

**Marytriza Muraguri, Mahat Nirupa**

**A LITERATURE REVIEW: MENTAL HEALTH EFFECTS  
AND ASSESSMENT TOOLS OF ALCOHOLISM AMONG  
THE ELDERLY**

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**ABSTRACT**

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<b>Instructor</b> Maria Björkmark		<b>Pages</b> 44 +Appendices (5)
<b>Supervisor</b> Anita Hollanti		
<p>The purpose of this study was to explore the effects of alcoholism on the mental health among the elderly. Different assessment tools were used in this study in order to assess alcoholism in the older adults. The goal of the study was to create awareness among nurses and health professionals about possible mental health effects of alcoholism among the elderly. In addition, the study provided knowledge regarding the assessment tools used in assessing alcoholism among the older adults. Studies on the effects of alcoholism on mental health of the elderly are rare. Previous studies suggest an increase in older adult population and the rate of alcohol consumption among the elderly population.</p> <p>The research methodology established was based on literature review with content analysis. Data was acquired from different databases such as Cumulative Index to Nursing and Allied Health Literature, Science Direct, SAGE publications, E-Library and web-based publications.</p> <p>Depression, dementia, Marchiafava-Bignami Disease, Wernicke- Korsakoff's Syndrome, Parkinson's disease and various cognitive impairments were associated with alcoholism among the elderly. The common assessment tools used in assessing alcoholism include the Alcohol Use Disorder Identification Test, the Cut down Annoyance Guilt and Eye-opener test and the Michigan Alcohol Screening Test- Geriatric version. The results will assist nurses to improve their knowledge on mental effects of alcoholism and the appropriate assessment tools to detect alcoholism among the elderly.</p>		

**Keywords**

Alcoholism, assessment tools, elderly, mental health effects, older adults

## **ABBREVIATIONS**

AUDIT	Alcohol Use Disorder Identification Test
BAC	Blood Alcohol Concentration
CINAHL	Cumulative Index to Nursing and Allied Health Literature
MAST-G	Michigan Alcohol Screening Test- Geriatric version
MBD	Marchiafava-Bignami Disease
UN	United Nations
WHO	World Health Organization
WKS	Wernicke- Korsakoff's Syndrome
CAGE	The Cut down Annoyed Guilty Eye- opener

# **TABLE OF CONTENTS**

## **ABSTRACT**

## **ABBREVIATIONS**

<b>1 INTRODUCTION</b>	<b>1</b>
<b>2 THEORETICAL BACKGROUND</b>	<b>3</b>
<b>2.1 Definition of concepts</b>	<b>3</b>
<b>2.1.1 Standard drink and alcoholism</b>	<b>3</b>
<b>2.1.2 Older adults and elderly</b>	<b>4</b>
<b>2.1.3 Mental health</b>	<b>5</b>
<b>2.1.4 Assessment of Alcoholism</b>	<b>6</b>
<b>2.2 Theories of alcoholism</b>	<b>6</b>
<b>2.2.1 Disease theory of alcoholism</b>	<b>6</b>
<b>2.2.2 Genetic and biological theories of alcoholism</b>	<b>7</b>
<b>2.3 Human-to-human relationship theory</b>	<b>8</b>
<b>3 PREVIOUS STUDIES</b>	<b>11</b>
<b>3.1 Mental health effects</b>	<b>11</b>
<b>3.2 Assessment of alcoholism</b>	<b>14</b>
<b>4 RESEARCH QUESTIONS</b>	<b>16</b>
<b>5 METHODOLOGY</b>	<b>17</b>
<b>5.1 Inclusion and exclusion criteria</b>	<b>17</b>
<b>5.2 Data collection</b>	<b>18</b>
<b>5.3 Data analysis</b>	<b>20</b>
<b>5.4 Ethical considerations</b>	<b>22</b>
<b>6 FINDINGS</b>	<b>23</b>
<b>6.1 Mental health effects</b>	<b>23</b>
<b>6.1.1 Prescription medication and alcohol interactions</b>	<b>26</b>
<b>6.2 Assessment Tools</b>	<b>28</b>
<b>6.2.1 Alcohol Disorder Identification Test</b>	<b>29</b>
<b>6.2.2 The Cut down Annoyed Guilty Eye-opener (CAGE) questionnaire</b>	<b>30</b>

<b>6.2.3 The Michigan Alcohol Screening Test-Geriatric Version</b>	<b>31</b>
<b>7 DISCUSSIONS</b>	<b>32</b>
<b>8 CONCLUSION</b>	<b>37</b>
<b>REFERENCES</b>	
<b>APPENDICES</b>	

## 1 INTRODUCTION

Alcohol has been in existence for a long period of time. It is an organic substance derived from the fermentation of sugar with yeast. Alcoholic drinks have been accepted as part of our society and their production and consumption by humans has been perfected and incorporated into virtually all cultures. The consumption of alcohol is common on different occasions such as parties or social gatherings as a form of enjoyment and leisure. Alcohol or ethanol uses vary greatly by country. In some countries, alcoholic beverages are used mainly as intoxicants while in other countries, they are mainly consumed as beverages with meals.

The consumption of alcoholic drinks such as beer and wine is common among the older adults. About 70-80 % of European men and 50 % of European women consume alcohol (Hallgren, Hölberg & Andreasson 2009). The occurrence of alcoholism among the elderly is often underestimated and neglected. In the Nordic countries, Finland has been stated to have the highest level of alcohol consumption rates among the elderly population. According to the Ministry of Social Affairs and Health (2006), the total rate of alcohol consumption among older adults has tripled over the past four decades in Finland. Excessive alcohol consumption is a risk factor for the increased risks of mortality and morbidity among the elderly. In America, excessive alcohol consumption accounts for greater than 21,000 deaths per year among older adults aged 65 and above. (Center for Disease Control and Prevention 2013.)

The elderly population is the fastest growing segment of the European region. According to Jyrkämäki and Haapamäki (2008), Finland is one of the fastest ageing countries within the European Union. In 2020, one-fifth (20%) of the population in Finland will be above 65 years old. Furthermore, the number of people in Finland above 75 years of age is expected to increase by 50% by the year 2020. The increase in elderly population in the country is as a result of the 'baby boomers'. The 'baby boomers' refer to the generation born soon after the Second World War (now in their late 50's). Similarly, the number of older adults aged 65 or above is predicted to be double the number of older adults in America in 2010 by 2050.

A large number of people above the age of 60 years view ageing positively. Older adults receive better incomes and pensions, longer periods of retirement, improved health and high quality healthcare services, greater wealth and capital. In addition, older adults have reduced

responsibilities to society and greater benefits. The changes in disposable incomes and an increase in leisure time may be related to the increase in alcohol consumption among the elderly in a number of countries.

Aging may lower the body's tolerance to alcohol. Older adults have a lowered metabolism rate due to physical changes which occur in the body as it ages. The metabolism of alcohol is greatly reduced, thus increasing the risk of developing alcohol related problems. The damaging effects of alcohol to the general health of the elderly are greatly affected by the increase in alcohol consumption. Furthermore, alcohol consumption is a major risk factor and an underlying cause for many health problems, chronic diseases and injuries among the elderly population.

The purpose of this study was to investigate the mental effects alcoholism causes among the elderly. In addition, the researchers aimed to identify the various screening tools applied in the assessment of alcoholism among the elderly. The goal of this study was to provide knowledge for nurses and other health professional groups about the mental effects alcoholism causes among the elderly population. In addition, the study also aimed to acquaint nurses with knowledge on the right assessment tools to apply during the screening of older adults for alcoholism.

The researchers developed an interest to the topic after experiencing a number of alcoholic elderly in the country. A great number of older adults in Finland live in nursing homes and rehabilitation centers. In addition, older adults occupy a number of health center bed-wards due to chronic illnesses. The elderly usually live alone and away from family and friends. Loneliness, financial problems, loss of loved ones, chronic illnesses and fear of the future may lead to the consumption of alcohol among the older adults.

## **2 THEORETICAL BACKGROUND**

The theoretical background focused on defining this study's concepts including the definition of a standard drink, alcoholism, mental health and alcoholism assessment. The disease theory and the genetic and biological theories of alcoholism explain the development and relationship between alcoholism and mental health. The human-to-human relationship theory explains the importance of human relationships in order to alleviate suffering in an individual with addiction problems.

### **2.1 Definition of concepts**

#### **2.1.1 Standard drink and alcoholism**

The concept of 'standard drink' is often used in relation to alcohol consumption. A standard alcoholic drink refers to any alcoholic beverage containing 10 grams of pure alcohol which is approximately equivalent to one can of full strength beer, a glass of wine, a small glass of sherry, or a single shot of spirits (Hallgren et al. 2009). Different countries have their own standard limits of drink which varies widely from 8g of pure alcohol in the United Kingdom to 10g in Australia and New Zealand, 14g in the United States, and up to 19.75g in Japan. (House of Commons Science and Technology Committee 2012). The standard limit drink in Finland contains 12g of absolute alcohol. This is equivalent to one bottle of beer (33cl), one glass of wine (12cl), one glass of port wine or madeira (8cl) or one shot of spirit (4cl). Moderate drinking for men in Finland is less than 15 drinks per week and less than 7 drinks per session. However, moderate drinking for women is less than 10 drinks per week and less than 5 drinks per session (Viljanen 2012).

According to the World Health Organization (WHO) (2013), the periodic consumption or chronic continual drinking of alcohol is known as alcoholism or alcohol dependence. Excessive consumption of alcohol may lead to alcohol related disorders such as alcohol dependence which is also known as alcoholism, and alcohol abuse. According to Rehm, Mathers, Popova, Thavorncharoensap, Teerawattananon and Patra (2009), alcohol consumption is a major risk factor and an underlying cause for many health problems, chronic diseases and injuries. Furthermore, alcoholism is one of the major alcohol

consumption disorders which is typically considered chronic. Symptoms associated with this disorder include;

- craving (a strong need or urge to drink),
- loss of control (being unable to stop drinking once drinking has begun),
- physical dependence (withdrawal symptoms such as nausea, sweating, shakiness, and anxiety after stopping drinking)
- tolerance (the need to drink greater amounts of alcohol to feel the same effect).

There are three major types of alcohol dependence users. The early onset or aging alcoholic has generally encountered problems with alcohol intermittently throughout life, with a regular pattern of alcohol abuse starting to evolve in late middle age or later. The late-onset or geriatric problem drinker has no history of alcohol related problems but develops an alcohol abuse pattern in response to stresses of aging, retirements, losses or pain. Intermittent or binge drinkers consume alcohol occasionally and may sometimes drink in excess leading to health problems. (Institute of Alcohol Studies 2013.)

### **2.1.2 Older adults and elderly**

According to the WHO (2013), the age of 60 or 65 years is considered to be the beginning of old age. In most developed countries, the chronological age of 65 years has been accepted as the definition of elderly or older person. However, this does not adapt well to the situation of developing countries for instance, Africa. The classification of age varies between countries and often reflects the social class differences or functional ability of the work force. In addition, the definition is related to the retirement age. There is no standard numerical criterion adopted by the United Nations (UN) to define old age. Gerontologists have stipulated a new model for the age-question which includes; young-old adults (65-75 years), middle-old adults (75-85 years) and old-old adults (85 years and above). (Meredith 2007.) In this study, older adults or elderly are considered to be 65 years and above.

### **2.1.3 Mental health**

There are a number of models which define the concept of good mental health in a person. Good mental health may be defined as the well-being brought about by happiness from joy or unselfish (agape) love, good self-control and deep effortless commitment. The use of defense or coping mechanisms in daily life situations and a good evolved mature brain is considered as good mental health. In addition, positive emotions, feelings, the conscious recognition and monitoring of one's emotions (socio-emotional intelligence) and the presence of multiple human strengths are all indicators of good mental health. (Vaillant 2012.)

Mental health is also defined in relation to an individual's capability to function normally and maintain a positive self-view. Interactions between individuals and families assist in the processes of coping, adapting and achieving satisfaction in relationships, daily activities and community activities. Positive interactions in individuals and families lead to good mental health. Human beings strive to adjust to each other and to the surrounding world in different ways. Good mental health is attained when this adjustments are effective and provide happiness and satisfaction to an individual. Mental health has also been defined using different criteria. The criteria includes aspects such as; a positive attitude towards self, integration of the psychic forces (Id, Ego and Superego), autonomy, perception of reality, adaptation to environment and growth, development and self-actualization. (Basavanthappa 2007.)

According to the WHO (2013), mental health is defined as the state of well-being, both emotional and psychological, where by an individual recognizes his or her potential, copes with the normal stresses of life, performs fruitful and productive work and meets the demands of everyday life. Good mental health is not just the absence of mental disorder. It also involves an individual being in good emotional health and functioning well within the society.

#### **2.1.4 Assessment of alcoholism**

The processes of gathering, classifying, categorizing, analyzing and documenting information form the foundation of assessment. Good assessment is thorough, ongoing and accurate and plays a major role in mental health. Screening is an assessment method commonly used to estimate or establish the likelihood of a certain population to having a certain disorder such as alcohol dependence or misuse. Alcohol assessment is commonly used to identify if a person's drinking patterns are causing any harm or are likely to cause harm in the future if the drinking patterns persist. (Evens & Nizette 2012.)

### **2.2 Theories of alcoholism**

#### **2.2.1 Disease theory of alcoholism**

Alcohol use disorders including alcoholism are a complex problem in the elderly population and alcoholism among the elderly has become an increasingly important area to understand. There are different ideas and hypotheses about what causes alcohol use disorders such as alcoholism.

For some, addictive illness takes an unrelenting devastating course with all the characteristics of a malignant disease; for others dependency on substances seems to be symptomatically related to a stressful or distressful phase of a person's life and the reliance on drugs or alcohol is transitory and a temporary aberration; and yet for others they simply chose to stop for reasons that are not always clear. (Korhonen 2004, 7.)

According to the disease theory of alcoholism, usage of alcohol has resulted in an innate disease that increasingly worsens and leads to difficulty in the control of alcohol consumption by an individual. Moreover, individuals consuming excessive amounts of alcohol are considered as diseased. It has been a belief among many medical professionals for more than 40 years that addiction is a primary, chronic, progressive, incurable, physical disease which may be fatal. Individuals with this innate disease cannot control their alcohol consumption since the disease is activated when they first drink; leading them to drink more. Physical, emotional and spiritual damage result from uncontrolled alcohol consumption. (Korhonen 2004.)

The disease has no cure, but the effects cease if the person stops drinking. Modern alcohol institutions and organizations including the alcohol support groups and treatment centers apply this concept in the treatment of alcohol use disorders. Although alcohol addiction may not be viewed as truly a disease, the idea that it might be a disease may be useful in helping society understand that people with alcohol problems should seek help (Korhonen 2004).

The disease model of addiction proposes that addiction fits the definition of a medical disorder and involves a structural or functional abnormality in the central nervous system. The abnormality results in impairment which requires treatment. Addictions, such as alcohol addiction involves pathological brain changes which result in overpowering urges. A loss of control is observed in addicts leading them to consume excessive alcohol over a period of hours due to the irresistible desire to drink alcohol. The disease theory also includes the concept of self- cure. Alcoholics may suddenly stop engaging in alcohol consumption after many years of compulsive drinking. The presumption is that the brain abnormality or dysfunction that led to the addiction has normalized. (West 2005.)

### **2.2.2 Genetic and biological theories of alcoholism**

According to Korhonen (2004), genetic and other biological factors are involved in the development of alcohol addiction and dependence. In addition, the brain has a major role in the addiction process. Individuals from dependent families especially males may have a genetic predisposition to developing alcohol problems. These individuals may have inherited certain specific characteristics placing them at higher risks of developing alcohol dependency in case of heavy drinking. Alcoholism inheritance is at least 50%. Furthermore, the frequency of alcoholism is three to five times higher in parents, children and siblings of alcoholics than in the rest of the general population (Lee, Chen, Chang & Lu 2014).

Brain chemistry has been related to alcohol addictions and compulsive behaviors in research. Brain chemicals especially serotonin and dopamine seem to have a major role in the addiction process. Decreased dopamine levels are involved in feelings of stress. Furthermore, high dopamine levels are related to feelings of pleasure. Alcohol plays a role in increasing the levels of dopamine leading to temporary feelings of pleasure and happiness. The individual may then consume alcohol again in order to experience the same feelings.

Furthermore, heavy drinking may interfere with the normal brain chemistry and function. (Korhonen 2004.)

The combination of heavy alcohol consumption and poor nutrition leads to abnormalities in body organs such as the liver which aid in processing nutrients and vitamins. Deficiencies in nutrition may cause chemical imbalances which lead to physical problems, anxiety and depression. Alcohol consumption may be a way of self-medication especially in the case of depression. A variety of genes, biological characteristics in combination with social, psychological and environmental factors may lead to alcohol dependence in an individual. (Korhonen 2004.) Non-specific genetic factors may combine and contribute to an individual's probability of engaging in alcohol consumption. Additional genetic factors affect the digestion of the consumed alcohol and as the alcohol enters the central nervous system, more genetically induced factors affect the psychoactive effects of the alcohol. The cycle repeats again with more consumption of alcohol (Ross, Kincaid & Spurrett 2010).

### **2.3 Human-to-human relationship theory**

The human-to-human relationship theory was proposed by Joyce Travelbee, a psychiatric nurse, in 1971. This nursing theory focuses on interpersonal processes between two human beings. The first requires assistance due to an illness and the second offers assistance to the sufferer (patient and nurse respectively). The theory explores the concept of assistance which involves aiding the patient to cope, identify, learn and grow from the experiences of illness. Illness is defined as suffering and pain. Suffering in this theory is defined as:

A feeling of displeasure that ranges from simple transitory mental, physical, or spiritual discomfort to extreme anguish and to those phases beyond anguish; namely, the malignant phase of despair, the feeling of “not caring,” and the terminal phase of apathetic, indifference. (Meleis 2011, 258.)

According to the theory, human relationships assist people to cope with suffering. The main role of a nurse is to alleviate suffering and pain. Human relationships were conceptualized to advance in stages. These phases include; phase of original encounter, phase of emerging identities, phase of empathy, phase of sympathy and the phase of rapport. Good communication between nurse and patient is important in order to decrease pain and suffering. Different methods are applied by nurses to retain the channels of communication.

These methods may include; reflecting alone or with the patient, providing open-ended comments to obtain information from patients. Furthermore, communication is maintained through active listening and reflection, avoiding interruptions, providing automatic responses and avoiding cliché. Communication is considered a key factor in establishing good nurse- patient relationship. (Meleis 2011.)

The theory assumes that:

Nurse- patient relationship is the essence of the purpose of nursing and these relationships are established when both partners perceive each other's uniqueness. In addition, nurse-patient relationships are based on perceiving the patient as an illness or nursing as a task. Illness, suffering and pain experiences could be self-actualizing. They are not only physical encounters for human beings but also emotional and spiritual encounters as well. Purposeful nurse-patient interactions fulfill the goals of nursing. Communication is the process that enables to establish nurse- patient relationships and thereby fulfill the purpose of nursing. (Meleis 2011, 260.)

Human relationships are a crucial and integral element in the assessment and delivery for care in the field of healthcare. The theory has focused on the formation and purpose of human-to-human relationships. The main concepts defined include;

- Nursing: An interpersonal process whereby the professional nurse practitioner assists an individual, family or community to prevent or cope with experience or illness and suffering, and if necessary to find meaning in the experiences.
- Human being: A unique thinking, biological, and social organism, and irreplaceable individual who is unlike any other person, who is influenced by heredity, environment, culture and experiences.
- Nursing client: A patient is a human being who requests assistance from another human being who he believes is capable of helping and will help in solving his problems.
- Environment: Not defined.
- Health: WHO definition: Health is a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity.

The human-to-human relationship theory clearly defines the significance of good communication between the nurse and the client especially during a client's health

assessment. A good relationship between the nurse and the client during a health evaluation results in quality client assessment and treatment. Assessment of alcoholism in older adults requires a careful approach. Creating a good rapport during the assessment process for alcohol problems builds the client's trust and results in reliable assessment findings.

### **3 PREVIOUS STUDIES**

The previous studies include studies focusing on the various effects of alcoholism on the mental health of the elderly. Different assessment tools utilized in assessing alcoholism among the elderly are mentioned.

#### **3.1 Mental health effects**

Alcohol dependence may result in a number of functional changes in the brain. According to Melillo and Houde (2011), alcohol dependence leads to negative mental health effects such as learning impairment, decrease in concentration, problems in judgment, abstract thinking, skills solving and short term memory losses (refer to Appendix 1). Different symptoms may result in alcohol dependent individuals. These may include; insomnia, depression, panic disorder, anxiety, personality disorder, paranoia, guilt, self-esteem problems, interpersonal difficulties, and other pathological situations (Havio, Inkinen & Partanen 2013).

The most common primary diagnoses of alcohol related diseases among clients aged 65 years in Finland are amnesic syndrome, withdrawal state with delirium, psychotic disorder, dependence syndrome, mental and behavioral disorders due to alcohol use. The symptoms of mental and behavioral disorders include disinhibition, argumentativeness, aggression, lability of mood, impaired attention, impaired judgment and interference with personal functioning. In addition, unsteady gait, difficulty in standing, slurred speech, nystagmus, decreased level of consciousness (stupor, coma), flushed face and conjunctival infection may occur in alcoholism. (Yearbook of Alcohol and Drug Statistics 2011.)

According to Kausler, Kausler and Krupsaw (2007), evidence on the effects of alcoholism on the mental health of older adults is still conflicting and unclear. There are limited studies on consequences of alcoholism in older adults. A great number of studies on alcoholism in other age groups have been carried out continuously. However, few studies have been carried out on alcohol dependence and alcohol related problems among the elderly population. Older adults with a history of five or more years of heavy drinking have an increased risk of developing mental health problems. In addition, the lifelong consumption of alcohol may result in severe mental health problems.

According to a survey by the National Institute for Health and Welfare (2009) on the consumption, harm and policies related to alcohol, the elderly alcoholics were less likely to report their consumption of alcohol or illicit drugs to relatives or healthcare providers. Consequently, alcohol problems increased and worsened with age. In addition, previously hidden or tolerated problems developed or turned out to be more evident or disruptive in old age. The survey concluded that reported alcohol dependence cases typically declined after the age of 18.

Bowman and Gerber (2006) carried out a study relating binge drinking and psychological distress among older adult drinkers. The study concluded that alcohol dependence mimicked the symptoms of normal ageing process. In addition, alcohol was considered to exacerbate the normal process of ageing. Consequently, difficulty in cognition and memory, social impairment and mental health concerns such as anxiety and depression developed. Ferreira and Weems (2008) studied alcohol health benefits and detriments among the elderly in America. They concluded that alcohol dependence among the aging population later emerged as a silent epidemic condition. In addition, the study stated that approximately two thirds of older people were observed to be abusing alcohol at any unspecified period.

According to Hallgren et al. (2009), alcohol consumption among elderly European Union citizens was shown to be increasing. The study investigated the consumption trends and general health effects of alcohol among the citizens. Biological changes associated with ageing were related to the use of alcohol among the elderly. Older adults were more vulnerable and susceptible to alcohol's harmful health effects. Moreover, the elderly alcoholics were less likely to recover from cognitive deficits caused by alcoholism as compared to young alcoholics. A decrease in the amount of body water with age was related to an increase in the Blood Alcohol Concentration (BAC) levels in the body. This resulted in a dilution decrease in consumed alcohol.

White, Signer, Kraus and Swartz-welder (2004) studied the occurrence of alcohol induced blackouts among college students. The results suggested that excessive alcohol consumption produced changes in certain brain regions leading to impairment in memory and learning. Excessive alcohol consumption also affected certain areas of the brain related to memory and encoding. In addition, alcohol induced blackouts were classified as either partial or complete, depending on the severity of the memory impairment.

According to Raina, Mahesh, Mahajan, Kaushal, Gupta and Dhiman (2008), chronic alcoholism was associated with thiamine deficiencies. Moreover, long term drinking was related to severe neurological effects such as polyneuropathy. Thiamine and other B-vitamin deficiencies caused by alcoholism resulted in nerve compression and nerve toxicity. The sign and symptoms of neuropathy included pain, numbness, tingling and burning sensation in the feet at first and slowly to the hands, muscle wasting, weakness and foot drop (Melillo & Houde 2011.)

Alcohol dependence and misuse was also related to Wernicke's encephalopathy. The disorder, caused by thiamine deficiency in the body, was investigated to occur in adult patients who misuse alcohol. A study carried out by Sechi and Serra (2007) investigated the disorder and common factors predisposing to its occurrence including alcoholism. According to the study, most cases of Wernicke's encephalopathy in developed countries were people who misused alcohol. About 70-80% cases were missed in relation to the diagnosis of Wernicke's encephalopathy by routine clinical examination.

Korsakoff's syndrome was studied to be related to alcoholism and chronic alcoholics. Usage of long term alcohol such as excessive consumption for 20 to 30 years increased the risk of acquiring Korsakoff's syndrome. Thiamine deficiency was studied to be the cause of the syndrome. About 80% of clients with Wernicke's encephalopathy developed the Korsakoff's syndrome. However, the relationship between Wernicke's encephalopathy and Korsakoff's syndrome requires additional research. (Sechi & Serra 2007.)

Strawbridge (2007), stated that Wernicke's encephalopathy may occur together with the Korsakoff's syndrome. The main clinical features of the Wernicke- Korsakoff's Syndrome (WKS) include mental confusion ranging to mental sluggishness, apathy, impaired awareness of immediate situation, amnesia, decreased concentration, ocular abnormalities, motor problems such as uncoordinated gait and ataxia, hallucinations, agitation and behavioral disturbances.

Aging and alcohol dependence were studied to be risk factors for developing alcohol related dementia. Excessive alcoholism affected the brain in a more diffuse manner and was directly related to general cognitive impairment. Moreover, about 12-25% of older adults with alcohol dependency reported alcohol induced dementia. However, the deficit in memory and

cognitive impairment was present in all alcoholics regardless of age group although the problems were predominantly noticeable and severe in older adults. (Strawbridge 2007.)

According to Sajatovic and Blow (2010), the occurrence of bipolar disorder was related to alcohol use disorders and alcohol dependence. Individuals with bipolar disorder were at a higher risk of developing substance use disorders. However, inadequate information about alcohol dependence and the occurrence of bipolar disorders among the older population are rare.

Alcohol has a depressant effect on the central nervous system. Alcoholism and alcohol abuse were investigated to occur in depressed individuals as compared to the non-depressed individuals. The risk of acquiring depression was noticed to be higher in individuals suffering from alcoholism and binge drinkers. (Leo 2009.) Nevertheless, higher levels of alcohol consumption among adults with primary diagnoses of depression increased the chances of suicide among the individuals. Negative effects were also observed in the treatment of depression due to alcohol consumption (Roberts & Dollard 2010).

### **3.2 Assessment of alcoholism**

Older adults with mental and behavioral disorders caused by alcohol use and alcohol related disorders must be assessed and treated in order to ensure quality of life. In many instances, the presentation of alcohol abuse symptoms is non-specific, atypical and often mistaken with other age-related illnesses and changes. Moreover, symptoms of alcohol abuse appear as psychiatric or physical problems. The treatment of older adults depends broadly on the capacity and ability of health care providers to assess and plan in an approved manner. A careful health assessment reveals important information regarding alcohol use. A comprehensive health review and assessment provides adequate information regarding the alcohol abuse or misuse. The combination of health assessment with other screening instruments leads to accurate diagnoses of alcohol related disorders. (Yearbook of Alcohol and Drug Statistics 2011.)

According to Melillo and Houde (2011), nurses working with geriatric clients play an important role in the identification of alcohol related problems. There are a number of strategies assisting gero-psychiatric nurses in carrying out a proper health assessment for

alcoholism among older adults. These strategies include; health assessment procedures and instruments which are addressed towards the elderly people, deep and broad knowledge regarding alcoholism and its effects on older adults, regular use of the standardized geriatric screening instruments in order to examine alcoholism and being aware of alcoholism in specific cultures, families or societies. In addition, education and treatment of alcoholism should be human friendly. Every health care provider should have similar approaches in focusing on alcoholism among older adults. The awareness program should include a person who is skilled in the care of the geriatric population.

Assessment for alcoholism in different health institutions includes the collection of health information from clients. Information collected includes an individual's developmental milestones and social environment, employment history and common stressors related to the working life, relationship history including sexual history and marital status, transitional periods and important life-events which may have influenced alcoholism, family history of alcoholism and alcohol abuse and a social history including the individual's friends, culture, life style patterns, social gatherings and events. Furthermore, the psychological history in about an individual's feelings, emotions and thoughts is important in assessing for alcoholism. (Neeraja 2008.)

Physical examination is also used in assessing alcoholism. Inspection of the client suspected of alcoholism includes observation of the general appearance, behavioral patterns and signs of alcoholism such as tremors. Palpation of the body organs may reveal dysfunction or damage. Liver enlargement (hepatomegaly), spleen enlargement (splenomegaly) and heart enlargement (cardiomegaly) are a number of common consequences of alcoholism in the elderly. In addition, percussion of the epigastric region may reveal tenderness. Cardiac murmurs and respiratory sounds may be heard through auscultation technique. (Neeraja 2008.)

#### **4 RESEARCH QUESTIONS**

The purpose of this study was to explore the mental effects alcoholism causes among the elderly. In addition, this study identified the main screening tools applied in assessing alcoholism among the elderly. The goal of this study was to provide knowledge for nurses and other health professional groups about the mental effects alcoholism causes among the elderly. The study acquainted nurses with knowledge on the right screening tools to apply during assessment of the older adults with alcoholism. The research questions included;

1. What are the mental effects of alcoholism among the elderly?
2. What are the screening tools used in the assessment of alcoholism among the elderly?

## **5 METHODOLOGY**

A literature review was conducted on written and web-based materials concerning alcoholism and the effects of alcohol to the mental health status of the elderly. The literature review focused on examining and evaluating the topic through the use of previous researches hence establishing the relevance on the acquired information. The review was based on researched and published topics by accredited scholars and researchers. Published materials included recent books and scientific journal articles, reports from Government, international agencies and information or discussion papers by relevant agencies and associations.

According to Boswell and Cannon (2014), literature review method is an analytical summary of specific research findings relating to the study subject. All available material regarding a certain phenomenon are comprehensively compiled and summarized. The review of literature method ensures all previous knowledge and ideas about a particular area of research interest are documented. In addition, it forms the core of good evidence based research in nursing. The literature review method assists in assessing and describing available information and identifying the known and unknown aspects regarding a phenomenon.

Literature review provides a concrete background within which research is carried out. It allows researchers to choose and manage research ideas based on the available material. In addition, the importance of a research problem and methods of studying the problem are clearly defined in a good review of previous literature. The method aids authors to recognize a theoretical framework through which to carry out a study. Moreover, literature review provides a platform through which study results are interpreted, compared and critiqued. (Boswell & Cannon 2014.)

### **5.1 Inclusion and exclusion criteria**

The addition of an inclusion and exclusion criteria in this study enhanced the probability of obtaining genuine and reliable results.

TABLE 1. Inclusion and exclusion criteria.

<b>Inclusion criteria</b>	<b>Exclusion criteria</b>
The studies related to the mental health effects of alcoholism and tools used to assess alcoholism among the older adults.	The studies which were not related to the research question.
Articles from 2004 to present were used in the study, and articles from 2009 to present were used in analysis.	Articles and the studies carried out before 2004.
Articles in full text, abstract and within the keywords.	The articles without full text, abstract and within the keywords.
English and Finnish languages.	Other languages due to interpretation problems.
Evidence based research articles.	Articles not related to nursing and not scientific.

## 5.2 Data collection

Qualitative research method was used in data collection for this study. The method was not constrained by pre-determined categories of analysis and thus, enabled the researcher to study and evaluate the selected issues, cases or events in detail and depth. Scientific journals, books and web-based publications were used during the data collection process. Keywords chosen in this study consisted of mental health effects, elderly, older adults, assessment tools and alcoholism. The words were used in combination in order to retrieve relevant articles. The combination words included; mental health + older adults + alcoholism, mental health

+ elderly + alcoholism and alcoholism + assessment tools. Scientific databases utilized in this study included Science Direct, CINAHL, SAGE Pub and E-Library. In addition, reliable web-based publications such as the WHO, Terveyden ja Hyvinvoinnin Laitos, National Institute on Alcohol Abuse and Alcoholism, National Institute for Health and Welfare, Institute of Alcohol Studies, Yearbook of Alcohol and Drug Statistics and the Ministry of Social Affairs and Health were included in the literature review.

All information was gathered in a systematic way by avoiding any repetitions and wrong interpretations. Twenty journal articles were abstracted from reliable databases. In addition, the languages used for obtaining materials for this study included English and Finnish. Recent articles published from the year 2009 to 2014 were utilized in the analysis process. The articles focused on mental health effects of alcoholism and assessment tools for alcoholism among the older adults.

TABLE 2. Data search results from databases.

<b>SEARCH WORDS</b>	<b>SCIENCE DIRECT</b>	<b>SAGE PUB</b>	<b>CINAHL</b>	<b>E-LIBRARY</b>
Mental health + older adults + alcoholism	866	241	506	900
Mental health effects + elderly + alcoholism	466	217	456	930
Alcoholism + assessment tools	105	140	548	500

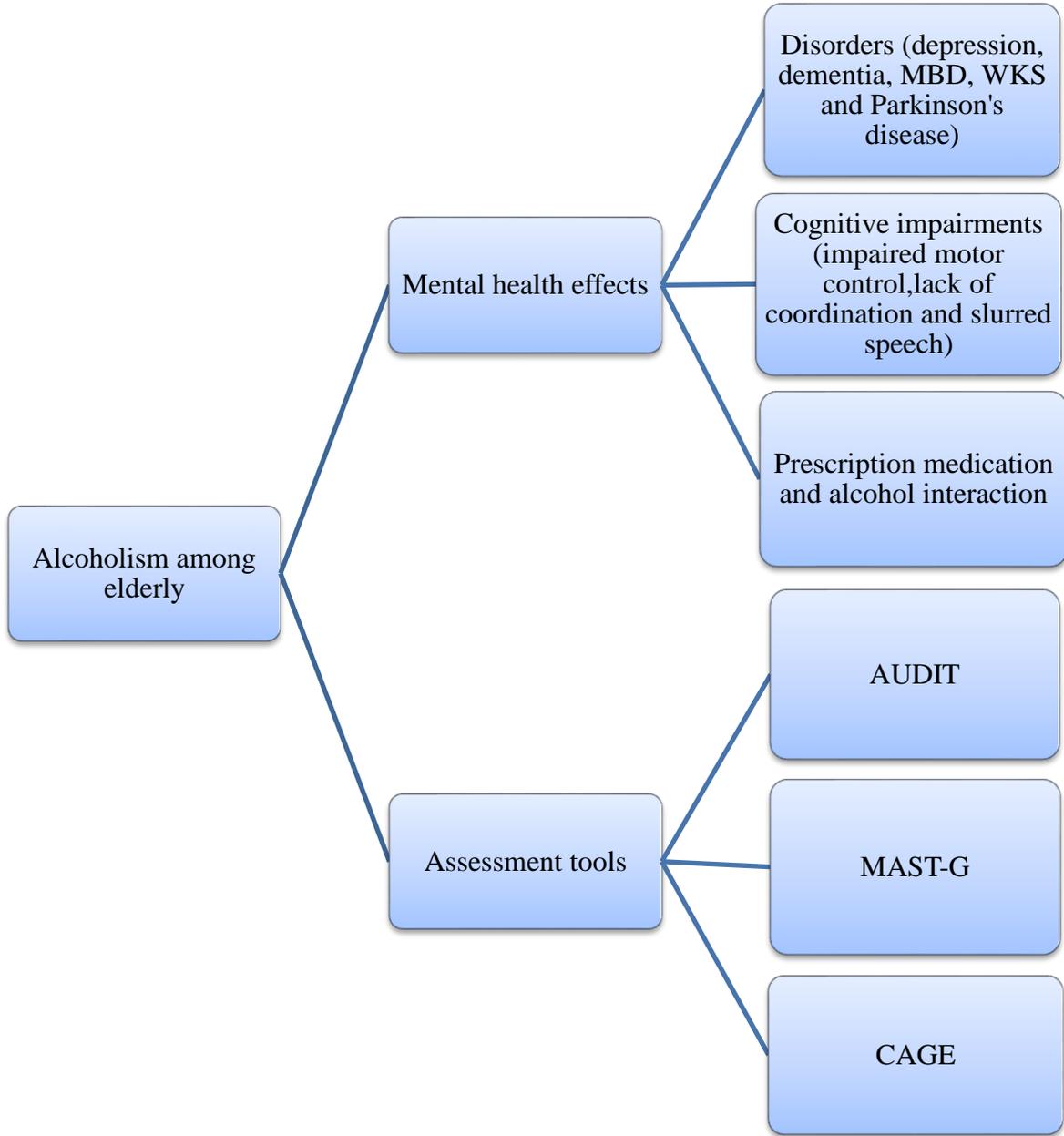
All data being published before 2004 was excluded from the study in order to maintain reliability. Furthermore, materials not meeting the inclusion and exclusion criteria were omitted. A total of 64 journal articles relevant to this research were chosen. In this study, 20 articles ranging from the year 2009 to present were singled out since they provided recent information. This ensured that the validity of this research was maintained. The articles related to mental health effects were 13 whereas seven articles were associated with tools for assessing alcoholism.

### **5.3 Data analysis**

The data analysis process involves the organization, management and evaluation of data after collection in order to draw up conclusions relating to the research questions. The objectives and questions for this study assisted in determining the process of data analysis. Content analysis was used to analyze all data gathered in this study. Content analysis is a scientific tool that includes a specialized procedure which provides new insights and increases researcher understanding of a particular phenomenon. The analysis process enables the creation of inferences and deductions from text and research material. Thus, answers to specific research questions are generated through this process. (Krippendorff 2013.)

The process includes the analysis of data and classification of information into common themes. The research technique is used for the systematic, objective and quantitative description of data obtained from research studies. Content analysis is one of the most common approaches used in qualitative researches such as health researches to present key elements from the studies. (Green & Thorogood 2009.) The method assisted in retrieving maximum information which provided answers to the specific research questions in this study.

All articles were thoroughly studied and the information was grouped into themes and sub-themes. The themes included mental health effects and assessment tools respectively. Besides, these themes were subdivided into subthemes which included the various disorders related to mental health, prescription medication and alcohol interactions and the different assessment tools for alcoholism assessment. The first sub theme included disorders related to the effects of alcoholism on the mental health such as depression, dementia, MBD, WKS and Parkinson's disease. Cognitive impairments related to alcoholism such as impaired motor control, lack of coordination and slurred speech were grouped into another sub-theme. Interactions between alcohol and prescription medication were grouped into another sub-theme. The different tools used to assess for alcoholism among the older adults were also divided into three sub-themes (GRAPH 1).



GRAPH 1. Process of content analysis in this study.

#### **5.4 Ethical considerations**

Ethical considerations were continuously maintained throughout this study. According to Basford and Slevin (2003), the specific ethical principles to be considered in research include the principles of beneficence, non-maleficence, justice and respect for autonomy. The goal of this study was to provide additional knowledge to health professionals about alcoholism effects on mental health of older adults and the different assessment tools to assist in assessing alcoholism. Hence, the principle of beneficence was maintained. Similarly, the study involved a review of literature which ensured no harm to participants. High standards of professional and academic conduct were maintained throughout this study. All web-based and scientifically published materials used in this study were quoted and referenced as required. Fairness was maintained by ensuring that all personal experiences, biases and opinions were avoided during the research process.

#### **5.5 Reliability and validity**

Reliability is defined as the consistency, stability, repeatability and equivalence of results under the same condition. The reliability of a data collection method is ensured through the collection of data in a consistent manner avoiding any variations in the process. This ensures retention of the nature of the data collected in a study. Validity refers to the accuracy of the data collection method in a study (Long & Johnson 2004, 201-216). The research materials in this study were recent and obtained from reliable sources. All articles used were focused on the research questions. The inclusion and exclusion criteria ensured biasness was avoided and only scientific and evidence-based journals were used in this study. In addition, the authors and years of publication were properly and accurately quoted and referenced in this study.

## **6 FINDINGS**

Alcohol related problems among the elderly frequently remained undetected for a long period of time. In addition, alcoholism among the older adults mainly arose as a silent epidemic. Older adults feared to disclose their drinking habits to the family and to health professionals. In addition, alcohol problems were unnoticed due to reduced social contact among the elderly. The stigmatization associated with drinking prevented the older adults from reporting alcohol problems. Alcohol related problems were linked to common events which also occurred during the aging process. Hence, it was difficult to differentiate the cause of these events. Accidents such as falls, self-neglect, confusion or depression symptoms resulted from both alcoholism and the aging process. (Bakhshi & While 2014).

### **6.1 Mental health effects**

Alcohol was one of most commonly abused substance among the elderly although it was believed that alcohol use disorders declined along with age. It was the most common abused drug after nicotine and caffeine and often remained misdiagnosed or untreated. Moreover, the number of individuals aged 65 and above suffering from alcohol related problems was significantly increasing. There was increasing research in this area due to the growing recognition of alcohol use disorders among the elderly. Alcohol consumption limits and recommendations were usually set for whole general populations and were not age specific. According to a study conducted by the National Survey on Drug Use and Health (2010), statistics revealed that nearly 40% of adults aged 65 and above consumed alcohol. (Donatelli & Somes 2014).

Excessive alcohol consumption was associated with a number of health problems including poor mental health status and psychological issues. Thus, excessive alcohol consumption was an area of great concern among the elderly (Bryant & Kim 2013). Long-term alcohol consumption caused intoxication which resulted in slurred speech, lack of coordination, depression, drowsiness, dizziness and an increased risk for overdose which further led to increased feelings of depression. In addition, alcoholism among older adults' resulted in anxiety, epilepsy, slowed or difficulty in breathing, impaired motor control, unusual behavior and memory problems (Donatelli & Somes 2014). According to Briggs, Magnus,

Lassiter, Patterson and Smith (2011), the effects of alcohol dependence were subsequently masked by the characteristics of aging among the elderly population.

Frequent heavy drinking was associated with alcohol abuse, intoxication, alcohol withdrawal, alcohol withdrawal delirium, alcohol dependence, alcohol-related cognitive impairment, and alcohol-related dementia. The frontal cortex which is involved in the cognition and inhibitory control was altered by excessive alcohol consumption hence resulting in organic changes. Moreover, the normal ageing process led to a decline in the speed of information processing, decision making, judgment, and memory hence increased the risk of mental impairment and dementia. (Kim, Young, Lee, Hun, Hano, Yong & Genu 2012).

Alcohol was considered to be a risk factor for developing cognitive impairment. It caused harmful toxic effects to the human body as well as damaged the brain in various ways. The harmful effects of alcohol occurred through direct toxicity to brain cells and a poor diet which resulted in thiamine deficiency. Moreover, vascular damage, falls and accidents also resulted in brain damage. According to Kim et al. (2012), the most common cognitive impairments included impaired memory, decreased behavioral initiation and decreased verbal fluency.

The association between alcohol consumption and the risk of developing Parkinson's disease was lacking. Few existing prospective studies showed inconsistent results. One study results suggested that low to moderate beer consumption minimized the risk of developing Parkinson's disease. However, greater liquor consumption was associated with a higher risk of Parkinson's disease among the older adults. Wine consumption appeared not to be associated with the risk of developing Parkinson's disease. Hence, evidence of association between alcohol consumption and the risk of acquiring Parkinson's disease among the older adults was not established in the study. However, Liu, Guo, Park, Wang, Huang, Hollenbeck, Blair and Chen (2013) stated that Parkinson's disease may be related to the relatively high proportion of pure ethanol found in liquor as compared to both wine and beer. More studies require to be carried out to investigate the relationship between alcoholism and Parkinson's disease.

Excessive alcohol intake was linked to the increased risk of developing dementia and severe cognitive deficits among older adults. In addition, alcohol had certain neurotoxic effects which resulted in a decreased blood perfusion in the brain. Consequently, shrinking of the brain occurred due to interferences with the neurotransmitter systems. This condition was described as alcohol related dementia or alcoholic dementia. Older adults above the age of 65 with alcoholism were at increased risk of developing dementia and severe cognitive impairments. The prevalence of acquiring dementia was about five times higher among the elderly suffering from alcoholism than in non-alcoholic elderly (Caputo, Vignoli, Leggio, Addolorato, Zoli & Bernardi 2012). Moreover, 9% to 23% of older adults with a history of alcohol dependence developed dementia in comparison to 5% of the general population (MaCabe 2011).

Wernicke's encephalopathy and Korsakoff's syndrome or psychosis referred to as WKS were two diseases associated with alcohol-related brain damage. Thiamine deficiency was the underlying etiology for alcohol-related WKS (Colella, Savage & Whitmen 2010). Individuals aged 65 and above consuming alcohol over a long period of time at levels exceeding the recommendations were at risk for developing WKS (Colella et al. 2010). The results in this study revealed that WKS and alcohol dependency were related. Moreover, the prevalence of alcohol related dementia was greater than WKS (Macabe 2011).

Marchiafava-Bignami Disease (MBD) was a rare toxic disease commonly present in chronic alcoholics. In addition, older adults were at an increased risk of developing MBD. The exact cause of MBD was unknown. The disease caused progressive demyelination of the corpus callosum which was the pathological hallmark of the condition. The characteristics of MBD included; coma and stupor followed by seizure, dementia with attention deficits, memory and language difficulty, personality changes and finally mild dementia which progressed over time. (Kim et al. 2012.)

Although not all binge drinkers suffered from alcoholism, these individuals were at a higher risk of developing alcohol dependence. Binge drinking was an area of concern among the older adults. Binge drinkers suffered from poor mental health status and psychological distress. Furthermore, increased binge drinking was considerably associated to increased levels of psychological distress among the older adult drinkers. Research findings offered

further evidence for the negative association between binge drinking, alcoholism and the mental health of older adults. (Bryant & Kim 2013.) Chen and Hardy (2009) stated that elderly people developed a greater risk of psychological distress over a long period of alcohol consumption. Frequent binge drinking was associated with mental health distress symptoms such as stress, depression and emotional problems. Consequently, a reduction in the quality of life and health was noted (Wen, Kanny, Thompson, Okoro, Town & Balluz 2012). However, the extent to which mental functioning deteriorated due to extended use of alcohol among elderly remained an unclear subject.

Depression was one of the severe mental health problems linked with alcoholism. The prevalence of depression among heavy alcohol consumers was common. Men consuming alcohol heavily had an increased risk of developing depression compared to non-drinkers or men consuming four or less drinks per drinking session. The prevalence of high alcohol consumption among older men and women aged 55 to 75 was lower compared to young adults aged 25 to 55. However, older men and women aged 55 to 77 had a high prevalence rate of developing depression; 15,8% and 17,5% respectively after long periods of heavy alcohol consumption. (Levola, Holopainen & Aalto 2011).

### **6.1.1 Prescription medication and alcohol interactions**

A large number of older adults were noted to be under prescription medications due to various health issues such as chronic illnesses. Moreover, the concept of poly-pharmacy was common among the elderly population. The interactions between alcohol and different medications consumed by the elderly resulted in serious health problems (Immonen, Valvanne & Pitkälä 2013). The combined use of prescribed medicine and alcohol produced greater adverse effects especially in the older adults. Silva, Santos and Marchini (2014) stated that healthcare providers needed to be aware of a client's alcohol consumption status before prescribing any medications to avoid causing more harm to the elderly.

Usage of pain relief medicine was common among the older adults due to various chronic illnesses or physical injuries which occurred with increase in age. A number of older adults were not aware of the interactions which occurred when pain relief medications were combined with alcohol. In addition, older adults usually consumed more alcohol in order to relieve pain during later adulthood. The side effects of pain relief medication and alcohol

included drowsiness, sleep disturbances, dizziness. (Moos, Brennan, Schutte & Moos 2010.)  
TABLE 3 described other common interactions which occurred between alcohol and prescription medication.

TABLE 3. Alcohol – drug interactions. Adapted from Caputo et al. (2012); Donatelli & Somes (2014).

<b>ALCOHOL – DRUG INTERACTIONS</b>		
<b>DRUG</b>	<b>PRESCRIBED PURPOSE</b>	<b>INTERACTION</b>
Antibiotics	Treatment of infections/ infectious diseases	-Reduced drug effectiveness -Headache -Nausea, vomiting.
Antihistamines	Treatment of allergic symptoms and insomnia	-Increased sedation -Excessive dizziness
Antidepressants	Treatment of depression	-Intensive sedation -May decrease antidepressant effectiveness -May cause rise in blood pressure
Anesthetics	Pre-surgical medication given to induce unconsciousness and reduce pain sensitivity	-Reduced drug effects -Increased risk of liver damage
Antidiabetic medication	Decrease blood sugar levels in diabetic clients	-Reduced drug effectiveness -Headache -Nausea
Hypnotics and sedatives	Alleviation of insomnia and anxiety	Higher risk of coma and fatality -Excessive drowsiness -Depressed respiratory and cardiac functions.
Antipsychotic medications	Reduces psychotic symptoms such as delusions and hallucinations	-Impaired coordination -Excess sedation -Risk for breathing difficulties

Anti-seizure medications	Treatment of epilepsy	-Lowered protection against seizures -Higher risk of drug-induced side effects
Cardiovascular medications	Treatment of the heart and circulatory system diseases	-Reduced drug effectiveness causing fainting and dizziness
Anti-ulcer medications	Treatment of ulcers and gastrointestinal problems	-Higher risk of side effects -Increased duration of drug presence
Narcotic medications	Treatment and alleviation of moderate to severe pain	-Excessive sedation -Possibility of overdose

## 6.2 Assessment Tools

Reliable and valid components of alcohol consumption were important in the assessment of drinking behavior among the elderly. Self-reported measures of alcohol consumption behavior in individuals often provided reliable information. Older adults were less familiar with the standard ways of reporting alcohol consumption. In addition, obtaining reliable information about alcohol consumption was noted to be challenging especially if the older adult perceived that drinking stigmatized them in certain ways. Evidence suggested that individuals were more open regarding their alcohol consumption when completing computerized or written questionnaires as compared to direct interviews. (Donatelli & Somes 2014.)

Detection of alcoholism was quite difficult among the elderly since they did not openly report any alcohol problems. This research showed that the combination of health assessment with other screening instruments led to accurate diagnoses of alcohol related disorders. According to Donatelli and Somes (2014), there were evidence-based programs available which offered information on proper methods of identifying alcohol related problems among the elderly. Health care professionals utilized these programs in order to perform proper assessments. Moreover, specific screening tools along with structured health assessment questions provided a broad platform which formed a comprehensive plan of care. Assessment of alcoholism was carried out using formal and standardized screening tools such as the Cut down Annoyed Guilty Eye-opener questionnaire (CAGE), the Michigan

Alcoholism Screening Test-Geriatric version (MAST-G) and the Alcohol Use Disorder Identification Test (AUDIT).

Caputo et al. (2012) stated that these questionnaires were the most common and validated tools utilized in assessing alcohol related problems among the elderly. In addition, these questionnaires were developed to assess alcohol use patterns in older adults and were used both in research and clinical practice. TABLE 4 showed three common tools used in assessing alcoholism among the elderly.

TABLE 4. Assessment tools. Adapted from Immonen (2012).

<b>ASSESSMENT TOOL</b>	<b>AGE-GROUP ASSESSED</b>	<b>NUMBER OF QUESTIONS</b>	<b>IMPORTANCE OF TOOL</b>
<b>AUDIT</b> Alcohol Use Disorders Identification Test	Adults	10	Widely used to detect alcohol related problems.
<b>CAGE</b> Questionnaire	Adults	4	Used as a study measure and also in clinical use.
<b>MAST –G</b> Michigan Alcoholism Screening Test- Geriatric Version	Adults $\geq$ 65 years of age	24	Developed specifically for older people to detect alcohol related problems.

### 6.2.1 Alcohol Disorder Identification Test

The AUDIT was developed by the WHO as a self-reporting assessment tool to assist in detection of dangerous and hazardous drinking (Boschloo, Vogelzangs, Smit, Brink, Veltman, Beekman & Penninx 2010). The test consisted of 10 questions which included questions about the quantity and frequency of alcohol use, dependence symptoms, binge drinking and alcohol-related problems. According to Rist, Glöckner-Rist and Ralf (2009), the test helped in the identification of alcohol risk drinkers and non-alcoholic dependent people with alcohol problems.

Rist et al. (2009) stated that the scores for each question range from 0 to 4. The first response for each question scored 0, the second scored 1, the third scored 2, the fourth scored 3 and the last response scored 4. The questions 9 and 10 included only three responses with scores 0, 2 and 4 respectively. A score of 8 or more was associated with harmful or hazardous drinking, a score of 13 or more in women, and 15 or more in men, was likely to indicate alcohol dependence. In Finland, the test cut-off points were currently 8 for men and 6 for women. The AUDIT test required two to three minutes to complete and had been translated into different languages for use in clinical settings (Appendix 3).

### **6.2.2 The Cut down Annoyed Guilty Eye-opener (CAGE) questionnaire**

The CAGE assessment tool was a questionnaire used commonly in the primary care setting. According to Skogen, Øverland, Knudsen and Mykletun (2011), it was very specific and had proven effective in the detection of various alcohol problems. The questionnaire was a common brief and popular screening tool in clinical practice in the detection of alcohol abuse and dependence. It was a simple four question test which was easy to remember. The four test components included feelings of guilt about drinking, the consumption of eye-opener drinks, being annoyed by criticism from others and decrease on amount of drinking. Two or more positive answers were considered an indicator of alcohol dependence or alcoholism. Any positive answer was usually “followed up” especially with the elderly people due to their increased sensitivity to the effects of alcohol. The test required about a minute to complete.

Skogen, et al. (2011) stated that the CAGE test was a brief which consumed less time. The questions were considered simple to understand and answer. Test responses were either to be negative or affirmative. The CAGE questionnaire was shown to detect both previous excessive alcohol consumption and current excessive alcohol consumption among the older adults (Appendix 4).

### **6.2.3 The Michigan Alcohol Screening Test-Geriatric Version**

Gils, Rompaey and Dierckx (2013) stated that the MAST- G test was designed especially for the elderly people. It was used to assess late life alcohol consumption problems. The test consisted of twenty five questions related to drinking behavior and alcohol related problems. It considered medical problems and differences in social and employment situations which were present among the elderly. Response options were either affirmative or negative. More positive responses increased the likelihood of alcohol related problems in the older adults. Evaluation was made based on the responses obtained. Five or more affirmative responses were currently set as the clinical cut-off for probable alcohol related problems. Clients scoring figures above 5 were further investigated for late life alcohol problems (Appendix 5).

## 7 DISCUSSION

Alcoholism had negative impacts on the mental health of all individuals regardless of age. The purpose of this study was to explore the effects of alcoholism on the mental health of older adults. Moreover, this study identified the common assessment tools utilized in the screening for alcoholism among older adults. In the current situation, a large number of older adults were living in elderly nursing homes and their own homes. In addition, most of the older adults were receiving health care related services from health care professionals. Nurses especially home care nurses were usually the first to encounter elderly clients. Hence, nurses required knowledge on the effective assessment tools to detect, manage and prevent alcoholism among older adults. A number of articles discussing alcoholism in old age revealed similar conclusions regarding alcoholism among the elderly. Nevertheless, the articles suggested further research on the subject of alcoholism among the older adults.

The literature review method utilized in this study's methodology provided a wider perspective of the effects of alcoholism on the mental health of older adults. The articles and books used provided a variety of approaches and hypotheses regarding alcoholism effects and the older adult population. Some studies suggested that alcoholism resulted in mental health disorders although other studies suggested that some mental health disorders resulted in alcoholism. This study's findings suggested that alcoholism lead to mental health disorders and worsened pre-existing disorders.

The study findings revealed positive association between dementia and alcoholism among the elderly population. The occurrence of dementia was noted to be higher among the alcoholic older adults in comparison to non-alcoholic older adults. Moreover, alcohol related dementia was associated with cognitive impairments such as memory loss, confusion, verbal impairments and decrease in behavioral initiation. Alcoholism was noted to be a direct and indirect cause of cognitive impairments through damage to the brain. However, the level at which alcohol resulted in brain damage was not studied in this research.

Older adults above 65 years of age with excessive alcohol consumption patterns were at a greater risk of developing Wernicke's encephalopathy and Korsakoff's syndrome. Although Wernicke's encephalopathy and Korsakoff's syndrome occurred at any stage of life, older alcoholic adults were more vulnerable to developing these disorders. Furthermore, the early

onset drinkers were at a greater risk of developing Wernicke's encephalopathy and Korsakoff's syndrome in comparison to the late onset drinkers.

Studies which showed the relationship between MBD and alcoholism among the older adults were rare. According to this research's findings, elderly alcoholics acquired a greater risk of developing MBD. Moreover, older adults with excessive alcohol consumption patterns were at a higher risk of developing Parkinson's disease. Nevertheless, low and moderate consumption of alcohol was revealed to offer protective effects to the elderly and decreased the risk of acquiring Parkinson's disease.

According to a number of previous studies, depressed patients were more likely to consume alcohol beyond the normal standard drink limits. This resulted in alcoholism and further depression. On the contrary, other previous studies revealed that excessive alcohol consumption led to depression among older adults. The present study findings revealed a higher prevalence of depression among old age men and women consuming alcohol over the normal standard drink limits. Moreover, alcoholism had a depressant effect on the mental health of alcoholic older adults.

Nurses played a vital role in the detection and management of alcohol related problems. This study's findings stated that a large number of older adults failed to report alcohol related problems to their families and healthcare providers. Older adults regarded reporting of alcohol problems as shameful or a waste of time. The elderly perceived reporting alcohol related problems as an interference with the functioning of the family. Consequently, a large number of older adults suffered silently in their homes or in nursing care centers. Hence, negative effects of alcoholism developed gradually.

The clinical physical examinations and laboratory examinations for signs and symptoms of excessive drinking were good standard methods of identifying alcoholism in an individual. However, these methods did not readily detect harmful and unsafe drinking in older adults. Furthermore, harmful and unsafe drinking among the older adults was difficult to detect. According to this study's results, standardized alcohol assessment questionnaires were more accurate methods of identifying individuals' alcohol consumption patterns in excess of the recommended drinking limits. Assessment screening tools were also less expensive than laboratory tests and long clinical procedures.

The human-to-human relationship theory suggested that human relationships were important in alleviating suffering. Older adults suffering from the effects of alcoholism required assistance from health personnel in order to cope, heal and grow from their experiences. A good nurse-patient relationship ensured proper delivery of nursing care to the patient. Older adults did not view alcoholism as a problem, hence failed to report alcohol related issues. An effective nurse-patient relationship resulted in good and open communication. Furthermore, an open communication established a reliable assessment for alcoholism among the older adults. Alcohol assessment tools consisted of direct and personal questions. A positive nurse-patient relationship and effective communication provided a comfortable environment and trust among the elderly. Consequently, the reliability of responses provided was achieved.

Older adults were often not willingly ready to discuss alcohol related problems with healthcare providers. Therefore, verbal and direct communication did not reveal all the required and important information regarding alcohol issues. Previous studies revealed that the use of written assessment tools yielded improved results compared to verbal assessment of alcoholism. Assessment questionnaires were a quick and easy way to seek for information regarding an individual's drinking patterns before carrying out any interventions through drugs or other therapies. Questions in the assessment tools were directed towards the quantity and frequency of alcohol consumption. In addition, the questions were directed towards the effects of drinking and the behavior of the individual after drinking. Scoring was carried out and the results for a particular assessment instrument represented the values considered positive for the test tool.

On the contrary, a few studies suggested that written assessment tools provided inaccurate answers. The written assessment questionnaires were easily misunderstood by the older adults compared to younger adults. The elderly misinterpreted the questions and provided answers which did not reflect the current situation. In addition, some older adult clients lacked the knowledge of reading and required verbal communication during assessment. These findings led to the development of standardized assessment tools specifically designed for the older adults. The MAST-G was an example of an assessment tool specifically designed to screen the elderly clients.

The AUDIT, MAST- G and CAGE tests were frequently utilized in the assessment of at-risk drinkers and alcoholism among the older adults. These three assessment tools proved to offer simple and direct questions about alcohol related problems. The questions covered a wide range of areas. In addition, the main focus points included the individual under assessment, the effects of alcohol to the individual's life and the immediate environment such as the family. The test results provided the base for the management of alcoholism and other alcohol related problems. Studies were also carried out to investigate the validity and reliability of specific assessment tools in the detection of alcoholism and at-risk drinkers.

The early detection and assessment of alcoholism led to better management and prevention of complications. The disease theory of alcoholism considered alcoholism as a disease and alcohol addicts as diseased individuals. Alcoholism was considered as an illness which gradually worsened and become fatal to the individual if not treated. The disease had no cure although certain measures could be carried out to ensure the individual stopped engaging in alcohol consumption. Assessment for alcoholism among the elderly often revealed the origin of the problem. The genetic and biologic theories suggested a relationship between alcohol dependence and genes, nutrition and the environment. Previous studies suggested that the early onset alcoholism was associated with greater mental health effects compared to late onset drinking. Usage of proper assessment tools to assess for alcoholism assisted health care workers to detect causes which led to alcoholism.

Nurses and other health care professional must be informed and educated on the effects of alcoholism on the mental health of older adults. Currently, information regarding the negative effects of alcoholism including mental health effects is focused on younger adults compared to older adults. This creates a gap in knowledge on the effects of alcohol related to the elderly. The assumption that younger adults engage more in harmful and hazardous drinking compared to older adults leads to the creation of the gap in knowledge among health professionals. Thus, nurses and other health professionals may already be equipped with knowledge on alcohol related problems among the young adults and different methods of managing the problems. However, problems relating to alcoholism and the resulting effects on the mental health of the elderly may present a challenge in detection and management.

Knowledge, skills, awareness on alcoholism and its effect on the mental health of older adults are the key factors in the early detection, assessment, treatment and management of

alcohol related health problem among the older adults. Thus, the nurses must be alert to the negative impacts of alcoholism on health of older adults. A large number of researches have been carried out regarding alcohol use disorders among the younger age groups. However, the authors noticed that very few researches focused specifically on alcohol dependence among the elderly. New studies are required on different mental health disorders such as dementia, depression, bipolar disorder and their relation to alcoholism among the elderly. New information will aid to increase awareness on the mental health effects of alcoholism among the elderly.

Relevant and further training for nurses may be required which focuses on improving the detection and assessment of alcohol use disorders such as alcohol dependence. Consequently, this will lead to a reduction of missed diagnoses and improve the effectiveness of alcohol problems management strategies. Further training will enable nurses to identify problems resulting from alcohol dependency among older adults. In addition, it will enable nurses to differentiate between problems caused by the normal aging process and issues related to alcoholism. Effective assessment criteria will enable nurses and health professionals to investigate whether the alcohol dependency is related to physical, mental, social, economic, environmental or unknown factors.

A large number of research articles focused on alcoholism among the younger adults or the general population and not specifically among the elderly. In addition, a number of studies investigated focused more on the physical effects of alcoholism rather than the mental effects of alcoholism.

## **8 CONCLUSION**

This study examined the important aspects alcoholism on the mental health of older adults. Different mental health disorders were observed to be associated with alcoholism among the elderly population. This research provided an understanding of the assessment tools utilized on the screening and diagnosis of alcoholism among the older adults. The lack of abundant research on the impact of alcoholism on mental health especially among the elderly population needs to be highlighted further in this study.

The findings of this research revealed information that can be utilized and adopted by health care professionals in healthcare practice. Information on various disorders associated with alcoholism and various screening tools for alcoholism assessment among the elderly may assist in reducing the number of alcohol dependent older adults. It is important for nurses and other health care workers to understand the effects of alcoholism and the importance of alcoholism assessment tools. This will ensure early management and increased quality of life among the older adults.

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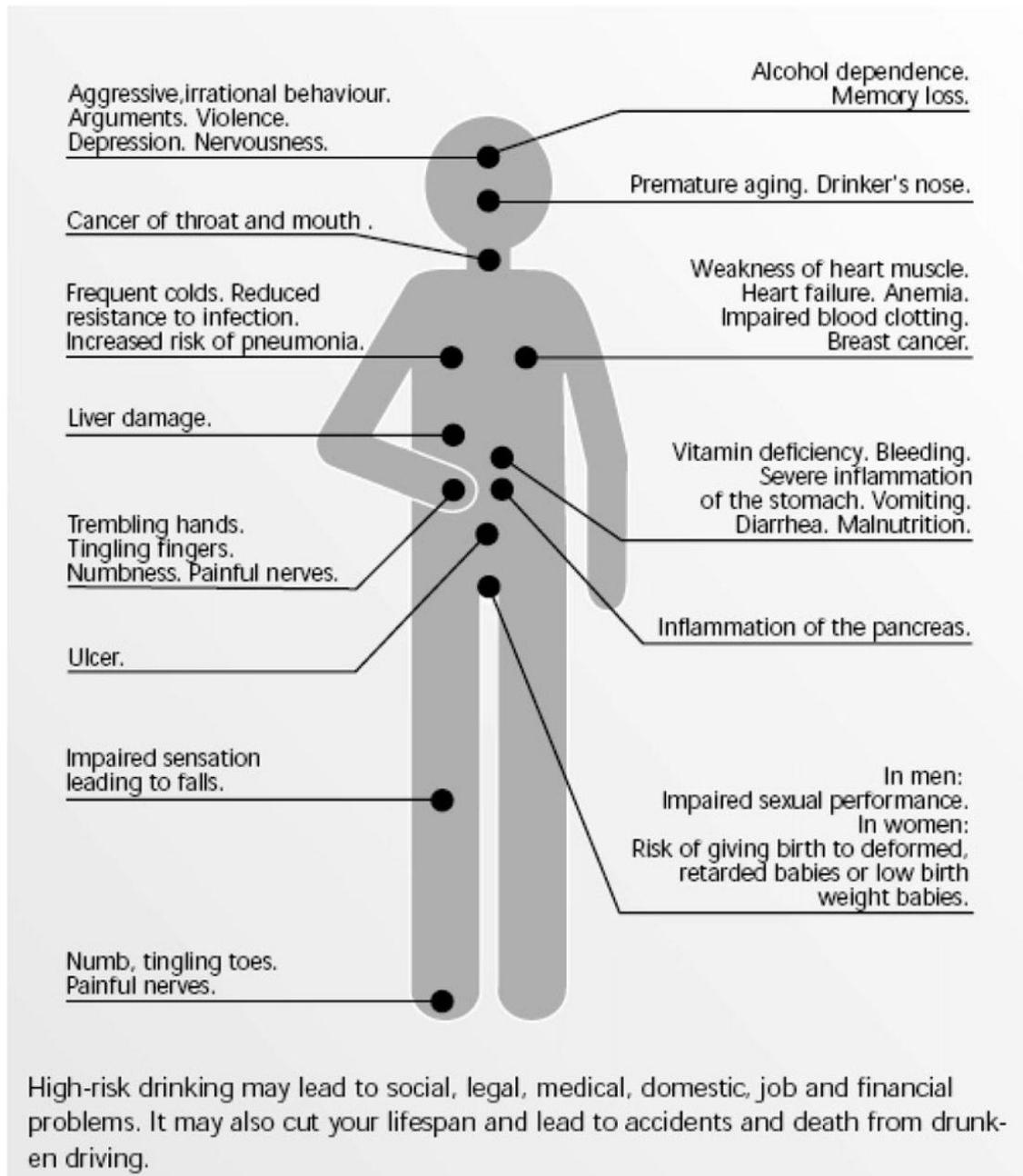
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## APPENDICES

### APPENDIX 1



**APPENDIX 2**

<b>AUTHORS, YEAR &amp; TOPIC</b>	<b>STUDY PURPOSE</b>	<b>METHOD OF STUDY</b>	<b>STUDY FINDINGS</b>
Bakhshi, S. & While, E. 2014. Older People and Alcohol use	To assess risk factors for alcoholism, health behavior and promotion.	Literature review	-Nurses require training on alcohol problems.  -Different approaches to alcoholism treatment.
Boschloo, L., Vogelzangs, N., Smit, J., Brink, W., Veltman, D., Beekman, A. & Penninx, B. 2010.	To examine the performance of AUDIT test in detecting alcohol abuse and dependence.	Longitudinal cohort study	AUDIT test accurately detects alcohol dependence  The study however focused on depressed elderly
Briggs, W., Magnus, V., Lassiter, P., Patterson, M. & Smith, L. 2011. Substance Use, Misuse, and Abuse Among Older Adults: Implications for Clinical Mental Health Counselors	To explore prevalence, vulnerabilities and consequences of alcohol misuse.  -To review different approaches to assessment.	Literature review	-Increased requirement by counsellors and nurses to increase knowledge about alcohol misuse.
Bryant, A. & Kim, G. 2013. The Relation between Frequency of Binge Drinking and Psychological	To examine the relation between frequency of binge drinking and psychological distress among	Descriptive analysis Multiple regression analysis was conducted	-The study showed the increased frequency of binge drinking was significantly related to increased

Distress among Older Adult Drinkers.	older adult drinkers.		psychological distress among the older adult drinkers. It provided an evidence of negative association of binge drinking the mental health outcomes in older adults.
Caputo, F., Vignoli, T., Leggio, L., Addolorato, G., Zoli, G. & Bernardi, M. 2012. Alcohol use Disorders in the Elderly: A Brief Overview from Epidemiology to Treatment Options.	To analyze AUDs in elderly population >65 years old.  A mini review of alcohol related diseases following chronic misuse.	Literature review	-There is a high incidence of Alcohol Use Disorders (AUDs) in elderly.  -Studies on AUDs in elderly are scarce and incomplete.
Chen. L. & Hardy, C. 2009. Alcohol Consumption and Health Status in Older Adults: A Longitudinal Analysis.	To investigate the relationship between alcohol consumption to mortality and changes in mental and functional health in elderly.	Logistic regression	-The study suggested that light to moderate alcohol consumption reduces the functional health decline.
Colella, C., Savage, C. & Whitmen, K. 2010. Alcohol Use in the Elderly and the Risk for	To provide the nurse practitioner with strategies for identifying persons over 65 at risk for	Case Study	-The study suggested that the health care professionals must obtain detail history and screen the clients

Wernicke-Korsakoff's Syndrome.	alcohol-related thiamine deficiency, including screening for alcohol use and obtaining an alcohol-use history.		>65 years with certain screening tools to prevent alcohol related thiamine deficiency disorder.
Donatelli, N. & Somes, J. 2014. Alcohol and Aging: The Invisible Epidemic.	To distinguish the presence alcohol use among the older adults and to provide the nurses in emergency department with screening tools for early diagnosis.	Case Study	-The study provided the health effects of alcoholism among the older adults and suggested the utilization of screening tools for early diagnosis of alcoholism among older adults in emergency department.
Gils, Y., Rompaey, B. & Dierckx, E. 2013. The Association Between Drinking Behaviour, Well-being and Late Life Alcohol use Problems.	To explore the characteristics of elderly people consuming alcohol, problem users and well-being.	Cross-sectional study	-There is a correlation between drinking patterns and amount of problem use  -No correlation between drinking patterns and well-being.
Hallgren, M., Högberg P, & Andreasson, S. 2009. Alcohol Consumption	-To survey alcohol consumption trends and harms among the elderly from 10 EU states.	Literature review and survey	-Data on alcoholism is lacking.  -More data reports are required on

among Elderly European Union Citizens: Health Effects, Consumption Trends and Related Issues.			alcohol use and abuse.
Immonen, S., Valvanne, J. & Pitkälä, K. 2013. The prevalence of potential alcohol-drug interactions in older adults.	To assess the possible drug-alcohol interactions among older adults >65 years of age in Finland.	Cross-sectional study	-The use of alcohol interactive drugs was common among older adults.  -Increase in potential risk related to the use of alcohol along with alcohol interactive drugs.
Kim, J., Young, D., Lee, B., Hun. M., Hano, H., Yong, Y. & Genu, I. 2012. Alcohol and Cognition in the Elderly: A Review.	To investigate the effect of alcohol drinking pattern against the cognitive decline and dementia among the elderly	Literature Review	-The study remarked that excessive alcohol consumption may increase the risk of cognitive dysfunction and dementia.  -In addition, low to moderate alcohol intake may protect against cognitive decline and dementia.
Levola, J., Holopainen, A. & Aalto, M. 2011.	To assess the association between depression	The logistic regression model	-The study revealed the positive association between

Depression and Heavy Drinking Occasions: A Cross-Sectional General Population Study.	and heavy drinking occasions in the Finnish general population.		depression and heavy occasion alcohol consumption.
Liu, R. , Guo, X. , Park, Y. , Wang, J. , Huang, X. , Hollenbeck, A. , Blair, A. & Chen, H. 2013. Alcohol Consumption, Types of Alcohol, and Parkinson's disease.	To examine the relation between total alcohol consumption and consumption of specific types of alcoholic beverage to future risk of Parkinson's disease	Logistic regression models	-The research revealed that low to moderate beer consumption lowered the risk of Parkinson's disease whereas greater liquor consumption increases the higher risk of Parkinson's disease among the older adults
MaCabe, L. 2011. Alcohol, Ageing and Dementia: A Scottish Perspective. Dementia.	To understand the experiences of people ageing with alcohol problems  To examine the link between alcohol use, ageing and dementia as well as social and cultural responses which impact on the lives of older people	Literature Review	-The study noticed the positive link between alcohol, ageing and dementia. -The study suggested importance of awareness regarding screening tool, alcohol, ageing among the professionals, individuals and institutions.
Moos. R., Brennan, P., Schutte, K. &	To identify changes in alcohol	Survey method	-Older men were more likely to have

<p>Moos, B. 2010. Older Adults' Health and Late-life Drinking Patterns: A 20-year Perspective. Aging &amp; Mental Health.</p>	<p>consumption patterns over 20 year period among older men and women.</p>		<p>drinking problems than older women.</p>
<p>Rist, F., Glöckner - Rist &amp; Ralf, D. 2009. The Alcohol use Disorders Identification Test Revisited: Establishing its Structure using Nonlinear Factor Analysis and Identifying Subgroups of Respondents using Latent Factor Analysis.</p>	<p>-To investigate the structure of the AUDIT test.  -To assess the impact of consumption, age and gender on the AUDIT results.</p>	<p>Quantitative study</p>	<p>-AUDIT test covers consumption, harmful and dependent alcohol use.</p>
<p>Silva, P., Santos, M. &amp; Marchini, L. 2014. Alcohol and Medication use Among the Elderly Community-dwelling Brazilians. International Journal of Gerontology</p>	<p>To evaluate alcohol consumption and medicines used by an elderly sample from Brazil.</p>	<p>Cross sectional study</p>	<p>-Relatively low use of inappropriate drugs for elderly.  -Low harmful alcohol consumption.  -Low alcohol-drug interactions in medications used in samples.</p>

<p>Skogen, J.,  Øverland, S.,  Knudsen, A. &amp;  Mykletun, A. 2011.  Concurrent Validity  of the CAGE  Questionnaire. The  Nord- Trøndelag  Health Study</p>	<p>To examine  properties of  CAGE  questionnaire and  its validity with  previous and  current alcohol  consumption.</p>	<p>Quantitative study</p>	<p>-Concurrent validity  of CAGE was better  in women than in  men.   -Good validity and  adequate properties  in the test.</p>
<p>Wen, X., Kanny, D.,  Thompson, W.,  Okoro, C., Town,  M. &amp; Balluz, L.  2012. Binge  Drinking Intensity  and Health-Related  Quality of Life  among US Adult  Binge Drinkers.</p>	<p>-To examine the  association  between binge  drinking and poor  health-quality of  life.</p>	<p>Multilinear  regression model</p>	<p>-There is a positive  association between  binge drinking and  health-related quality  of life.</p>

**AUDIT QUESTIONNAIRE**

Please circle the answer that is correct for you

1. How often do you have beer, wine or a drink containing alcohol?

- Never
- Monthly or less
- 2-4 times a month
- 2-3 times a week
- 4 or more times a week

2. How many standard drinks containing alcohol do you have on a typical day when you are drinking?

- 1 or 2 drinks
- 3 or 4 drinks
- 5 or 6 drinks
- 7 to 9 drinks
- 10 or more drinks

3. How often do you have six or more drinks on one occasion when you are drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

4. During the past year, how often have you found that you were not able to stop drinking once you had started?

## APPENDIX 3/2

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

5. During the past year, how often have you failed to do what was normally expected of you because of drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

6. During the past year, how often have you needed a drink in the morning to get yourself going after a heavy drinking session?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

7. During the past year, how often have you had a feeling of guilt or remorse after drinking?

- Never
- Less than monthly
- Monthly

## APPENDIX 3/3

- Weekly

- Daily or almost daily

8. During the past year, have you been unable to remember what happened the night before because you had been drinking?

- Never

- Less than monthly

- Monthly

- Weekly

- Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

- No

- Yes, but not in the past year

- Yes, during the past year

10. Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested you cut down?

- No

- Yes, but not in the past year

- Yes, during the past year

11. Sex?

- Man

- Woman

12. Age?

- 15 or less

## APPENDIX 3/4

-16-17

-18-24

-25-30

-31-40

-41-50

-51-64

-65 and more

13. Whom are you testing?

-Yourself

-Partner

-Child

-Relative

-Client

## APPENDIX 4

### CAGE QUESTIONNAIRE

The CAGE questions appear as follows:

1. Have you ever felt you need to **C**ut down on your drinking?
2. Have people **A**nnoyed you by criticizing your drinking?
3. Have you ever felt **G**uilty about drinking?
4. Have you ever felt you needed a drink first thing in the morning (**E**ye opener) to steady your nerves or to get rid of a hangover?

**MAST –G QUESTIONNAIRE**

The MAST –G questions are as follows:

1. After drinking have you ever noticed an increase in your heart rate or beating in your chest?

Yes

No

2. When talking with others do ever underestimate how much you actually drink?

Yes

No

3. Does alcohol make you sleepy so that you often fall asleep in your chair?

Yes

No

4. After a few drinks, have you sometimes not eaten, or skipped a meal because you didn't feel hungry?

Yes

No

5. Does having a few drinks help decrease your shakiness and tremors?

Yes

No

6. Does alcohol sometimes make it hard for you to remember parts of the day or night?

Yes

No

## APPENDIX 5/2

7. Do you have rules for yourself that you won't drink before a certain time of the day?
- Yes
  - No
8. Have you lost interest in hobbies or activities that you used to enjoy?
- Yes
  - No
9. When you wake up in morning do you ever have trouble remembering parts of the night before?
- Yes
  - No
10. Does a drink help you sleep?
- Yes
  - No
11. Do you hide your alcohol bottles from family members?
- Yes
  - No
12. After a social gathering have you felt embarrassed because you drank too much?
- Yes
  - No
13. Have you ever been concerned that drinking might be harmful to your health?
- Yes

**APPENDIX 5/3**

No

14. Do you like to end the evening with a night cap?

Yes

No

15. Did you find that your drinking increased after someone close to you died?

Yes

No

16. In general, would you prefer to have a few drinks at home rather than go out to social events?

Yes

No

17. Are you drinking more now than in the past?

Yes

No

18. Do you usually take a drink to relax or calm your nerves?

Yes

No

19. Do you drink to take your mind off of your problems?

Yes

No

20. Have you increased your drinking after experiencing a loss in your life?

Yes

No

## APPENDIX 5/4

21. Do you sometimes drink when you have had too much to drink?

Yes

No

22. Has a doctor or nurse ever said they were worried or concerned about your drinking?

Yes

No

23. Have you ever made rules to manage your drinking?

Yes

No

24. When you feel lonely does having a drink help?

Yes

No