

**MALNUTRITION AMONG OLDER PEOPLE LIVING IN INSTITUTIONAL
CARE**

Literature Review

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MALNUTRITION AMONG OLDER PEOPLE LIVING IN INSTITUTIONAL CARE

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<p>Abstract:</p> <p>Malnutrition among older people living in the institutional care is an existing problem. The aim of the thesis is to raise awareness about factors that lead to malnutrition among older people living in institutional care and to collect available information about how to observe and treat it. The study has two research questions; (1) what factors may lead to malnutrition among older people in the institutional care and (2) how the nutritional care can be improved. The method used in the study was qualitative content analysis and materials were collected from Academic Search Elite (EBSCO) and Google scholar. Information gathered from the research materials/articles were grouped into different themes according to the research question and later analysed using qualitative content analysis. The result shows that psychological and social challenge, normal ageing and functional impairments, incompetence among care professional, faulty policyand medication were identified as factors that may lead to malnutrition. Using Pender's model of Health promotion as the framework, the author explored and analysed these factors and the challenges. Nutritional Screening, care professional training and policy reinforcement, nutritional supplement and Pharmacological solution was also found to be ways of improving nutrition among older people living in institutional care.</p> <p>The major limitation of this study was that the author was unable to make use of articles that were written in other European languages apart from English language due to lack of language skills.</p>	
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FOREWORD

I would like to thank Solveig Sundell, my research supervisor for her patience and good advice in making this thesis possible. Furthermore, I would like to thank my family; my wife who has been there for me throughout the years as well as Chisom, my daughter who inspires me on a daily basis. Additionally, I dedicate this thesis to all members of my family.

LIST OF ABBREVIATION

ADL	Activities of Daily Living
BMI	Body Mass Index
MNA	Mini Nutritional Assessment
ONS	Oral Nutritional Supplement
WHO	World Health Organization

1 INTRODUCTION

This study was commissioned by KustaankartanoElderly Centre, a nursing home including long- and short-term care, day care unit, service centre, intermediate care unit, and gerontechnological solutions. It is owned by Helsinki city department of social service and health care(Helsinki City 2013). The author was motivated to make further research on malnutrition among elderly after his encounter with older people at institutional care during his first and second practicaltrainingperiod in Espoo. At first he thought that malnutrition will not be a challenge in this type of institutional facility, where all meals are prepared by a trained specialist. However, he was surprised to notice that the challenge exists among older people in these institutions and in some cases many professionalsare not aware or seem not to be worried about this challenge.

Malnutrition is generally used to describe the disparity between food and nutrient consumption and the body's requirements concerning both under nutrition and over nutrition(Johansson et al. 2009). In this context malnutrition is looked at both from the perspective of under nutrition (the body getting lower nutrients than needed) and over nutrition (the body getting more nutrients than needed).

A.D.A.M. Medical Encyclopedia defines malnutrition as a condition that occurs when your body does not get enough nutrients. It may result from: inadequate or unbalanced diet, problems with digestion or absorption, not eating enough food and certain medical conditions (A.D.A.M Medical 2011).

Still the World Health Organization (WHO) defines malnutrition as the cellular imbalance between supply of nutrients and energy and the body's demand for them to ensure growth, maintenance, and specific functions (WHO 2013).

In the context of this study, malnutrition was viewed from the perspective of under nutrition.

The number of elderly people worldwide will dramatically increase over the next decades. In 2040, people in Finland over 65 years old will account for more than one quarter of the whole population(Suominen 2007). Because of decline in functional capacity due to health and age many older people live in institutional care facilities. Institutional care is given in an institution for elderly people who would not be able to manage at

home using other services, such as round-the-clock care/treatment. This may comprise long-term, short-term or periodic care (MSAH 2012).

The author looked into malnutrition among older people living in institutional care, through literature review.

2 RESEARCH AIM AND QUESTION

The aim of the thesis is to raise awareness about factors that lead to malnutrition among older people living in institutional care and to collect available information about how to observe and treat it.

The author formulated the following two (2) research questions to enable him to achieve this aim.

- What are the causes of malnutrition among elderly living in institutional care?
- How can nutrition among elderly living in institutional care be improved or how to reverse malnutrition among elderly living in institutions.

3 BACKGROUND AND THEORY

The chapter will discuss briefly older people and ageing, institutional care and nutrition, earlier literature on malnutrition among older people in institutional care and also introduce the theoretical framework used for the work.

3.1 Older people and ageing

The world demography is changing rapidly and soon there will be more older people than children and even more people at extreme old age than in the past. People live longer and population of older people is increasing (WHO, National Institute on Aging 2011). Advancement in medical care, higher standard of living, advanced in technology and low birth rate especially in the developed countries are some of the factors that are fuelling the demographic changes.

The number of people aged 65 or older is projected to increase from an estimated 524 million in 2010 to nearly 1.5 billion in 2050(WHO, National Institute on Aging 2011) .

As people get older, the ageing process sets in. Starting at middle age, functions of the body become susceptible to constant wear and tear. There is an overall weakening in physical and mental capabilities(Patience 2005). As people reach the height of growth and development in their 20s, transition time sets in and towards the second half of life, people are at higher risk of health challenges with various functions of the body as well as chronic diseases. This usually affects the cardiovascular, digestive, excretory, nervous, reproductive, and urinary systems. Alzheimer's, arthritis, cancer, diabetes, depression, and heart diseases have been identified as the most common illnesses of ageing (Patience 2005). Others include hearing decline, decrease in body muscle mass and strength, reduction in body water, decline in the functional efficiency of kidney and liver, decline in bone density and strength, and decline in visual ability (Patience 2005).

Individual lifestyle, gene cum health influences to a great extent the reaction to the changes. Biological aging and impairment processes which are highly influenced by individual socioeconomic, psychological, and physiological factors occur constantly and defer among individuals (Suominen 2007). It is important to stress that these factors affect individuals differently. For the purpose of this work, elderly and older people will be used interchangeably.

3.2 Institutional care and nutrition

According to US Department of Health, long-term/institutional care is a range of services and supports individuals may need to meet their own care needs(U.S. Department of Health and Human Services 2013)

”Most long-term care is not medical care, but rather assistance with the basic personal tasks of everyday life, sometimes called Activities of Daily Living (ADLs), such as bathing, dressing, using the toilet, transferring (to or from bed or chair),caring for incontinence, eating.

Other common long-term care services and supports are assistance with everyday tasks, sometimes called Instrumental Activities of Daily Living (IADLs) including: housework, managing money, taking medication, preparing and cleaning up after meals, shopping for groceries or clothes, using the telephone or other communication devices, caring for pets, responding to emergency alerts such as fire alarms”,(U.S. Department of Health and Human Services 2013)(U.S. Department of Health and Human Services 2013 p. 23).

Currently people live longer and many of them lose the functional capacities required to care for themselves at home or cannot be cared for by their own family or have no immediate family to care for them.

Because of this, they are cared for in long term care institutions, like nursing homes, community care and assisted living, residential care, and long-stay hospitals (WHO, National Institute on Aging 2011). It is expected that the population of elderly that will need this type of care will increase as the entire population of older people increases over theyears. Adequate and proper nutrition are effective health-promoting lifestyle methods in long term/institutional care (Suominen 2007).

Malnutrition has been identified as a major problem among older people living in institutional care with its consequences, such as increased morbidity and mortality (Vander-

wee et al. 2011). Earlier identification and treatment of malnutrition has been identified to contribute to better patient health, and health promotion (Vanderwee et al. 2011). For the purpose of the study, long term care, institutional care, nursing homes, assisted living, and residential care will be used interchangeably.

3.3 Earlier studies

To find out what is already known about malnutrition among older people, the author identified following literature.

Lynda J.R., Alison M.M., Adrienne M.Y. and Marilyn B., 2011, '*Everyone's problem but nobody's job: Staff perceptions and explanations for poor nutritional intake in older medical patients*' Journal of Departments of Nutrition and Dietetics and Internal Medicine and Aged Care, vol.68, pp 41-46.

In this article, Lynda et al carried out an empirical research to show the relationship between staff perception and malnutrition in older patient. The research was conducted using three focus groups involving 22 staff members working in the acute medical wards of a large tertiary teaching hospital in Brisbane, Queensland, Australia.

These focus group's statements were tape-recorded, their speeches transcribed and analysed thematically.

This article is useful to my research topic as Lynda et al suggest that there is limited evidence that effective nutrition intervention for the older patients with poor nutritional intake is implemented.

The major limitation of this article was less or no emphasis on staff personal development as a key to future innervation. However the author concluded that a redesigning model of care and redefining multidisciplinary roles would support coordinated nutrition care. This article will be useful additional information for my research on staff awareness of malnutrition (ROSS et al. 2011).

Jeffrey D, and Jones M, 2008, 'Enhancing nutritional care in nursing homes: the '2.15pm programme'', St Cathering' Nursing home.

In this article, Jeffrey and Jone discuss the model introduced in a nursing home to improve nutrition. The authors explained how St Catherine's nursing home used a 2.15 programme which is all about feeding older patients additional snacks around 2 pm (about 2 hours after lunch) to tackle the challenge of malnutrition.

This article is useful to my research as Jeffrey and Jone suggested a very simple way to prevent malnutrition among older people in the nursing home. Though the main limitation of the article is the assumption that simply mapping out a particular time for feeding will solve all the problems of malnutrition, without taking into account other factors that can lead to malnutrition, such as poor appetite, depression, cognitive problems etc. The authors also suggest that pro-actively promoting good nutrition is an easy way to raise the standard of nutritional care in nursing homes (Jeffrey, Jones 2008). This article will not form the basis of my research but it will present additional useful information on approaches of preventing malnutrition.

3.4 Theoretical frame work

This work study was carried out from the perspective of health promotion. World Health Organization defines health promotion as the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions (WHO 2013). Balante (2012) defined health promotion as behavior motivated by the desire to increase well-being and actualize human health potential. There are some many ways to promote health and some of these approaches will be described briefly.

3.4.1 Approaches to health promotion

Even though many authors have suggested different approaches to health promotion, five approaches offered by Naidoo and Wills will be discussed (Whitehead, Irvine 2010). In the suggestion, medical, education, behaviour-change, Empowerment and social change approaches were identified as different ways of promoting health. Medical approach emphasises on the use of medical intervention to prevent sickness and early death. Educational approach focuses on educating in order to increase awareness on good health choices, which will also lead to better health condition. Behaviour-change

just like education approach uses education to persuade people to embrace better health-ier behaviour. Empowerment approach sees it from a different angle as it views health concerns and priorities of individuals from their own perspective instead of that of the care professionals. Social change approach even moved further than the empowerment approach by focusing on the societal level for change (Whitehead, Irvine 2010).

3.4.2 Health promotion theory and models (framework)

Health promotion theory helps to “capture the nature of health promotion in some way and therefore to provide a frame work for describing and analyzing what the processes, activity and content of health promotion actually are” (Whitehead, Irvine, 2010P. 33). To be able to understand if health related actions we are engaging in are health promot-ing or not we need to understand the theory that supports health promotion (Whitehead, Irvine 2010).

Health promotion model (framework) is used to study health promotion practice and design intervention. There are several models of health promotion such as Tannahill’s model, Beattie’s model, Caplan and Holland’s model, Tones model and Pender’s model (Whitehead, Irvine 2010).

Tannahill’s model of health promotion

It is proposed as a model for defining, planning and carrying out health promotion. It views health promotion as comprising of three domain of action; health education, pre-vention and protection. It stresses the extensive variety of actions that can be identified as health promotion and the various health promotion actions’ overlap (Whitehead, Ir-vine 2010).

Beattie’s model of health promotion

It focuses on intervention instead of activity. It is comprised of four quadrants; health persuasion, personal counseling, legislative action and community development (Whitehead, Irvine 2010).

Caplan and Holland’s model

It offered framework based on four quadrants; radical humanist, radical structuralist, humanist and traditional (Whitehead, Irvine 2010).

Tones model

It is based on the relationship between health education and healthy public policy. It claimed that health promotion is achieved by combining health education and healthy public policy (Whitehead, Irvine 2010)

Pender' Health promotion model

Health promotion model (HPM) proposed by Nola J Pender was designed to be a “complementary counterpart to models of health protection (Mutha, Ameen 2012).It offered a framework to combining nursing and behavioral science perspectives using factors influencing health behaviours(Whitehead, Irvine 2010, Balante 2012, Pender, Murdaugh& Parsons 2011). This model views health as a positiveactive state notjust the absence of disease(Balante 2012). It is a competence or approach oriented model and excludes fear or threat as a reason for motivation for health behaviour (Whitehead, Irvine 2010, Pender, Murdaugh& Parsons 2011). The model includes seven cognitive-perceptual factors;

- Importance of health
- Perceived control of health
- Definition of health
- Perceived health status
- Perceived benefits and
- Perceived barriers

And five modifying factors;

- Demographic characteristics
- Biological characteristics
- Interpersonal influences
- Situational influences and
- Behavioral factors(Whitehead, Irvine 2010, Pender, Murdaugh& Parsons 2011).

Health promoting behavior is the target result and also the end point of this model (Whitehead, Irvine 2010, Mutha, Ameen 2012, Pender, Murdaugh& Parsons 2011)

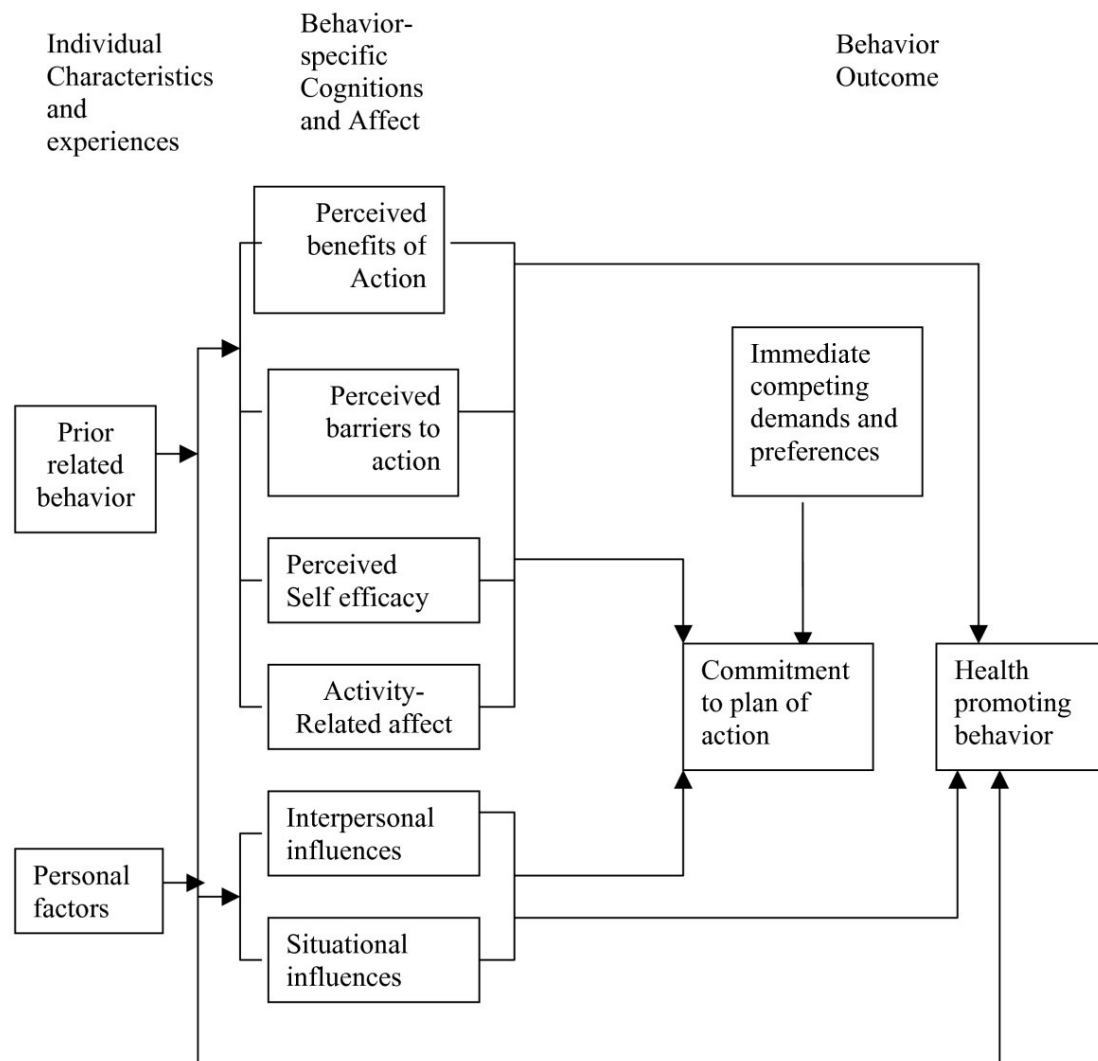
The model focuses on following three areas:

- Individual characteristics and experiences
- Behavior-specific cognitions and affect

- Behavioral outcomes (Mutha, Ameen 2012, Pender, Murdaugh & Parsons 2011)

It infers that every individual has a unique features/character and experience that influence ensuing activities. Nursing actions can change the set of variables for behavioral specific knowledge and affect, which has vital motivational impact. “Health promoting activities should manifest in good health, increased functional activities and improved quality of life at all levels of development”, (Mutha, Ameen 2012).

This study used Pender’s model of health promotion as its theoretical framework



Source: (Pender, Murdaugh & Parsons 2011)

Figure 1: Pender’s Health Promotion Model.

4 METHODOLOGY

This chapter will detail the techniques and practice employed to collect, process, manipulate and interpret information used for this study. Literature review was used for this study and qualitative content analysis was employed to retrieve the needed information from the article.

4.1 Literature review

A literature review is an account of what has been published on a topic by accredited scholars and researchers (Dena Taylor 2013) . As a literature review, this study is based on secondary sources. Reviewing the literature requires the ability to manipulate many tasks, from sourcing and assessing important material to synthesizing information from different sources. It also involves critical thinking, paraphrasing, evaluating, and citation abilities (Pautasso 2013). Information was retrieved from articles in journals, internet sources, magazines, newspapers, text books and also from other related publications. The author used articles from Israel, Finland, United Kingdom, Norway, Australia, Taiwan, Ireland and Iran.

4.2 Qualitative content analysis

The author used qualitative content analysis for this study. Data analysis is a vigorous procedure intertwining recognition of developing themes, and identification of main ideas (Hammell, Carpenter & Dyck 2000). Krippendorff described content analysis as a research method for making replicable and valid inferences from data to their context, with the purpose of providing knowledge, new insights, a representation of facts and a practical guide of action (Elo, Kynga 2008). This method of research can either be used with qualitative or quantitative data analysis.

The study was based entirely on qualitative content analysis which is defined as a research method for subjective interpretation of the content of text data through organized sorting process of coding and identifying themes or patterns. Qualitative research seeks to develop theory, explanation, description and understanding instead of direct testing of hypothesis (Hsieh, Shannon 2005, Morse 1994). It is also pluralistic, made up

of various approaches that reproduce both epistemological and philosophical position (Hammell, Carpenter & Dyck 2000).

4.3 Data collection

The author started to search for the articles using Academic Search Elite (EBSCO) database. Malnutrition and older people or elderly people were input as *all text* and the database gave 47,439 publications. The author then refined the search by using the following search keys; publication between 2005 to 2013, publication with full text, publication that was peer reviewed, and the result came down to 23,664 publications. The author changed the search key *all text* to *subject term* and the result came down further to 113. The author then studied their abstract. Articles that were based on institutional care were selected and some that are about older people in general was also included. The author made this selection based on his judgment of what he thinks can help answer the research question using *institutional care* or *nursing home* as key words. Initially 18 articles were selected. However nine (9) were used based on their relevancy to the topic. The author searched the Emerald database using malnutrition *among older people or elderly* as a search word, 157 articles were found. However, none was selected for use because those that are relevant to the topic either have to be bought or do not have a full text. Another search was done on the Google scholar data base using malnutrition among elderly as a key word and it gave 51,300 publications. The author refined the search result by selecting 2005 to 2013 articles, which gave 17, 300 publications. The author realised that most of the articles are not free and so selected two (2) free articles that are relevant to the research topic.

Table 1 Sample process

Database	Search terms	Year	Result	Used Articles
EBSCO	Malnutrition and older people or elderly people	2005-2013	47,439	9
Emerald	Malnutrition and older people or elderly people	2000-2013	157	0
Google	Malnutrition and older people or elderly people	1990-	51,300	2

scholar	erly people	2013		
Total				11

Table 2 Summary of research articles used and contents

Location	Name of Article	Author	Year	Content	Results
Content Analysis	Assessment of nutritional status and effecting factors of elderly people living at six nursing homes in Urmia, Iran.	Sakineh N. Saeidlou, Türkan K. Merdol, Peyman Mikaili, Yenar Bektaş	2011	The article seeks to determine the socio-economic and health factors affecting on nutritional statistics among elderly people living at nursing homes using MNA, socioeconomic status and health status questionnaires.	The result showed that malnutrition remains a common problem among older people living in nursing homes.
Content Analysis	Identification and management of patients' nutritional needs.	Best C, Evans L	2013	The articles discuss main concerns associated with caring for older people's nutritional needs while they are in care.	The result found that nurses are central to the provision of good nutritional care for older patients

Content Analysis	Addressing the nutritional needs of older people in residential care homes.	Joy Merrell; Susan Philpin; Joanne Warring; Debra Hobby; et al.	2011	The article discusses factors that influence the nutritional care provided to older people living in care homes.	The result indicates that staff strove to be responsive to the residents' dietary preferences and provided person-centred care, but there was reliance on observation and subjective monitoring rather than using a nutritional screening tool.
Content Analysis	Gastrointestinal hormones: the regulation of appetite and the anorexia of ageing.	C. Moss, W. S. Dhillo, G. Frost & M. Hickson	2011	The article discusses the inability to increase food intake after under-eating in short and long term due to ageing. The role of gastrointestinal peptide hormone was examined	The result showed that with advancing age, there is an increase in satiety hormones.
Content Analysis	How well do nurses recognize malnutrition in elderly	MH Suominen, E Sandelin, H Soini and KH Pitkala	2009	The article seek to investigate the how well nurses recognize mal-	The result showed that nurses recognize malnutrition in

	patients?			nutrition in elderly patients in long-term care.	their aged patients poorly.
Content Analysis	Depressive symptoms and risk for malnutrition among hospitalized elderly people	L. German, I. Feldblum, N. Bilenko, H. Castel, I. Harman-Boehm, D.r. Shahar	2008	The article discusses the relationship between depressive symptoms and risk of malnutrition.	The result showed that nutritional risk is associated with depression in aged inpatients.
Content Analysis	Risk of malnutrition is associated with mental health symptoms in community living elderly men and women: The Tromsø Study	Jan-Magnus Kvamme, Ole Grønli, Jon Florholmen and Bjarne K Jacobsen	2011	The article discusses the relationship between mental health problems and malnutrition among elderly.	The result showed that impaired mental health was strongly associated with the risk of malnutrition.
Content Analysis	Optimizing nutrition for older people with dementia	Delwyn Cole	2012	The article discusses interventions that can be used to identify and maintain adequate nutritional intake in older people with dementia	The result showed that staff need more time and training to improve nutritional intake in this group of patients.
Content Analysis	Nutrition and dietetics in aged care.	Leh-ChiiChwang	2012	The article discusses the challenging nutri-	The result showed that there is a wide

				tional needs and problems of the elderly.	range of problems associated with malnutrition in elderly that have implications on the strategies of intervention for addressing these problems.
Content Analysis	Why are elderly individuals at risk of nutritional deficiency?	Sonya Brownie	2006	The article “examines the factors that contribute to the development of poor nutritional status in older people and considers the consequences of malnutrition.”	The result showed that older population is a vulnerable group at the risk of nutritional deficiencies due to changes in body composition.
Content Analysis	Nutrition and eating difficulties in hospitalized older adults.	Holmes S	2008	The article discusses the relationship between ageing and nutrition.	The result showed that illness and disability can interfere with nutritional status.

4.4 Theme formulation using conventional qualitative content analysis

The author formulated themes for this study using conventional qualitative content analysis. Conventional qualitative content analysis is a form of qualitative content analysis where themes/coding groupings are derived directly and inductively from the raw data (Zhang, Wildemuth 2009).

Themes and headings were written down as the author was reading the articles. These headings were later categorised according to concepts that matches the research questions.

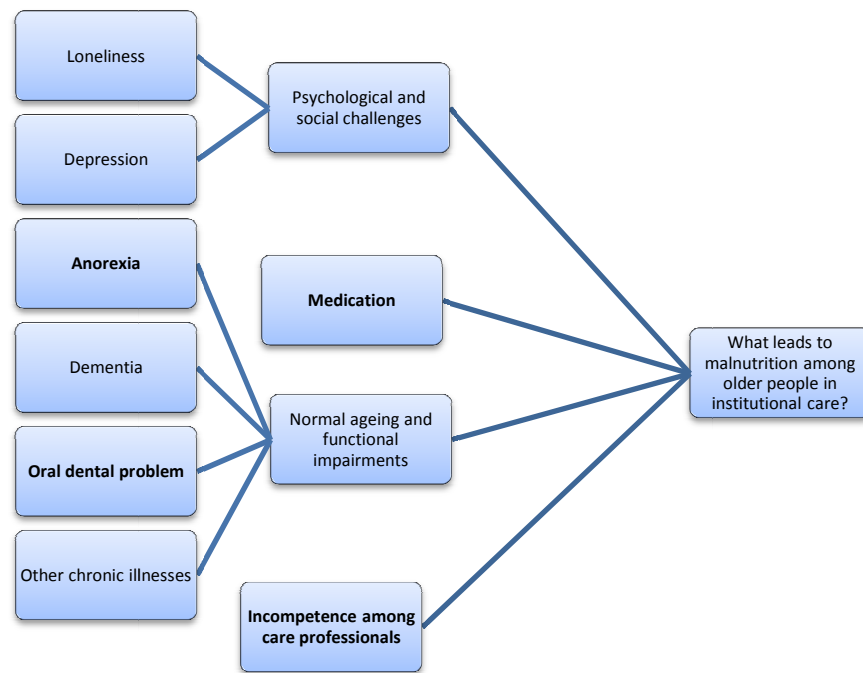


Figure 3 Theme formulations for the first research question

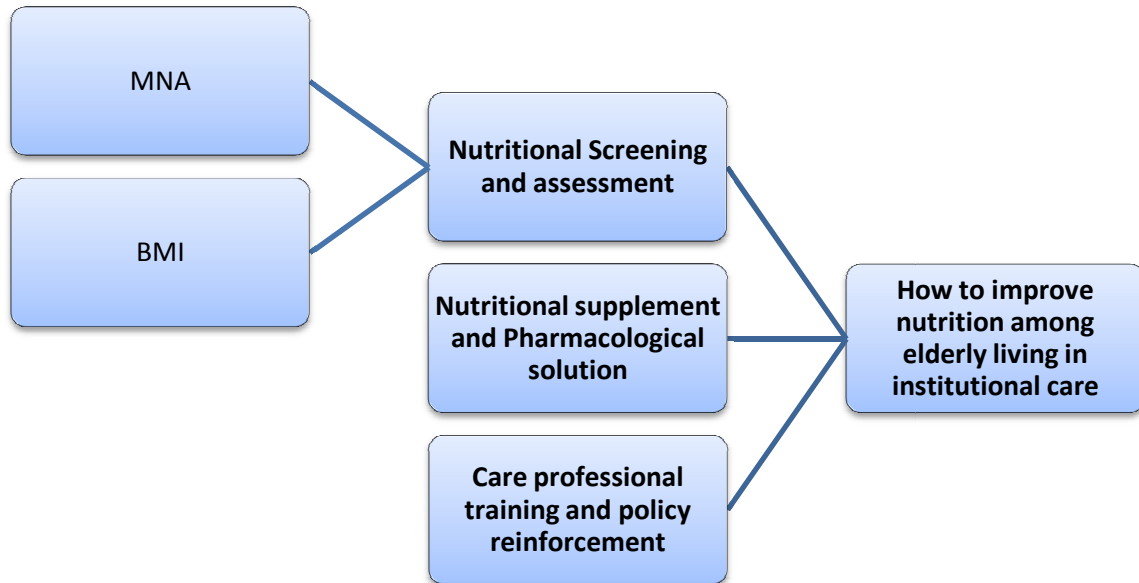


Figure4 Theme formulations for the second research question

From the data gathered from the articles, the author was able to develop the above themes (fig. 3&4) and also to provide answers to the research questions.

4.5 Ethical Considerations

One of the major challenges of any research study is navigating through the process without offending other stakeholders. Research involves a lot of stakeholders some of which include client/participant, commissioning institution, authors of other research materials used, school and the author.

In caring out this study, the author made every effort to comply with all ethical standards as provided by Arcada's ethical rules and thesis guideline. Research materials were presented the way they are without distortion, and their authors were acknowledged through detailed and appropriate citation cum referencing.

In all, the author strives to maintain high ethical standard that will be fair to all involved.

5 RESULTS

In this chapter, the author seeks to answer the research questions based on the data that was gathered from the articles.

5.1 What leads to malnutrition among older people in institutional care?

In accordance with Pender's Health promotion model, malnutrition among older people in institutional care can be attributed to several factors. These include cognitive decline, changes in biological cum physiological functions, and decreased appetite (Best, Evans 2013). Psychological and socio challenges like depression, life events and loneliness may also lead to malnutrition (Saeidlou et al. 2011). Holmes also identified increased drug/medication usage, dental problems, and gastrointestinal track disorders as factors that may lead to malnutrition (Holmes 2008). A study conducted in Finland has also shown that most care professionals do not recognize malnutrition among older people (Suominen et al. 2009). "Malnutrition in older people is a multidimensional concept encompassing physical and psychological element", (Saeidlou et al. 2011 p. 33). These factors will be grouped under the following subheadings; Psychological and social challenges, normal ageing and functional impairments, Incompetence among care professionals and faulty policy, and Medication and hospitalization.

5.1.1 Psychological and social challenges

Psychological challenges, such as loneliness and depression can lead to malnutrition as they always result in reduced appetite.

"Loneliness as an important phenomenon is correlated with a variety of emotional, physical and health related complications and is a major risk factor for malnutrition" (Saeidlou et al 2011 p. 178). This is not in line with Pender's health promotion model that encourages health promotion behaviour. Studies have shown that eating alone can greatly affect the amount of food one consumes as people who eat alone, tend to eat less and are at greater risk of malnutrition (Brownie 2006). It was also found that older peo-

ple living alone or who were socially isolated before moving into institutional homecare have a high risk of malnutrition (Saeidlou et al. 2011).

“Depression and anxiety, which are seen as co-morbid conditions with overlapping symptoms(Kvamme et al. 2011) are also psychological disorders associated with malnutrition among older people in institutional care”,(Kvamme et al. 2011 p. 1). Many studies have suggested that depressive symptoms in older people were independently related to malnutrition(German et al. 2008).

“One of the hypotheses is that depression may influence malnutrition through decreased motivation to maintain behaviors that will prevent the development or deterioration of malnutrition, such as shopping and cooking, weight control, and adequate physical activity”. “Another hypothesis is that malnutrition may affect depression through biological changes: lack of consumption of important macro- and micronutrients may result in lower immune functioning or cause neurohormonal or neurotransmitter changes” (German et al. 2008 p 317).

German also found a correlation between “depression and risk of malnutrition among hospitalized older people” (German et al. 2008 p. 317).

“Depressions, isolation, retirement from paid employment and decreased social interaction have an implication for food and eating practice among older people”, (Brownie 2006 p. 115).Saeidlou et al described the complex relationship between depression and malnutrition stating that “depression leads to reduced appetite; but on the other hand, malnutrition may induce depression and apathy malnutrition”, (Saeidlou et al 2011 p. 178).The two way link between depression and malnutrition may also be express with figure 2 below.

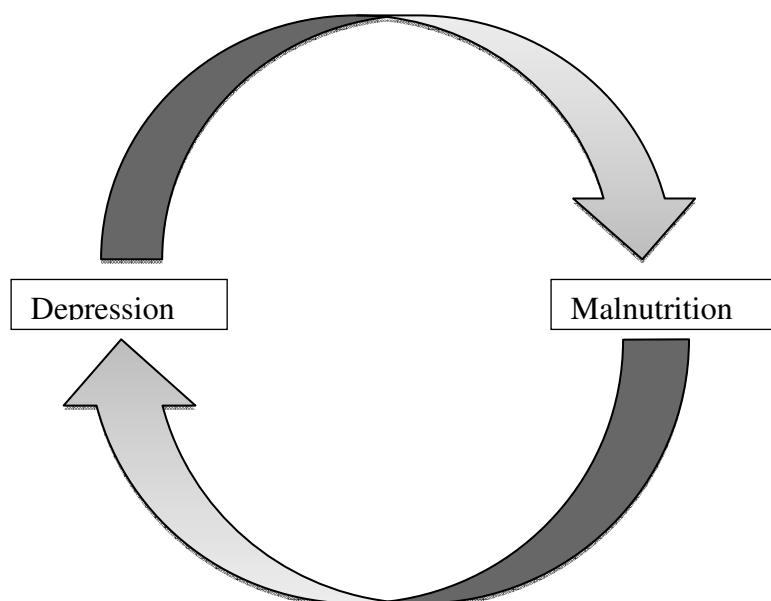


Figure 4. Correlation between Depression and Malnutrition

Source: Odoh 2013

5.1.2 Normal ageing and functional impairments

Ageing has been associated with progressive decline in the ability to perceive and recognize food taste (Brownie 2006), which may lead to decreased food intake. “Malnutrition in the elderly is often associated with functional impairment, disability and impaired health”, (Saeidlou et 2011 al p. 178). This could explain the low occurrence of malnutrition among non-institutionalized elderly when compared with nursing home residents who are in institution because of disabilities or inability to care for themselves, (Saeidlou et al. 2011). Though ageing does not lead directly to malnutrition, physiological changes associated with ageing can increase the risk of malnutrition (Merrell et al. 2012). Some of these changes are described below;

Anorexia

Anorexia nervosa is an eating disorder that makes people lose more weight than is considered healthy for their age and height (A.D.A.M Medical 2011).

Anorexia which is associated with loss of appetite is common among older people; older people usually consume a smaller amount of food than young people (Best, Evans 2013, Moss et al. 2012) . As people grow old, their ability to increase food intake after eating less in both short and long term is decreased. A decrease in hunger feelings and increase in satiety (fullness) among older people was also reported (Moss et al. 2012)

“Gastrointestinal peptide hormones are a major part of the appetite regulatory system and are released in response to nutritional stimuli. They can be classified as: anorexigenic (satiety) [e.g. peptide tyrosine tyrosine (PYY), glucagon-like peptide-1, pancreatic polypeptide, oxyntomodulin and cholecystokinin (CCK)] orexigenic (hunger) (e.g. ghrelin). ... Some evidence suggests that with advancing age there is an increase in satiety hormones, such as CCK and PYY, and a decrease in the hunger hormone, ghrelin” (Moss et al. 2012 p. 3)

These changes in hormones lead to less food intake and as result malnutrition.

Dementia

WHO defines dementia as disease of the brain, usually of a chronic or progressive nature, in which there is disturbance of multiple higher cortical functions, including memory, thinking, orientation, comprehension, calculation, learning capacity, language and judgment (WHO 2013)).

Older people with dementia are at high risk of malnutrition. Cognitive impairments common with dementia patients, most often lead to reduced or no ability to understand, or initiate feeding (Cole 2012). Older people with this condition may also miss their meal. In some cases, older people with dementia symptoms are not capable to express

their feelings, or they express it in such a way that is strange to the staff, through agitation or aggression (Best, Evans 2013). It is therefore very challenging to ensure that older people with dementia receive adequate nutritional care.

Oral dental problem

Another factor that may lead to malnutrition among older people in institutions is oral-dental problem. According to Holmes “patients with dental problems are more likely to be underweight because of impaired chewing and avoidance of foods that are difficult to chew, such as meat, fruit and vegetables”, (Holmes 2008 p. 49). It was also noted that the ability to eat decreases with decrease in number of teeth. Unfortunately help in most cases is not sought because oral-dental problem is seen as part of ageing.

Other chronic illnesses

Other chronic illnesses and disabilities common with older people such as instability, confusion, osteoporosis, visual impairments, cancer, arthritis, incontinence, immobility, and stroke may also lead to malnutrition. These problems may cause older people to “alter their food intake because of pain, restricted mobility, anorexia, nausea, loss of dexterity and coordination, and fatigue”, (Brownie 2006 p. 114).

5.1.3 Medication

Medication may lead to distortion in the way nutrients are absorbed, digested and expelled from the body. This may lead to change in food choices and malnutrition (Brownie 2006). Older people in institutional homes who take an average of 3 or more different medications a day have high risk of malnutrition (Saeidlou et al. 2011). Medications like anticonvulsants, diuretics, and antidepressants may change taste perception (Holmes 2008). More than 250 medications have affected directly the sense of smell and taste. These include calcium channel blockers, steroids, angiotensin converting enzyme inhibitors, diuretics, lipid-lowering drugs, antibiotics, non-steroidal anti-inflammatory drugs and psychotropic agents (Brownie 2006).

5.1.4 Incompetence among care professionals

Several reports have states that care staff lack knowledge on elderly nutritional needs, or deliberate refusal to implement policies meant to ensure adequate nutritional balance in older people is a major factor that leads to malnutrition (Holmes 2008, Suominen et al. 2009, Merrell et al. 2012, Cole 2012).

Research conducted in Helsinki shows that even though increasing numbers of staff are currently aware of malnutrition, and the current standards of nutritional support among older people in their care, they fail to apply it (Suominen et al. 2009).

The staffs' constant reliance on their own opinion instead of using standard nutritional screening tools in conducting broad assessment of older people with risk of malnutrition also contributes to the problem (Merrell et al. 2012). Care staff may also lack the zeal to carry out or recognize the “importance of nutritional assessment especially in patients who are not able to communicate on their dietary”, (Best, Evans 2013).

Staffs also fail to identify older people in institutional care that need help in feeding , there by leading to low food intake among them(Cole 2012). Even those that are been fed are seen merely as another duty to be fulfilled and in most cases are given little or no attention (Holmes 2008). Inadequate staff, staff attitude and lack of training may lead to malnutrition.

5.2 How to improve nutrition among elderly living in institutional care

Following Pender's health promotion model, preventing and treating malnutrition among elderly people living in institutional care need multidisciplinary approaches. This includes disease treatment, social and dietary approach (Saeidlou et al. 2011, Chwang 2012). Food consumption and appetite can be increased by thorough management of diseases and their effects (Holmes 2008, Holmes 2008). The following approaches were very prominent in the articles analyzed; Nutritional Screening, care professional training and policy reinforcement, nutritional supplement and Pharmacological solution.

5.2.1 Nutritional Screening and assessment

The most important step in addressing nutritional problems among older people living in institutional care is the identification of malnutrition and its symptoms. Nutritional screening will help reduce confusion about real danger of malnutrition and identify older people already at risk of malnutrition (Best, Evans 2013, Chwang 2012).

“Using a nutritional screening tool would raise staff's awareness of the importance of nutrition for older people as well as enable those residents who are at risk of malnutrition to be identified” (Merrell et al 2012 p. 211).

Though several screening tools have been developed, Mini Nutritional Assessment (MNA) is the most validated and widely used tool (Best, Evans 2013, Suominen et al. 2009, Chwang 2012). MNA is a “simple, reliable, well validated scale and it demonstrates good sensitivity to variety of nutritional parameters, such as biochemical, anthropometry or dietary intakes”, (Suominen et al. 2009).

Another popular tool that is used in monitoring weight loss is Body mass index (BMI), though its regular values may be above among older people compared to younger people (Suominen et al. 2009). Observing weight loss is a very important way of managing malnutrition among older people living in institutional care (Chwang 2012).

5.2.2 Nutritional supplement and Pharmacological solution

The use of nutritional supplements and appetite stimulant medication may be used to treat already identified patients with malnutrition. These include the use of individualized diet, oral nutritional supplements (ONS) and drugs like ghrelin (Saeidlou et al. 2011, Moss et al. 2012, Chwang 2012).

Oral nutritional supplements (ONS) have been used mostly in treating malnutrition and weight loss with studies showing that they have reduced mortality, increase muscle strength, and reduced illness among malnourished older people (Saeidlou et al. 2011). The use of ONS may be beneficial even though it can also be unsuccessful because of low compliance and due to taste weakness and their use as meal “replacements instead of supplements”, (Moss et al. 2012). It was also reported that using ONS improves older people’s energy and protein intake (Chwang 2012).

Older people with chewing problems may be given “smooth moist diet, for example potatoes with sauce or gravy, thick soup or yogurt”, (Holmes 2008 p. 51).

Both intravenous and orally administered ghrelin have been used to stimulate appetite in older people with anorexic condition, which resulted in improved food consumption and weight increase (Moss et al. 2012).

5.2.3 Care professional training and policy reinforcement

Malnutrition among older people in institutional care may be addressed through increasing care staff, training and giving more time to care staff (Cole 2012). Educating and increasing awareness among care staff about malnutrition have been associated with reduce in weight loss and improved nutrition among residents of care institution (Suominen et al. 2009). These have enabled care staff to recognize nutritional risks earlier and begin intervention immediately.

Understanding the many causes of malnutrition among older people in institutional care will give care staff an edge to implement the appropriate intervention (Chwang 2012). “It is important that care staff recognize and fulfil their vital role in identification and management of malnutrition in older” people living in institutions (Best, Evan 2013p. 36). Even though all care personnel are not expected to have deep knowledge of nutrition, having basic understanding of way to increase nutrient intake for older people with low appetite and underweight may reduce the risk of malnutrition (Merrell et al. 2012).

It was also reported that feeding training and extra staff time for care personnel in institutional homes has increased food consumption and eating time for the residents (Cole 2012). Care personnel have to be sensitive to older people's needs and should not think that they are not hungry when they appear reluctant to eat as some patients need to be stimulated to be able to eat (Holmes 2008). It is important that all care personnel understand that they have a role to play in monitoring and preventing malnutrition among older residents.

6 DISCUSSION AND CONCLUSION

The population of older people is increasing as well as population of older people living in institutional care. Ageing is a natural phenomenon that occurs with time. As people get older, the ageing process sets in and starting at middle age, functions of individuals come to be more exposed to regular wear and tear. Individual physical, mental and functional capacities also start to decline. This transition time paves way to even more health challenges, such as cardiovascular, digestive, excretory, nervous, reproductive, and urinary systems problems and diseases like alzheimers, arthritis, cancer, diabetes, depression, and heart disease. Others include hearing decline, decrease in body muscle mass and strength, reduction in body water, decline in functional efficiency of kidney and liver, decline in bone density and strength, and decline in visual ability.

Ageing is not a disease, but because of the above challenges that older people face, and with consequent loss of functional, physical and mental capacities they are unable to manage on their own at home. With the decline or loss of the capacities, it becomes difficult to manage with the activities of daily living (ADL). This may lead to institutional care where round the clock care and help in activities of daily living (ADL) are provided.

Good and proper nutritional care is a basic need of older people living in institutional care and it has been identified with improved health and good health promotion. According to the view of Pender's Health promotion model/framework, it is evident that maintaining good nutritional status for older people will lead to better health promotion as it may help decrease the incidence of morbidity and impairments.

However, there is a problem of malnutrition among older people in institutional care as suggested by several researches. The analysis from the research articles showed that malnutrition among older people in living in the institutional care may be attributed to several factors. These includes cognitive decline, changes in biological cum physiological functions, and decreased appetite. Other factors include psychological and socio challenges like depression, life event and loneliness, drug/medication usage, dental problems, and gastrointestinal track disorder. Lack of knowledge of nutrition and non-caring attitude of care personnel also increase this risk of malnutrition.

Preventing and treating malnutrition among elderly people living in institutional care needs multidisciplinary approach, that includes disease treatment, and social and dietary

approach. In accordance with Pender's Health promotion model, food consumption and appetite can be increased with thorough management of diseases and their effects. Regular nutritional screening of older people in the institutional care will help both in earlier detection and treatment. Management should ensure that both incoming and older residents are screened at a specific interval using MNA. MNA is nutritional screening tool that has been widely used and validated.

The use of nutritional supplements may be helpful. Oral nutritional supplement which is popular may be used to treat malnutrition among older people living in institutions. However, it is important not to replace the main meal with supplements. Use of drugs like intravenous and orally administered ghrelin has been suggested also as a way of improving appetite and nutritional intake among older people living in the institutional care. The most cardinal of all is care personnel training and policy reinforcement. Care personnel should be trained in the nutritional needs of the older people and also on how best to feed or support feeding. They should also be trained on how to assess the nutritional status of the older people using nutritional screening tools. Existing policies about nutritional care and screening should be reinforced and the implementation enforced. Achieving health promotion behavior is the ultimate solution.

Conclusion

In conclusion, the author's aim of carrying out this study was to raise awareness about malnutrition among older people living in institutional care and to collect available information about how to observe and treat it. This will promote older people's health and decrease morbidity and impairments.

Pender's model of health promotion is a competence or approach oriented model that excludes fear or threat as a reason for motivation for health behaviour among clients, staff, and management.

The answers to the first research questions were able to provide useful knowledge about factors that may lead to malnutrition among older people in the institutional care. The answers to the second research questions provided useful insight on how malnutrition among older people in the institutional care can be prevented/treated.

The author believes that both research questions were answered and the answers provide important knowledge that will help institutional care management to reduce or eradicate this challenge.

7 RECOMMENDATION

The author will recommend institutional care managers to train their personnel on older people's nutritional needs. They should also have policies that make it mandatory for residents to undergo periodic nutritional assessment. The issue of timing and rigid timetable should also be looked into in order to allow care workers enough time to give personalized care to the residents.

Further research is still needed on the topic, as the effect of pharmacological solution in treating malnutrition has not been fully understood. There is increase in the population of older people generally and more are expected to move to institutional care facilities with significant increase in the financial burden on the society. Therefore study on the financial factors that may lead to malnutrition needs also to be addressed in the future.

8 CRITICAL REVIEW

The author found this study interesting and an opportunity to understand why malnutrition is a major factor in the institutional care. The topic was also approved and commissioned without stress.

However, several challenges were encountered as the author proceeded with the actual study. At first, defining the research questions was problematic and had to be changed several times to suit the available material.

There seem to be a lot of articles about malnutrition among older people but few of these articles focused on malnutrition among older people in institutional care. There is still no generally accepted ways of dealing with these challenges nor define standards.

The method used for this study (Qualitative content analysis) also entails a lot of interpretations, and it was really challenging for the author to extract exactly the content of the articles without changing the original authors meaning.

The theoretical framework/model was interesting because health promotion is not entirely new to the researcher and model adopted suits the theme. Though it was difficult for the author to choose which of the available health promotion models to use.

Author's lack of other European language skills limits his ability to source materials that are written in these languages, which decreases the robustness of the data used.

However, the author is of the opinion that the result of this study is valid and reliable to a large extent.

BIBLOGRAPHY

- A.D.A.M Medical 2011, , *A.D.A.M. Medical Encyclopedia*. Available: <http://www.nlm.nih.gov/medlineplus/ency/article/000404.htm> [2013, 08/26].
- Balante, J. 2012, , *Health Promotion Model: Heuristic Device for Health Care Professionals*. Available: <http://nursingtheories.blogspot.fi/2008/07/health-promotion-model-heu>. [2013, 08/2013].
- Best, C. & Evans, L. 2013, "Identification and management of patients' nutritional needs. Acute care, nutritional assessment, nutritional care, undernutrition", *Nursing Older People*, vol. 25, no. 3, pp. 30-37.
- Brownie, S. 2006, "Why are elderly individuals at risk of nutritional deficiency?", *International journal of nursing practice*, vol. 12, no. 2, pp. 110-118.
- Chwang, L. 2012, "Nutrition and dietetics in aged care", *Nutrition & Dietetics*, vol. 69, no. 3, pp. 203-207.
- Cole, D. 2012, "Optimising nutrition for older people with dementia", *Nursing Standard*, vol. 26, no. 20, pp. 41-48.
- Dena Taylor 2013, , *The Literature Review: A Few Tips On Conducting It*. Available: <http://www.writing.utoronto.ca/advice/specific-types-of-writing/literature-review> [2013, 09/05].
- Elo, S. & Kynga, H. 2008, "The qualitative content analysis process", *Journal of Advanced Nursing* 62(1), 107–115, vol. 62, no. 1, pp. 107-108-115.
- German, L., FELDBLUM, I., BILENKO, N., CASTEL, H., HARMAN-BOEHM, I. & SHAHAR, D. 2008, "DEPRESSIVE SYMPTOMS AND RISK FOR MALNUTRITION AMONG HOSPITALIZED ELDERLY PEOPLE", *The Journal of Nutrition, Health & Aging*© Volume 12, Number 5, 2008, vol. 12, no. 5, pp. 313.
- Hammell, K., Whalley, Carpenter, C. & Dyck, I. (eds) 2000, *Using Qualitative Research; A pretaical introduction for occupational and physical Therapists*, Churchill Livingstone, London, UK.
- Helsinki City 2013, , *Kustaankartanon monipuolinen palvelukeskus*. Available: <http://www.hel.fi/hki/sote/fi/Sairaala-%2C+kuntoutus-+ja+hoivapalvelut/asuminen/kustaankartano> [2013, 08/2013].
- Holmes, S. 2008, "Nutrition and eating difficulties in hospitalised older adults", *Nursing Standard*, vol. 22, no. 26, pp. 47-57.

- Hsieh, H. & Shannon, S. 2005, "Three Approaches to Qualitative Content Analysis", *Qual Health Res* 2005 15: 1277, vol. 15, pp. 1277-1278-1288.
- Jeffrey, D. & Jones, M. 2008, "Enhancing nutritional care in nursing homes: the '2.15pm programme'", *Nursing Older People*, vol. 20, no. 9, pp. 4p.
- Johansson, Y., Bachrach-Lindström, M., Carstensen, J. & Ek, A. 2009, "Malnutrition in a home-living older population: prevalence, incidence and risk factors. A prospective study", *Journal of Clinical Nursing*, vol. 18, no. 9, pp. 1354-1364.
- Kvamme, J., Groli, O., Florholmen, J. & Jacobsen, B. 2011, "Risk of malnutrition is associated with mental health symptoms in community living elderly men and women: The Tromso Study", *BMC Psychiatry*, vol. 11, no. 1, pp. 112-119.
- Merrell, J., Philpin, S., Warring, J., Hobby, D. & Gregory, V. 2012, "Addressing the nutritional needs of older people in residential care homes", *Health & Social Care in the Community*, vol. 20, no. 2, pp. 208-215.
- Morse, J. (ed) 1994, *Critical issues in Qualitative research methods*, Sage publications, California, USA.
- Moss, C., Dhillo, W.S., Frost, G. & Hickson, M. 2012, "Gastrointestinal hormones: the regulation of appetite and the anorexia of ageing", *Journal of Human Nutrition & Dietetics*, vol. 25, no. 1, pp. 3-15.
- MSAH, F. 2012, , *Social services*. Available: http://www.stm.fi/en/social_and_health_services/social_services [2013, 08/2013].
- Mutha, R. & Ameen, S. 2012, , *Nursing Theories*. Available: http://nursingplanet.com/health_promotion_model.html [2013, 08/2013].
- Patience, P. 2005, , *Aging*. Available: <http://ask.healthline.com/galecontent/aging> [2013, 09/01].
- Pautasso, M. 2013, *Ten Simple Rules for Writing a Literature Review*, Public Library of Science.
- Pender, N., Murdaugh, C. & Parsons, M. 2011, *Health Promotion in Nursing Practice*, 6th edn, Person Education, Inc, New Jersey, USA.
- ROSS, L.J., MUDGE, A.M., YOUNG, A.M. & BANKS, M. 2011, "Everyone's problem but nobody's job: Staff perceptions and explanations for poor nutritional intake in older medical patients", *Nutrition & Dietetics*, vol. 68, no. 1, pp. 41-46.
- Saeidlou, S.N., Merdol, T., Mikaili, P. & Bektaş, Y. 2011, "Assessment of the Nutritional Status and Affecting Factors of Elderly People Living at Six Nursing

- Home in Urmia, Iran", *International Journal of Academic Research*, vol. 3, no. 1, pp. 173-181.
- Suominen, M.H., Sandelin, E., Soini, H. & Pitkala, K.H. 2009, "How well do nurses recognize malnutrition in elderly patients?", *European journal of clinical nutrition*, vol. 63, no. 2, pp. 292-296.
- Suominen, M. 2007, *Nutrition and Nutritional Care of Elderly People in Finnish Nursing Homes and Hospitals*, Department of Applied Chemistry and Microbiology (Nutrition) University of Helsinki, Finland, Helsinki.
- U.S. Department of Health and Human Services 2013, , *Long term care*. Available: <http://longtermcare.gov/the-basics/what-is-long-term-care/> [2013, 10/01].
- Vanderwee, K., Clays, E., Bocquaert, I., Verhaeghe, S., Lardennois, M., Gobert, M. & Defloor, T. 2011, "Malnutrition and nutritional care practices in hospital wards for older people", *Journal of advanced nursing*, vol. 67, no. 4, pp. 736-746.
- Whitehead, D. & Irvine, F. 2010, *Health Promotion and Health Education in Nursing. A framework for practice*, 1st edn, Palgrave Macmillan, London, UK.
- WHO 2013, , *Water Sanitation Health*. Available: http://www.who.int/water_sanitation_health/diseases/malnutrition/en/ [2013, 08/26].
- WHO & National Institute on Aging 2011, *Global Health and ageing*, National Institutes of Health.
- Zhang, Y. & Wildemuth, B.M. 2009, , *Qualitative Analysis of Content*. Available: https://www.ischool.utexas.edu/~yanz/Content_analysis.pdf [2013, 10/07].