Improving Health Literacy among elderly

The impact of low health literacy on health and well-being of older individuals

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Abstract:

Health Literacy is defined as the ability to understand, obtain and appraise health information in order to make appropriate decisions that can promote health (Carolla 2015). Low health literacy means lacking the ability to understand, obtain and appraise health information successfully and making decisions become difficult.
The aim of the study was to address how low health literacy can have negative impact on health of older individuals And to suggest ways to deliver and create more accessible and appropriate information related to health promotion by trying to answer the following questions. 1. What is health literacy?2. What are the effects of Health literacy for the elderly? 3. What is the nurse's role in improving health literacy?
This study was Literature review using qualitative content analyses.
Results suggest that Low levels of health literacy affects the ability to manage one's own health effectively as result there is negative impact on physical health, cognitive health decline and the to self-manage chronic diseases. The low health literacy can be improved through effective communication, chronic disease management programs and training health care professionals about health literacy.
Conclusion: Health literacy can be improved by supporting disadvantaged groups such as elderly in this context. making easily accessible health information, providing more information for people who are at risk to be low literate and promoting the capacity to use online health information. This study was commisioned by the city of Lovisa.

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CONTENTS

1 INTRODUCTION

Health literacy is defined as "the ability to understand information related to one's health in order to make effective and appropriate decisions". Health literacy encompasses complex set of reading, listening. analytical and decision making skills and the ability to apply these skills into health situations. Poor Health literacy can cause many problems and decline the well-being and quality of life among the older population. People with low health literacy are prone to develop chronic diseases and mortality rate in this group is also high (Dennis et al 2014; Lee 2009). Particularly the elderly are vulnerable to low health literacy and problems that could have been prevented or delayed with adequate health literacy skills (Zarkadools et al. 2005). Older person with low health literacy skill can encounter problems with medications, poor post-operative outcomes and difficult to adhere to healthier lifestyle choices. It is proved that low health literacy can harm the well-being of the individuals (Mullen 2013) . Inadequate health literacy can affect the ability to
fill forms related to health care, get important screening tests, manage chronic diseases, take medications correctly and choose healthier lifestyle.
Low health literacy is linked to high rates of hospitalization and less use of preventive services, thus leads to high health care costs. The elderly need to have strong health related information to sufficiently manage and overcome challenges that come with age related changes (Nutbeam 2008; Heijmans et al. 2014; Thompson 2012).

This study will hopefully benefit the health care-providers and the commissioning partner the city of Lovisa. The paper aims to provide knowledge about health literacy and also highlights the impact it has in the wellbeing of the elderly. The paper also aims to describe some evidence based research that has been used before and that is applicable in the working life. This will hopefully have a positive impact on the life of elderly if the caregivers put into practice the interventions provided in this paper.

2 BACKGROUND

The world population is aging rapidly. According to World Health Organization (WHO 2009), this rapid increase causes demographic changes within different age groups. the age group 60 years and above are the largest growing and estimated to reach 22% of the whole population by 2050. This increase in number of older people is the result of longer life expectance. The population living longer is success that the humankind have achieved through enhancing preventive health service and hygiene, but this challenges the ability to maximize the health and functional capacity of older people as well as their social participation and security. Shoenborn et al. 2010; Mcmahon& Isaacs 1997).

There is no universally agreed time to be related as "old" but it often starts after the retirement age 65 and above. According to changes in body function and progress of age people of 65-74 are known as "young old", those between 75 and 84 as "olds" and 85 and above as oldest old (WHO 2009). As the baby boomers, those who born between 1944-1950, are expected to retire soon, the elderly are going to be the biggest health care consumers in the coming years. In Finland the number of old people aged 80 and above is quarter of million (statistics Finland 2014).

As years increase the older person experiences many physical changes that hinder to fully participate his/her surrondings. The changes are often more physical than psycological changes. Such changes include hearing loss, visual impairment, speech disorder and muscle weakness. In addition the elderly may also experience some psycho-social changes, confusion, isolation and loneliness, bereavement and memory loss, this to be one of the biggest mental problem affecting the older people(Rowland 2009; Mcmahon & Isaacs 1997).

Chronic disease is a major problem among older population in general. A key part of older people have at least one or two persistent illness that requires special treatment. The prevalence of chronic issues such as cardiovascular, cancer diabetes tye 2, physical disability mental and memory problems are all expected to increase as population ages. Chronic illness causes dependent and restricts the ability to perform daily tasks, in consequence leads to self-care limitations. In more than 49% of older

individuals have limitations and about 27% of older population have hard time managing simple daily activities at home. Many researches indicated that the older the individual the more there is need for professional care from community services (Rowlands 2009; Nurs 2001). Those revered as elderly are diverse/+group with different level of education, income, diseases, and are also culturally diverse. Therefore theirpreferences are different and it should not be asumed as all elderly have the same needs and medical care should be individually tailored (Bernard 2002; Bond & Corner 2004).

Researchers and politicians around the world are looking for ways to sustain economically and socially the growing need of the aging population. Social and health care systems are the most important systems of government policies in the EU countries. In Finland most of health care services are produced by the public sector. There is need to invent new strategies in order to sustain health care and prevent health problems in older people. (Bond & Corner 2004).

2.1 Health Literacy

Most widely accepted definitions of health literacy are developed by World health organization(WHO 2009) and the Institute of Medicine (IOM).WHO (2009) defined health literacy as"the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health".Health literacy defined by the 2004 Institute of Medicine report as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions"(Sudore et al. 2006). Health literacy skill is either directly or indirectly associated with the use of health care services, proper communication of health issues with health care providers, leading healthier lifestyle, good hygienic conditions, and finally taking preventive measures like immunization and recognizing early symptoms of a disease (Gazmararian et al. 1999; WHO 2009). Health literacy has

been the focus of researchers across the globe in recent years. Research from around the world clarified that optimizing health literacy can improve health and well-being and reduce health inequities (WHO 2009).

2.2 Health Literacy VS General Literacy

General literacy as defined by WHO (2009) is the ability to read, write, and compute and solve problems at level of proficiency, necessary to function in society, so as to achieve one's goals, and develop one's knowledge and potential. Historically literacy was a collection of cultural and communicative practices that is shared by members of particular groups. But as society gradually changes, so does literacy. In modern society the term has evolved to refer particularly to the ability to read and write at a level sufficient for communication or at a level that allows the individual to understand and communicate abstract ideas effectively (WHO 2009; Nutbeam 2008; Lin et.al 2014). In order to function well in the 21st century a person have to own a wide range of abilities and competencies, in essence different literacy skills such as from being able to read a newspaper to understanding information provided by a health care provider. And on the other side Health literacy is a person's capacity to independently find, understand, and use basic health information and services that are needed to make appropriate health decisions. Although health literacy goes beyond general literacy, Literacy can still predict the level of health literacy despite the fact, many studies have shown that individual with high literacy can still have difficult to interpreting and acting on health information (Lin et.al 2014). However, reading comprehension varies with an individual's knowledge with the content of the text, for that reason, health literacy is more predictive of health care use, health risk behaviors, and health outcomes than the level of general literacy (Wolfs et al. 2005).

2.3 Levels of health literacy

Nutbeam defined three levels of health literacy, which are functional, interactive and critical. This definition highlights the necessity for education and action at both the individual and population level. Health literacy is assessed in two terms in absolute and in relative term. Those patients who have the basic skills to function appropriately in health related issues are distinguished as in absolute terms. While relative term is used when comparing the difference between those who have more advanced skills to those who don't have the skill? Absolute measures of health literacy are mostly applied in clinical care by conceptualizing health literacy as a "risk" to be assessed and tailored communication and modification of the environment. In contrast relative measures are most obviously used in public health contexts where health literacy is conceptualized as an “asset”. It is developed through health education and communication (Nutbeam 2008).

Functional health literacy

Functional Health literacy is the basic ability to read, understand and act on health information and the necessity to function in everyday tasks. This level contributes to the ability to understand prescription labels, interpreting appointment slips, completing health care forms and following instructions on diagnostic tests and adhering to self-care at home . Inadequate functional health literacy can be barrier when educating patients with chronic conditions such as hypertension and diabetes. Patients with poor functional literacy are at risk of misunderstanding instructions on self care and administering medications appropriately(Williams et al. 1998). If poor functional health literacy is not Identified and addressed it can have unfavorable impact on health outcomes (Wolfs et al 2005).

Communicative/Interactive health literacy

Interactive health literacy is involved in the development of personal skills which are crucial when solving problems, and communication and decision-making process so that an individual can act independently on the knowledge pertaining health contexts. A cross-sectional study leaded by Heijmans et al. (2014) in Netherlands on patients

with chronic disease found strong relationship between communicative health literacy and the ability to self-management.(Dennis et al. 2012;Heijmans et al. 2014).

Critical health literacy

Critical health literacy is the ability to apply more complex cognitive and literacy skills to critically analyze health related information, it is also the ability to use information to apply greater control over a wide range of health determinants. As suggested by McLaughlin and DeVoogd (2004) critical health literacy, can be seen as a higher level of cognitive ability. Critical health literacy is a process that can be developed through education to critically judge information that is relevance to health. Critical health literacy is also seen as empowering citizens, where being critically health literate might mean acting individually or collectively to improve health through the political system or membership of social movements. Nutbeam (2008) argues that improving critical health literacy is part of community development. Critically literate society is capable to participate in critical dialogue concerning health, and become involved in decision making for health issues(Nutbeam 2008; Sykes et al 2013).

2.4 Prevalence of low health literacy

Health literacy has been studied throughout the world and most of the studies have consistently identified large prevalence of patients with low levels of health literacy with in societies (WHO 2009). In USA a large proportion of English speaking patients are classified as having below the required level of health literacy. Baker et al (2002) highlighted that one third of the elderly population possess low or in adequate level of health literacy. This is consistence with other studies done in Australia where low level of health literacy is significant issue (Baker et al. 2002). In other study done by Dennis et al (2012) noted that more than half of the Australian population are below the threshold to function a daily bases in today's society. In Europe the situation is same as in USA and Australia. As well research done in Canada by Schwartz et al. (2010) have

also identified that low health literacy is high in the English speaking as well as in the non-English-speaking population. Almost sixty percent have low levels of health literacy, that is the skill essential to access and use health information in order to make critical health related decisions and maintain health (Schwartz et al 2010). European Health Literacy Survey was conducted in 8 European countries (Austria, Bulgaria, Germany, Greece, Ireland, the Netherlands, Poland and Spain took part in the survey). The survey intended to measure the ability of each countries citizen to access, understand, analyze, and apply health information in order to take informed decisions that help them maintain health, prevent diseases and seek treatment in case of illness. The survey found that up to 46% of the European population who have participated had in adequate or problematic health literacy. The elderly had even worse results compared to the main population. Up to 60% of the 75 years and above had insufficient health literacy (HLS-EU CONSORTIUM 2012). As well china complains about the impact of low health literacy on patients and physician communication. Lin et.al (2014) documented that nearly 91% of adults in China are lacking the skills to fully understand spoken and printed information in a healthcare setting.

2.5 Health literacy and elderly

Those who are more prone to suffer from poor health literacy include, older adults, racial and ethnic minorities, people with less than high school education level, people with low income, and immigrants. So education, income ,age, language skills, and access to resources are all factors that are associated with incidences of low health literacye. In addition, the older person's ability to understand information related to one's own health is affected the Physical and mental decline associated with old age. This puts the older people a vulnerable possition for lower Health Literacy. Limited health literacy is highly prevalent among elderly,approximately from 25% up to 80% elderly have low health or inadequate health literacy skills (Berkman et al.2011, Nutbeam 2008; Mullen 2013; Parikh et al. 1996). In order to be health literate, the older individual should have the ability to read, calculate (for example blood sugar and cholesterol levels) and knowledge of health topics. Individuals with poor health literacy

often lack knowledge or have misinformation about the body, and the nature and causes of diseases. This misinformation can hinder the individual to see the relationship between lifestyle factors such as diet and exercise and health outcomes. According to researchers the skills needed to use health care information exceeds that of older person who graduated from high school. In order to promote older adult's Health Literacy it is inevitable to have effective interventions that target especially older adults (Speros 2009; Sörenson et al. 2009).

Patients with inadequate health literacy are often embarressed to seek help thus try to conceal the fact by professing to themself and to potential others that they are capable to read and understand health information. Adequate Health literacy is considered as being currency for negotiating the health care system and communicating effectively. It is important to know whether the patient possess adequate health literacy or not in order to match the level of instructions and material to patient's level of health literacy skill (Parikh et al. 1996; Lambert 2014). The most commonly used measuring instruments are the Rapid Estimate of Adult Literacy in Medicine (REALM), Test of Functional Health Literacy Assessment (TOFHLA), Newest Vital Sign (NVS) (Ghan 2014). So far these tools are only available in English and Spanish. In addition, the obove measures are highly time-consuming and can invoke patient's feeling of shame. by observing the patients behaviors can illustrate the chance that the older individual have low or limited health literacy and this way the patient won't feel much of shame (Mullen 2013).

The concept Health literacy is relatively new to Research field and it is at infancy stage. There is lack of widely agreed method to measure the degree of health literacy (Sykes et al. 2013).

These measuring tools try to assess reading comprehension through word recognition. REALM uses a list of words to be read aloud and TOFHLA applies a method of inserting a missing word into a sentence.There are a number of shortened forms of REALM and TOFHLA such as REALM-R, S-TOFHLA brief and S-TOFHLA short (Weiss et al 2005). Primarily these tools are used in reaseach rather than in clinical settings. Number of challenge comes when using them in clinical settings such as the need for staff

training, time, cost, patients consent for testing health literacy and privacy (Lin et al. 2014; Dennis et al. 2012)

3 THEORETICAL FRAMEWORK

The theoretical framework links the researcher to existing studies. A relevant theory provides basis for hypotheses and choice of research methods. On the other hand, organized theory permits the researcher to logically shift from simply describing a phenomenon to generalizing about various aspects of that phenomenon. Having a theory facilitates to identify the limits to those generalizations. A theoretical framework indicates what variables influences an event under investigation, and highlights the need to study how those key variables might differ and under what circumstances Atheory can be used to analize things that have alreary accured (Illot et al. 2013)..

3.1 Health Belief Model

The Health Belief Model (HBM) is one of the widely used theories to explain health related behaviors. HBM was initially developed to understand people's failure to participate in preventive and early detection of disease services. later HBM was extended to apply people's responses to diagnosed symptoms and compliance with medical procedures (Mahoney 1995).

The HBM was developed in the 1950s by a group of social psychologists Godfrey Hochbaum, Irwin Rosenstock, and Stephen Kegels seeking for an understanding of the widespread failure of people to take part in disease preventives or screening tests for the early detection of diseases. Specifically the model was developed in a response to lack of participants to free tuberculosis screening tests. The HBM was again refined in 1970s (Asare & Sharma 2012). Initially the model consisted only four key concepts: Perceived Susceptibility, Perceived Severity, Perceived Benefits, and Perceived Barriers. It was later added the concept of Cues for Action. Finally, in 1988, the concept

of Self-Efficacy was added in an attend to address behaviors such as overeating and smoking(Asare & Sharma 2012).

The HBM originates from behavioral and psychological theories with the foundation that the two components of health-related behavior are components of 1) the desire to avoid illness, or conversely get well if already ill; and, 2) the belief that a specific health action will prevent, or cure, illness. According to the HBM change will exist only if the following assumptions are true (Conner & Norman1996).

- ✓ The person believes risk of developing a specific condition.
- ✓ The person believes the seriousness and the consequences of developing the condition are undesirable.
- ✓ The person believes that the risk will be reduced by a specific behaviour change.
- ✓ The person believes that barriers to the behaviour change can be overcome and managed (Taylor et al. 2007)

The Health Belief Model is a process used to encourage healthy behavior among those individuals who are at risk of developing negative health conditions. The individual should evaluate the perceptions of susceptibility and severity of developing a health problem and then it is necessary to feel threatened by these perceptions. Environmental factors also contribute and cues to action such as television ads or close relatives. last but not least the benefits to change an adopted behaviour have to be weighed against the barriers to change behavior in order to determine that taking action will be worthwhile (Ali & Hadaad 2004).

The core point of HBM is to explain how one's behavior depends on the percieved benefetis and barriers. Knowing this can help the healthcare professionals to anticipate how people response to the recommended health related advice. Above all, HBM tries to increase the quality of one’s life by raising an awareness of how serious a behavior can affect the one's health (Walker et al. 2012).

3.2 The constructs of Health Belief Model

Perceived susceptibility: this refers to an individual's own judgment of the risk of getting an illness. This is measured by asking questions like " what do you think are the chances of getting an illness or a condition?" The belief of being at risk of an illness is subjective, For example, one individual is in full denial while there is another one who feels danger is certain. In between are those who admit the statistical possibility of acquiring an illness but not belief it can happen to them (Becker & Janz 1985).

Perceived severity:Perceived severity is concerned with how threatening a condition may feel to the individual, this encompasses the individual's evaluation of the medical consequences (disability, pain, disfigurement) and the social consequences such as effects on family, work, social relationships. (Becker & Janz 1985).

Perceived benefits this refers to an individual's perception of the effectiveness of any action, that is on hand to decrease the danger of illness or disease or in other words to cure illness or disease. The course of action a person may practice to prevent or cure illness or disease, is often relied on consideration and evaluation of both perceived susceptibility and perceived benefit, such that the person is likely to accept the recommended health action if it was perceived as beneficial(Becker & Janz 1985).

Perceived barriers refers to a person's belief on the obstacles to respond to any recommended health action. There is wide difference in a person's feelings of barriers, or impediments, concerning the benefits and costs associated with taking health action. The Barriers can be financial, physical, or psychological factors (Walker et al. 2012). .

Cues to action is the stimulus necessary to accept and do the health promoting behaviors. Cues to action can either be internal such as symptoms of a any given disease and pain, or it can be external such as advice from health care providers or an illness of family member. A cue to action facilitates from having the desire to make a behavior change to actually making the change(Walker et al. 2012).

Self-efficacy refers to the degree a person is confident to his/her self-ability to accomplish a behavior successfully. Self-efficacy is a construct in many behavioral theories as it relates to whether a person performs the desired behavior or not (Walker et al. 2012).

The table below illustrates the HB model's concepts, definition and how to apply it in diferrent categories.

Table 1. Health Believe Model

Concepts	Definitions	Application
Perceived susceptibility	One's opinion of chances of getting an ill condition.	Define population(s) at risk, risk levels; personalize risk based on a person's features or behaviour; heighten perceived susceptibility if too low.
Perceived severity	One's opinion of how serious a condition and its consequences are.	Specify consequences of the risk and the condition
Perceived benefits	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take; how, where, when; clarify the positive effects to be expected
Perceived barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance.
Cues to Action	The Strategies to activate "readiness".	Provide how-to information, promote awareness, and send reminders.
Self-Efficacy	Confidence in one’s own ability to take action.	Provide training and guidance in performing actions.

The HBM has been applied to a wide range of health behaviors and different subject populations. These areas can be identified as: 1) Preventive health behaviors that incorporate health promoting (e.g. diet, exercise) and health-risk (e.g. smoking) behaviors and also vaccination and contraceptive follow ups, 2) Sick role behaviors, which means patient's compliance with recommended medical regimens, and following professional diagnosis of the condition. 3) Clinical use, which includes visiting health care environment for a variety of reasons (Ali & Hadaad 2004; Walker etal. 2012).

The health belief model seemed to be most suitible for this study, the model was among many theories and model that I have considered. It was not easy to select one theory for the study and it was one of the most difficult part of the writing process. I read mony theories including Theory of Planned Behavior (Theory of Reasoned Action), Social Cognitive Theory, and Theory of Goal Attainment by Imogine King. Finally I thought that HBM is more appropriate than the others although these theories were all good.

4 AIM AND RESEARCH QUESTIONS

The aim of this paper is to address a concern about barriers that prevents older individuals to find and understand information related to one's health and therefore improve general health. The second aim is to enhance and suggest alternatives to deliver and create more accessible and appropriate information related to health promotion. The questions that have to be answered are as follows:

1. What is health literacy?
2. What are the effects of Health literacy for the elderly?
3. What is the nurse's role in improving health literacy?

5 METHODOLOGY

Methodology is defined as: a set or a system of methods, principles and rules that regulate a given discipline as in the arts or sciences. The methodology section is the bulk of any research paper. In this section there should be enough and detailed information for other researchers to replicate the study or experiment. The methodology section is where clearly and precisely presented how the data was collected and analysed, this should also include description of the materials used in the study and how the data was prepared to be used for the study (Hsieh and Shannon 2005).

5.1 Literature Review

The method chosen for this paper is a literature review and a deductive content analysis is used as a method of collecting data. Literature review is a report of what has been published and available on a topic written by qualified scholars and researchers. The purpose of writing literature review is to convey to the potential reader what knowledge and ideas have been done on a topic, and what strengths and weaknesses exist in the literature (Hsieh and Shannon 2005). Literature review is appropriate when identifying what has already been said on the topic, which the key writers are, what the prevailing theories and hypotheses are, what questions are being asked, and what methodologies and methods are appropriate and useful. The guiding concept of literature review is the research questions and the thesis objectives that have been developed. Literature review is not just a descriptive list of the available material, or a set of summaries. Good literature review critically analysis the relationship between different works. It allows us to look at different perspectives and approaches of the

same topic. A good literature review, therefore, is critical of what has been written, identifies areas of controversy, raises questions and identifies areas needing further research (Boote et al 2005).The author chose literature review since it allows an opportunity to reference previous research publications, literature review provides strengths and weaknesses of the conducted research and offers a base of knowledge from which the topic of interest was built upon (Hsieh and Shannon 2005; Polit and beck 2006).

5.2 Data collection

The databases used for this work were academic, for instance EBSCO, PubMed and SCIENCEDIRECT. Abstract only articles were eliminated and full text articles were used. Moreover, only English articles were selected. Furthermore, the articles selected have been published between 2002 and 2015, hence assuring the most recent and relevant articles available for this work. Initially the year limit of the articles was 2009-2015, but as the resulted articles was not enough to answer the research questions, it was necessary to consider earlier published articles. Therefore, the publication years were adjusted to 2002-2015 in order to have all relevant articles. The table below illustrates inclusion and exclusion criteria (see table 2).

Table 2: exclusion and inclusion criteria

Inclusion	**Exclusion**
English only	Materials written in other languages
Relevant articles	Non full articles
Only full text articles	Websites, book not selected
Peered reviewed material	Published materials used were not before the year 2002
From year 2002 to 2015	Materials not scientific written or peered reviewed were not an option
Scientifically written articles only	

The keywords used during search included: Health literacy, elderly, mental health, physical health and nursing intervention. After using above such terms EBSCO provided

most relevant articles (n 382), Out of these articles nineteen (n 19) articles were evaluated and seven (n 7) articles were selected from the nineteen articles. On the other hand PubMed delivered forty-nine (n 49) articles, nine (n 9) articles were evaluated and two (n 2) articles were selected. Finally, Science direct produced (n 10,375) eight of them were evaluated and three selected (see table 3). The 12 selected articles provided the necessary information needed for this work and give answers to the formulated research questions.

Table 3: Results of data search

Data base	**Search terms**	**Outcome**	**Full text**	**2002-2015**	**Evaluated Articles**	**Selected Articles**
EBSCO	Health literacy	2,191	330	317	7	3
EBSCO	Health literacy, elderly	49	6	6	6	2
EBSCO	Health literacy, mental health	62	62	59	6	2
PubMed	Health literacy, nursing intervention, elderly	49	49	49	9	2
Science direct	Health literacy, physical health	10,375	8	8	8	3
Total		12,726	455	439	36	12

5.3 Presentation of articles used

The table below demonstrates the 12 articles used in this paper.

Table 4: presentation of articles

Author	Year	Title	Method	Objectives
Alex D. Federman Mary Sano, Michael S. Wolf, Albert L. Siu, and Ethan A. Halm,	2009	Health Literacy and cognitive Performance in Older Adults	Cross-sectional cohort.	To study the relationship between health literacy and memory and verbal fluency in older adults.
Lin X, Wang M, Zuo Y, Li M, Lin X, et al	2014	Health Literacy, Computer Skills and Quality of Patient-Physician Communication in Chinese Patients with Cataract.	Cross-sectional study	The aim of the study was to assess levels of health literacy and computer skills in Chinese patients with cataract, and their impact on the doctor-patient relationship
Marina Serper, RachelEPatzer,LauraM. Curtis,SamuelG.Smith, RachelO'Conor, DavidW.Baker,and Michael S.Wolf	2014	Health Literacy, Cognitive Ability ,and Functional Health Status among Older Adult	structured, in-person interviews	To investigate whether previously noted associations between health literacy and functional health status might be explained by cognitive function
Monique Heijmans, GeekeWaverijin, JanyRademakers, Rosalie Van Der Vaart	2014	Functional, communicative, critical health literacy and chronic disease patients and their importance for self-management.	Questionaires.	To provide insight to the level of health literacy among chronic disease patients in Netherland, to identify subgroups with low literacy and to examine the associations between health literacy and self-managment

Sarah Dennis1*, Anna Williams1, Jane Taggart1, Anthony Newall2, Elizabeth Denney-Wilson1, Nicholas Zwar2, Tim Shortus and Mark F Harris	2012	Which providers can bridge the health literacy gap in lifestyle risk factor modification education?	a systematic review and narrative synthesis	The aim of this narrative synthesis is to determine the effectiveness of primary healthcare providers in developing health literacy of patients to make SNAPW (smoking, nutrition, alcohol, physical activity and weight) lifestyle changes.
Ellen Mullen	2013	Health Literacy Challenges in the Aging Population	A systematic Literature review	The purpose of this paper is to discuss the impact of low health literacy and discuss interventions to minimize its effect on the elderly population.
Ella Stiles	2011	Promoting health literacy in patients with diabetes	Systematic Reviews,	The aim is To suggests how nurses can help people with diabetes improve their health literacy.
Muir KW, ALice, Ventura, Sandra S. Stinnett, Abraham Enfiedjian, R. Rand Alingham, Paul P. Lee	2012	The influence of health literacy level on an educational intervention to improve glaucoma medication adherence	randomized controlled trial	To test an educational intervention targeted to health literacy level with the goal of improving glaucoma medication adherence.
Shoou-Yih D. Lee, Ahsan M. Arozullah, Young IkChoKathleen Crittenden, Daniel Vicencio	2009	HEALTH LITERACY, SOCIAL SUPPORT, AND HEALTH STATUS AMONG OLDER ADULTS	Cross-sectional design	The study examines whether social support interacts with health literacy in affecting the health status of older adults
Sandy Carollo	2015	Low health literacy in older women: The influence of patient–clinician relationships	Qualitative study	Findings of this qualitative study support the current literature in that health literacy is a social commodity bound to health care access, health promotion, health protection and disease prevention.
Laurie Anne Ferguson, and Roberta Pawlak	2011	Health Literacy: The Road to Improved Health Outcomes		Limited literacy impacts health behaviors, decisions, and, ultimately, outcomes.
Mark H. Eckman, Ruth Wise, Anthony C. Leonard, Estrelita Dixon, Faisal Khan, Christine Burrows and Eric Warm	2012	Impact of health literacy on outcomes and effectiveness of an educational intervention in patients with chronic diseases	randomized controlled study	Study impact of health literacy on educational intervention for patients “Living with Coronary Artery Disease.”

5.4 Data analysis

Content analysis is a research method that enables the data collected in research to be analyzed reliably and systematically. Thus, data can be organized and categorized in order to clarify the research to be conducted. There are three approaches of content analysis that are conventional, directed, or summative. The major differences among these three methods are coding schemes, origins of codes, and threats to trustworthiness. In conventional content analysis, coding categories are derived directly from the text data. While a directed approach, analysis starts with a theory or relevant research findings as guidance for initial codes. A summative content analysis involves counting and comparisons, usually of keywords or content, followed by the interpretation of the underlying context (Graneheim & Lundman 2004).
There are many reasons why content analysis is done. It is a safe method in the sense that if the researcher found that a portion of the necessary information was missing or incorrectly coded, it is possible to return to the text and supplement the missing data. This is not always possible in experimental or survey research. Content analysis can deal with large volumes of data. Processing may be difficult but the use of computers made the job fairly easy. It is an unobtrusive research technique useful to study sensitive research topics (Loy 1987).

According to Polit & Beck (2006) content analysis is a process of arranging and combining narrative, qualitative materials into a different themes and concepts. Content analysis can be classified as inductive or deductive approach. Inductive method is utilized when there is not enough information about a phenomenon or it is fragmented. (Elo & Kyngäs 2007.) Inductive content analysis derives the concepts from the data; hence it is used to develop conclusions from particular observations (Polit & Beck 2006). On the other hand, deductive content analysis is employed when the structure of analysis is utilized on the basis of existing knowledge. In addition, deductive approach is often a way of narrowing down a previous theory or model from general to specific. The purpose of using deductive method in studies is theory testing.

Both of the two approaches, inductive and deductive share three main phases that are classified as preparation, organizing and reporting. When using content analysis the main feature is that the words of the text are categorized into content categories. (Elo & Kyngäs 2007.) After reading through the definitions of deductive and inductive approach the author decided to use deductive way of analyzing the data.

Since the author selected deductive content analysis the three steps of collecting data was followed one by one. The first step is organizing the data; the process includes open coding, creating categories and abstraction. The scientific articles were read through many times in order to gain sufficient understanding of the topic (Hsieh & Shannon 2005; Elo & Kyngäs 2007). After reading through the author categorized the emerging themes in to main themes and sub themes. The table below demonstrates the process and the picked up themes to be analyzed.

Table 4. Data categorization

ResearchQuestion	**Main Themes**		**Sub-Themes**
2. What are the effects of Health literacy for the elderly?	Health literacy	health outcome	Cognitive decline
			Physical health
		Socioeconomic level	
			Socioeconomic level and health literacy
3. What is the nurse's role in improving health literacy?	Nursing Interventions to promote health literacy		
			Chronic disease self management program
	Communication		Plain language

		Teach back method

5.5 Ethical Considerations

The International Council of Nurses code of ethics and Arcada's rules on thesis were used as ethical guidance in this study. The nurse's code of ethics emphasizes the nurse's duty to respect human rights, patient's/client's dignity and the right for dignified treatment regardless of gender, ethnicity, race, religion, culture and sexual orientation (ICN 2012). It is the researcher's responsibility to maintain the dignity and welfare of all the participants in the process of collecting data and protecting those who are involved in the process of gathering data from any potential harm, unnecessary risks, or mental and physical discomfort.

The author of this paper followed the rules of Arcada's thesis writing guide and executed the academic principles of writing scientific paper, which are honesty, carefulness and accuracy. All the articles used were referenced and credited accordingly. The author has measured, reported and made the statistics used in this study as accurately as possible. The articles were only from licensed databases such as Cinahl, Ebsco, Pubmed and Sciencedirect. The author avoided plagiarism by using own words and not coping the original sources.

6 FINDINGS

The result will be subdivided according the research questions. The research questions consisted of three questions, the first question(what is health literacy?), was answered in the background section. In the following sections the author will present the finding of the remaining two questions. The author divided the findings in to two main categories (health literacy and health outcome; and nursing interventions to promote health literacy). Under the main categories come sub themes, which are related to the studied topic.

6.1 Health literacy and health outcome,

Health Literacy is defined as the ability to understand, obtain and appraise health information in order to make appropriate decisions that promote health(Carollo 2015). Low health literacy means lacking the ability to understand, obtain and appraise health information successfully consequently, making decisions become difficult. The health care system is complex and it needs more responsibility to access different systems and adhere to the therapeutic plans. It is important to improve the health literacy of those with the worst health outcomes in order to minimize health inequalities. Low health literacy impedes the patients to manage chronic diseases effectively(Federman et al. 2009; Mullen 2013; Lee et al. 2009; Heijmans et al2014; Stiles 2011; Ferguson & Pawlak 2011; Eckman et al 2012).

6.1.1 Physical health

As mentioned above low levels of health literacy usually causes to be unable to manage one's own health effectively as result there is negative impact on physical health , navigate health services effectively, and understand the information available.

Patients with low health literacy were found to visit emergency department more often than their counterpart. Low health literacy is also associated with greater use of health resources and high mortality rate (Eckman et al 2012). Lee and his colleagues found in their study a statistically significant and positive association between health literacy and self-reported general health in older adults (Lee et al. 2009). A study done by Muir and Lee (2009)about patients with diabetes, has reported that low health literacy is associated with the presence of diabetic retinopathy among those with type 2 diabetes. In another study, patients with glaucoma and have a lower level of health literacy were more likely to have poor medication adherence and worsening of visual ability(Muir And Lee 2009). Hospital admission was reported to be high among those with low or inadequate health literacy. This is costly to the health care system and at the same time causes preventable suffering to the human being (Eckman et al 2012).

Medication adherence positively influences health outcomes. Low health literate patients have great misconception of medical instructions which leads to poor adherence. However, Health literacy should be considered a determinant of health because of its influences on patient's access to health services, effective communication, decisions, and treatment adherence(Ferguson & Pawlak 2011; Eckman et al 2012; Mullen 2013.).

6.1.2 Cognitive decline

Mullen (2013) showed that advancing age can result some form of cognitive decline without dementia. This form of cognitive impairment can have a cumulative toll on the elder person's ability to perform demanding tasks related to self-care(Mullen 2013). This mild cognitive decline affects up to 8% of community dwelling elderly but this is often difficult to detect. As Serper et al (2014) pointed out, although reading and numeracy skills are essential for disease self-management, broader cognitive abilities are also required in order to be effective health care consumer. According to

Federman(2009) verbal fluency which is an important factor, is often impaired in older adults without suffering from pertinent memory diseases. Verbal fluency includes the process needed to derive meaning from texts and oral communications about health topics (Federman et al. 2009; Serper et al. 2014)

Federman et al.(2009) found strong relationship between low health literacy and cognitive decline. The individuals with impaired performance on the tests of memory and verbal fluency were three to five times more likely to be low literate in health related topics.

Good Social support was found to be essential when promoting the older adult's health literacy skill. A cross-sectional study undertaken by Lee et al. (2009) found those older adults who were more health literate had better social support. This was explained by the constant informational and medical related help they get from their supporters. The older person's strong social relationship with other people my diminish the negative impact of stressful events such as making difficult medical decision or simply reminding the elderly an scheduled time with a medical professionals (Lee et al . 2009).

The older individual have to be engaged in active problem-solving to successfully navigate a health system, recall doctor instructions, dose out multi-drug regimens, comprehend health information and maintain daily health-promoting behaviors. Any failure to this can cause depression and anxiety, poorer self-rated health and unwanted health outcome(Lee et al. 2009; Serper et al. 2014).

6.1.3 Socioeconomic level and health literacy

The Researchers of health literacy consistently found that health literacy is associated with the level of education, income, age and social support. Those can either affect health literacy level either positively or negatively (Heijmans et al. 2014; Stiles 2011; Corrolla 2015; Eckman et al. 2012). Lower socioeconomic status also contributes to poor health results particularly for patients with demanding health issues. Those with no education or only primary education level were documented to have inadequate

health literacy. Female elderly are more likely to fall in this group (Lin et al 2009; Heijmanset al. 2014; Stiles 2011; Ferguson & Pawlak 2011).Health literacy is not only the ability to read and calculate it is also a patient's capacity to manage own health and the skill to make medical decisions often depends on a wide range of cognitive skills such as the capacity to actively remember, process, and apply learned information in a range of health topics (Wolf et al. 2009). Eckman et al. (2010) also found that lower socioeconomic status is associated with high morbidity rates from chronic diseases.

6.2 Nursing interventions to promote health literacy

In today's clinical settings nurses have the ability to modify the healthcare system and improve the communication between healthcare professions and patients. Nurses are also an advocate for interventions to promote health literacy and improve health outcomes of older people in order to maximize their capacity to self-mange (Lee et al. 2009; Heijmans et al. 2014; Stiles 2011; Ferguson & Pawlak 2011; Mullen 2013). Empowering patients is a key factor in the success of a gaining patient's confidence. In order for a nurse to be successful in empowering the older patients, there should be clear understanding of the psychological and emotional changes the older patient is dealing with.

6.2.1 Chronic disease self management program

As noted Heijmans et al. (2014) chronic disease self-management requires more than basic knowledge and goes beyond "communicative health literacy", which contains higher level of communication and social skill. Patients who possess this level of health literacy are self-confident to act independently and to navigate health care system more successfully. Participating chronic disease management programs that target older adults may be beneficial for low literate patients with chronic disease. These kinds of programs help patients to self-manage and gain confidence and self-efficacy. Further Dennis et al (2012) argued that adequate health literacy facilitates the capacity to self-manage health and prevent the development of chronic disease through lifestyle risk factor modification (Eckman et al. 2012).

It is important to educate health professionals about the impact of health literacy in order to support patients to fully participate in the process of self-management. It is also suggested to create time where issues such as health literacy or lifestyle risk factor management are discussed with patients and not putting the main focus on treating an acute problem, older people with inadequate health literacy should be informed about the existing resources. Healthcare providers must be able to direct patients to credible health resources. Informing patients about the available resources is essential for them to gain reliable and accurate health information.(Dennis et al. 2012; Stiles 2012; Ferguson &Pawlak 2011; Serper et al. 2014).

6.2.2 Communication

The ability to communicate is increasingly critical to the success of health care system and it is essential for successful interactions between patient and care-providers. People with inadequate health literacy were identified to be at substantial risk for patient-physician misunderstanding and as a result miss-communicate their perceptions of any potential risks. The high prevalence of low health literacy patients

necessitates the development of new methods to convey medical information to patients more effectively (Lin et al. 2014; Mullen 2013; Stiles 2012; Lee et al. 2012).

The nurse should aim for gaining the patient's trust as it can promote an open communication. The dialogue between the patient and nurse is supposed to be open dialogue where there is no feeling of shame. Encouraging the elderly to discuss their own thoughts and ideas can help the older patient to think critically and feel empowered (Federman et al. 2009; Carollo 2015;Dennis et al. 2012; Stiles 2011).

The time constraints in the health care system are causing many patients to leave feeling of incompleteness. This issue can be solved by giving extra time to those who are suspected to be low literate. Good relationship between patient and care-provider serves as the foundation of patient centered care and open communication which in turn allows shame free environment and therefore low literacy can be easily detected. The care provider should listen the patients' needs actively as it allows to see the patients fears, limitations and expectations (Carollo 2015; Serper et al. 2014).

Teach back is a method that involves providing information to the patient and after that the provider asks the patients to explain it back in their own words. Patients often forget the medical information received or some of the information is incorrectly retained. This is an easy way to confirm patient's understanding of the provided procedures (Mullen 2013; Dennis et al. 2012)

Plain language

Federman and colleagues further suggests that health information targeted to older people should be more than simplifying vocabularies. This can be executed more comprehensively, by trying to find ways to limit the demand on memory and verbal fluency. Nurses and other health care providers are advised to use familiar words and should try to avoid jargon when dealing with older patients. Using jargon and medical language can make health-related information unnecessarily difficult to use especially

for patients who lack the required skill. Most often Nurses rely on written material for patient education than oral; this can put high demands on low health literate patients who have limited skill. It is important to test comprehension and plan for further follow ups to ensure the required results are achieved (Federman et al. 2009; Crrollo2015).

7 RELATING THE FINDING TO THE THEORETICAL FRAMEWORK.

health literacy symbolizes people's knowledge, motivation and competences to access, understand, appraise and apply health information in order to make judgments and take decisions concerning health care in order to maintain or improve quality of life.

The theory used in this thesis is health belief model. The author selected this theory after careful consideration. It consists of a six assumptions that are related to a person's reaction towards changing a behavior or adopting healthier life style. Below we look at how each of the six assumptions relate to our findings.

Perceived susceptibility:

Low literate patients are less likely to understand the effectiveness of early detection and treatment of an illness. (Ali & Hadaad 2004; Walker et al. 2012).

Perceived severity: In order to choose health lifestyle and to seek for medical care it needs understanding health information. It has been identified that often people with low health literacy seek for medical care at late stage of a conditions. It is nurses duty to provide holistic care and give clear information to patients no matter their age. A health care environment that is shame free is vital when improving health outcomes of older people (Egbert 2010; Lambert 2014; Sudore et al. 2006).

Perceived Barriers:

The health care system is complex and it needs more responsibility to access different systems and adhere to the therapeutic plans. Low health literacy can be a barrier to

fully access the health system and use preventive services. According to Eckman et al (2012) patients with low health literacy often visit the emergency departments at late stage of a disease that could otherwise be prevented or cured if detected at early stage.

Perceived benefits: Health literacy and health belief model are related in a sense, as both deal with gaining knowledge and changing behaviour positively. Health belief model emphasizes people's reactions towards behaviour change and in order a person to make health behaviour change she/he is supposed to have knowledge about the benefits of changing already established behaviour. Also Muir and Lee (2009) found that patients with glaucoma and have a lower level of health literacy were more likely to have poor medication adherence and worsening of visual ability. Medication adherence positively influences health outcomes. Low health literate patients have great misconception of medical instructions which leads to poor adherence. However, Health literacy should be considered a determinant of health because of its influences on patient access to health services, effective communication, decisions, and treatment adherence (Ferguson & Pawlak 2011; Eckman et al 2012; Mullen 2013.).

Cues to Action: Good Social support was found to be essential when promoting the older adult's health literacy skill. A cross-sectional study which was undertaken by Lee et al. (2009) found those older adults who were more health literate had better social support. This was explained by the constant informational and medical related help they get from their supporters. The older person's strong social relationship with other people my diminish the negative impact of stressful events such as making difficult medical decision or simply reminding the elderly an scheduled time with a medical professionals (Lee et al . 2009).

Self-Efficacy: The older individual have to be engaged in active problem-solving to successfully navigate a health system, recall doctor instructions, dose out multi-drug regimens, comprehend health information and maintain daily health-promoting behaviours. Any failure to this can cause depression and anxiety, poorer self-rated health and unwanted health outcome (Lee et al. 2009; Serper et al. 2014). Nurses

should also encourage and motivate patients to participate programmas that promote self management(Lee et al 2012; Stiles 2012)

Participating chronic disease management programs that target older adults may be beneficial for low literate patients with chronic disease. These kinds of programs help patients to self-manage and gain confidence and self-efficacy. Further Dennis et al (2012) argued that adequate health literacy facilitates the capacity to self-manage health and prevent the development of chronic disease through lifestyle risk factor modification (Eckman et al. 2012).

8 DISCUSSION

traditional patient education mostly consists of written material about self care instructions, disease processes and medical management which are written at higher level for patients with low literacy skills to fully understand. The complexity of health care system necessitated health literate patients in order to succeed self management.(Nutbeam 2008).

Elderly patient with poor health literacy may feel uncomfortable to communicate with health care providers, and may feel shame to ask for health related questions, consequently they leave from health care settings incompletely without recieving proper information needed to function independently. This can cause errors on prescribed medications and chronic disease management.It is suggested that the language used by health care providers should be user friendly and easilly understood by everybody. Research done by Wolf et al. (2005) found that low health literacy resulted poorer physical and mental health among older adults.

The individual's level of literacy level is important factor but doesn't give full understanding of health literacy level. Only reading and writing skill, although

fundamental to understanding health information, cannot explain the complexity of health related material in modern society (Zarcadools & Pleasant 2005).
In order to choose health lifestyle and to seek for medical care, it needs understanding health information. It has been identified that often people with low health literacy seek for medical care at late stage of a conditions. It is nurses duty to provide holistic care and give clear information to patients no matter their age. A health care environment that is shame free is vital when improving health outcomes of older people (Egbert 2010; Lambert 2014; Sudore et al. 2006).

A partnership approach between patients and health providers that is based on mutual decision making is indispensable to achieve a sense of confidence and the desire to change to a better health behavior. Without adequate health literacy the ability to self-manage health and therefore prevent development of chronic disease may happen to be challenging. This requires extra awareness from health care professionals in order to detect the patients who are vulnerable to low or insufficient health literacy (Nutbeam 2008).

One thing to remember is that poor health literacy is not linked to being less intellectual but just missing some skills that can be acquired with adequate information. The patients often have the ability to develop these skills but not had the opportunity to do so (MacCune 2010; Yoon et al. 2012). High level of health literacy leads to personal and society benefits. Personal level, such as healthier life style choices and effective use of health services , society level like lower health care costs. Adequate Health literacy is essential for the overall well-being of older individuals. The promotion of health literacy should be considered as public goal in order to achieve health community -(Nutbeam 2000; Berkman et al. 2011; Wolf et al. 2005).

Since the Individual patient cannot act alone on obtaining and processing information, the responsibility of health literacy is on both sides the individual using health care services and the service provider or the system of health care (Nutbeam 2008; baker et.al 2002).

9 VALIDITY AND CRITICAL ANALYSYS

The validity of a study is measured by its correctness and truth of its claims. This is often dependent on how well the instrument is constructed in order to make sure that the instrument measures correctly what it is supposed to be measured. The researcher is the instrument of data collection and analysis in qualitative study, in order for a study to have valid conclusions that can develop nursing theory and evidence-based practice, the measurement instrument must be valid (Hsieh and Shannon 2005). As it is the first time the author to write this kind of academic writing, lack of knowledge concerning the topic and lack of experience in writing reviews may cause a possible risk to the validity and consistency of the findings in this final project. In an attempt to avoid or minimize these risks the author had carefully gone through guidelines for writing literature reviews and had thoughtfully selected articles that are academic and peer-reviewed. The articles chosen for this thesis were all published by professionals in the field of health promotion and disease prevention coming from different parts of the world. The final findings are based on global sample rather than one group. The author tried to avoid bias and misinterpreting as much as possible. The author of this project tried to be as objective as possible when analysing the data. Since this project was a literature review and existing published data was interpreted issues like informed consent, confidentiality and subjective views were not an issue in this project.

10 CONCLUSSION AND RECOMMENDATIONS

Empowering patients is a key factor in the success of a gaining patient's confidence. In order for a nurse to be successful in empowering the older patients, there should be clear understanding of the psychological and emotional changes the older patient is dealing with. Health literacy can be improved by supporting disadvantaged groups such as elderly in this context. Making easily accessible health information, providing more information for people who are at risk to be low literate and promoting the capacity to use online health information. Health literacy measures are essential tools to identify patients with less than adequate health literacy skills. These tools can also aid nurses to give relevant levels of health education to patients.Nurses should encourage and motivate patients to participate programmas that promote selfmanagement(Lee et al 2012; Stiles 2012) Ensuring healthier life style at early stage can help maintain quality life at later years and this can promote health. Leading health life is lifetime process both from individual perspective and society level. I would recommend further researches to be done and to develop the field of health literacy. It is very essential to teach future generations of nurses how to communicate effectively with low health literate patients. It is even very important to include health literacy in to the nursing curriculum in order to prepare future nurses to tackle the problem associated with low health literacy.

References

AL-ALI N, HADDAD L. (2004). The Effect of the Health Belief Model in Explaining Exercise Participation Among Jordanian Myocardial Infarction Patients. journal of Trans-cultural Nursing, Vol. 15 No. 2, pp. 114-121.

Asare M; Sharma M. (2012), Role of Health belief Model on sexual communicaltion diseses among african immigrants. Journal of american health studies, Vol. 27, No. 2.

Baker D, Gazmararian A, Williams V, Scott T, Parker R. et al. (2002) , American Journal of Public Health, Vol. 92, No. 8, PP. 1278-1283.

Baker D.W, Williams M.V, Parker, R.M., Gazmararian, J.A. and Nurss, J. 1999. Development of a brief test to measure functional health literacy. Patient Education and Counseling, Vol. 38, no. 1, pp. 33-42.

Bekker H, Janz K. (1985), The health believe model applied to understanding diabetes regimen compliance, The daibets educator, vol. 11, No. 1, PP. 41-47.

Berkman N, Sheridan S, Donahue K, Halpern D, Crotty K. (2011), Low Health Literacy and Health Outcomes: An updated systematic review. Annals of Internal Medicine, VOL. 155, NO. 2, pp. 97–107.

Bond J, Corner L. (2004), Quality of life and older people. Open university press.

Boote, D.N, Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. Educational Researcher. Vol. 34 No. 6.

Conner, M. & Norman, P. (1996), *Predicting Health Behavior. Search and Practice with Social Cognition Models.* Open University Press: Ballmore: Buckingham.

Corrallo S. (2015), Low health literacy in older women: The influence patient clinician relationship, Geriatric nursing, Vol. 36, No. 2, PP. 38-42.

Dennis S, Williams A. (2012), Which provider can bridge the health literacy gap in life style risk factor modivication, BMC Family Practice. http://www.biomedcentral.com/1471-2296/13/44

Eckman M H. et al. (2012), Impact of health literacy on outcomes and effectiveness of an educational intervention in patients with chronic diseases, Patient Education and Counseling, Vol. 87 No. 1, pp. 143–150.

Egbert N, Nanna K . 2010: Health literacy: challenges and strategies. Online J Issues Nurs, Vol. 14 No. 3. [available at http://www.medscape.com/viewarticle/ 717465] accessed 02.2015.

ELo s, Kyngäs H. (2008), The qualitative content analysis process. Journal of Advanced Nursing, Vol.62, no.1, PP.107–115.

Federman D, Sano M, Wolf S, Siu L Halm E. (2009), Health literacy and cognitive performence, Journal of american Geriatric soc, Vol. 57, PP. 1475-1480.

Ferguson A, Pawlak R. (2011), the road to improved health outcome, Journal for nurses practioners, Vol. 7, No. 2, PP. 123-129.

Gazmararian, J. A., Baker, D. W., Williams, M. V., Parker, R. M., Scott, T. L., Green, D. C., Fehrenbach, S. N., Ren, J., & Koplan, J. P. (1999), Health literacy among Medicare enrollees in a managed care organization. Journal of the American Medical Association, Vol.281 no.6, PP.545–551

Ghan A. (2014), Health literacy screening instruments in adults with cardiovascular disease and their importance for nursing profession, australian journal of advanced nursing, Vol. 32, No. 2.

Graneheim UH, Lundman, B. (2004), Qualitative content analysis in nursing research. Nurse Education Today, Vol. 24, No. 1 pp. 005-112.

Grey D, Aubrey D. N., Leonid Gavrilov, S. Jay Olshansky, L. Stephen Coles, Richard G. Cutler, Michael Fossel, and S. Mitchell Harman (2002), Antiaging technology and pseudoscience. Journal of Science, Vol. 296: 656-656.

Heijmans M, Waverijin G, Rademakers J, Van Der Vaart R. (2014): Functional, communicative, critical health literacy and chronic disease patients and their importance for self management. Journal of patient education and counseling, Vol. 98, No. 1, pp. 41-48.

HLS-EU CONSORTIUM (2012), COMPARATIVE REPORT OF HEALTH LITERACY IN EIGHT EU MEMBER STATES. THE EUROPEAN HEALTH LITERACY SURVEY HLS-EU (SECOND REVISED AND EXTENDED VERSION, DATE JULY 22TH, 2014), ONLINE PUBLICATION: HTTP://WWW.HEALTH-LITERACY.EU Accessed 07.06.2015.

Hsieh H, Shannon E. (2005), Three Approaches to Qualitative Content Analysis: QUALITATIVE HEALTH RESEARCH, Vol. 15 No. 9.

ICN 2012. The ICN Code of Ethics for Nurses. International Council of Nurses. Genova, Switzerlan.

Ilott I, Gerrish K, Laker S, Bray S. (2013), Bridging the gap between knowledge and practice, Your starter, Vol. 10: No. 2

Institute of Medicine 2004: 'Health Literacy a Prescription to End Confusion'. Washington, DC: The National Academies Press. http://www.nap.edu/openbook.php?isbn=030909117, Accessed 10.03.2015.

Lambert V, Keogh D (2014) Health literacy and its importance for effective communication.Part 2. Nursing Children and Young People, Vol. 26, No. 4, pp. 32-36.

Lee D, Arazullah M, Vicencio D. (2009). Helath literacy, social support and health status among older adults, Journal of educational gerontology, Vol. 35, PP. 191-201.

Leonid A. Gavrilov and Patrick Heuveline. (2003), Aging population. Encyclopedia of Population.

Lin X, Wang M, Zuo Y, Li M, Lin X, et al. (2014) Health Literacy, Computer Skills and Quality of Patient-Physician Communication in Chinese Patients with Cataract. PLoS ONE , Vol. 9 No. 9, PP. 1-5.

Lin Zhan. (1998), promoting health perspectives from ethnic older woman: Journal of community nursing Vol. 15, No. 1, pp. 31-44.

Loy P. (1979), Content analysis of Journal articles as a technique for historical research, Journal of the History of Sociology, Vol.1 No. 2, pp. 93-101.

Makcune R. (2010), *Assessing Health Literacy in Diverse Primary Care Settings: Journal of nursing, Vol.1, no. 1,* pp. 37-48

Mahoney C, Thombs D, Ford, O. (1995), Health Belief Model and Self-efficacy, Cambridge university press, vol. 7, No, 1, pp. 32-49.

McLaughlin M, DeVoogd G. (2004), Critical literacy as comprehension, expanding reader response. *Journal of Adolescent and Adult Literacy*, Vol. 48, No.1, pp. 52-62.

Mcmahon C, isaacs R. 1(997), Care of the older person. A hand book for care assistants, pp 20-34.

Muir KW, Lee PP (2009), Literacy and informed consent: a case for literacy screening in glaucoma research. Arch Ophthalmol., Vol. 127, pp. 698–9.

Mullen E. (2013), Helath literacy challenges in the aging population, Nursing forun, Vol 48, no 4

Nurss, J. R., Parker, R. M., & Baker, D. W. (2001). TOFHLA: Test of Functional Health Literacy in Adults. Snow Camp, NC: Peppercorn Books & Press.

Nutbeam 2008 The evolving concept of health literacy. Social Science & Medicine, vol. 67, No. 1, pp. 2072–2078.

Parikh N et al. (1996), Shame and health literacy: the unspoken connection. Patient Education and Counseling, Vol. 27, No. 1, pp. 33-39.

Pleasant A. & Kurts S. (2012), Bringing health literacy research to practice

Polit D, Beck T, (2006), essentials of nursing research methods, appraisal and utilization, 6th edition.

Rowlands G (2009) Health literacy and long-term conditions. Primary Health Care. Vol. 19, No. 7, PP. 16-20.

Serper M, Patzer R, Curtis M, Smith G, O'Conor R, Baker D. (2014), health literacy, cognitive ability and functional health status among older adults, health service research, Vol. 49, No. 4, PP. 1249-1267.

Schillinger D, Grumbach K, Piette J, Wang F, Osmond D, et al. (2002), Association of health literacy with diabetes outcomes, health-promoting, decision-making process. JAMA, Vol. 288, PP. 475–82.

Schoenborn, C. A. & Adams, P. F. (2010). Health behaviors of adults: United States, National Centers for Health Statistics. Vital Health Statistics, Vol. 10, No. 245. Retrieved from http://www.cdc.gov/nchs/data/series/sr_10/sr10_245.pdfn

Schwartz F, Lowe M, Sinclair L. (2010), Communication in Health Care: Considerations and strategies for successful consumer and team dialogue Hypothesis. Jornal of advanced nursing, Vol. 8, No. 1.

Sørensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Slonska, Z. and Brand, H. 2012. Health literacy and public health: a systematic review and integration of definitions and models. BMC Public Health, Vol. 12 available at http://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=22276600&site host-live (accessed 13.06.14).

Speros, C.I. (2009). More than words: Promoting health literacy in older adults. Online Journal of Issues in Nursing, Vol. 14, No 3.

Statistics Finland (2007), Population development in independent Finland - greying Baby Boomers, available at http://www.stat.fi/tup/suomi90/joulukuu_en.html

Stiles E. (2011): Promoting health literacy in patients with diabetes. Nursing Standard. Vol. 26, no. 8, PP. 35-40.

Sudore R. L, Mehta, K. M., Simonsick, E. M., Harris, T. B., Newman, A. B., Satterfield, S. et al. (2006), Limited literacy in older people and disparities in health and healthcare access: Journal of American Geriatric Society, Vol. 54, No. 5, pp. 770–776.

Sudore RL, Schillinger D. (2009), Interventions to Improve Care for patients with Limited Health Literacy. *Journal of Clinical Outcomes Management*, Vol. 16 No. 1, pp. 20–29.

Sykes S , Wills J, Rowlands G. (2013), Understanding critical health literacy: a conceptual analysis avalable at http://www.biomedcentral.com/1471-2458/13/150, Accessed 10. 01.2015.

Taylor D , Bury M , Campling N , Carter s , Garfied S, Newbould, Rennie T. (2007), A Review of the use of the Health Belief Model (HBM), the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB) and the Trans-Theoretical Model (TTM) to study and predict health related behaviour change, The Department of Practice and Policy The School of Pharmacy: University of London.

Thompson S (2012), Basic principles for providing a health information service.Libraries for Nursing. Vol. 32, no. 1, pp. 13-21.

Walker J. (2012), Psychology for Nurses and the caring professionals Pages 206-11

Weiss, B.D., Mays, M.Z., Martz, W., Castro, K.M., DeWalt, D.A., Pignone, M.P., Mockbee, J. and Hale, F.A. (2005), Quick assessment of literacy in primary care: the newest vital sign. Annals of Family Medicine, Vol. 3, No. 6, PP. 514-522.

WHO. (2009), Health literacy and health promotion, definitions, concepts and examples in the east Mediterranean region, 7th global conference on health promotionworking paper.Nairobi:WHO;availableathttp://www.who.int/healthpromotion/conferences/7gchp/Track1_Inner.pdf] accessed Jan 14th 2015.

Williams MV1, Baker DW, Parker RM, Nurss JR. (1998), Relationship of functional health literacy to patients' knowledge of their chronic disease. A study of patients with hypertension and diabetes, Arch Intern Med, Vol. 158 , PP. 166–172. http://www.ncbi.nlm.nih.gov/pubmed/9448555 Accessed 02.05.2015.

Wolf M, Gazmararian A, Baker D. (2005), Health Literacy and Functional Health Status Among Older Adults. Archieves of internal medicine, Vol. 165, no. 17, pp. 1946-52.

Wood L, Haber, J. (2006), Nursing Research -Methods and Critical Appraisal for evidence based Practice. Missouri: Mosby Elsevier.

Yoon K. Loke, Ina Hinz, Xia Wang, Gill Rowlands, David Skott, charlotte Salter. (2012), Impact of health literacy in patients with chronic musculskeletal diseas- systematic review: open Journal of Health Communication.

Zarcadoolas C, Pleasant A, Greer D. 2005 : Elaborating a definition of health literacy: a commentary. J Health Commun, Vol. 8, PP. 119–121.