established that the identification of malnutrition and its symptoms is the essential step in addressing nutritional problems among lonely elderly patients [8, 9, 10, and 11]. Most articles showed that nutritional screening can help reduce confusion about the real risk of malnutrition and identify elder people at risk of malnutrition [8 and 9]. Using a screening tool such as mini nutritional assessment (MNA) can help raise awareness of the importance of nutrition among the elderly and help identify those who are at risk of malnutrition. Older people who are malnourished need to be identified and monitored. Community-dwelling older adults should receive an annual malnutrition screening while those admitted at hospitals need to be screened every week during their hospital stay [8].

### *6.2.2.2    Nutritional Supplement and Pharmacological Solution*

The study finds that nutritional supplements and appetite stimulants may be used to treat malnourished elderly patients [9 and 11]. Drugs like ghrelin, oral nutritional supplements (ONS) and individualized diet have been found effective in helping those at risk of malnutrition. ONS is mostly used in treating weight loss and malnutrition as most of the reviewed articles showed that such medication helps increase muscle strength among older adults. The use of ONS was also seen to improve energy and protein intake among elderly patients [9]. Smooth, moist diet may be given to those elderly people who have chewing problems. Ghrelin has been reported to help stimulate appetite in older people with the anorexic condition. Studies also showed that ghrelin can help improve food consumption and weight issues.

### *6.2.2.3   Supplementary Feeding Assistance*

It is clear from the reviewed articles that malnutrition is a common problem in hospitals [8, 10 and 11]. The articles, however, show that designing a volunteer feeding assistance and targeting to those at risk of malnutrition can help deal with the problem [8 and 10]. Several articles show that such programs significantly increase protein and energy intake among the elderly. The programs should be designed in a way that can assist elderly patients in feeding and socializing with their nurses and other patients [8 and 10].

### *6.2.2.4   Nurse-Nutritional Counseling*

The review also showed that nurses can be trained and empowered to offer nutritional advice to elderly patients suffering from malnutrition [9]. The study showed that supportive nutritional advice has a positive impact on patient behavior and health outcomes. Nurse-nutritional counseling was for instance seen to slow the risk of malnutrition among elderly patients.  This thesis describes nurse-nutritional counseling as the utilization of psychology-informed education to facilitate changes in the eating behavior of malnourished patients [9]. Nurses should tailor their information and advice to each patient in order for the strategy to work. They should encourage optimal dietary intake in order for their patients to minimize the risk of malnutrition [9].

# 7 DISCUSSION

The current literature study sought to examine the effect of loneliness on malnutrition in older adults. The study reviewed 12 scholarly articles published between 2008 and 2018 to help answer the two research questions. The review showed that loneliness is a serious problem especially for the elderly who are malnourished. The condition can, however, be alleviated through several nursing interventions. This section discusses the research findings in relation to previous studies.

## 7.1 Effect of Loneliness on Malnutrition Among Older People

The primary objective of the current thesis was to examine the effect of loneliness on malnutrition. In particular, the study aimed at understanding how loneliness causes malnutrition in elderly populations. The study finds that loneliness is a complex phenomenon which can impair the quality of life among elderly patients (Skingley, 2015; Kimura et al., 2012). The reviewed articles show that the majority of elderly patients live alone and tend to experience reduced quality of life, cognitive decline, increase in the use of health services and increased mortality. The study finds that loneliness is exacerbated by depression, illness, lack of contact with family and friends, and death of a spouse are the critical causes of loneliness among the elderly (Boulos et al., 2017; Eskelinen et al., 2016).

Through literature review, it was established that loneliness is significantly associated with malnutrition among older people (Boulos et al., 2017; Ramic et al., 2011; Eskelinen et al., 2016). This means that older people who are lonely are at high risk of malnutrition. The thesis established that loneliness affects malnutrition by limiting functional capacity. Functional capacity is merely the ability to carry out tasks or activities that people consider necessary in their lives. The study found that loneliness limits one's ability to perform basic tasks such as shopping, cooking, and eating (Eskelinen et al., 2016). Limited functional capacity affects one's mobility or senses in a way that results in difficulties in undertaking everyday activities. A lonely elderly patient will, for instance, find it difficult to eat which will, in turn, result in malnourishment. Impaired functional capacity implies that an elderly individual is not able to cook and eat foods or may skip eating. He or she has to be helped and if this is not done the elderly can end up skipping meals which are essential to his or her nutritional needs.

Findings also indicate that loneliness can affect malnutrition by affecting appetite and sleep patterns. Most of the examined articles revealed that tends to disturb an older adult's appetite (Ramic et al., 2011; Ghimire et al., 2018; Eskelinen et al., 2016). Appetite is the desire to eat and may be stimulated by hunger or the appeal in cooked food. Loneliness hinders elderly desire for food, and this ultimately leads to malnutrition. Lonely can affect seniors differently. Some older people experience a loss or reduction in appetite and lose their taste for food. For others, loneliness makes them consume more as a way of coping with the condition. They experience a hike in appetite which results in overconsumption and sometimes obesity. The study, however, focused on how loneliness causes malnutrition among older people and thus the researcher was interested in how loneliness reduces appetite in older people.

The review also found that loneliness tends to disturb sleep patterns. Results from a study by (Smagula et al., 2016) showed that loneliness ruins the quality of sleep among elderly people and that sleep deprivation cause malnutrition. Specifically, sleep deprivation changes the foods that elderly people eat. It creates an intense craving for fat and sugary foods that are low in essential nutrients, and that may be harmful to one's immune system. Sleep deprivation also tends to cloud one's judgment in regards to the foods that should be consumed. A senior who is sleep deprived may, for instance, forget to cook the right food. He or she may wake up late or change his or her eating patterns. Overall, lonely older adults who are sleep-deprived would end up eating foods that do not contain the right nutrients.

Finally, loneliness was seen to affect malnutrition by affecting nutritional intake. This is done through a decline in both cognitive and physical functioning. Studies by (Eskelinen et al., 2016) and (Ramic et al., 2011) showed that lonely people experience a decline in cognitive function which is connected with a high risk of malnutrition in elderly patients. Impaired cognitive function was found to significantly affects one ability to shop and cook for meals (Ramic et al., 2011). In their study (Eskelinen et al., 2016) argued that loneliness is not itself a risk factor for malnutrition in a multivariate model. However, the majority of studies overruled this finding by showing that older adults who live alone tend to eat less and poorly which in turn worsens their nutritional intake. Loss of a loved one in old age was seen to increase loneliness, grief, and loss of social support all of which have a significant effect on older people's nutritional intake.

## 7.2   Nursing Interventions to Alleviate Loneliness

The literature review showed that loneliness cannot be eliminated with interventions (Cacioppo et al., 2015). This means that nurses can only alleviate loneliness among malnourished older patients. The study showed that nurses can either alleviate loneliness using two kinds of intervention: group intervention and individual intervention techniques. Group intervention is a form of intervention in which lonely seniors are placed in a group and guided by one or more therapists whose purpose is to help them recover from their condition. Group intervention techniques aim to bring about a reduction in the negative symptoms associated with loneliness as well as an improvement in social functioning (Cacioppo et al., 2015). Some of the most effective group intervention techniques for alleviating loneliness include social engagement, internet training, volunteering, and gardening.

Most articles mentioned that social engagement can be an effective way of alleviating loneliness among the elderly (Eskelinen et al., 2016). Findings show that social engagement comprises activities such as spending time with lovely ones, social interaction with others, community gatherings, and dependency on the performance of ADLs. A study by (Woolham et al., 2013) indicates that loneliness is strongly associated with social isolation which is strongly associated with poor health and poor usage of resources. To alleviate loneliness, (de Guzman et al., 2012) found that social engagement intervention has a positive and significant impact on loneliness among seniors. A nurse can use thus device social engagement activities for his or her lonely patients.

Gardening was also seen to be an excellent intervention strategy for alleviating loneliness. The literature review showed that gardens can be crucial to older adults, particularly at their difficult and painful times. An involvement in gardening offers several benefits to lonely elderly patients. It primarily reinforces a sense of purpose and functionality. The results of gardening are highly visible and thus creates a feeling of satisfaction that increases the elderly's self-esteem and perceived value. Gardening is in itself a time-consuming activity and may thus be used as a means of reducing the loneliness experience among the elderly.

Volunteering is another potential remedy for loneliness. It has the potential to help lonely elderly people reduce the feelings of being lonely. Nurses need to identify volunteering activities in which lonely elderly patients can engage in. They should communicate this information to their elderly

patients as volunteering can help them become socially, mentally and physically active. Seniors need to be motivated to participate in volunteering work as most of them are idle. Volunteering has both social and individual benefits but most importantly reduces loneliness among the elderly.

ICT interventions can also be used to alleviate loneliness among the elderly. Computer interventions for loneliness include learning how to write documents using computers, browsing the internet and searching for relevant information such as medical information, looking for social events, and learning how to use e-services and how to communicate via the internet. Video conferencing can also alleviate loneliness as it has been found to lowed loneliness at three months and one week. It was also found to enhance social and emotional support among the elderly significantly.

One-to-one intervention is also an effective intervention. A study by (Gardiner et al., 2018) established that visits to lonely elderly patients can be a good way of lessening loneliness. The review suggests that health promotion intervention method such as telephone calls, caregiver support, befriending and home visits can be an effective means of alleviating loneliness among older adults. Home visit was identified as the most effective measure for relieving loneliness among older people who live alone. Home visits by healthcare professionals, friends, and family members were seen to increase the elderly people's level of social interaction.

Reading and watching TV can also be used to help alleviate the feeling of loneliness in seniors. Nurses can encourage their elderly patient to either read novels, magazines, and articles or watch TV. These activities do not in themselves reduce loneliness but help patients pass the time and by so doing take their minds off their feelings of loneliness. Watching TV especially in the evening, for instance, can replace the human company that older adults would have had from their partners or friends.

## 7.3   Nursing Interventions to Alleviate Malnutrition

Following king's theory of goal attainment, preventing and treating malnutrition among older people need multidisciplinary approaches. This includes disease treatment and social and dietary approach. Nutritional intake and appetite can be improved by managing malnutrition and its

effects. The main categories that emerged from the reviewed articles included nutritional screening, nurse-nutritional counseling, nutritional support, and supplementary feeding program.

The literature review established that the identification of malnutrition and its symptoms is the essential step in addressing nutritional problems among lonely elderly patients. Most articles showed that nutritional screening can help reduce confusion about the real risk of malnutrition and identify older people at risk of malnutrition. Using a screening tool such as mini nutritional assessment (MNA) can help raise awareness of the significance of nutrition among the elderly and help identify those who are at risk of malnutrition. Older people who are malnourished need to be identified and monitored. Community-dwelling older adults should receive an annual malnutrition screening while those admitted at hospitals need to be screened every week during their hospital stay.

The study finds that nutritional supplements and appetite stimulants may be used to treat malnourished elderly patients. Drugs like ghrelin, oral nutritional supplements (ONS) and individualized diet have been found useful in helping those at risk of malnutrition. ONS is mostly used in treating weight loss and malnutrition as most of the reviewed articles showed that such medication helps increase muscle strength among seniors. The use of ONS was also seen to improve energy and protein intake among elderly patients. Smooth, moist diet may be given to those older adults who have chewing problems. Ghrelin has been reported to help stimulate appetite in older people with the anorexic condition. Studies also showed that ghrelin can help improve food consumption and weight issues.

It is clear from the reviewed articles that malnutrition is a common problem in hospitals (Eskelinen et al., 2016; Walton et al., 2008; Manning et al., 2012). The articles, however, show that designing a volunteer feeding assistance and targeting to those at risk of malnutrition can help deal with the problem (Walton et al., 2008; Manning et al., 2012). Several articles show that such programs significantly increase protein and energy intake among the elderly. The programs should be designed in a manner that can assist elderly patients in feeding and socializing with their nurses and other patients (Manning et al., 2012; Walton et al., 2008).

The review also showed that nurses can be trained and empowered to offer nutritional advice to elderly patients suffering from malnutrition (Walton et al., 2008). The study showed that supportive nutritional advice has a positive impact on patient behavior and health outcomes. Nurse-nutritional counseling was for instance seen to slow the risk of malnutrition among elderly patients. This thesis describes nurse-nutritional counseling as the utilization of psychology-informed education to facilitate changes in the eating behavior of malnourished patients (Walton et al., 2008). Nurses should tailor their information and advice to each patient in order for the strategy to work. They should encourage optimal dietary intake in order for their patients to minimize the risk of malnutrition (Walton et al., 2008).

## 7.4 Implying Nurses' Interventions Through the Kings TGA

The current thesis assessed the twelve articles with the hop of understanding nurses' role in caring for elderly people suffering from loneliness and malnutrition. Most of the reviewed articles showed that nurses play an essential role in not only caring for but also in treating loneliness and malnutrition. Six of the reviewed articles suggested the measures that nurses can use to alleviate loneliness and malnutrition.

The thesis employed kings TGA as the main theoretical framework. Kings TGA suggests that nurses should use a multidisciplinary approach in caring for the sick. Nursing practice should be based on adequate knowledge about the nurse-patient relationship and effective communication between the two. Based on the model, nurses should adequately understand their elderly patients and their conditions before suggesting any intervention. They should first seek to identify malnutrition and its symptoms and the best way to address it. They should screen their elderly patients using tools such as the mini nutritional assessment.

Nurses should play the lead role in establishing mutually beneficial relationships with their elderly patients. The relationship should be aimed at improving communication, establishing goals, and exploring ways of achieving those goals (Wisniewski, 2013). As per the king's theory, nurses should take full responsibility for their patients' health. They should communicate with them relating to measures that can help them deal with loneliness and malnutrition. They should screen and assess their elderly patients in order to make proper nutritional guidance.

# 8   CONCLUSION AND RECOMMENDATIONS

The researcher presents a summary of the main findings in this section. The study sought to assess the impact of loneliness on malnutrition in older adults. Recommendations are made based on the study's main findings.

## 8.1   Conclusions and Recommendations

The primary objective of the current thesis was to examine the effect of loneliness on malnutrition. The study established that that loneliness is a complex phenomenon which can impair the quality of life among elderly patients (Skingley, 2015; Kimura et al., 2012). The study found that the majority of elderly patients live alone and tend to experience reduced quality of life, cognitive decline, increase in the use of health services and increased mortality. The study finds that loneliness is exacerbated by depression, illness, lack of contact with family and friends, and death of a spouse are the principal causes of loneliness among the elderly (Eskelinen et al., 2016; Boulos et al., 2017).

Through a literature review, it was established that loneliness is significantly associated with malnutrition among older people (Ramic et al., 2011; Eskelinen et al., 2016). This means that older people who are lonely are at high risk of malnutrition. The thesis established that loneliness affects malnutrition by limiting functional capacity, by affecting appetite, and by affecting nutritional intake. The study found that loneliness limits one's ability to perform basic tasks such as shopping, cooking, and eating. Limited functional capacity affects one's mobility or senses in a way that results in difficulties in key activities such as cooking and eating. Loneliness was also seen to affect malnutrition by affecting appetite. Some lonely older adults experience a reduction in the desire to eat. For others, loneliness makes them consume more as a way of coping with the condition. They experience a hike in appetite which results in overconsumption and sometimes obesity. These two influences result in undernutrition and overnutrition which are all forms of malnutrition.

The study established that nurses have an essential part to play in caring for elderly patients suffering from loneliness. The literature review showed that nurses can either alleviate loneliness by using group or individual intervention measures. Group intervention techniques are aimed at

improving social functioning among the elderly. Some of the most effective group intervention techniques for alleviating loneliness include social engagement, internet training, volunteering, and gardening. Social engagement, for instance, was found to be an effective way through which lonely older adults can alleviate their feelings of loneliness. It comprises of activities such as spending time with lovely ones, social interaction with others, community gatherings, and dependency on the performance of activities of daily living.

Individual intervention measures such as one-on-one intervention are also useful in alleviating loneliness. The study established that the health promotion intervention method such as telephone calls, caregiver support, befriending and home visits can be an effective means of alleviating loneliness among seniors. Home visits were identified as the most effective measure for relieving loneliness among older people who live alone. Home visits by healthcare professionals, friends, and family members were seen to increase the older adults' level of social interaction.

The study established that nurses should use a multidisciplinary approach in caring for malnourished elderly patients. Nurses should seek to collaborate with their patients and patients' family in offering disease treatment options. The development of a treatment plan and the subsequent delivery of care should be a shared responsibility between the nurse, his or her patients, and the patients' family as dictated by the King's theory of goal attainment.

The literature review established that the identification of malnutrition and its symptoms is the first and most crucial step in addressing malnutrition among lonely elderly patients. The study found that nutritional screening can help reduce confusion about the real risk of malnutrition and identify older people at risk of malnutrition. Nurses should use screening tools to raise awareness of the significance of nutrition among the elderly and help identify those who are at risk of malnutrition. They should also identify and monitor elderly patients who are at the risk of malnutrition. Specific interventions that can be used to address the problem of malnutrition include nurse-nutritional counseling, additional feeding program, and use of nutritional supplements and appetite stimulants. Nurses should for instance use drugs such as ghrelin, oral nutritional supplements (ONS) and individualized diet to treat those at high risk of malnutrition. The use of ONS was also seen to improve energy and protein intake among elderly patients. Nurses should also design a volunteer feeding assistance to help malnourished elderly patients. Such a program

was seen to increase protein and energy intake among the elderly significantly. The programs should be designed in a way that can assist elderly patients in feeding and socializing with their nurses and other patients. Nurses on their part should be trained and empowered to offer nutritional advice to elderly patients suffering from malnutrition. This is mainly because supportive nutritional advice has a positive impact on patient behavior and health outcomes. Nurse-nutritional counseling was for instance seen to slow the risk of malnutrition among elderly patients.

Completing this study demonstrated both strength and limitations. The study manages to utilize a broad range of studies on the research problem. This study is based on a literature review as secondary source of data. Ideal articles ought to reflect recent contributions in the area of study. On the other hand, the study does not obtain sufficient articles to capture the broadness of the topic.

The completed study contributes to understanding and solving the problem of loneliness among the elderly. Loneliness is less explored, hence challenges faced in obtaining sufficient articles for review. The study explores another dimension of the study. However, contributions made by the study are less significant. Its suggested that future similar studies narrow down to specific aspects of loneliness in the elderly.

## 8.2   Critical Evaluation

This systematic literature review established that loneliness has a significant impact on malnutrition in elderly populations. This implies that older people who are lonely are at high risk of malnutrition. The thesis established that loneliness affects malnutrition by limiting functional capacity, by affecting appetite, and by affecting nutritional intake. The researcher thinks that these findings are valid, reliable, and generalizable. The findings are based on a review of twelve scholarly articles. The researcher made sure that every article was peer-reviewed in order to enhance the reliability of the research findings. Experts write Peer-reviewed articles and reviewed by several scholarly before they are published. The use of such data sources was intended to help enhance the reliability of the current study.

Data collection and analysis had to be conducted objectively. All emerging themes in the twelve articles had to be analyzed and presented honestly. Evidence-based ideas and concepts were

paraphrased and presented without any influence from the researcher. A proper approach to data gathering and analysis was considered and documented to help increase the credibility of the thesis. The researcher had to avoid all forms of bias by analyzing each article objectively and independently. Information from one article did not influence the interpretation of information from another article.

The researcher used the most current articles published between 2008 and 2018. This helped increase reliability in the study as most current articles contain reliable information. The articles had to contain evidence-based information that is related to the subject under study. The study used time-tested research methods to enhance the validity of the research findings. The researcher is however doubtful of the accuracy of the data sources since they all aimed at answering different research questions. The researcher, however, used a large sample size to help increase the generalizability of research findings. The researcher is thus confident that the results of the current thesis are valid, credible, reliable, and generalizable.

## 8.3 Suggestions for Further Research

The current thesis evaluated the effect of loneliness on malnutrition in older adults. The thesis found that loneliness has a considerable impact on malnutrition. The researcher understands that there are other factors responsible for malnutrition among the elderly and thus suggests other researchers examine them. The study did not assess the efficacy of suggested interventions. Other studies should examine the efficacy of the measures for reducing loneliness in order to identify the best measure for eliminating loneliness.

# References

Alligood, M. R., 2017. *Nursing Theorists and Their Work-E-Book.* S .l. Elsevier Health Sciences.

Arai, K. & Sakakibara, H., 2015. Malnutrition and social isolation among elderly residents of city public housing. *Japanese journal of public health,* 68(2), pp. 379-389.

Aveyard, H., 2014. *Doing a Literature Review in Health and Social Care: a practical guide.* 3rd ed. London: McGraw-Hill House.

Bengtsson, M., 2016. How to plan and perform a qualitative study using content analysis. *NursingPlus Open,* Volume 2, pp. 8-14.

Boulos et al., 2017. Social isolation and risk for malnutrition among older people. *Geriatrics & gerontology international,* 17(2), pp. 286-294.

Boutin-Foster et al. , 2013. Ethical Considerations for Conducting Health Disparities Research in Community Health Centres: A Social-Ecological Perspective. American journal of public health, 103(11), 2179-2184. *American journal of public health,* 103(11), pp. 2179-2184.

Branch et al., 2016. Four Nursing Metaparadigms. *IU South Bend Undergraduate Research Journal,* Volume 16, pp. 123-132.

Brownie, S., 2013. Nutritional Wellbeing for Older People. *Journal of the Australian Traditional-Medicine Society.,* pp. 140-145.

Cacioppo et al., 2015. Loneliness: Clinical import and interventions. *Perspectives on Psychological Science,* 10(2), pp. 238-249.

Dang, D. & Dearholt, S. L., 2017. *Johns Hopkins nursing evidence-based practice: Model and guidelines.* 3rd ed. New York: Sigma Theta Tau.

Dawson, C., 2019. *Introduction to Research Methods: A Practical Guide for Anyone Undertaking a Research Project.* 5th ed. s.l.: Robinson.

De Guzman et al., 2012. Correlates of geriatric loneliness in Philippine nursing homes: A multiple regression model. *Educational Gerontology,* 38(8), pp. 563-575.

Donini et al., 2015. Malnutrition in the Elderly. *In Diet and Nutrition in Dementia and Cognitive Decline,* pp. 211-222.

Eskelinen et al., 2016. Is loneliness associated with malnutrition in older people? *International Journal of Gerontology,* 10(1), pp. 43-45.

Eskelinen et al., 2016. Is loneliness associated with malnutrition in older people?. *International Journal of Gerontology,* 10(1), pp. 43-45.

Esquivel, M. K., 2018. Nutritional assessment and intervention to prevent and treat malnutrition for fall risk reduction in elderly populations. *American journal of lifestyle medicine,* 12(2), pp. 107-112.

Gardiner et al., 2018. Interventions to reduce social isolation and loneliness among older people: an integrative review. *Health & social care in the community,* 26(2), pp. 147-157.

Ghimire et al., 2018. Life satisfaction among elderly patients in Nepal: associations with nutritional and mental well-being. *Health and quality of life outcomes,* 16(1), p. 118.

Gonzalo, A., 2011. *King's conceptual system and theory of goal attainment and transactional process.* [Online]
Available at: http://nursingtheories.weebly.com/imogene-m-king.html
[Accessed 12 9 2018].

Groot & Staveren, 2010. Determinants of macronutrient intake in elderly people. *European Journal of Clinical Nutrition,* pp. 70-76.

Hamirudin et al., 2016. Outcomes related to nutrition screening in community-living older adults: A systematic literature review. *Archives of Gerontology and Geriatrics,* Volume 62, pp. 9-25.

Hopkinson, J. B., 2015. Nutritional support of the elderly cancer patient: The role of the nurse. *Nutrition,* 31(4), pp. 598-602.

Kimura et al., 2012. Eating alone among community-dwelling Japanese elderly: association with depression and food diversity. *The journal of nutrition, health & aging,* 166(8), pp. 728-731.

LoBiondo-Wood et al., 2013. *LoBiondoStudy Guide for Nursing Research-E-Book: Methods and Critical Appraisal for Evidence-Based Practice.* S .l. Elsevier Health Sciences.

Mackey, A. & Gass, S. M., 2015. *Second language research: Methodology and design..* s.l.: Routledge.

Mangels, A. R., 2018. Malnutrition in Older Adults: An evidence-based review of risk factors, assessment, and intervention. *The American Journal of nutrition,* 118(3), pp. 34-41.

Manning et al., 2012. Additional feeding assistance improves the energy and protein intakes of hospitalized elderly patients. A health services evaluation. *Appetite,* 59(2), pp. 471-477.

Marczyk et at., 2017. *Essentials of research design and methodology.* S .l.: John Wiley.

Munn et al., 2014. Data Extraction and Synthesis: the steps following thesis selection in a systematic review. *The American Journal of Nursing,* 114(7), pp. 49-53.

Osanloo, A. & Grant, C., 2016. Understanding, Selecting, and Integrating a Theoretical Framework in Thesis Research: Creating the Blueprint for Your "House." *Administrative Issues Journal: Connecting Education, Practice, and Research,* 4(2), p. 7.

Primo, C. C. & Brandão, M. G., 2017. Interactive Theory of Breastfeeding: creation and application of middle-range theory. *Revista Brasileira de enfermagem,* 70(6), pp. 1191-1198.

Ramic et al., 2011. The effect of loneliness on malnutrition in the elderly population. *Medical Archives,* 65(2), p. 92.

Skingley, A., 2015. Older people, isolation and loneliness: implications for community nursing. *British journal of community nursing,* 18(2), pp. 84-90.

Smagula et al., 2016. Risk factors for sleep disturbances in older adults: evidence from prospective studies. *Sleep medicine reviews,* Volume 25, p. 21.

Taylor et al., 2015. *Introduction to qualitative research methods: A guidebook and resource.* S .l.: John Wiley & Sons.

Turleyl, R. & Cohen, S., 2009. Improving the Nutritional Status of Elderly Residents of Long-Term Care Homes. *Head and Neck Surgery,* pp. 33-36.

United Nations, 2018. *Global issues: Aging.* [Online]
Available at: http://www.un.org/en/sections/issues-depth/ageing/
[Accessed 3 1 2018].

Vaismoradi et al., 2016. Theme development in qualitative content analysis and thematic analysis. *Journal of Nursing Education and Practice,* 6(5), p. 100.

Varghese, S., 2012. *Imogen King-Theory of goal attainment.* [Online]
Available at: http://www.youtube.com/watch?v=3FOgJHNS80o
[Accessed 12 9 2018].

Wade, C. E. et al., 2014. Evaluation of Nutrition Deficits in Adult and Elderly Trauma Patients. *Journal of Parenteral and Enteral Nutrition,* pp. 449-455.

Walton et al., 2008. A volunteer feeding assistance program can improve dietary intakes of elderly patients–a pilot study. *Appetite,* 51(2), pp. 244-248.

Wayne, G., 2014. *Imogene M. King's Theory of Goal Attainment.* [Online]

Available at: https://nurseslabs.com/imogene-m-kings-theory-goal-attainment/

[Accessed 6 November 2018].

WHO, 2018. *What is the WHO definition of health?.* [Online]

Available at: https://www.who.int/suggestions/faq/en/

[Accessed 3 January 2018].

Williams, L. A., 2017. Imogene King's interacting systems theory: Application in emergency and rural nursing. *Online Journal of Rural Nursing and Health Care,* 2(1), pp. 40-50.

Wisniewski, S., 2013. *Theory of goal attainment [PowerPoint slides].* [Online]

Available at: http://www.authorstream.com/presentation/terfid-1301896-imogene-king-power-point-2/

[Accessed 30 August 2017].

Woolham et al., 2013. Loneliness amongst older people: findings from a survey in Coventry, UK. *Quality in Ageing and Older Adults,* 14(3), pp. 192-204.