ARCADA

Dementia in the Elderly : Epidemiology and Care
Perspectives in Finland

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Abstract

The current demographic shift towards aging population risks dementia epidemic. Particularly, the growing number of old people becomes a concern for public health policy makers. Finland is not an exception in this case. The growing number of old age is associated with subsequent growth in the number of elderly people affected by dementia. This motivated the author to explore the topical issue. Although the study involves investigating the prevailing magnitude of dementia and its risk factors, central focus is given to explore the care philosophies and the nursing roles in care for elderly people with dementia in Finland. To achieve this goal, the study answers the following three research questions: What are the prevalence and incidence rates for dementia? What risk factors contribute for such prevalence? What nursing cares are relevant to the elderly people with dementia? The author used person-centered care (PCC) model for conceptual framework. In order to answer the above research questions, literature review method and inductive content analysis approach were used. Data collection was made from ARCADA library database (ESCBO) and Google Scholar. Totally 10 scientific articles were selected for the review. Inclusion-exclusion criteria were applied based on the relevance and year of publication (2007-2015). The major results of the study show that dementia has significant effect on the general public health. This is manifested through its increasing magnitude in the elderly population in Finland. This means the prevalence rate and incidence of dementia in the elderly people is progressively growing in the country. Although the national plan for memory health is designed for the care, it lacks comprehensive approach to address the predicament of the epidemic. Though several care philosophies have been emerged for care of PDs, most of the care approaches recommended the person or the client to be at the center of the care process. This view was substantiated by PCC model applied as conceptual framework in this study. Major risk factors for dementia include modifiable and non-modifiable. The modifiable risk factors incorporate early intervention on the person`s life style (smoking, alcohol) which contribute for vascular diseases. These vascular diseases in turn result in the memory impairment or dementia in the later age.

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Abbreviations

AAD- Age.-Associated Memory Impairment

AD-Alzheimer`s Disease

ADI-Alzheimer`s Disease International

BM-Biomedical Model

EBP-Evidence Based Practice

LBD-Lewy-body Disease

PCC-Person centered care

PDS/CLIENT- Person with Dementia

PLST-Progressive Lowered Stress Threshold

TBI-Traumatic Brain Injury

VD-Vascular Disease

VIPS-Values, Individuals, Perspectives, Social Environnent

FORWARD

This thesis has come to reality by the tremendous help and support from various stakeholders during my whole study period. First, I would like to praise God for His presence in my endeavor to finalize my thesis work. Second, I am grateful for my supervisor Pamela Gray who has been reviewing and directing me during my whole writing process from the topical choice till the final work. Third, I also extend my gratitude to our school, Arcada, which prepared guideline for thesis writing. Plus, Arcada library resources have been played a greater role serving as a potential source of electronic and non-electronic materials for health care. My gratitude also go to my peer opponent who contributed through constructive comments and critics.

1 INTRODUCTION

Dementia as a public health problem has been one of the most serious health issues in the elderly. Studies indicate that the prevalence of dementia is closely related to age. Although dementia is believed to be concern for old age group, it could also affect all human creatures regardless of age, social, and cultural background. The central issue in dementia is its effect on human brain and its functional disability. It deteriorates the person`s functional capacity at daily basis. As it affects the social and cognitive function of a person, it cannot be less considered than any other ailments for human beings in general and elderly people in particular. Thus doing research on such topic is inevitably significant for better care and support for the elderly people who are highly susceptible to the ailment. It is a wider public health concern regardless of social, cultural, economic and historical background of a given population. It affects individuals, groups, community, and society at large (Prince et al,2015).

The purpose of this study is to explore the epidemiological and care aspect for dementia in the elderly in Finland. The study was commissioned by Lovisa. The writing process starts with an explanation on the background of the study followed by detailed review of secondary data from various selected scientific journals, articles,published and unpublished monographs. This directed the writing process into third main section of the thesis- theoretical framework. After presentation of the conceptual framework, the research aim and questions were presented and followed by the methodology section, which discussed all the data collection procedures and processes in detail. The next sections presented were the findings, discussion of the findings and conclusion with possible recommendations. In the end, references and appendices were listed and attached.

2. Background

Studies on the global prevalence of dementia indicate that about 46.8 million people of the world are affected by dementia. This number is expected to rise to 74.7 million by 2030 and 131.5 million by 2050. The statistics implies the significance of addressing the human and economic cost of dementia at global level. This fact alarmingly urges the need to address the concern of dementia and the elderly population. This can be done through the evidence based research on the prevalence, incidence, and risk factor for dementia and the respective care strategies for elderly people with dementia (see Prince et al, 2005).

 Although diseases are the major challenges for all segment of population, all age social groups are not equally vulnerable to diseases. In this regard, when ones age grows older, there are more risks to be exposed to various ailments. Dementia is one of these ailments which hamper the healthy aging of the elderly people. As Prince et al.(2005) pointed out, , persons with dementia (PD) could be socially and culturally segregated depending on the cultural make of their society. This could worsen the care and support process for the sake of health promotion in the elderly people. Researching on the causes, risks and care perspective of this disease helps to avoid widely accepted common sense experiences that are often applied on the patient care process (see Prince et al, 2004).

In relation to aging, the prevailing demographic change in the world has significant impact on the social and economic fabric of a society. The demographic feature of the world shows that people are living longer than before. The continuous improvement in the medication, and quality of life up graded the probability of having longer life span. In other words, in the developed nations the birth rate gradually decreases and the life expectancy increases. Meanwhile, the number of productive labor force declines as the birth rate decreases. This could infer that the less number of productive work forces have to pay tax for the alarmingly growing old people in the developed countries. This implies a significant demographic shift which negatively affects the global aging population. Such an increase in the number of aging population could boost the risk for dementia. This could have social and economic impact on the respective countries, particularly in Europe (European Central Bank, 2005).

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Several researches indicate that the socio-economic cost of dementia is estimated to be $600 billion and the statistics related to the cost is increasing a head when the number of people getting older is alarmingly escalating. This may infer that focus on the research that could contribute for the healthy aging of elderly people in a society is indispensable. On the other hand, world Alzheimer´s report shows that global estimated cost of dementia by 2015 is $818 billion. Similarly the estimate will rise to $ 300 billion. The report also emphasized that if dementia care is considered as a country, it could be the 18th largest economy in the world (Wortmann, 2012).

2.1. **Epidemiology of Dementia**

In this study, epidemiology of dementia was mentioned for the reason that it gives foundation for the necessity of dementia care. The author wanted to show how significant is the prevalence, incidence and risk factors for dementia which urge proper nursing care practice. It is used as a background for the nursing care aspect of dementia.

It is important to understand the concepts of dementia and epidemiology in the first place. Although the definition of dementia varies, the following definition was selected based on its appropriateness for this particular study. Accordingly, dementia is defined as follows:

"Dementia is a condition that results from disease of the brain. It is a syndrome –a set of difficulties that a person experiences that can result from a number of underlying causes. Dementia manifest itself in the form of heterogeneous group of disorders- memory loss, train of thought, reasoning, orientation difficult, .language, behavioral and personality changes" (Pulsford&Thompson,2013 Dezell&Hill,2009, Vasan et al,2015).

Epidemiology, on the other hand, is a broader concept which deals with statistical based study on health related issues. According to Szklo et al. (2014), epidemiology is defined as:

"a study of the distribution and determinants of health-related states or events in specified populations and the application of the study to control health problems. Epidemiology is basically classified as descriptive epidemiology which deals with the prevalence and incidence rate of a disease in the population and the analytical epidemiology which determines the risk factors for such disease under investigation" (Szklo et al, 2014,p.23).

Epidemiology as a concept is viewed from two major perspectives, namely descriptive and analytical. According to Youn et al. (2005), descriptive epidemiology describes the prevalence and incidence of a disease. Various research findings indicate that age is the predominant factor for the high prevalence of dementia in the world. The higher the age group starting from 65, the higher the percentage of old people affected by dementia. The second prevalence of dementia is related to the geographical location of the population. Research contends that the percentage of old people affected by dementia varies according to their location. Accordingly, the prevalence of dementia in the western countries is higher than the ones in the global south. On the other hand, the percentage varies with rural-urban population in the world. For instance, the prevalence in rural In-

dia and China is lower compared to the urban centers in these countries. These variations are related to the different socio-cultural, daily   life styles, and technological backgrounds of the geographical locations (seeYoun et al, 2005).

Similarly, the low life-expectancy and high mortality in developing nations contribute for the low prevalence rate of dementia. In other words, people in the developing nations die early and or live shorter age so that the exposure to the later age ailment like dementia is insignificant. The tables below show the prevalence rates of dementia in relation to age and geographical locations in millions in 20 years' time interval.

Table 1 Global Prevalence of Dementia in **Millions**

Continents/ Countries	2001	2020	2040
Western Europe	4.9	6.9	9.9
Eastern Europe	1.8	2.3	3.2
North America	3.4	5.1	9.2
Latin America	1.8	4.1	9.1
North Africa& Middle East	1.0	1.9	4.9
Developed Western pacific	1.5	2.9	4.3
China& the developing Western Pacific	6.0	11.7	26.1
Indonesia ,Thailand& Sri Lanka	0.6	1.3	2.7
India & South Asia	1.8	3.6	7.5
Africa	0.5	0.9	1.6

Adapted from Biomedical Research International, 2014 p.2

Rizzi (2014) in his *Biomed Research International Article* narrates that the variation in the prevalence of dementia is related to the socio-economic factors which determine the countries' population life span, awareness and the living standard prevailing in the countries. In other words, the low socio-economic status could lead to some chronic diseases such as diabetes, obesity, hypertension, dyslipidemia and seden-

tary(inactiveness).These factors in turn lead to the risk of Alzheimer`s disease(AD) and vascular dementia(VD) in the later age (Rizzi et al,2014).

The other important aspect of descriptive epidemiology is the incidence of dementia. It describes how often does dementia occurs in different geographical and socio-economic environments. As mentioned in the above table, when the prevalence rate of dementia increases with age the incidence also escalates at the same time.

In addition to the prevalence and incidence factor, epidemiology of dementia considers the causative factors for dementia in this aspect. Etiologically, therefore, dementia is inferred to the Alzheimer´s disease and vascular causes. However, the former is considered to be the main cause for dementia rather than the later. Meanwhile the causative factors vary with different countries in the world. In general, however, there are four major causes and or types of dementia, namely Alzheimer´s (AD), vascular (VD), Lewy-body (LBD) and Age-associated memory impairment (AAD). Among these different types of dementia, AD is the most common cause of dementia followed by VD which accounts about 20%(Youn et al, 2005, Wartmann, 2012).

2.1.1. Risk Factors for Dementia

The analytical approach to dementia, on the other hand, deals with the risk factors related to dementia. Like other chronic diseases, dementia also has its own risk factors. Studies indicate that there are four major risk factors for dementia occurrence, namely *age, genetics, environment and life styles* (Dezell & Hill, 2009). When people get older, both vascular and neurological functions decline. This deterioration is followed by the vascular diseases which often affect people with older age. Such vascular related diseases include *atherosclerosis, hypertension, diabetes and stroke*. These factors result in the vascular type dementia, which mainly emanates from the failure in the human vascular systems. Patients' with previous history of vascular disease cases contribute for the incidence of dementia (Patterson et al, 2008).

In addition to this, life style choices could also be considered as risk factor for dementia case. The main factors underlined in this aspect are alcohol, smoking and unhealthy di-

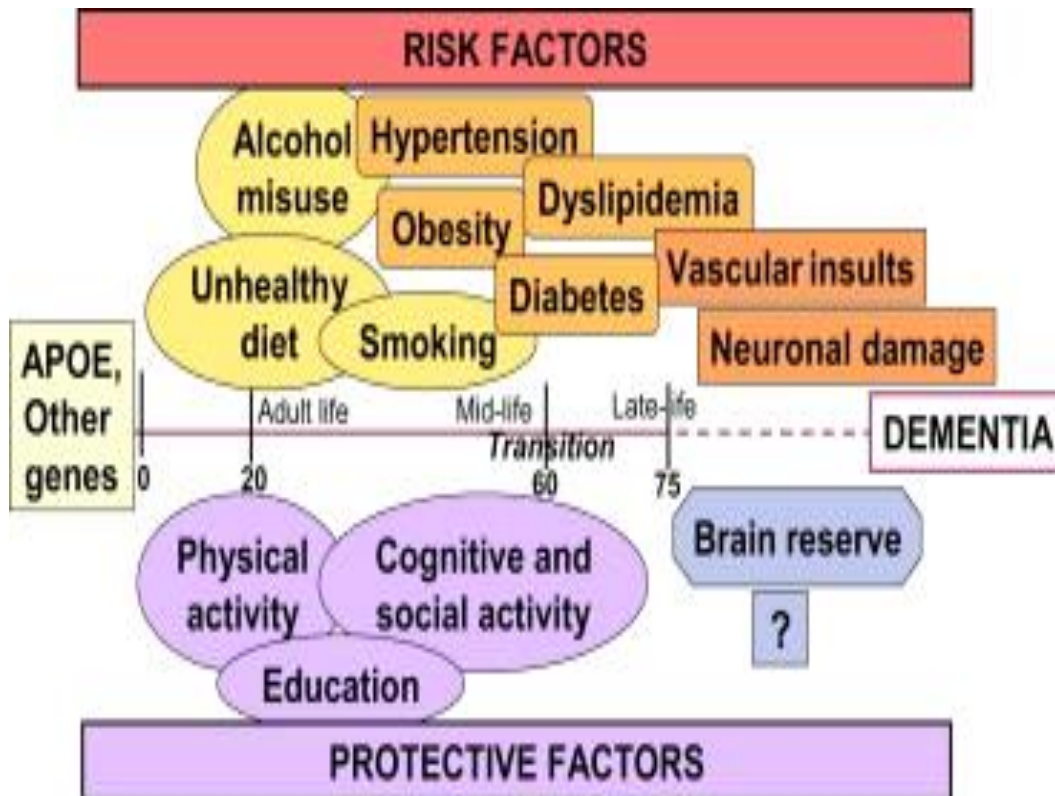et. The diagram below shows summary of the main causative factors or risk factors for dementia in brief.

Figure 1. Dementia Risk Factors. *Source: Kivipelto et al (2013).*

The above figure shows how the different factors such as genetic, life style, vascular diseases, and the resulting degenerative neurological status could be considered as risks for dementia. Meanwhile the diagram shows the protective measures towards dementia. These mainly include the physical, cognitive and social activities that promote brain function in the end. In addition, the diagram shows the age levels where the above factors gradually increase as ones age increases. The risk factors start from adult life and continue to midlife and later life. Therefore, it shows the long term combined effect of different causative factors for dementia in the elderly.

Risk related factors to dementia were seen from two main perspectives. Menchola et al. (2015) in the journal "Addressing Alzheimer`s A Pragmatic Approach" explain two major category for the risk factors of dementia. These are non-modifiable such as age, genetics and traumatic brain injury (TBI). The second category is the modifiable risk factors which include depression, diabetes mellitus type 2, low level of education attain-

ment, hyperlipidemia, hypertension and smoking .According to him, the care aspect of dementia is inferred from such risk factors. For instance, care of dementia client could focus on dietary, behavioral cognitive, physical and social activities, and medications. The author has similar approach with the risk and care aspect covered in the above figure (see Menchola et al, 2015).

2.2 Dementia in Finland

Finland is one of the European countries where aging population is alarmingly growing. A study on memory and dementia in Finland estimated that about 80,000 elderly people over 65 years of age suffer from moderate and severe dementia. On the other hand, about 13,000 of this population are affected by dementia with slight state. Similarly an estimated 11,000 elderly people over the age of 65 suffers from dementia every year. However, the vast majority of dementia patients are those above the age of 80.

The significant increase in the rate of aging population and dementia in Finland is presented graphically in the book called "*Muistihäiriöt ja dementia*" by Erkinjuntti &Huovinen(2001). The book was written in Finnish and thus the bar graph was presented in Finnish to avoid the distortion of original meaning**.** See the bar graph representation of dementia prevalence in Finland under Appendices section**.** The bar graph indicates the prevalence of dementia patients in Finland. The chart also depicts the prevalence distribution between men and women. The chart describes the prevalence rate of dementia with respect to age and the timeframe. In other words, the chart is divided into men and women who are affected by dementia from the year 2000-2030. Accordingly, in the year 2000, the number of women affected by dementia was higher than the number of men affected in the same year. Similarly, the number of both sexes affected by dementia increases from the year 2000 till the year 2030. This indicates the number of people who suffers from dementia increases from the past to present and the future. Both bar charts indicate the significantly growing number of population from age of 65 and above affected by dementia in Finland (Erkinjuntti &Huovinen,2001).

According to this data, an estimated 12,000 people are suffering from progressive memory diseases. On the other hand, about 85,000 people are suffering from moderate

memory diseases in Finland. Similarly 13,000 people are suffering from memory diseases every year. The data shows that Finland is one of those countries where the prevalence of people affected by dementia is significantly increasing. On the other hand, the death rate of elderly people suffering from dementia is also increasing in Finland. One out of five people over the age of 80 and or over die because of dementia/Alzheimer's disease. There is also variation in death rate with regards to gender. According to this data, the number of elderly women who die from dementia out numbers the number of elderly men patients who die from dementia (Erkinjuntti &Huovinen(2001).

For the purpose of relating dementia prevalence with age, it was found essential to have a mention on the rate of aging population statistics in Finland. The table below gives basis to understand the numerical significance of aging population in Finland. The table shows the rate of aging population in Finland from 2000 to 2040.

Table 2 Aging population statistics in Finland

Age	2000	2010	2020	2030	2040
75+	340,409	411,864	518,312	748,144	826,351
%	7	8	10	14	15

Eloniemi-Sulkava , Adjunct Professor , Helsinki University 2013

Prevalence of dementia in Finland can also be viewed from the different dementia type perspectives, namely the Alzheimer`s disease (AD), vascular disease (VD), Lewybodies+AD and others. According to this category, about 46.7 % of dementia prevalence is related to AD. Whereas 23.4% is associated with VD, the rest are associated with Lewy bodies with AD (21.9%) and other cases (8%).

2.3 Nursing Care for Dementia in Finland

According to the declaration made by the European parliament in 2008, people with memory disorder needs to have national care and treatment programme to address the concern of public health. Based on this declaration, the Finnish Ministry of Social affairs and health designed a national plan which addresses the challenge of dementia of Alzheimer´s type. The programme underlines that memory disorders have significant national cost and growing concern for the alarmingly increasing number of aging population in the country.

This motive urges the country to have a clear care and treatment strategies that help to curb the national public health problem. The programme also aimed at informing the national and local policy designers about the importance of reaching the old people with memory disorders. Moreover, the national plan considers the people with memory disorders who are not diagnosed and registered for proper care and treatment. The national plan is inclusive of the working age population who suffers from memory related diseases. The plan estimates 5000 to 7000 people at working age are victims of such diseases. The data shows that about 8% of men and 2% women from adult population are victims of alcohol dementia. As discussed in the dementia risk factor section, alcohol is one of the factors that could cause dementia in a gradual manner. The national dementia or memory related disorder care is aimed to address the national cost.

According to the plan, the national cost of dementia was estimated about 46,000 euro per person in 2010. In order to reduce cost of dementia, the plan suggests the prevention, early diagnosis and supports at patient's own home. Accordingly, home care is a preferred approach for cost effective care for dementia patients. Besides, the plan affirms early identification of dementia symptoms as a care mechanism. According to the Finnish national plan for memory disorder, early stage of Alzheimer's care could minimize the incidence. In other words, the national plan recommends early interventions care mechanism to limit the prevalence and incidence of dementia. Focus should be given to prevention of risk factors such as obesity, high blood pressure, high cholesterol, and diabetes.

On top of these, physical activities and good nutrition are recommended to be considered in the dementia care strategy in Finland. According to the plan, the most common care aspect capitalized in Finland is rehabilitation. The rehabilitation could be done at patient's home or rehabilitation centers in the nearby localities. The other important care model used in Finland is the palliative care which focuses on patient´s comfort and wellbeing together with their family till the end of life (Finnish Ministry of Social Affairs, 2013).

2.3.1 **Role of Nurses in Dementia Care in Finland**

Nurses have several roles in dementia care practices in Finland. According to Hannele et al. (2008), family based care for demented clients is practised in Finland though it is not widely practised. Despite the progress in medication and diagnosis, family care givers based care or demented elderly people in Finland has not been advanced as such. This is particularly related to lack of available service provision for the spouses who take care of their partners at home. This study recommends that support model family care approach to demented elderly people has significance in terms of reducing cost and strengthen family bond and promoting the health of the demented spouse. In this case nurses play a role as family based care coordinators. They are responsible in facilitating the provision of available services for the family care giver. Nurses are also engaged in the provision of medication and treatment based on physician`s prescription (Hannele et al,2008).

On the other hand, institution based care is carried out by nurses for demented elderly people. The main role of nurses in this case is that they create a situation where the client is understood positively based his or her behavioural and functional disabilities. Nurses are responsible in communicating the demented client accordingly and facilitating such communication among the other professional teams. They create therapeutic relationship with the demented elderly people so that trust and positive care atmosphere could be created. Moreover, nurses are involved in patient education at institutional care level. In addition to these, nurses play managerial role to organize the multi-professional team work to realize the institutional based dementia client care. Nurses assess clients' needs, prepare plan based on the clients` needs, evaluate and implement the plan with

the help of other professional teams such as physiotherapist, occupational therapists, and social workers (see Hannele et al, 2008).

Above all, nurses play a significant role in making preventive care process at home based care for dementia client. They prepare client´s nutritional guidance, clients` weight management, physical exercise activities, physical examination. In doing this, nurses make preventive house call for elderly people who gave consent for early contact for prevention. They follow up the symptoms and physical and cognitive functional disabilities identified in advance. This process is often organized by the municipalities of the clients (see Hannele et al,2008, Love et al,2013).

2.4 Ethical Approach to Care

Studies show that dementia nursing care has a number of ethical related dilemmas. These dilemmas emanate from both the nurses as care givers and the client who had dementia. Nurses' decision on every day care role and activity needs ethical decision to provide appropriate care for the person in need. In other words, the client's daily needs for bathing, eating, exercising, and involving in daily activities could be challenged by ethical questions that might arise in the middle of the care process. Besides, the nurse's ethical competence and motivation as well as the client's motivation could affect ethical decision making process.

 In relation to this, Bolmsjö et al. (2006) affirm that decision made by nurses in this manner might cause moral stress to the nurses. In other words, such decisions are often dependent on other clients and caregivers' choice and values. Moreover, the goal of dementia care which is to maintain the client's *good quality of life* could be positively or negatively affected because of the decisions made by caregivers. In this regard, study suggests that it is important to consider the values, interests, behaviours of both the client and the caregiver (the nurse). The decision made by the caregiver should be as reasonable as possible so that the client's part is not compromised or ignored (Bolmsjö et al, 2006).

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3. Theoretical Framework

Different types of care models have been used for dementia care. In this particular study, however, the author emphasized to critically view the four main types of care models applied for dementia care. The four models emphasized in dementia research include the Progressively Lowered Stress Threshold (PLST) model, the bio- medical model (BMM), the behavioral model (BM) and the Person-Centered Care (PCC) model. For the purpose of this particular study, however, the author used the Person-Centered Care (PCC) model as a theoretical framework (Cheung et al, 2011).

In order to explain the reason for the selection of this model, it was found essential to elaborate what other models look like. First, according to Cheung et al. (2011), the Progressively Lowered Stress Threshold (PLST) model is traced back to the theory of *stress and coping*. People with dementia have stress as a result of the neuro-pathological ailment and other external stressors. Such people could have their threshold progressively lowered as dementia status advances in the patient. Stress, anxiety and dysfunctional behavior are the pillars of the PLST model. According to the critics, however, the model does not consider the other human factors-the biological, psychological and social. On the other hand, the bio-medical model of dementia emphasizes the pharmacological aspect and neglects other issues related to the life of a comprehensive human being. The behavioral model, on the other hand depicts the behavioral symptoms of people with dementia (see Cheung et al, 2011).

The Person-Centered Care (PCC) model, on the other hand, gives due attention to the person in need of the required care. All the care needed emanate from the person, *the elderly person with dementia* in this case. In this model the individual person is the pillar of the care process. Care is given not based on the care giver's views and plans but from the person herself/ himself who is in need of the care. In this regard, the individual`s behavior, values, needs, interests and emotions are the basis for the preparation of care plan and implementation. In addition, The PCC model emphasizes the four human dimensions, namely*, the biological, social, psychological and spiritual.* In other words, PCC considers the person´s *whole being* instead of focusing on a part of the whole being (Love et al, 2013).

Focus is given to the person not to the diseases or dementia. In this regard, Love et al. (2013) describes the importance of giving attention to the client rather than the care giver as follows:

"Person-centered care focuses on the individual needs of a person rather than on efficiencies of the care provider; builds upon the strengths of a person; and honors their values, choices, and preferences…But having a doctor's appointment in an office that is freezing cold, receiving impersonal treatment from the staff, and being made to wait forty-five minutes beyond your appointment time. While the physician may be extremely competent, the physical discomfort and impersonal treatment detracts from the overall quality of care. The visit may leave you feeling distrustful and lacking confidence in the healthcare received—despite skilled medical care—because of poor psycho-social aspects of the service" *(Love et al,2013,p.23).*

The figure below shows the sub categories and related elements in PCC model for dementia care.

Figure 2. The PCC model Source: Love et al.(2013)

The figure above further elaborates the meaning and its related elements in the PCC. According to the figure shown above, there are four major parts where the PCC model focuses on. The first is the core values and philosophy which are basis for the PCC model. According to Love et al.(2013) a person with dementia is not separately considered as ill person but the person has a lot of other aspects-needs, interests, behavior, choices, and life style which define her or him. The person´s life can be seen from diverse perspectives. The person who is in charge of him or herself can deter-

mine what to choose instead of being directed by the other person who gives the care. As the person's perspective is essential, focus is given to the positive aspect of that same person which can promote his or her personal values and beliefs.

The second important elements in the PCC model consists the structure which consists eight different sub- categories, namely relationships, community, governance, leadership, care partners, meaningful life, environment, and accountability (see Love et al, 2013).

The third element is the operational practice which defines person´s daily life activities and participation. Lastly the individualized practices in the PCC model involve the role of the person in creating contact with those people who can help the person according to her or his needs, and preferences. In this case, the care givers or the nurses are important agent to intervene.

Above all, this model is supported by other nursing care models which are relevant to dementia care. In this regard, Huges et al. (2013) explains three different dementia care philosophies, namely person-centered care (PCC), palliative care and supportive care. For him, The PCC model underlines the importance of the dementia patient as personhood and the care process should make the person who suffers from dementia as center. In similar ways, Brooker (2007) mentions the core of PCC as the person`s Values (V), individuals (I), perspective (P), and Social environment(S) or VIPS. For him, the dementia care model should consider four important elements (Brooker,2007).

This model is further supported by Christian ethos that theological care puts the person with dementia at the core of its care process. In relation to this concept, Goodall (2014) acknowledges that theological care aspect gives attention to the person`s value and identity as a person not the dementia. The theology of care asserts: *"what is needed to underpin the care of those with dementia is a theology that `empowers and collaborates` with individuals and groups of people with dementia who struggle for justice in concrete situations"* (Goodall, 2014).

With regards to VIPS, the patient should first of all need to be valued so that his or her life choices, interests, needs and life styles are given priority before designing any care plan. Valuing the individual also involves the individual's rights and entitlements for

the care. Secondly, person`s with dementia should be treated as individuals. In other words, persons with dementia (PDs) have different social, economic, mental status and thereby treated individually rather than categorized as the same. Thirdly, Brooker considers the importance of exploring the individual`s perspective which means their personal experiences, and potential that helps to address the need for care. Fourthly, the social environment in which the person with dementia lives needs to be part of the care. In this section, the person´s social relationships are given due attention. However, PCC model is criticized for its exclusion of medical and end of life care (Brooker, 2007).He points out the four elements of the PCC model as follows:

V- *a value base that asserts the absolute value of all human lives regardless of age or cognitive ability* **I-***an individualized approach, recognizing uniqueness* **P-***understanding the world from the perspective of the service user* **S-***providing a social environment that supports psychological needs*	$PCC=V+I+P+S$

Source: Brooker,2007

The table shows the amalgamation of the values, individual, perspective and the support required to be provided for the person with dementia. Each of these segments is grouped under the umbrella care model called the person centered care (PCC).

4. Aim and Research Questions

This study aims at exploring both the epidemiological and care perspective of dementia in elderly people. The epidemiological aspect was discussed in order to give emphasis to the care aspect of dementia. In other words, it was addressed to show how serious the prevalence and risk of dementia so that proper care design is made in accordance with epidemiological (prevalence, incidence, risk factors) findings. With this background, this research answers the following key questions related to the research title and background. What are the prevalence and incidence of dementia in the elderly? What are the risk factors for dementia in the elderly? What nursing cares are provided for the elderly?

5. Methodology

This study employs a qualitative research design involving a literature review. According to Shea et al. (2007), literature review enable researcher to give manageable information for policy makers and health care providers. As varies studies conducted have different views and conclusions, it is vague to follow every finding from the researched area. Thus literature review helps to compare and contrast various research findings, recommendations and come up with practical and updated conclusions and recommendations. The method helps to review and appraise published and unpublished reviews, peer reviewed scientific journals, and newsletters. Aveyard(2014) contends that a large number of data could be put into manageable size for policy makers when such data is systematically reviewed. He asserts that literature review method expands the possibility of evidence-based practice (EBP). The reviewed literature can serve as evidence for the nursing practice (Aveyard, 2014).

Moreover, the researcher opted for this method because of some challenges related to consent and ethical dilemmas that may arise due to the use of primary data collection tools. Thus, conducting interviews and surveys make this particular research hard to reach considering the language and socio-cultural barriers the researcher has.

Above all, the literature review approach for data collection enables the researcher to get the latest possible medical literature from diverse and scientifically peer reviewed sources which can be more reliable (Shea et al, 2007).

5.1 Data Collection

As the author applied a literature review, most of the secondary data were collected from the Arcada library portal (*Libguide for Nursing articles & data base).* Search for the portal was followed by nursing articles and data bases which were relevant to the topic under investigation. Data were retrieved from the Academic Search Elite (EBSCO) by the application of AND or OR advanced search method from EBSCO. Conceptual terminologies, definitions, topical issues, and conceptual framework for the research were all retrieved from EBSCO. The most common search mechanism or content words search included: *dementia AND elderly people; dementia AND epidemiology; dementia AND care; dementia AND prevalence; and dementia OR Alzheimer´s.*

This method enabled the author to find about total of 275 articles. Below is the table showing the record of search strategy and the total number of articles (275) retrieved from EBSCO.

Table 4: Data base, search term, number of articles hit and Year of publication

Data base	Search term	No of hits	Year of publication	
EBSCO	"dementia AND elderly people"	52	*2000-2015*	
EBSCO	"dementia AND epidemiology"	43	*2000-2015*	
EBSCO	"dementia and care"	35	*2000-2015*	
EBSCO	"dementia and prevalence"	20	*2000-2015*	
EBSCO	"dementia OR Alzheimer`s "	30	*2000-2015*	
EBSCO	Dementia AND care OR dementia AND Care Philosophy	29	*2000-2015*	
EBSCO	"dementia risk factors OR Risk factors dementia"	22	*2000-2015*	
EBSCO	"elderly people* Or "old people OR "aged people"	18	*2000-2015*	
EBSCO	"dementia prevention" OR "prevention dementia"	20	*2000-2015*	
Google Scholar	"dementia" OR "support"	3	*2000-2015*	
Book	"dementia" AND "memory"	3	*2000-2015*	

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Among the 275 articles hit, only 10 articles were chosen for their direct topical relevance. These 10 articles were related to the research questions and had the latest year of publication. The 10 selected articles for this study were read through first and focus was given to abstracts, findings, discussions, summaries and conclusions for examining the theme of the articles. The inclusion and exclusion criteria were applied by considering the following points as a frame of reference for the selection of the scientific journals both from EBSCO and Google Scholar:

First, topical relevance to the research questions is one of the important inclusion criteria. Second, the year of publication is limited to 2007 till 2015. Third, clear presentation of methods, findings, discussion, and summary and abstract and conclusion in the articles were considered carefully. Finally,a content based criterion(prevalence, incidence, risk and nursing care) was taken into account as inclusion criteria.

Based on these criteria, journals and articles produced for the last 8 years (2007-2015) were retrieved. Ten articles were reviewed from EBSCO. These four criteria guided the inclusion-exclusion criteria. However, the articles out of these criteria or those articles which fail to fulfill these criteria were automatically excluded for simplicity.

In brief, content based inclusion criteria incorporate journals on the prevalence, incidence, and risks (epidemiological background) and nursing care for dementia. Whereas, publication based inclusion criteria considered the year of publication from 2007 to 2015. Moreover, the inclusion criteria involved only English Language journals and articles. On the other hand, the articles which do not have direct relevance to the research questions and published before the year 2007 were excluded. Besides, the articles in which the major content areas such as methods, findings, discussion, conclusion and abstract were vaguely presented were excluded from selection. Plus publications before the year 2007 were out of selection. Third, articles published in other languages rather than English were also excluded to avoid misunderstanding due to language barrier. The list of articles chosen for analysis can be referred from the table below.

Table 5 Reviewed Articles

Article name	Author	Topical issue	Year	status
Global Epidemiology of DM	Rizzi L. et al	Prevalence DM	2014	selected
A commentary on studies presenting projections of the future prevalence of dDM	Norton et al	Prevalence DM	2013	selected
Vascular Factors &Prevention of DM	Stephan& Brayne	Prevalence & incidence	2008	selected
Risk Factors of DM in North India: A case-control study	Tripathi et al	Risk factors DM	2012	selected
Vascular Factors & prevention of DM	Stephan & Brayne	Risk factors DM	2008	selected
Supportive Care for the Person with Dementia	Hughes J. et al	Care Aspect	2013	selected
Care for PDs: A sign of the Kingdom	Goodhall M.	care aspect	2014	selected
Comfort Goal of Care& End of life outcomes in DM	Soest Poortvli et al	Care aspect	2015	selected
Inappropriate Treatment of PDs	Sormunen et al	Care aspect	2007	selected
person centered care(PCC)	Love& Pinkowitz	care aspect	2013	selected
Chain of Care for DM, Sweden	Bökberg et al 2014	Care aspect	2014	selected

5.2 Data Analysis

Qualitative Content analysis is one of the qualitative methods of data analysis which focuses on analyzing qualitative data. Researches point out three main types of qualitative content analysis, namely conventional, directed and summative content analysis. This study, however, applies the conventional content analysis where coding was made directly from the text based data. This method is appropriate for analyzing data collected from literature. It summarizes the contents, meanings, concepts into manageable size

so that the findings could be inferred. Sara and Hsieh`s article entitled "Three Approaches to Qualitative Content Analysis" was used as a reference in this case. But only the conventional content analysis among the three approaches was chosen for this particular study.In the conventional content analysis approach, attention is given to the words, phrases, and sentences which carry the meaning of the text (Shannon et al, 2005).

The data analysis involved an inductive approach. Based on specific and detail data gathered, the author comes up with the generalized idea of the study which indicates the trend from specific details to general picture of the whole study.

The 10 selected articles based on the inclusion and exclusion criteria were read through thoroughly. While reading the journals, notes were taken or written at the margins of the journals to give emphasis for the meaning of the content and the content category. In this case, the key words of the study were used as coding strategy. In this regard, the key words like *"care", "needs of care" "care quality", "dementia typology" "prevalence", "incidence", "risk factors", and "prevention" were the major key terms applied during the search.* Underlining and bolding of the key words were made to easily identify and categorize similar contents form the different selected journals.

Notes and codes made in the margins were listed and put into category of related codes**.** Based on Graneheim et al. (2004) qualitative content analysis method, the categorization process followed the manifest content (the actual text meaning), and the latent content(which focuses on what the text talks about). On the other hand, the content analysis involved the elderly with dementia as unit of analysis in this context. Moreover, the meaning unit of this listed words and phrases under similar category were organized into similar coding. Above all, the texts were condensed and or reduced into thematic topics. Lastly, contents of similar features were categorized for content analysis.

Finally the contents were put into thematic area and main findings. For instance, the themes or main ideas of the review included prevalence and incidence, risk factors, and nursing care. Such themes guided the overall content analysis of the literatures found from articles. Themes and main ideas were put into categories based on the research questioned designed in the study above. The categories were made to answer each of the research questions raised. This was shown below in table form.

Table 6 Themes and Main Ideas based on the Research Questions

Themes	Research Questions Answered
Dementia prevalence Dementia incidence	Question 1 • *What are the prevalence and incidence of Dementia in the elderly* ?
Dementia Risk Factors	Question 2 • *What are the risk factors for Dementia?*
Dementia Nursing care	Question 3 • *What nursing cares are provided for elderly people with DM?*

5.3 Ethical Consideration

In doing a literature review, there are ethical issues that should be considered. First, the researcher considered the accuracy of the existing literature on dementia. In order to do so, the researcher assessed similar articles for the same concept to prove the results could be plausible. Another ethical concerns related to the literature review process were carefully analyzed. For example, as the reviewed literatures were conducted through primary and secondary data collection tools with direct and indirect personal contact, there is possibility for the results to be biased. Thus, any hasty generalizations and other research findings that were not substantiated by other research evidences were not taken for granted to avoid the ethical dilemmas (Rai,2002).

6. Findings

Based on the categorical classifications of themes made in table 3 above, the results were presented sequentially as follows. The first section presents findings based on the prevalence and incidence of dementia. Secondly, findings on the risk factors of dementia were discussed followed by the findings on the nursing care aspects. The findings were based only on the 10 selected and reviewed articles in the study.

6.1 Prevalence and Incidence

The dementia prevalence rate is one of the important issues reviewed in this paper. Accordingly, because of the demographic change in global pace, the prevalence of dementia also varies with this change. As age is one of the main causative factors for dementia, an increasing number of elderly people in the western regions believed to be highly exposed to dementia. In addition, the urban rural settlement could determine the incidence rate of dementia. For instance, the daily life style in the urban population contributes for the exposure to vascular diseases. Whereas the low education level and poor living standard in the rural settlement may lead to dementia in the later age. In brief the prevalence distribution is closely related to the age and geographical location of the different countries. In this regard, Rizzi et al. (2014) affirm that the variations of dementia prevalence rate is higher in the western countries. Although age is mentioned to be the main factor for prevalence and incidence of dementia, the geographical and social and economic conditions of the different geographical locations also determine the prevalence of dementia (Rizzi et al, 2014).

However, the findings in this regard show that the prevalence rate of elderly people affected by dementia is significantly increasing both in developed and developing nations. Compared to the developing countries, the western countries have had a lead in numerical terms. Similarly, the incidence rate also escalates with the growing number of aging population in the world. In the context of Finland, this is not an exception. In other words, Finland shares similar experience with regards to the prevalence rate of dementia in the country.

In relation to the findings on dementia incidence, dementia risk factors play an important role in exacerbating the incidence. In this regard, focus was given to the modi-

fiable risk factors for dementia. According to Stephan et al. (2008), the modifiable risks for dementia include depression, diabetes, level of education, hypertension, hyperlipidaemia and smoking. These factors, according to the author, are the ones which can be controlled or regulated as needed. The non-modifiable risk factors,on the other hand, deal with age and genetics which are hardly regulated. If the modifiable risk factors were not properly managed in time, dementia incidence could be higher (Stephan et al, 2008).

A review on the article concerning the future prevalence of dementia indicates that there will be an alarmingly growing number of aging population in the world. This is because of the fact that the incidence and prevalence of dementia escalate in a similar manner with aging. Aging demographic change is non-stoppable and the respective consequence on the dementia cases is inevitable phenomena (Norton et al, 2013).

6.2. **Risk factors**

Dementia risk factor analysis was another important finding considered in this study. Based on this, the literature reviewed on the risk factors shows that there are two basic risk factors associated with dementia. The first one is age. Because of the degenerative nature of vascular and neurological status of old people, the ability to memorize things become low. This low level of memory gradually leads to memory impairment or dementia. The second main risk factor underlined was the existing lifestyle habit experienced by old people during their midlife period. When the middle age lifestyles were associated with smoking, unhealthy diet and alcohol consumption, the chance of getting vascular diseases is high. This in turn results in gradual incidence of dementia (Stephan et al, 2008).

In addition to the above finding, the review from an article by Tripathi et al.(2012) confirm the two major categories of dementia risk factors,namely modifiable and non-modifiable. The modifiable risk factors are related to personal life styles,medical and dietary. On the other hand, the non-modifiuable ones are closely related to age and genetic factors. If the care processes address the modifiable risks in advance, it is possible to reduce the risk of vulnerability to dementia.

6.3. **Nursing Care**

Third, the analysis on nursing care related contents show that dementia care philosophy is multidimensional. In other words, there is no single care philosophy that best suit the needs of the dementia client. However, most of the care philosophies or care approaches underline that the "person"or the "client" with dementia is always at the center of the care process. They are the target of the care instead of the disease. The care model selected for the theoretical framework in this study shows the significance of putting the person at the center of the care (PCC). According to this model, care is given for the person based on his or her needs rather than the needs defined by the caregivers (Love et al, 2013). On the other hand, when the dementia client is dependent on the care givers or nurses, there are more risks for the client to be exposed to further maltreatment. In this regard, Sormunen et al.(2007) describes such inappropriate treatment of the care givers as follows:

"withholding (lack of nurse`s reaction when the client needs)invalidation(considering illness rather than the client),objectification (when same client was cared by different nurse for help in feeding or dressing), outpacing, disempowerment(the treatment in which the client is unable to use her or his ability to cope with dementia), ignoring(caregivers talk about the client while client is nearby) and infantilization(treating as child) are the most common inappropriate treatments during the care process"(Sormunen et al, 2007,p.249-250).

The above quote indicates   the vulnerability of the dementia clients to inappropriate care from their caregivers. Client`s physical and cognitive disability could be taken as a precondition by the nurse to initiate the cause for such treatment. In other words, nurses perception towards the demented clients play an essential role to make the care process ethical and effective. This is a clear challenge to face in order to make a difference on the care model of philosophy that puts the client at the canter (see Sormunen et al, 2007).

Finding from the article on the comfort goal of care and end of life outcome in dementia indicates that families of the dementia clients are essentially should be part of the nursing care process. In other word, the family should be involved in the intensive care plan which involves the needs assessment, implementation and evaluation. This care gives due attention to satisfy the demented clients´ family. Clients' quality of life improvement is highly considered in this approach (Soest-Poortvliet et al, 2015).

On the other hand, a study conducted by Goodall (2014) asserts that dementia client care starts from understanding the personhood at initial stage. The clients` values, attitudes, needs and interests should be defined in terms of the person in charge of the dementia case. This care starts from "validation of the person as present". The article review shows that demented clients have hope for life when they are considered as full person in the first place. The care givers attitude and belief towards the client should be positive and hope oriented so that the whole care process to be delivered would be easier and effective (Goodall, 2014).

In relation to the above findings, supportive care method was one of the essential nursing care approaches for dementia. According to Hughes et al.(2013), the bio-psycho-social and legal aspects of the person with dementia need to be considered to have a comprehensive care. This finding is summarized briefly in table below (Hughes et al, 2013).

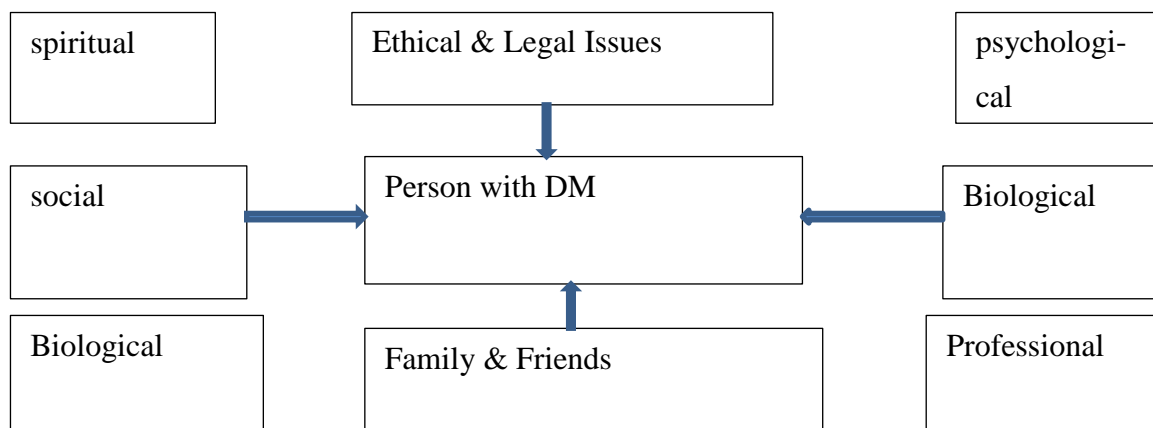| spiritual | Ethical & Legal Issues | psychological |
| social | Person with DM | Biological |
| Biological | Family & Friends | Professional |

Figure 3 Supportive Care Pathways

Regards to the nursing care Bökberg et al.(2014) suggests the following key elements for dementia care: First, early diagnosis should be made in order to identify those elderly people in need of the care. Second, coordination among registered nurses, social workers, municipalities, occupational therapists and physiotherapists should be made in advance to facilitate the care at various care settings(hospital, short term, nursing home, home care). These will enable care givers to make care plan in advance for the demented elderly people(Bökberg et al,2014).

7. Discussion

In a nut shell, the main findings of this study were interpreted and summarized for meaning as follows: First, the magnitude of dementia is alarmingly increasing with the increasing level of age. This means an increase in the number of dementia client in the future is inevitable. This implies an urge to address the issue of healthy aging through proper preventive and rehabilitative approach to curb the challenge. On the other hand, such significant increase in the magnitude of the elderly people with dementia escalates the labour dependency ratio of the working age population. In other words, the effect could be seen from the national economic impact and there is a wider possibility for such old people with dementia to be economically dependent on the working age (Elizabeth et al,2016).

This abnormal demographic shift in the world implies the need for early intervention on the healthy aging of people at their mid-age. A study conducted by the Erasmus Medical center and Erasmus University Rotterdam, the Netherlands, emphasize that proper early intervention on the conventional cardiovascular risk factors in the elderly people could prohibit the incidence of dementia. In other words, elderly people should be given proper treatment for their stroke, hypertension, atrial fibrillation, coronary artery disease and related vascular illness. In doing so, they can be protected from vulnerability for AD and VD (Bruijn et al, 2015).

On the other hand, the findings under the risk factor states that if prevention of modifiable risk factors is made at early mid -life, the possibility of the person getting dementia in the later age is low. However, author`s personal work experience with dementia clients during previous summer time in Finland contradict with this finding. While working with dementia clients in one of Helsinki old people residential houses, the author witnessed that there were elderly people living with dementia without any vascular diseases (Stephan et al,2008).

There were different categories of dementia care aspects. The supportive, palliative, person cantered, cooperative and recovery approaches were some of the main care philosophies found to be relevant to dementia care. However, all of the approaches assert the dementia client to be the focus of the care. In other words, the PCC model which

was used as a conceptual frame work in this study was given priority. Although the PCC care model was emphasized, other nursing care approaches cannot be ignored. Because no single care model address the multi-dimensional care needs of dementia clients. This has implication both at national and nursing care plan level (Love, et al, 2013, Hughes et al, 2013).

The above discussions on the findings have significant implication for policy revision at national level in Finland. The Finnish Social and Healthcare need to make dementia care programme that addresses the dementia client needs which give the client autonomy and right. In other words, central focus should be given to the client`s biological, social, psychological, emotional needs. The client should be at the center of the care process. At the nursing care level, Nurses should work either together with the dementia client or plan based on what the client needs and reflects instead of planning for the client in advance. This implication is supported by the PCC model of care used in this study. Besides, it is reinforced by ethical approach to dementia care mentioned above. Moreover, models such as recovery and cooperative should not be ignored in dementia care. The cooperative approach demands expertise for dementia care. Though it is not enough by itself, it is important to consider. In brief, both policy and care levels needs to reconsider the application of a comprehensive approach for proper care to dementia clients (Love et al, 2013, Finnish Ministry of Social Affairs and Health, 2013).

In this regard, Finland has drafted its own national dementia plan. Review findings from the national plan indicate that dementia care focused on rehabilitative and early prevention approach. As discussed in the preceding text, Finnish dementia care highlights intervention on the modifiable risk factors for dementia. Active lifestyle and healthy nutritional use is recommended as a mechanism for intervention for dementia. However, the national plan does not mention the focus of the care. In other words, dementia prevention is prioritized rather than the person. Moreover, the national plan is not comprehensive enough to address the diverse needs of person with dementia. In other words, the biological, psychological, social, emotional and physical needs of the person with dementia are not incorporated in the Finnish National Dementia Plan (Brooker, 2007).

In Finnish context, an increasing number of aging population and the respective vulnerability to memory disorder negatively affects the social and economic fabric of the country. It urges for the management of non-modifiable dementia risk factors. This can be addressed through proper nursing care plan which adderesses the life style and vascular disesase related risks. The growing number of aging population possibly leads to an increase in the non-modifiable dementia risk factor in Finland. According to Erkinjuntti & Huovinen (2001), the total number of aging population (65-95+) escalates in 30 years starting from the year 2000. The data also indicates the increasing number of male and female dementia clients from the years 2000 to 2030. However, more women are dementia victims compared to men in the years mentioned.

According to this data, about 85,000 people are the victims of memory related disorders. In other words, an estimated 1.7 % of Finnish total population is registered with memory disorder. The data also depicts that about 13,000 people are generally registered for such disorder every year. This statistics is self-explanatory that the number of dementia client is inevitably growing without break in the country. This has social and economic impact which can lead to further deterioration.

Additional finding concerning the statistical significance of aging population in Finland indicates that an estimated 340,409 people are over the age of 75 in 2000. In other words, an estimated 7% of the total population is aging. Moreover, this data increase 20 years later (2020) and becomes 518,312 or 10% of total population. Similarly, the data increase in the decades ahead -2030 about 14% and 20140 about 15%. This point outs that age factor which is non-modifiable becomes a crucial risk for Finnish aging population to get memory related disorder(Erkinjuntti & Huovinen,2001).

8. **Conclusion**

In conclusion, the study indicates that there is gradual demographic shift across the world. This change is particularly manifested in the western world including Finland. The number of aging population is worryingly escalating. Subsequently, the number of these old people living with dementia has gone up. This has caused dependency on the working age population. The prevalence rate has never been reduced for several decades. Rather the prevalence and incidence of dementia in the elderly have increased decades ahead. Though age is the dominant risk factor, other risk factors are also taken into account in order to address the plight of dementia as public health problem. Considering all the prevalence, incidence and risk factors for dementia, proper care and early prevention models minimize the national cost of dementia. Working towards all this dementia related issues could make the nursing care proper and client -centered. Although this study has given due attention towards the PCC care model, care practice related to the *pharmacology and psychosocial* aspects cannot be ignored. Moreover, the *therapeutic intervention* from nursing perspective is inevitably included in the care process (Thompson, 2010). This suggests that it is essential to have a broader view of care aspect instead of focusing a single care model. This could make the care intervention comprehensive enough.

8.1 Critical Analysis

It was found essential to mention the strengths, limitations and possible recommendations for this particular study. As strength, the author considers the use of scientific articles for review. The study has followed scientific procedures which involve selection of relevant and researchable topic, use appropriate methods of data collection and analysis. The topic, the methods, aim and research questions, the theoretical frame work, the results together with discussion brought an amalgamated picture of addressing the plight of one of the global public health challenge-dementia. Above all, use of scientific data base from Arcada library portal and google scholar gives a hint toward the use of plausible data source.

On the contrary, this study cannot escape its limitation. For one thing, the data collet ion method was not enough to collect all the necessary information from the relevant sources. For example, it could have been more strong and plausible if both qualitative and quantitative data collection methods were applied. However, this was not possible due to the limited scope of study at bachelor level. Besides, the preventive aspect of dementia was not adequately discussed in this study. Therefore, it was left to further investigation. Moreover, the epidemiological aspect of this study was not supported by a survey or enough statistical evidences to bring a comprehensive finding. This section was also suggested for further study.

Regards the articles chosen for this study purpose, the author could not access articles related to the Finnish context. As a result, statistical data in relation to dementia prevalence, incidence and risk factors were not accessed from Arcada data base and google scholar. This has limited the findings directly related to Finland. However, the articles answered all the questions accordingly if not adequately.

8.2 Recommendations

This study has come through the discussion on the epidemiological foundation of dementia for the purpose of proper nursing care intervention. As the prevalence and incidence of dementia in the elderly people has been significantly increasing, there is an urge to address the respective care. Besides, the various risk factors mentioned above worsens the vulnerability of elderly people to dementia. These all have an implication toward the care. There is no single best approach for proper dementia care for elderly people. However, a comprehensive intervention mechanism should be adopted in order to make the care relevant and appropriate. In other words, the nursing care for dementia clients(elderly) should incorporate the bio-psycho-social aspect of the person in need of the care. In this regard, the PCC care model has been the one which gives due attention to the person instead of the disease(Love et al,2013). The client`s needs, feelings, interests,   behaviours,   and   attitudes   should   be   considered   in   the   intervention plan.Understaninfg the client is more important than deciding on behalf of the client. In this regard, the Finnish National plan towards the dementia client should be more client-centered. The planning and decision making on behalf of the client needs to be reconsidered so that the dementia clients and families take part in the planning and decision making process of care.

As a nurse, the author could use an advocacy power to address the plight of elderly people who often suffer from dementia ailment. Nurses should take responsibility to influence health care policy related elderly people in Finland and across the globe. Nurses play a significant role in acting on behalf of this vulnerable segment of society. They may not be able to protect their right due to the ailment and limitation related to aging. Nurses not only are the advocates but also   ethical care giver for dementia clients. Therefore, the client, the nurse, and policy makers are all essential to be working together to address the needs of dementia client based on PCC model.

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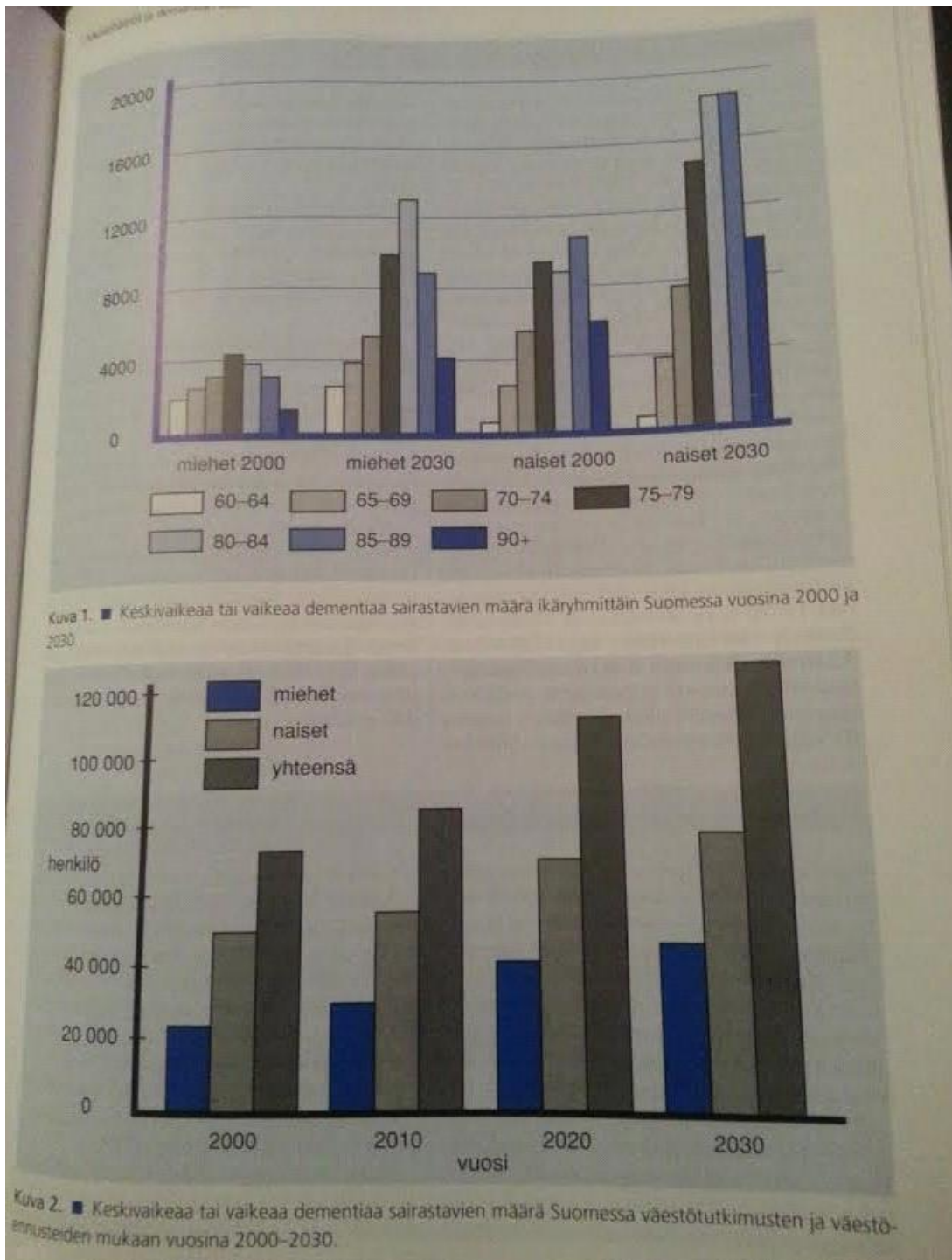
Appendices

Kuva 1. ■ Keskivaikeaa tai vaikeaa dementiaa sairastavien määrä ikäryhmittäin Suomessa vuosina 2000 ja 2030

Kuva 2. ■ Keskivaikeaa tai vaikeaa dementiaa sairastavien määrä Suomessa väestötutkimusten ja väestö-ennusteiden mukaan vuosina 2000–2030.

Figure: **Finnish memory disorder statistics (Source: Muistihäiriöt ja Dementia 2001)**

Table 5 Reviewed Articles

Article name	Author	Topical issue	Year	status
Global Epidemiology of DM	Rizzi L. et al	Prevalence DM	2014	selected
A commentary on studies presenting projections of the future prevalence of dDM	Norton et al	Prevalence DM	2013	selected
Vascular Factors &Prevention of DM	Stephan& Brayne	Prevalence & incidence	2008	selected
Risk Factors of DM in North India: A case-control study	Tripathi et al	Risk factors DM	2012	selected
Vascular Factors & prevention of DM	Stephan & Brayne	Risk factors DM	2008	selected
Supportive Care for the Person with Dementia	Hughes J.	Care Aspect	2013	selected
Care for PDs: A sign of the Kingdom	Goodhall M.	care aspect	2014	selected
Comfort Goal of Care& End of life outcomes in DM	Soest Poortvli et al	Care aspect	2015	selected
Inappropriate Treatment of PDs	Sormunen et al	Care aspect	2007	selected
person centered care(PCC)	Love& Pinkowitz	care aspect	2013	selected
Chain of Care DM, Sweden	Bökberg et al	Care aspect	2014	selected