# DEPRESSION AND MOBILITY: A COMPARATIVE STUDY AMONG ELDERS AT HOME AND IN CARE-CENTRES.

**A Dissertation submitted to the University of Kerala in partial fulfillment of requirements for the Masters of Social Work Degree Examination**

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**ABSTRACT**

Elderly mobility issues and depression are serious issues with wide-ranging effects on people and society. This study looked at how mobility, sociodemographic factors, and depression interact in elderly people living in care facilities and at home. A comparative cross-sectional methodology was used with 70 participants from Thiruvananthapuram's homes and care facilities. The Elderly Mobility Scale and Geriatric Depression Scale were used to measure the severity of depression and mobility. Data analysis techniques included crosstabulations, correlation analyses, and frequency tables.

The results showed a significant relationship between depression and mobility, with a strong negative correlation (-0.662, p less than 0.01) being found. Participants who were less mobile were more likely to have higher depression levels. Furthermore, the study revealed that the prevalence of depression was noticeably higher among participants who resided in care facilities as opposed to those who did not (61.4% vs. 20 for typical depression thresholds). Age, gender, marital status, economic status, and place of residence are socio-demographic factors that have a variety of associations with depression and mobility. Mobility restrictions were significantly influenced by marital status, with widowed people having the most mobility restrictions. Although place of residence had little impact on mobility, it did have an impact on the prevalence of depression, highlighting the need for specialized interventions in care facilities.

These results point to the need for multifaceted interventions that address elderly people's mobility issues as well as depression. In order to lessen the negative effects of depression and mobility limitations, social work interventions should emphasize fostering social support networks, encouraging physical activity, and providing psychological interventions. In order to create more specialized interventions and support systems for elderly people, future research should examine the complex interactions between socio-demographic factors, depression, and mobility.

# CHAPTER 1

# INTRODUCTION

# Chapter 1: Introduction

## 1.1 Overview of the Chapter

The chapter provides a general introduction about the topic being presented in the study. The chapter include background of the study, statement of the problem and significance of the study. It also includes Chapterisation of the whole study.

## 1.2 Background of the study

Globally the population is ageing speedily. The WHO projects that the number of persons aged 60 or over is anticipated to more than triple by 2100. Based on the report of the 'Technical Group on Population Projections for India and States 2011- 2036,' there will be nearly 138 million older persons in India in 2021 (67 million males and 71 million females) and is further anticipated to increase by around 56 million older persons in 2031. The average periodic growth rate of the elderly population as compared to the Population Census 2011 is 3.28 per cent. According to the report, Kerala currently has the highest elderly population (16.5 per cent), followed by Tamil Nadu (13.6 per cent), Himachal Pradesh (13.1 per cent), Punjab (12.6 per cent) and Andhra Pradesh (12.4 per cent) in 2021.

Kerala's population has been passing a remarkable metamorphosis, one of population aging, with a conspicuous increase in life expectancy and a decline in birth rates. These demographic changes are primarily attributed to bettered healthcare installations, better living conditions, and advancements in medical technology. The rise in life expectancy has led to a substantial increase in the proportion of senior individualities within the population. This demographic transition poses several challenges and necessitates a visionary response from the Government and society.

### Aspects of Aging

The elderly population in Kerala is faced with a range of age-related health conditions, like cardiovascular conditions, diabetes, arthritis, and neurological diseases. These conditions frequently bear long-term medical care, specialized treatments, and operation, which can place a significant burden on both the individuals and their families. Mental health issues among the geriatric, including depression, anxiety, and loneliness, are frequently overlooked and undervalued. Social isolation, loss of social places, and limited support systems contribute to the deteriorating internal well-being of the senior population. Raising mindfulness and

enhancing internal health services can significantly improve the quality of life for aged individuals.

A systemic review of fifty- six studies done on depression among senior Indians showed a prevalence of 34.4% and that too substantially among the ladies and rural residents. Similar findings were attributed to several causes such as physical problems of growing leading to a limitation in diurnal conditioning, fiscal precariousness after withdrawal, loss of social recognition, death of a partner, urbanization, migration, and the conception of nuclear families. The state of Kerala in south India has specific characteristics that set it apart in the realm of geriatric depression. Despite having some of the most favourable healthcare indicators in the nation, depression continues to be a gruelling problem to contend with within the state. A recent check conducted by the Kerala State Mental Health Authority and National Health Mission reported that around 9% of Keralites suffered from clinical depression ( Pilania, 2019).

**Elderly and Depression**

Depression, the second most common disease worldwide and one that can cause a disability-related disorder of life, is a serious mental health issue because of its debilitating effects. In accordance with estimates from 2015, depression causes 97.5% of all disabilities worldwide and accounts for 800,000 senior suicide deaths each year. An estimated 322 million people worldwide suffer from depression**,** with a prevalence that varies between 10 and 20 percent depending on cultural context. According to the India Census of 2011, a developing nation like India has 8.6 percent of the population who are elderly (60 years **or** older), and that percentage is expected to rise to 19 percent by 2050. (Agarwal, 2020).

Therefore, it is likely that in the future, depression among the elderly population will contribute significantly to the burden of disease. Along with the usual risk factors that apply to all age groups, chronic illnesses, loss of income, elder mistreatment, restricted mobility, bereavement, and isolation are the main factors that contribute to depression in the elderly population. The symptoms of depression in old age are frequently masked up by memory problems and psychological symptoms; however, these problems are less important than the depression. It has negative effects and significantly fuels negative thinking during this stage of life. Additionally, it lowers life expectancy and restricts the prognosis of chronic illnesses that exacerbate disability. Older people with depression, therefore, have significantly higher rates of both suicidal and non-suicidal mortality.

Therefore, it is important to identify depression in these risk groups early on, and social control of the condition would be very beneficial for their quality of life. However, the health care

systems of low- and middle-income nations**,** like India, does not have enough services to handle mental health issues, including depressive disorders. The prevalence of depression among elderly populations ranges from 60 to 80%, according to previous epidemiological studies, which also list a number of risk factors that may contribute to the disease. In addition, evidence of depressive disorders tends to be weaker in other studies, and the extent of its burden among older adults is not well understood and there is no consistent information about depression in older adults, which could lead to insufficient or inconsistent mental health care. (K. Bincy, 2021,)

Like depression another most common and significant problem affecting the lives of elderly population is mobility issues. The WHO defines healthy aging "as the process of developing and maintaining the functional ability that enables wellbeing in older age" (WHO, 2015).

**Mobility and Elderly**

Mobility is a crucial aspect of healthy aging. Older adults frequently report having mobility issues, but the prevalence of these issues varies depending on the concepts and models used. Although mobility issues affect the majority of people over the age of 85 and about 35% of people over the age of 70 years, they are becoming more prevalent in older people. (Cummings, 2014). Mobility issues have been linked to a higher risk of falling, disability, hospitalization, mortality and a lower quality of life which lead to poorer psycho-social wellbeing depression alongside functional decline. In 2009, the WHO stated that physical inactivity increased the risk for global mortality by 6% and was one of the four leading risk factors (WHO, 2018).

Throughout the past three decades, clinical and epidemiological aging research has been conducted. Slower walking speed and other multisystem performance measures of physical function, such as the time it takes to get up from a chair and sit down several times or balance tests, are consistently linked to lower well-being and quality of life in old age, track overall health status, and predict adverse health outcomes, including rising multimorbidity, health problems, death and aging. It is also noteworthy that the mobility impairment linked to mortality even in nonagenarians, a group in which other risk factors are no longer predictive**.** There are mounting evidences that indicates that worse outcomes are also related to a faster rate of walking speed decline. Moreover, the loss of mobility is seen by older people as a major drawback of aging because they place a high value on it.

So, taking both these issues in concern we are able to find that functional impairment and levels of depressive symptoms in older people appear to be strongly correlated. According to a large

body of research from developed nations and evidences indicates that limitations in Instrumental Activities of Daily Living (IADLs) - such as shopping, meal preparation, housekeeping; and personal Activities of Daily Living (ADLs) - such as eating, bathing, using the restroom, and dressing results in greater levels of psychological distress. Physical limitations can heighten a person's depression for a variety of reasons. Functional restrictions or mobility challenges make it difficult for individuals to complete as many daily activities as they would like. It has been discovered that individuals' professional and personal lives are directly impacted by the increase in physical limitations. The physical restrictions have thus had a negative impact on social interaction and both psychological and subjective health.

**Depression and lowered mobility as risk factors during Aging**

Thus, understanding that the elderly population is a vulnerable group that frequently faces particular difficulties with their physical and mental well-being. Among these difficulties, depression and mobility problems found to have a significant impact on the elder's quality of life and general health. Thus, for the purpose of creating efficient interventions and enhancing the general well-being of this population, it is essential to comprehend the prevalence and interactions of these two factors in various living settings, such as care facilities and homes. Therefore, the main goal of this study is to compare depression and mobility problems among elderly people who live at home and in care facilities. This study aims to identify potential differences, explore associated factors, and contribute to the understanding of the complex relationship between depression, mobility, and living environment in the elderly population by examining the prevalence and severity of depressive symptoms and mobility limitations in these two living environments.

The elderly population is a vulnerable group that frequently experiences unique challenges related to internal health and physical well-being. Among these challenges, depression and mobility issues have been linked as significant factors impacting the quality of life and overall health issues in the elders. Understanding the frequency and interplay between these two factors in different living surroundings, such as care centres and home settings, is pivotal for developing effective interventions and perfecting the overall well-being of this population. Depression, characterized by patient passions of sadness, loneliness, and loss of interest, is a current internal health concern among the elders. It not only affects the emotional and cerebral state but also has counter accusations for physical health and functional capacities. Depression

in the elders has been associated with increased morbidity, reduced social engagement, and lower quality of life.

### 1.3 Statement of the problem

Depressive disorders and mobility problems are two major concerns for the elderly population when it comes to mental health and physical functioning. While earlier studies have looked at each of these factors separately, there has not been much comparative analysis that focuses specifically on depression and mobility problems among elderly people living in homes and care facilities. It is crucial to comprehend the prevalence, severity, and associated factors of depression and mobility issues in these various living situations - homes and care facilities - in order to develop targeted interventions and enhance the general wellbeing of this vulnerable population.

Around the world, depression is one of the major factors in morbidity and lowered quality of life. Even though depression can happen at any stage of life, elderly people are particularly vulnerable to its adverse effects. By 2050, it is expecting that the proportion of elderly people in the population will have doubled, becoming a dominant demographic in many nations. Additionally, Kerala has the highest percentage of senior citizens (12.6%) out of all the Indian states. 7 percent of the general elderly population, according to WHO estimates, experience unipolar depression. Because of their decreased mobility, ongoing pain, frailty, or other physical or mental issues, many older adults are facing difficulty in maintaining mobility and exercising autonomy. Thus, depression is also a common contributor to older adults' disabilities.

Consequently, the issue this study seeks to address is the requirement for a comparative analysis of depression and mobility problems among elderly people in care facilities and at home. This study seeks to shed light on the specific difficulties faced by elderly people in care facilities and at home by examining the prevalence, severity, and associated factors of depressive symptoms and mobility restrictions in these two living settings.

### 1.4 Significance of the study

The number of elderly people in Kerala, like many other places around the world, is rising rapidly. The health and well-being of the elderly population must now receive more attention because of this demographic shift. Effective planning and resource allocation for

healthcare is essential. By knowing the particular difficulties faced by elderly people in various settings, including care facilities and homes, caregivers and service providers can customize their offerings to suit the requirements of each setting. As a result, the elderly population in Kerala may receive better care, have easier access to the right support networks, and receive interventions that are contextually and culturally appropriate.

The study contributes to a more thorough understanding of the general well-being of the elderly population by examining the interaction between mental health and physical functioning. This holistic viewpoint is crucial for directing practitioners, policymakers, and healthcare professionals toward an integrated approach to geriatric care that addresses both mental health and physical functioning, thereby raising the general standard of living for Kerala's elderly population. Thus, the importance of this study lies in its potential to advance knowledge of depression and mobility problems in elderly people living in care facilities and at home, to guide targeted interventions**,** and to improve older people's quality of life. By putting into practice, the effective interventions, it may be possible to lessen depressive symptoms**,** increase social engagement, and promote physical mobility, ultimately improving older people's health and functioning. This in turn, can help these vulnerable population become more independent, have better social interactions, and feel more fulfilled, as well as help shape guidelines for policy and practice in this area.

### 1.5 Chapterisation

The whole study is divided into six parts and they are as follows,

**Chapter I Introduction**: The chapter gives an overview about the background and significance of the study. It also elaborates on the statement of the problem.

**Chapter II Literature Review**: The chapter summarizes the findings from different studies based on similar themes. It also includes theoretical framework which supports the study.

**Chapter III Methodology**: The methodology followed in the present study is given in this chapter including the aim, objectives, universe and unit, details on data collection and analysis etc.

**Chapter IV Data Analysis**: The results of analysed data is presented in this chapter as tables and figures.

**Chapter V Discussions, Findings and Suggestions**: Detailed description of the results derived after data analysis is given in this chapter. The probable reasons for the results are also given

in the chapter. It also put forward suggestions, implications and recommendations for further research. Conclusion of the whole research is also given.

# CHAPTER 2

# LITERATURE REVIEW

# Chapter 2: Literature Review

## 2.1 Overview of the Chapter

This chapter consist of the analysis of prior and current studies that are relevant to the research at hand, as well as the identification of research gaps in those earlier studies. The present chapter aids in gaining a comprehensive understanding of the issue and raises the standard of empirical investigation. This chapter is written to establish the requirement of the current study by reviewing previous studies based on similar themes. The below given reviews examine the various studies pertaining to depression and mobility and the interlinkages between the same. The studies reviewed below consists of international and national studies.

## 2.2 Studies on Depression

### International Research

### Ageing and Depression

The study points out that the assumption that aging is linked to an increased risk of depression is a common notion in the literature on geriatrics. However, empirical research on this relationship has revealed contradictory results, casting doubt on the supposition. In comparison to younger adults, some researchers contend that older people may be more resistant to depression. By carefully examining the body of prior research on the connection between aging and depression, this study seeks to investigate the empirical basis for these various claims.

The study emphasizes that it has been challenging to come to firm conclusions about the relationship between age and depression because of a variety of measurement approaches, as well as limitations in study design and analysis. It is difficult to currently pinpoint a definitive link between aging and depression due to the inconsistent nature of the existing research. The study ends by recognizing the need for further investigation to address these constraints and offer a more thorough understanding of the connection between aging and depression.

It implies that for more concrete proof of the age-depression relationship, advancements in research design and analysis techniques are required. This article gives a general overview of

the literature on the subject while highlighting the contradictory results and methodological difficulties that have prevented a clear link between depression and aging from being established. It highlights the need for additional study to address these issues and deepen our comprehension of this intricate relationship. (Newmann, 1989))

- **The Impact of Depressive Symptomatology on Physical Disability: MacArthur Studies of Successful Aging (1994)**

Gerontological research has shown interest in the link between depressive symptoms and physical incapacity in elderly adults. The MacArthur study investigated the evidence regarding the relationship between depressive symptoms and the onset of physical disability in elderly high-functioning individuals. The MacArthur Study of Successful Aging, did a community-based cohort of high-functioning adults aged 70 to 79. Using performance measures and self-report metrics, the study evaluated participants' physical and cognitive health.

The analysis used gender-stratified logistic regression models to look at the relationship between the risk of developing a disability in one's daily activities (ADLs) and depressive symptoms, as determined by the depression subscale of the Hopkins Symptom Checklist. The analysis results showed that both men and women had a higher risk of developing ADL disability when their depressive symptoms were at peak**.** Even when baseline sociodemographic variables, physical health status, and cognitive function were taken into account, these associations were still significant.

These results have ramifications that point to a reciprocal relationship between physical disability and depressive symptoms in elderly adults. Depression and physical impairment can both be risk factors for each other. This reciprocal relationship has the potential to start a downward spiral in older adults' physical and mental health. It is critical to take into account that the prevention or reduction of depressive symptoms as a key point of intervention since it has an impact on activities of daily living functioning on medical service utilization and quality of life.

It is important to recognize the research's limitations, such as the use of self-report measures and the specific age range of the sample, even though this study offers evidence supporting the hypothesis that depressive symptomatology influences the risk of the onset of physical disability in high-functioning elderly adults. Overall, this study emphasizes the link between depressive symptoms and physical disability in high-functioning elderly adults

and stresses the significance of treating depressive symptoms as a potential point of intervention to delay or slow the onset of physical disability (Bruce, 1994).

- **Exploring the Effect of Depression on Physical Disability: Longitudinal Evidence from the established Populations for Epidemiologic Studies of The Elderly**

This study by (Penninx, 1999) sought to examine the relationship between depression and the prevalence of physical disability in older adults, as well as the potential influence of confounding and explanatory factors. as part of the study's longitudinal design, a cohort of 6,247 participants aged 65 and older, who were initially disability-free were followed for a period of 6 years. The Centre for Epidemiological Studies Depression Scale was used to measure baseline depression, and annual assessments of mobility impairment and difficulty performing daily activities (ADLs) were taken.

The study's findings showed that depressed subjects had a higher relative risk of incident disability in ADLs and mobility compared to non-depressed subjects**.** The estimates for the relative risk were given as 1.67 and 1.73, respectively. The risks were reduced to 1.39 and 1.45 after accounting for sociodemographic traits and baseline chronic conditions, though this suggests that baseline chronic conditions and sociodemographic traits played a role in the association between depression and disability.

The study also discovered that depressed individuals had lower levels of social interaction and physical activity, which helped to explain in part why they were more likely to become disabled. This suggests that the decreased physical activity and social interaction seen in depressed people also contributed to their increased risk of disability. In order to explain the elevated risk of disability among depressed individuals, it emphasizes the role that decreased physical activity and social interaction play.

- **Indian Research**

This review of the relevant literature on depression in India's elderly population aims to summarize and analyse it. The majority of the literature that is currently available focuses on how common depression is (prevalence) among India's elderly population (Grover, 2015). The prevalence of depression ranged from 8% to 62% in community-based studies involving a diverse group of elderly participants, aged 70 to 7,150. Higher prevalence rates between 42.4% and 72.4% were reported in clinic-based studies with smaller sample sizes ranging from 50 to 5,260 participants.

These results point to a significant burden of depression among India's elderly population. The review also emphasizes that female seniors tend to experience depression more frequently than male seniors. On profiling it was found that elderly depression has also been linked to several socio- demographic factors, such as being single, divorced, or widowed, living in a rural area, having less education, getting older, having lower socioeconomic status, and being unemployed.

In addition, the review contends that depression in the elderly in India is linked to a variety of psychosocial, dietary, and lifestyle factors, as well as the presence of long-term physical illnesses.

Data on therapeutic interventions for treating depression in this population are, however, scarce. The few studies that do exists points to the potential value of interventions like pranayama (a yogic breathing technique), cognitive-behavioral therapy, and electroconvulsive therapy.

The review's conclusion emphasizes the necessity of sizable multicentric studies to fill in the gaps in India's existing research on elderly depression.

Studies examining the depression symptom profile in this population and looking into different therapeutic interventions are particularly needed. Such studies will advance our knowledge of depression in India's elderly population and inform the creation of efficient interventions for this vulnerable group.

In conclusion, this gives a summary of the literature that has been published on depression in Indian seniors. The high prevalence of depression, gender differences, related demographic factors, and the dearth of information on therapeutic interventions are all highlighted. The review highlights the need for more research to close knowledge gaps and advance our knowledge of and ability to treat depression in Indian seniors (Grover S, 2015).

- **Depression and its associated factors among the older adults in rural, Tamil Nadu, India (Bincy, 2021)**

The assessment of depression and its risk factors has drawn a lot of attention in research because it is a common mental health problem among older adults. This study sought to determine the prevalence of depression and its risk factors among older adults (age 60 years) in Tamil Nadu, India. The results of this study are consistent with earlier studies carried out in numerous nations and regions. There is a sizable prevalence of depression among older adults, according to numerous community-based cross-sectional studies conducted in various parts of the world. As an illustration, research from Brazil, Sudan, Vietnam, and Pakistan has

revealed prevalence rates that range from 26 to 37 percent. A similar meta-analysis of studies conducted in communities across India revealed a pooled prevalence of 34.4% among older adults, which is in line with the results found in Tamil Nadu.

However, it is crucial to recognize that variations in prevalence rates of depression may be influenced by elements like cultural background, genetics, environmental factors, methodological variations, sampling techniques, and screening tools used. In the studies under review, screening tools like the Geriatric Depression Scale (GDS) and the Center for Epidemiologic Studies Depression Scale (CES-D) were frequently used. These scales have gained widespread acceptance and are regarded as sensitive measures for determining depression in older adults. According to reports from other low- and middle-income countries, depression is highly prevalent among older adults in India, including Tamil Nadu. In addition, the World Health Organization's Global Ageing and Adult Health report highlights India's higher prevalence of depression among older adults compared to other nations like China, Ghana, Mexico, Russia, and South Africa.

In this study the in-depth risk factors linked to depression in older adults were also identified. Going by a profile, the prevalence of depression was found to be higher in older adults over 80, those without family support, those with diabetes, and people with a history of falls. The increased risk of depression among these subgroups is attributed to several factors, including economic hardship, a lack of social interaction opportunities, managing daily living expenses, medical expenses, worry about blood sugar control and coexisting conditions like dementia. The study's main advantages are its larger sample size and the use of a trustworthy, standardized instrument that has been tested on seniors.

However, it's critical to acknowledge this study's constraints. The generalizability of depression prevalence in terms of diagnostic criteria is constrained by the use of screening tools, such as the GDS-15. Additionally, the evaluation of comorbidities was solely based on self-reported history and medical records, which may have some drawbacks.

The high incidence of depression among older adults in Tamil Nadu, India, is highlighted by this literature review's conclusion. The results highlight the importance of diagnosing and treating depression, especially in older adults over the age of 80, people without family support, people with diabetes, and people who have a history of falling. To meet the mental health needs of these vulnerable populations, it is essential to place even more emphasis on targeted interventions and support systems (Bincy, 2021).

## 2.2 Studies on Mobility

### International Research

- **Age-Related Change in Mobility: Perspectives from life course Epidemiology and Geroscience (Ferrucci, 2016)**

Based on this study mobility is a vital component of physical ability that has a significant impact on any person's quality of life and significant predictive value for both disability and survival. The "engine" of human mobility has been shaped by natural selection to be strong, redundant, and functionally reserved. Through developmental processes, even children with severe impairments can learn effective mobility patterns. Mobility issues in older people are frequently caused by dysfunctions in a variety of physiological systems, including the central nervous system, muscles, joints, and sensory and energetic systems. Effective interventions to lower the burden of disability on the population depend on an understanding of the early preclinical changes in these systems that occur before mobility loss**.**

Prior studies have mainly concentrated on investigating the physiological resources' peak performance, rate of decline, compensatory behaviours, and subclinical deterioration that collectively influence the timing of mobility loss and chances of recovery. The impact of these factors as risk factors for mobility issues hasn't been sufficiently defined. It is necessary to look into the natural history of these early changes and take appropriate action to develop strategies for preventing mobility loss and promoting healthy aging. It takes extensive life course epidemiological studies, the development of normative mobility, physical function, and physical activity measures, and the integration of these measures with life course trajectories of pertinent physiological domains to extend this approach to other physiological domains. For instance, it might be suggested that young women with low bone peak mass engage in strength resistance training to lower their risk of fractures and osteoporosis in later life.

This study also emphasizes that the study of aging's fundamental mechanisms, or geroscience, is crucial for identifying the pathways that can be targeted to lower the risk of chronic illnesses and encourage healthy aging. Even though geroscience primarily focuses on molecular and cellular biomarkers of aging about health span, it is crucial to characterize the functional effects of these pathways and connect them with evidence-based markers of physiological function at the level of the entire organism. Functioning indicators like kidney, motor, vascular, cognitive, and metabolic performance offer important clues about a person's general health and well-being.

In this review, they expand the idea put forth by Seals and Melov by highlighting the natural hierarchy in functional measures, with mobility and cognitive function at the top and underpinning physiological systems at the base. they make a case for the integration of mobility, cognitive function, underlying physiological systems, and molecular and cellular mechanisms throughout the lifespan. This method acknowledges that these processes are dynamic and that exposures and experiences have an impact on them throughout life. These influences can act singly, cumulatively, or in conjunction with one another. Fundamental objectives of healthy biological aging include maximizing function during growth and development, maintaining functions and postponing decline for as long as possible.

Thus, to demonstrate our point, we concentrate on mobility and offer proof that it is an important "hallmark" of aging. We discuss the factors that cause and modify age-related changes in mobility across the lifespan. Since understanding the dynamic relationship between mobility and cognitive impairment throughout life as well as the shared risk and protective factors calls for further investigation, a parallel article could be developed to explore cognitive function similarly**.** Accordingly, Researchers can better understand the aging process and create interventions to support healthy aging by adopting an integrated life course approach that crosses boundaries between biology, medicine, and population science. Thus, they conclude by pointing that to advance the understanding of aging and develop strategies to improve functional outcomes and well-being in older adults, a thorough exploration of mobility, cognitive function, underlying physiological systems, and molecular and cellular mechanisms across the lifespan is essential (Ferrucci, 2016).

- **Mobility disability and life satisfaction in elderly people**

Based on this study Among elderly people residing in nursing homes, the prevalence of mobility disabilities and their effects on life satisfaction are important research topics. To create interventions that will enhance this population's quality of life, it is essential to comprehend how these factors interact. The purpose of this study is to investigate the relationship between life satisfaction and mobility disability among elderly residents of nursing homes.

Previous research has emphasized the importance of mobility impairment and the prevalence of it in elderly populations. Mobility disability ratios have reported in studies from various nations, and they have ranged from 31 to 40 percent. However, the current studies show that elderly people in Turkey have a higher prevalence of mobility disabilities. The discrepancy in results may be attributed to variations in the scales used to define mobility disabilities and differences in the rehabilitation services offered to elderly people in various nations.

The correlation between life satisfaction and mobility impairment is one of the major findings of this study. Findings show that lower levels of life satisfaction were reported by elderly people with mobility issues. This conclusion is supported by earlier research, which shows a relationship between retired men and women's levels of physical ability and life satisfaction. It is significant to note that a person's level of life satisfaction can be significantly impacted by thoughts of unworthiness, nonfunction, and powerlessness. Therefore, to increase older adults' life satisfaction, national health policies should emphasize "active aging" and offer opportunities for their physical, mental, and social well-being.

The study also looks at the variables affecting senior citizens' levels of life satisfaction and mobility disability. Mobility was found to be impacted by age, gender, and chronic diseases, whereas life satisfaction was found to be correlated with age, education, and health perception. The study also emphasizes how elderly people with disabilities have lower levels of life satisfaction. These findings underline the necessity of efficient nursing service planning, including physical and psychosocial care, education, counselling, direction, and coordination, to improve life satisfaction and reduce the risk of disability in older adults.

In conclusion, this study shows that a sizable portion of elderly residents in nursing homes have a mobility disability, which is linked to lower levels of life satisfaction.

Mobility and life satisfaction among older adults are significantly influenced by factors such as age, gender, chronic diseases, education level, and perceptions of health. The findings highlight the significance of putting into practice multidisciplinary strategies and effective rehabilitative measures to improve the standard of care given to elderly people in nursing home settings. To better understand mobility impairment and life satisfaction in this demographic, more research involving a larger elderly population is advised (MollaoÄŸlu, 2010).

- **Reduced mobility and physical activity as predictors of depressive symptoms among community-dwelling older adults: an eight-year follow-up study (Lampinen, 2003).**

An important area of research that this study focuses on the relationship between physical activity, mobility status, and depressive symptoms in older adults living in the community. The relative contributions of these variables to the likelihood of developing depressive symptoms can be understood, and this knowledge can be very helpful in developing interventions and strategies to support older adults' mental health.

Older adults' decreased physical activity, mobility issues, and depressive symptoms may be related, according to prior epidemiological studies and this current study aims to investigate

the relative contributions of physical activity and mobility status as predictors of depressive symptoms in an older adult population living in the community in Jyvaskyla, Finland.

Non-institutionalized residents born between 1904 and 1923, chosen randomly, made up the study population. A subset of participants who had no depressive symptoms at baseline and had provided pertinent information were included in the analysis after an 8-year follow-up period following the completion of the baseline interviews. A modified version of Beck's 13-item depression scale (RBDI) was used to measure depressive symptoms, and a seven-point scale was used to gauge physical activity. The ability to walk two kilometers and climb one flight of stairs was used to define mobility status.

The study's findings showed that older adults who had poor mobility and led sedentary lifestyles, were more likely to experience depressive symptoms than those who had good mobility and led active lives. In addition, compared to physically active people with intact mobility, people with mobility impairments who were also physically active had a higher risk of developing depressive symptoms. People with mobility issues were found to have a higher prevalence of depressive symptoms, even among those who were physically active. The development of depressive symptoms during the follow-up period was significantly predicted by age and the number of chronic illnesses. According to the findings, older age and mobility issues are linked to a higher risk of depressive symptoms developing in elderly people. According to the study, the amount of physical activity has no bearing on this risk. These results underline how critical it is to address mobility issues and encourage an active lifestyle to reduce the risk of depressive symptoms in older adults. The study also emphasizes the significance of looking at chronic illness and advanced age as potential risk factors for depressive symptoms.

The study's findings are supported by the body of knowledge in this field because earlier studies have also shown a connection between age, mobility issues, and depressive symptoms in older adults. The present study suggests that mobility status may have stronger association with depressive symptoms than the level of physical activity, even though physical activity's beneficial effects on mental health are widely acknowledged. These results have implications for interventions aimed at promoting older adults' mental well-being, highlighting the significance of addressing mobility issues and assisting seniors in leading active lifestyles.

The study's main finding emphasizes the link between community-dwelling older adults' depressive symptoms, physical activity, and mobility status. While physical activity alone does not appear to have a significant impact on depressive symptoms, mobility issues, and advanced age increase the risk of developing depressive symptoms. With a focus on addressing mobility

issues and encouraging an active lifestyle, these findings offer insightful information for creating targeted interventions and support strategies to improve the mental health of older adults. To comprehend the underlying mechanisms and create efficient interventions in this area, more study is required (Lampinen, 2003).

- **The impact of mobility limitations on health outcomes among older adults (Musich, 2018)**

Mobility issues in older adults have been identified as a major problem that may compromise care quality and restrict access to healthcare services. Since early symptoms frequently do not necessitate medical attention and are poorly documented in medical diagnosis codes, identifying people at risk of mobility limitations has proven difficult. Age, gender, education level, socioeconomic status, chronic conditions, and general health are risk factors for mobility restrictions, but operationalizing these variables for efficient risk stratification is still difficult. Self-report survey questions or measured functional testing have been the mainstays of current approaches for targeting interventions, but these techniques might not be scalable for large-scale population management strategies.

The usage of Activities of Daily Living (ADL) or Instrumental Activities of daily living (IADL) Disability Levels, self-reported survey questions, and measured functional abilities like walking distances or stair climbing criteria have all been tested in research settings. These methodologies are effective for focusing interventions based on the likelihood of future falls and mortality rates, but it has proven challenging to collect the data required for implementation. The benefits of balance and muscle strengthening exercises, fall assessments, yoga, tai chi, and mindfulness meditation for enhancing mobility and preventing falls in older adults have been well documented. To engage older populations in these interventions, it is still difficult to develop efficient targeting strategies and motivational techniques.

Despite studies involving Medicare populations, there is a gap in knowledge regarding mobility issues among senior citizens with Medicare Supplement plans (Medigap). Understanding the prevalence of mobility limitations in this subgroup is essential for developing population health management strategies and interventions because this population may differ from general older adult populations.

This study aims to contribute to the existing literature on mobility limitations by using two straightforward screening questions to define three levels of increasing mobility limitations (none, moderate, and severe) for targeting individuals for further interventions in a designated

population. Examining the prevalence and corresponding traits of increasing limitations and validating their effect on particular health outcomes in a nationally representative Medigap population serve to demonstrate the value of these three levels. The main goal of this study is to evaluate the usefulness of two straightforward screening questions for dividing a population into mobility-related subgroups and estimating the prevalence and associated characteristics among insured people with AARP Medicare Supplement plans. Validating the effect of these mobility limitation levels on health outcomes, such as fall rates, compliance with preventive services, healthcare utilization, and costs, is the secondary goal.

In the study, the population was divided into three levels of increasing mobility limitation severity: severe, moderate, and no limitations. According to this population's prevalence of mobility issues, 21.4% reported severe limitations, 18.4% reported moderate limitations, and 60.3% reported no limitations at all. The findings demonstrated that there were significant associations with various health outcomes as the severity of the mobility limitation increased. In comparison to people with no limitations, those with moderate and severe limitations showed higher rates of falls, lower compliance with preventive services, and higher healthcare utilization and costs. This suggests that mobility issues significantly affect older adults' health and wellbeing, resulting in higher healthcare needs and expenses (Musich, 2018).

- **The relationship between gender, marital status and depression among Chinese middle-aged and older people: Mediation by subjective well-being and moderation by degree of digitization (Zhao, 2022)**

In China, depression is a common mental health issue for people in their middle years and older. Promoting this population's well-being requires understanding of the factors that affect depression in that group. In this study, they examine the mediating role of *subjective well-being* and the moderating impact of the *degree of digitization* in the relationship between subjective well-being and depression. The study also examines the effects of gender and marital status on depression among middle-aged and older people in China.

Middle-aged and older women are more likely than men to experience depression, according to prior studies conducted in a variety of cultural contexts. Different social and biological factors may play a role in gender differences in depression. A higher prevalence of depression in women has been linked in studies to *hormonal changes, caregiving obligations, and social roles*. In addition, conventional gender norms and expectations might influence how this population experiences depression.

In China, it has been discovered that marriage status has a significant impact on depression in middle-aged and older people. Those who are married typically experience lower levels of depression than those who are single, divorced, widowed, or never married. Marriage's social support and companionship may serve as barriers to depression, while the absence of a partner or experiencing marital discord can make depression more likely.

The state of an individual's subjective well-being, which includes how they view their overall quality of life and emotional experiences, is crucial to the success of mental health interventions. In various age groups, higher levels of subjective well-being have been linked to lower rates of depression. In China, several variables, such as *family ties, social support, health status,* and *financial circumstances*, may have an impact on the subjective well-being of middle-aged and older people. The risk of depression in this population may be decreased by improving subjective well-being. According to the study, subjective well-being mediates the gender-depression relationship to an extent. This suggests that variations in subjective well-being may partially account for gender differences in depressive symptoms. The relationship between marital status and depression also found to be moderated by subjective well-being. Thus, individual's overall life satisfaction and emotional experiences can be affected by the existence or absence of a supportive marital relationship, which can then affect their risk of depression.

The degree of digitization means the level of incorporation of digital technology into daily life could have an effect on the association between depression and subjective well-being. The use of digital platforms and services could have an impact on middle-aged and older people's mental health outcomes as a result of China's rapid technological development and digitalization. According to the study, there is only a moderating effect of digitalization on depression caused by subjective well-being. The effect of people's subjective well-being on depression might get stronger as people integrate more fully into the digital society.

The study offers important new understandings into the intricate interactions between gender, marital status, subjective well-being, and depression in middle-aged and older people in China. Understanding these relationships is crucial for creating targeted interventions supporting this population's mental health and well-being. The review emphasizes the significance of *enhancing subjective well-being* and *encouraging inclusion in the digital society* as potential approaches to deal with the mental health issues faced by middle-aged and older people in the context of aging and a rapidly digitizing society in China. Future research should develop efficient interventions for the promotion of mental health in this population and look further into the mechanisms underlying these associations (Zhao, 2022)**.**

- **The effect of residential environment satisfaction on depression in the elderly: Focusing on the mediating effect of stress (Park, 2022)**

Several factors contribute to the development of elderly depression, which is a serious public health concern. The residential setting is a crucial component of the older adults' well-being because it can affect their mental and general well-being. This study focuses particularly on research from South Korea and other pertinent international literature in order to examine the mediating role of stress on the relationship between elderly residents' satisfaction with their living conditions and feelings of depression.

Previous studies have repeatedly shown that the residential setting has a significant impact on older adults' mental health and well-being. Elderly people have been found to have higher levels of life satisfaction and lower rates of depression when living in a positive and encouraging residential environment that is characterized by easily accessible services, green spaces, and social amenities. On the other hand, residing in a subpar residential environment characterized by poor infrastructure, restricted accessibility, and social isolation can result in elderly people feeling unsatisfied and depressed.

In all age groups, including the elderly, stress is a recognized risk factor for depression. Age-related stressors, such as health problems, societal upheavals, and loss of independence, can have a serious negative impact on a person's mental health. Due to changes in their social support networks and coping mechanisms, the elderly population may be particularly susceptible to stress. Chronic stress has been associated with higher rates of depression in older adults, underscoring the significance of addressing stress as a potential mediator in the relationship between depression and satisfaction with one's home environment. The relationship between older adults' stress levels and their satisfaction with their living arrangements has been examined in several studies. According to the study, residing in a comfortable home is linked to lower stress levels and higher levels of perceived well-being. An encouraging residential setting that meets the needs of the elderly population can offer a feeling of security, control, and connection, which can lower stress and enhance mental health. The literature review suggests the following practical and policy interventions to support elderly people's mental well-being on the basis of the confirmed mediating effect of stress. Improved Infrastructure and Transportation: Creating barrier-free walking and public transportation routes connecting senior housing communities with necessary living facilities can lower stress levels and boost general wellbeing. Implementing Universal Design: Using universal design principles when remodelling or building senior housing can improve

accessibility and foster a caring environment for the elderly. Social participation and relationship-building initiatives can help fight social isolation and lessen stress by fostering strong relationships with family members and neighbours. Interventions for stress self-management: Educating older adults about stress and teaching them stress self-management skills can help them deal with stressors more successfully.

Thus, the study emphasizes how crucial it is to take into account stress as a mediating factor in the connection between elderly residents' satisfaction with their living conditions and depression. The creation of focused interventions and policies to improve the mental health of the aging population can be informed by an understanding of the complex interplay between these factors. Future research should examine more mediating or moderating factors across various populations of older adults to improve the generalizability of these findings (Park, 2022).

- **Depression and its associated factors among elderly people of old age homes and community of Kathmandu district, Nepal: a comparative study**

With high morbidity and disability rates, depression is a major public health concern among the elderly population worldwide. Understanding the prevalence and contributing factors of depression in older adults becomes increasingly important as the world's population ages in order to provide effective intervention and care. With a particular emphasis on studies carried out in the Kathmandu district of Nepal and other pertinent international literature, the goal of this study is to examine the body of existing research on depression among elderly people living in old-age homes and communities. There aren't many studies that compare depression rates between elderly people living in nursing homes and those living in the community. The study will show where and how much research has already been done on the subject of the link between senior living and depression. Understanding the differences in depression rates between these two environments can help us better understand how institutionalization affects older adults' mental health outcomes.

The study emphasizes the value of early intervention strategies while assessing the prevalence of depression and its associated factors in both settings. According to the study, depression affects 41.8% of elderly people in the community and 74.6% of seniors living in nursing homes. The prevalence of depression is significantly higher among elderly people living in old-age homes than it is among those who live in the community. Researchers discovered that elderly residents of nursing homes were four times more likely to experience depression than seniors

living in the general population. Age is a significant factor associated with depression in both old-age centres and the community, the study finds, indicating that depression may worsen with age in the elderly. The presence of chronic diseases, the lack of family care, not receiving an old-age allowance, having negative outlooks on life, poor social relationships, not receiving old-age allowances, experiencing stress, and coping with stress by crying were all found to be associated with depression in elderly people living in old-age centres. Finally, In the community, depressive symptoms were linked to stress, a lack of participation in family decisions, a sense of abandonment, dysfunctional abilities, poor social connections, and lower monthly income.

The study's conclusion thus emphasizes that elderly residents of old age centres were more likely to experience depression than those living in the community. In both groups of elderly people, age was significantly correlated with depression. Depression was discovered to be linked to several factors in nursing homes for the elderly, including old age benefits, a negative outlook on life, poor social relationships, a chronic illness, a lack of family support, stress, and using crying as a coping mechanism for stress. In contrast, only factors like stress, abstinence from family decision-making, a sense of abandonment, functional limitations, poor social connections, and lower monthly income had a favourable correlation with depression among those who are living in their own homes. It could be argued that there may be a small difference in the risk factors for depression between elderly home residents and community residents.

**National Studies**

- **Association between physical limitations and depressive symptoms among Indian elderly: marital status as a moderator (Hossain, 2021).**

According to this study elderly depression is a well-researched phenomenon that is influenced by a variety of socioeconomic factors, as well as physical and mental health issues. While previous research has looked at the connection between physical impairments and depressive symptoms in older adults, little work has been done on the part of marital status in this association, particularly in India. Hence, the study by Hossain (2021) investigates the connection between physical limitations and self-reported depressive symptoms while also investigating the moderating effect of marital status, specifically for men and women separately.

The Longitudinal Ageing Study in India (LASI) Wave-1, a large-scale longitudinal survey that seeks to collect data on aging and health at the national and state levels data was used in this study. The sample consists of 20,806 older adults, who are 60 years of age and older, and binary

logistic regression analysis was used to examine the relationship between physical limitations (including functional limitations and mobility difficulty) and depressive symptoms in addition to this the interaction effect of marital status on these issues are also taken into account.

According to the findings of this study a sizable percentage of older adults (roughly 58 percent) report having depressive symptoms, and a sizable number (45 percent) have problems with their mobility, instrumental daily activities (IADLs), and activities of daily living (ADLs). The prevalence of depressive symptoms is higher among older adults, who are currently single compared to those who are married, regardless of the kind and number of physical limitations. According to the analysis, there is a higher chance of depressive symptoms in elderly people, who have more than two ADLs, IADLs, or mobility issues.

Additionally, the interaction effect of physical limitations and marital status on depressive symptoms differs by gender. Unmarried older women with two or more ADLs, one or more IADLs, or two or more mobility challenges are much more likely to experience depressive symptoms. Thus, this association is however, only true for single men who have mobility issues.

The results of the study highlight the significance of meeting the needs of older adults who have physical limitations, such as ADLs, IADLs, and mobility issues, as these people are more likely to experience depressive symptoms. The study emphasizes the importance of taking gender dynamics into account in both the early and late stages of women's lives. Due to the lack of spousal support, unmarried women need fair treatment and assistance from other family members and relatives, which may help to some extent reduce their levels of depression.

In conclusion, this empirical study highlights the increased risk of depressive symptoms among India's older population, especially among females, and sheds light on the stressors experienced by older adults with functional limitations. The results highlight the significance of addressing the gender issue and providing sufficient support and assistance to single women who experience physical limitations. Interventions can be adapted to lessen the impact of physical limitations on mental health outcomes, promoting overall well-being in older adults, by recognizing and attending to the specific needs of this population (Hossain, 2021).

### 2.3 Research Gap

There are many studies related to impact of depression of the elders and the mobility issues faced by the elderly population. The studies related to age and depression, Age-Related Change in Mobility, Impact of Depression on Physical Disability in various sectors has also been

conducted. Depression and its association with various factors like age, gender, marital status and mobility related studies are being conducted all over the world and it even increased in recent due to the increased importance given to mental health and the ageing population. In India also studies are undertaken on the topics such as depression and its associated factors among elders in rural India, association between physical limitation and depression among Indian elders etc. Even depression on elders in old age homes and communities were conducted in Kathmandu Nepal. But Only limited studies are conducted on depression and mobility issues of elders in India as well as in Kerala. Most of these studies focus either on depression or on mobility limitation, some focus on the association on depression and mobility limitation also but Limited studies are undertaken focusing on both depression and mobility issues of elders who are living in care centres and homes. This study aims to fill this gap by studying depression and mobility issues of elders who are living in care centres and homes in Trivandrum. It aims to study the prevalence of depression and mobility issues among elders in care centres and homes and the relation between depression and mobility limitations.

### 2.4 Summary of the Chapter

Review of literature chapter included reviews of similar studies and literatures based on the topic of the study. The importance of understanding depression in elderly populations, as well as its prevalence, risk factors, and consequences, is highlighted in literature reviews. These studies also shed light on the intricate relationships between depression, gender, marital status, mobility, and living conditions, offering useful insights for clinical and policy interventions to support successful aging and improve the quality of life in older populations.

# CHAPTER 3: METHODOLOGY

# CHAPTER 3: METHODOLOGY

## 3.1 Overview of the Chapter

A well-defined research methodology is an essential and most important component of a research study, in that it provides a blueprint for the study as well as ensures transparency as it ensures replicability. The present chapter describes the methodology used for the study. It gives details about the research design, the sampling design,the methods and tools used for data collection and the statistical techniques used for data analysis.

## 3.2 Title of the study

Depression and Mobility: A Comparative Study among Elders at Home and in Care-centres.

## 3.3 Aim

To compare and contrast the prevalence, severity, and effects of depression and mobility issues among elderly people living in care-centers as well as those living at home and to propose interventions to improve their overall well-being.

## 3.4 Objectives

- To compare the prevalence of depression among elders who reside in care-centers and those who reside at home.
- To investigate the extent and effects of mobility issues among elders in care-centres and at home.
- To analyse the association between depression and mobility issues among elders in care-centres and at home.
- To examine the factors contributing to depression among elders in care-centres and at home

## 3.5 Hypothesis

H 1: Elders living in care-centers manifest higher symptoms of depression than those living at home.

H 2: Elders living in care-centers experience higher more mobility restrictions compared to those living at home.

H 3: There is a relationship between Depression and Mobility in elders living in care-centres and homes

### 3.6 Relationship among variables

H 4: There is a significant relationship between age and depression

H 4.1: There is a significant relationship between age and mobility issues

H 5: There is a significant relationship between gender and depression

H 5.1: There is a significant relationship between gender and mobility issues

H 6: There is a significant relationship between place of residence and depression

H 6.1: There is a significant relationship between place of residence and mobility issues

H 7: There is a significant relationship between marital status and depression

H 7.1: There is a significant relationship between marital status and mobility issues

### 3.7 Variables

***Independent Variables***

- Demographic variables
- Age
- Gender
- Place of residence
- Marital status

***Dependent Variables***

- Depression
- Mobility

### 3.8 Definition of concepts

***Theoretical definition***

**Depression:** Depression refers to a complex mental health disorder characterized by persistent feelings of sadness, hopelessness, and a loss of interest or pleasure in previously enjoyed activities. It often involves disturbances in sleep, appetite, energy levels, concentration, and overall functioning, leading to significant impairment in daily life . (Diagnostic and Statistical Manual of Mental Disorders 5th edition , 2013)

**Mobility Issues:** Mobility issues pertain to difficulties or limitations in an individual's ability to move and navigate their environment effectively. These limitations can include challenges in walking, climbing stairs, maintaining balance, and performing activities requiring physical movement. Mobility issues can arise due to various factors, such as age-related changes, health conditions, or physical impairments (World Health Organization, (2011))

**Care Centers (Old-Age Homes):** Care centres, also known as old-age homes or senior living facilities, are residential establishments designed to provide accommodation, support, and care for elderly individuals who may require assistance with daily activities or medical needs. These centres offer a range of services and amenities to cater to the well-being, safety, and social engagement of the residents (Choi, 2018)

**Home**: "Home" refers to the community setting where elderly individuals reside independently or with family members. It serves as their familiar living environment outside care centres or institutional settings. The concept of "home" encompasses the physical dwelling, social connections, and routines that contribute to the individuals' sense of belonging and well-being (Golant, 2003 ).

***Operational Definition***

**Depression:** The term "depression" in the context of this study refers to a state of pervasive and significant negative affect that is characterized by a mix of emotional, cognitive, and physical symptoms that have a significant negative impact on elderly people's overall health and functioning. The Geriatric Depression Assessment Tool for assessing depressive symptoms in the geriatric population will be used to assess depression. Based on established norms or standardized criteria, the tool will provide scores or cut offs indicating the presence and severity of depression.

**Mobility restriction**: In the context of this study, mobility issues refer to restrictions encountered by the elders while moving around or engaging with the environment; it refers to physical activities, such as walking, climbing stairs, getting in and out of chairs, or engaging in activities of daily living (ADLs) that call for physical mobility. Elderly Mobility Scale for assessing mobility limitations

**Care-centres: Care-centres** refer to institutions created with the specific purpose of offering comprehensive care, housing, and support services to elders unable to live independently due to physical, cognitive, or social limitations. Such centers provide residents with a structured living environment catering to help with daily tasks, healthcare requirements, social engagement, and emotional well-being. Care facilities are identified in this study as

organizations that provide specialized care and housing for elderly people who need extra assistance.

**Home: Home refers to t**he primary living space where elders reside and carry out daily activities. It includes the person's private residence, an apartment, or another type of dwelling that serves as their primary place of habitation. Beyond the actual building, the concept - "home" refers to the social and emotional ties that contribute to a feeling of comfort, belongingness and well-being. In this study, the term "home" specifically refers to the independent living arrangements of elders not residing in institutional care facilities like old-age homes or nursing homes.

### 3.9 Research Design

The study follows the quantitative paradigm and assumes positivism for its epistemology. Being an attempt to compare the extent of depression and mobility among elders at Home and under institutional care, the study adopts a comparative cross-sectional design. In a study going by the comparative cross-sectional design, information is gathered at a single point in time from various groups (in this case, elderly people in nursing homes and the community) to examine variations in the variables of interest. Thus, this design will enable the researcher to compare the prevalence of depression, mobility restrictions and its associated factors between two different groups: elderly people residing in nursing homes and those living in the community.

### 3.10 Universe and Unit of Study

**Universe:** All the elders living in Thiruvananthapuram comprise the universe of the study.

**Unit:** An elder people living in Thiruvananthapuram constitutes the unit of the study

**Sample size:** The total sample size for the study includes 70 elders. The sample comprises of two groups of elders, 35 each from care-centers and homes respectively.

### 3.11 Sampling Method:

In the present study, the researcher used non-probability sampling, in which samples were accessed through convenience sampling. For reasons of availability and ease of access, the researcher used convenience sampling, A non-probability sampling technique. This strategy was used because of the difficulty in obtaining a truly random sample due to practical limitations, such as a lack of resources and specific inclusion requirements.

***Inclusion criteria*:**

- **Age:** Elders aged 60 years and above
- **Residential status:** Elders should be residents in care centres or homes in Thiruvananthapuram
- **Mental health:** Participants should not have any cognitive impairments or mental illness that would significantly affect their ability to respond to the interviewer
- **Willingness to participate:** participants should express their interest in being a part of the study

***Exclusion criteria:***

- **Physical health:** participants should not be chronically ill or bed bound and do not demonstrate a reasonable level of physical mobility and independence.

**3.12 Data Collection Procedure:**

**Participant selection:** 70 participants in all, 35 each from care centres and homes Thiruvananthapuram, aged 60 years old and above, were chosen for the study. .

**Informed consent:** Before any data was gathered, participants were fully informed of the study's aims, methods, and possible risks and advantages. Consenting participants were administered the informed consent form.

**Assessment:** Two assessment tools were used for data collection

**Geriatric Depression Scale**: The Geriatric Depression Scale (GDS) is a 30-item self-report assessment used to identify depression in the elderly. The scale was first developed in 1982 by J.A. Yesavage and others (Yesavage JA, 1982-83). Questions on the Geriatric Depression Scale were answered in "yes" or "no." format. Each response receives one point, and a scoring grid is used to rank the total score. The grid defines a range of 0 to 9 as "normal," 10 to 19 as "mildly depressed," and 20 to 30 as "severely depressed.".

**Elderly Mobility Scale:** It is a validated assessment tool with 20 points. EMS is a measurement on an ordinal scale. It assesses seven functional activities, including bed mobility, transfers, and the body's response to perturbation, speed at which a person stands up from a seated position and moves along a path is also examined. According to the test the scores below 10 indicate that the patients are typically dependent that means need assistance with mobility and simple ADLs, like dressing, using the restroom, and transfers. Scores between 10 and 13 indicate that,the person is on the edge of safe mobility. that is borderline. Scores above 14

indicate that the person in indipendent and can typically move around safely and perform basic ADL independently (SMITH, 1994)

The researcher administered the assessments by standardized procedures to guarantee data accuracy. Considering the preference and capacity of the participants, the data was collected through one-on-one interviews

**Confidentiality**: All information was kept strictly private and used only for the investigation. To protect participant privacy, personal identifiers were taken out of the dataset.

**Ethical Consideration:** The study complied with all rules and regulations pertaining to ethical practices. It was made clear to participants that their participation was completely voluntary and that they could discontinue at any time without repercussions.

### 3.12 Pilot Study

As a preliminary, the researcher visited four homes and two geriatric care-centres. She understood the possible problems that can be encountered while working for this study such as availability of elders and their preferred timings, request letters from college, permission letters from the head of organizations,

### 3.13 Pre-test

Researcher conducted a pre-test to test the effectiveness of the tool. After conducting a pre-test, researcher understood the possible problems that can be encountered while working for this study like request letters from college, permission letters from the head of organizations, the importance of doing one to one interview for easy and accurate data collection. In this study pre-test was conducted among 10 respondents.

### 3.14 Data Analysis

The data was analyzed using descriptive statistics to find out the frequencies, spearman's Coefficient was used to measure the relationship among the variables, and the chi-square test was used to find an association between variables. The data analysis was carried out using the Statistical Package Of Social Sciences (SPSS) 22 version.

### 3.15 Assumptions, Limitations and Scope

***Assumptions***

- Researcher assumes that the respondents would have genuinely responded to the questionnaire.
- Researcher assumes that the data will be correct since the data was collected on an individual basis through personal interviews, which provide respondents the possibility for clarification and better understanding.
- The researches assume that since the data was collected after a rapport building genuine responses will be provided by the respondents.

***Limitations***

- The research was conducted in a small period of time.
- Limited number of participants was available for the study.
- The study was focused on the Thiruvananthapuram district of Kerala due to time constraints.

***Scope***

- Further studies can be conducted by analyzing the different variables affecting Depression and mobility issues
- Studies can be undertaken in a longitudinal method to understand the effect of both depression and mobility issues in elders over time
- Studies can be undertaken in depressive patients in care centers regarding their mobility issues and the evidence of any effect of mobility issues contributing to a negative prognosis of the condition
- Qualitative or mixed method studies can be undertaken on the same topic.

### 3.16 Summary of the Chapter

The methodology chapter described the about the way in which the research is conducted. It included the aim of the study and objectives of the study. It also explained the hypothesis framed for studying the objectives framed. It also described the method and design followed in the study and the inclusion and exclusion criteria of the study. The way in which data was collected and analyzed and the tools and functions used to collect and analyses data were also

mentioned in the chapter. The chapter also included scope, assumptions, and limitations with regard to the study undertaken.

# CHAPTER IV

# DATA ANALYSIS AND INTERPRETATION

# Chapter 4: Data Analysis and Interpretation

## 4.1 Overview of the chapter

The data analysis chapter presents the results of analysis done using the data collected from respondents. The data was analysed using descriptive statistics for frequencies, spearman correlation for finding relationship, crosstabs and chi-square tests for association. The data thus derived is presented as diagrams and tables in this chapter.

The chapter is divided into following sections,

- Demographic profile of participants which include personal details of respondents like age, gender, economic status etc,
- Level of depression
- Correlation between age and depression
- Relationship between marital status and level of depression
- Relationship between gender and depression
- Level of mobility
- Correlation between age and mobility
- Relationship between marital status and mobility
- Relationship between gender and mobility
- Relationship between depression and mobility

## 4.2 DATA ANALYSIS AND DISCUSSIONS

### 4.2.1 Socio-Demographic Profile of the Respondents

The demographic profile of the respondents describes the personal details of the respondents. It includes gender, age, marital status, place of residence, economic status, type of family of the respondents.

**Fig 1: Age of participants**

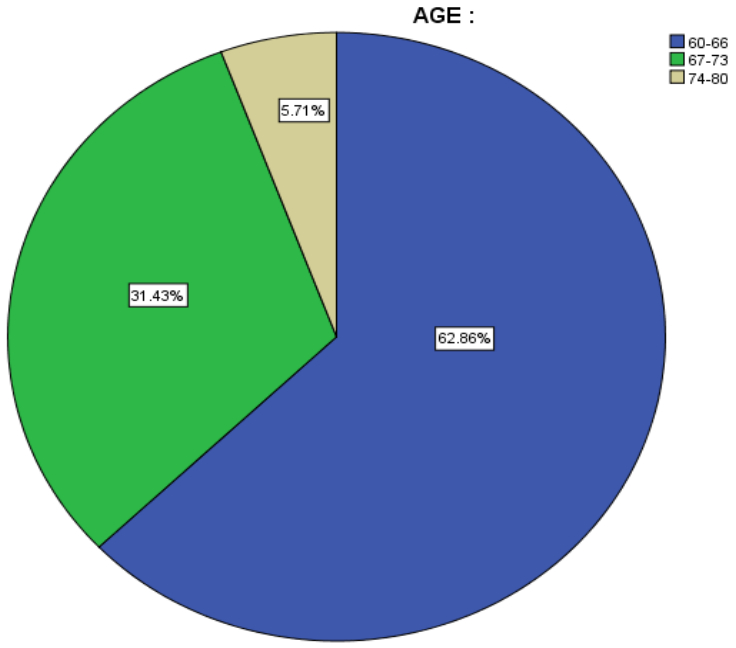


***Figure 1: age of participants***

Fig 1 shows the age of the respondents. According to the data, participants were split up into three age groups: 60–66, 67–73, and 74–80. There were 44 people in the 60–66 age range who participated in the study, or 62.9% of the entire sample, 22 participants, or 31.4% of the sample, were in the 67-73 age range and only 4 participants where in the 74–80 age range which represented 5.7% of the sample as a whole.

**Fig 2: Gender of participants**

***Table 1: gender of participants***

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | MALE | 31 | 44.3 | 44.3 | 44.3 |
| | FEMALE | 39 | 55.7 | 55.7 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

Fig 2 shows the gender of the respondents. The study sample's gender representation appears to be fairly balanced based on the participants' gender distribution. Two gender categories male and female are included in the data. There were 31 men among the participants, making up 44.3% of the entire sample. The remaining 55.7% of the sample, or 39 persons included in the study are women.

**Fig 3: marital status of the participants**

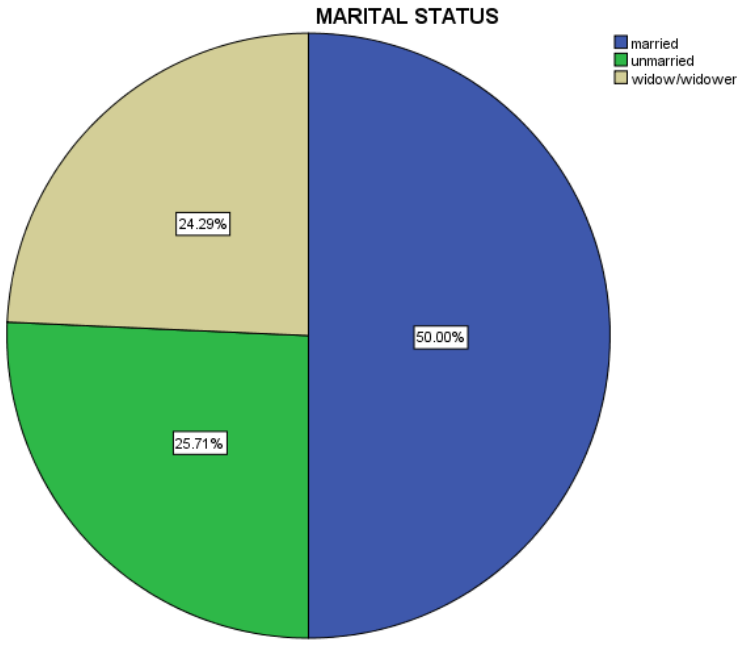


***Figure 2: marital status of participants***

Fig 3 shows the marital status of the respondents. According to the data marital status is split into three categories: married, single, and widowed/widower. Among these 35 participants half of the participants were married and remaining are unmarried and widowed.

**Fig 4: the place of residence of respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Care centres | 35 | 50.0 | 50.0 | 50.0 |
| | Home | 35 | 50.0 | 50.0 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

***Figure 3: place of residence***

Fig 4 shows the place of residence of the respondents. Based on the data there are two type of residence Care Centers and Homes. Participants are equally distributed between the two types of living arrangements, with 50% or 35 participants of them living in care facilities and 50% or 35 participants living at home.

**Fig 5: Economic status of the respondents**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | APL | 34 | 48.6 | 48.6 | 48.6 |
| | BPL | 36 | 51.4 | 51.4 | 100.0 |
| | Total | 70 | 100.0 | 100.0 | |

***Figure 4: economic status***

Fig 5 shows the economic status of the respondents. There are two socioeconomic status categories in the data and they are Above Poverty Line (APL) and Below Poverty Line (BPL). The distribution of participants between the two socio-economic status categories is almost balanced, with a slightly higher percentage falling into the BPL category. 34 participants, or 48.6% of the sample, were classified as APL making up the group. The remaining 51.4 percent of the sample, or 36 participants, were classified as below the poverty level.

**Fig 6: type of family of the respondents**

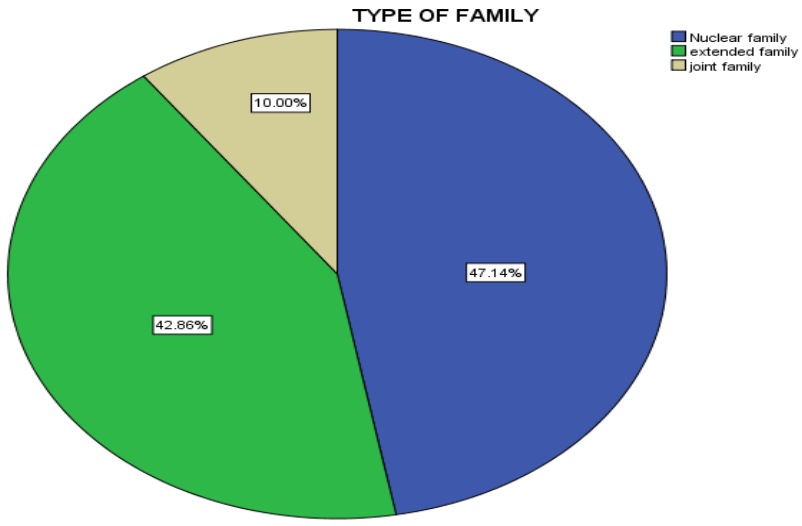


***Figure 5: type of family***

Fig 6 shows the type of family of the respondents. According to the data, the most of the participants come from nuclear or extended families, joint families make up a smaller portion

of the participant population. Based on the data Three categories such as Nuclear families, extended families, and Joint families are used in the data to classify families. Among these 33 participants, or 47.1% of the whole sample, were from nuclear families, 30 respondents participated were members of extended families, accounting for 42.9% of the sample as a whole. Last but not least, 7 respondents or 10% of the sample were member of a joint family.

### 4.2.2 Prevalence of depression and relationship with associated factors

**Fig 7: level of depression**

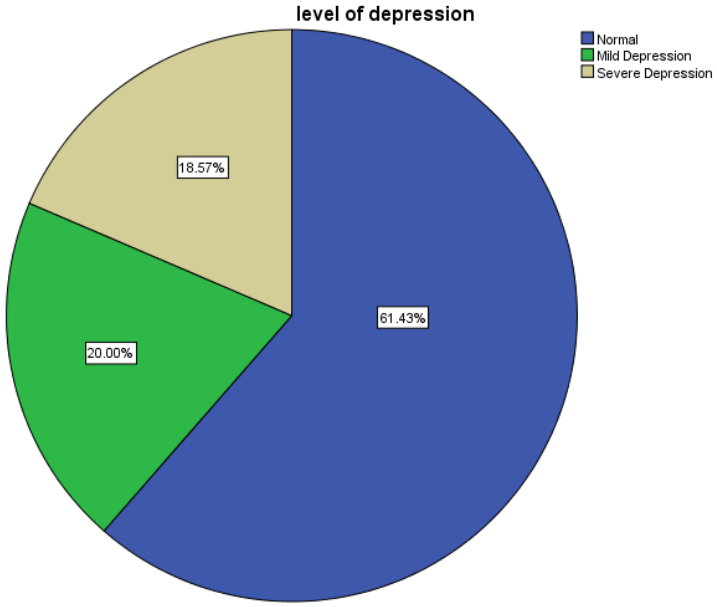


***Figure 6: level of depression***

Fig 7 shows the level of depression among the respondents. The information provided shows how frequently the variable "depression" was present among the study subjects. These results offer a preliminary picture of the prevalence of various degrees of depression among the study subjects. There are three subcategories under the "level of depression": "Normal," "Mild Depression," and "Severe Depression."

**Normal**: 43 individuals (or 61.4% of the total) were classified as having a "Normal" level of depression.

**Mild Depression**: 14 participants (20% of the total) are classified as having a level of "Mild Depression.".

**Severe depression**: 13 participants (18.6% of the total) are classified as having a "Severe Depression" level.

**Fig 8: crosstab of gender and depression**

***Table 2: gender and depression crosstab***

**Count**

| | | level of depression | | | |
|---|---|---|---|---|---|
| | | **Normal** | **Mild Depression** | **Severe Depression** | **Total** |
| **GENDER** | **MALE** | **22** | **5** | **4** | **31** |
| | **FEMALE** | **21** | **9** | **9** | **39** |
| **Total** | | **43** | **14** | **13** | **70** |

The provided Fig 8 data shows a crosstabulation (contingency table) between two categorical variables: "GENDER" and "depression". The frequency count for each combination of categories for the two variables is shown in the table. based on the analysis of the table

Male: 31 men make up the entire male group. Of the male subjects, 22 have "Normal" depression levels, 5 have "Mild Depression," and 4 have "Severe Depression.".

Female: 39 women make up the entire female group. 9 people in the female category have "mild depression," 9 people have "severe depression," and 21 people in the category have "normal" depression levels.

**Fig 9: crosstabulation of marital status and depression**

***Table 3: marital status and depression***

**Count**

| | | level of depression | | | |
|---|---|---|---|---|---|
| | | **Normal** | **Mild Depression** | **Severe Depression** | **Total** |
| **MARITAL STATUS** | **Married** | **26** | **6** | **3** | **35** |
| | **unmarried** | **17** | **0** | **1** | **18** |
| | **widow/widower** | **0** | **8** | **9** | **17** |
| **Total** | | **43** | **14** | **13** | **70** |

The given information in fig 9 displays a crosstabulation (contingency table) between the categorical variables "marital status" and "depression." The frequency count for each combination of categories for the two variables are shown in the table.

**Married:** There are 35 people in the married group overall. Of the married people, 26 people are classified as having "Normal" depression levels, 6 people have "Mild Depression," and 3 people have "Severe Depression."

**Unmarried**: There are 18 people in the group who are not married. There is only 1 person with "Severe Depression," 0 people with "Mild Depression," and 17 people with "Normal" depression levels in the unmarried category.

**Widow/widower**: There are a total of 17 people in the widow/widower group. There are no members of the widow/widower group who have "Normal" depression levels, 8 people have "Mild Depression," and 9 people have "Severe Depression."

**Fig 10: association between marital status and depression**

***Table 4: marital status and depression relation***

Chi-Square Tests

| | **Value** | **Df** | **Asymp. Sig. (2-sided)** |
|---|---|---|---|
| **Pearson Chi-Square** | **38.885[a]** | **4** | **.000** |
| **Likelihood Ratio** | **48.151** | **4** | **.000** |
| **Linear-by-Linear Association** | **19.912** | **1** | **.000** |
| **N of Valid Cases** | **70** | | |

**a. 4 cells (44.4%) have expected count less than 5. The minimum expected count is 3.16.**

The data shown in Fig 10 **is** a Chi-Square test result. For the Likelihood Ratio test, the Chi-Square value is 48.151. For the Pearson Chi-Square test the value is 38.885, and for the Linear-by-Linear Association test the value is 19.912. The p-values for all three tests are reported as .000, which denotes that the p-value is extremely close to zero. The Chi-Square test is used to determine whether there is a statistically significant correlation between two categorical variables. The test was used in this instance to examine the correlation between two categorical variables. The **low** p-values, which is almost zero, indicate that there is a significant correlation between these variables. The observed distribution of data in the contingency table is unlikely to have happened by chance, according to the significant p-value.

**Fig 11: relationship between age and depression**

***Table 5: age and depression***

| | | | Age: | Sum of depression |
|---|---|---|---|---|
| **Spearman's rho** | **Age:** | **Correlation coefficient** | **1.000** | **.382**** |
| | | **SIG. (2-TAILED)** | **.** | **.001** |
| | | **N** | **70** | **70** |
| | **Depression** | **Correlation coefficient** | **.382**** | **1.000** |
| | | **SIG. (2-TAILED)** | **.001** | **.** |
| | | **N** | **70** | **70** |

****. Correlation is significant at the 0.01 level (2-tailed).**

The fig 11 data presented shows the relationship between "age" and "depression." With the help of Spearman's rho correlation coefficient. Age and " depression" have a 0.382 correlation coefficient, which is statistically significant at the 0.01 level (2-tailed). For both variables, the sample size is 70. Age and depression scores appear to have a moderately positive relationship. According to the positive correlation coefficient of 0.382 the correlation is statistically significant and unlikely to have happened by chance. The p-value of less than 0.01 denotes that this association is causally related. The finding thus shows that as age increases there is a tendency for depression also to increase.

**Fig 13: prevalence of depression based on place of residence**

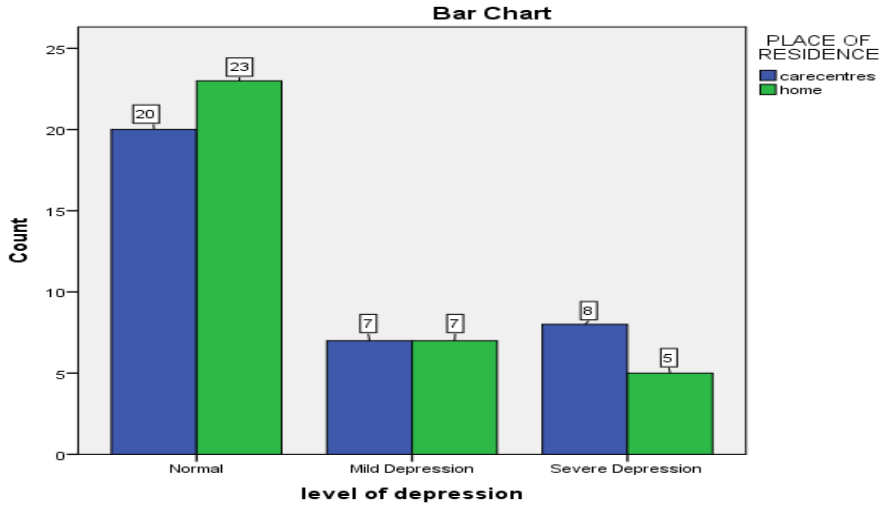


***Table 6: depression and place of residence***

The given data in fig 13 shows a cross-tabulation (crosstab) of the variables “Depression” and "Place of Residence." Crosstabulation help us to get an overview of how participants who lived in care facilities and homes were distributed in terms of depression levels.

Among the Participants who resided in care facilities, the levels are as follows: The level of depression in 20 people is "Normal.", "Mild Depression" is present in 7 people, and "Severe Depression" is present in 8 people. Among the participants who resided in homes were: A "Normal" level of depression is present in 23 people, and "Mild Depression" is present in 7 people. 5 people are classified as having "Severe Depression."

### 4.2.3 Prevalence of mobility restrictions and relationship with associated factors

**Fig 14: level of mobility restrictions in elders**

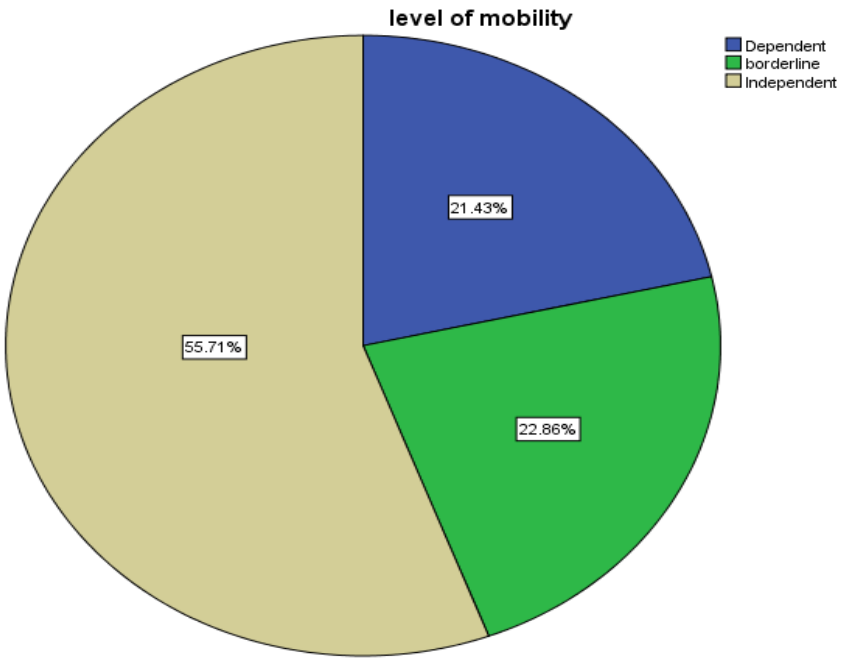


***Figure 7: level of mobility***

According to the variable "Mobility," the data in fig 14 shown illustrates how participants are distributed. Based on the participants' degree of mobility, the data divides them into three categories: "Dependent," "Borderline," and "Independent." Among those mobility issues were presented as follows. A "Dependent" level of mobility is present in 15 people. 16 people have "Borderline" mobility. 39 people can move around on an "Independent" level.

**Fig 15: crosstab of gender and mobility restrictions**

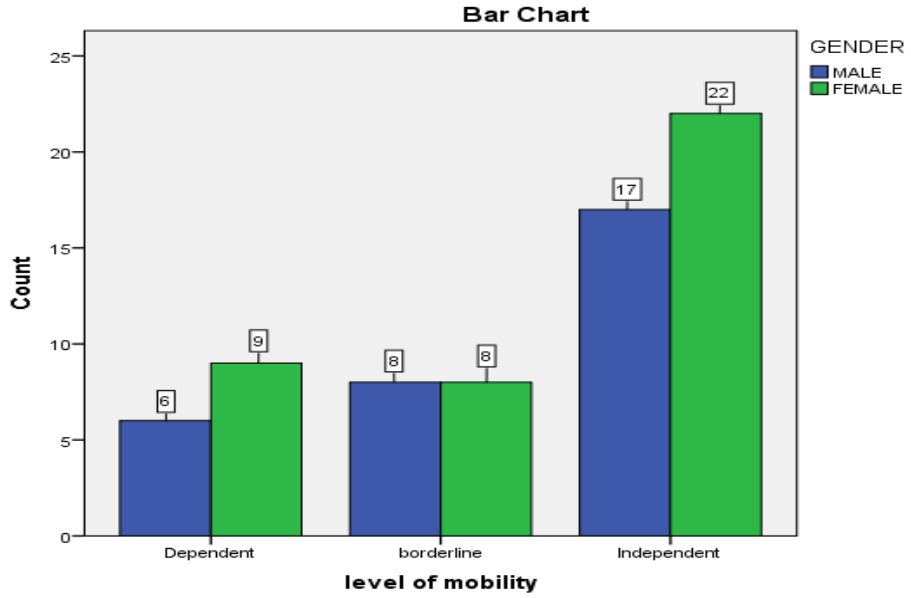


***Figure 8: gender and level of mobility***

The fig 15 shows crosstabulation of participants' "Mobility restrictions" based on their "Gender" is shown in the data. The information demonstrates how gender affects how participants' mobility levels are distributed. 6 of the male participants have "Dependent" mobility, 8 have "Borderline" mobility and 17 have "Independent" mobility. 9 participants among the female participants have "Dependent" mobility, 8 participants have “Borderline” mobility , and 22 participants have "Independent" mobility. In comparison to male participants, the distribution shows that a higher proportion of female participants have an "Independent" level of mobility.

**Fig 16: crosstabulation of marital status and mobility restrictions**

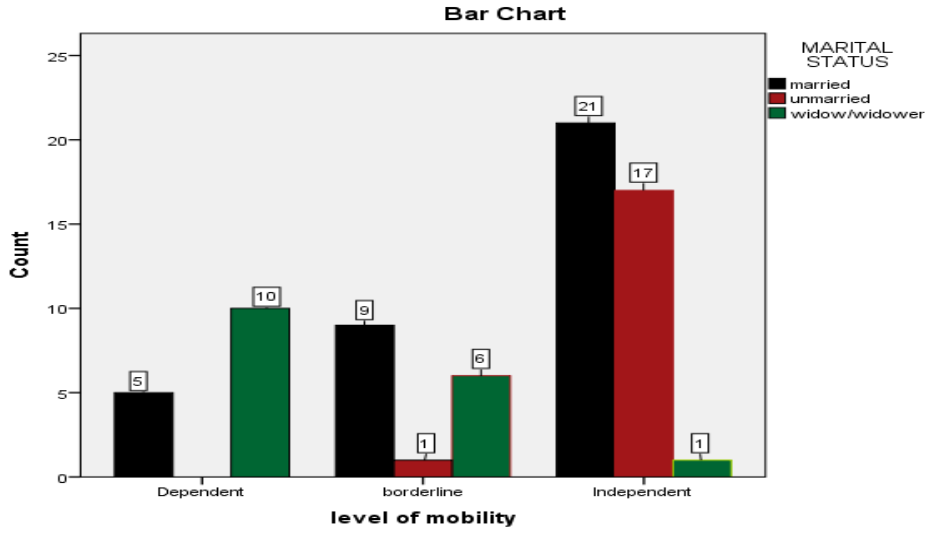


***Figure 9: marital status and level of mobility***

The fig 16 is a crosstabulation of the data based on the participants' "Mobility restrictions" and "Marital Status," shown. The information demonstrates how participants' mobility levels are distributed differently depending on their marital status. Of participants who have been married with regard to mobility presents, 5 people are "Dependent", The level of mobility for 9 people is "Borderline" and the level of mobility for 21 people is "Independent." Of participants who are unmarried with regard to mobility present, 1 person is "Borderline", The level of mobility for 17 people is "Independent" and no person is presented with a “Dependent” level. Women and men who have experienced widowhood present the level of mobility for 10 people as “Dependent” There are 6 people with "Borderline" mobility and 1 person with an "Independent" level. The results may have implications for how participants' mobility is related to their marital status.

**Fig 17: association between marital status and mobility restrictions**

**Chi-Square Tests**

| | Value | Df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| **Pearson Chi-Square** | **31.956[a]** | **4** | **.000** |
| **Likelihood Ratio** | **37.207** | **4** | **.000** |
| **Linear-by-Linear Association** | **11.282** | **1** | **.001** |
| **N of Valid Cases** | **70** | | |

**a. 4 cells (44.4%) have expected count less than 5. The minimum expected count is 3.64.**

***Table 7: relation between marital status and mobility***

The given fig 17 provides information about the Chi-Square test findings between participants' "Mobility Restrictions" and their "Marital status”. For the Likelihood Ratio test, the Chi-Square value is 31.956. For the Pearson Chi-Square test the value is 37.207, and for the Linear-by-Linear Association test the value is 11.282. The p-values for likelihood ratio tests and Pearson chi-square are reported as .000, which denotes that the p-value is extremely close to zero indicating a significant association. The p-value of the Linear-by-Linear Association is .001 which also indicates the significant association. The results indicate a statistically significant relationship between participants' mobility restrictions and their marital status.

**Fig 18: the relationship between age and mobility restrictions**

| | | Age: | level of mobility |
|---|---|---|---|
| Spearman's rho Age: | Correlation Coefficient | 1.000 | -.486** |
| | Sig. (2-tailed) | . | .000 |
| | N | 70 | 70 |
| Mobility | Correlation Coefficient | -.486** | 1.000 |
| | Sig. (2-tailed) | .000 | . |
| | N | 70 | 70 |

****. Correlation is significant at the 0.01 level (2-tailed).**

***Table 8: age and mobility relation***

The provided data in fig 18 shows the findings of Spearman's rank-order correlation between participants' "Age" and their "Mobility restrictions." The Spearman's correlation test evaluates whether there is a statistically significant connection between participants' age and mobility restrictions. Age and mobility have a -0.486-correlation coefficient. The associated p-value is less than 0.01, indicating a statistically significant correlation. According to the negative correlation coefficient, participants' level of mobility appears to decline with age. This suggests that as people get older, their mobility may decline.

**Fig 20: prevalence of mobility restrictions based on place of residence**

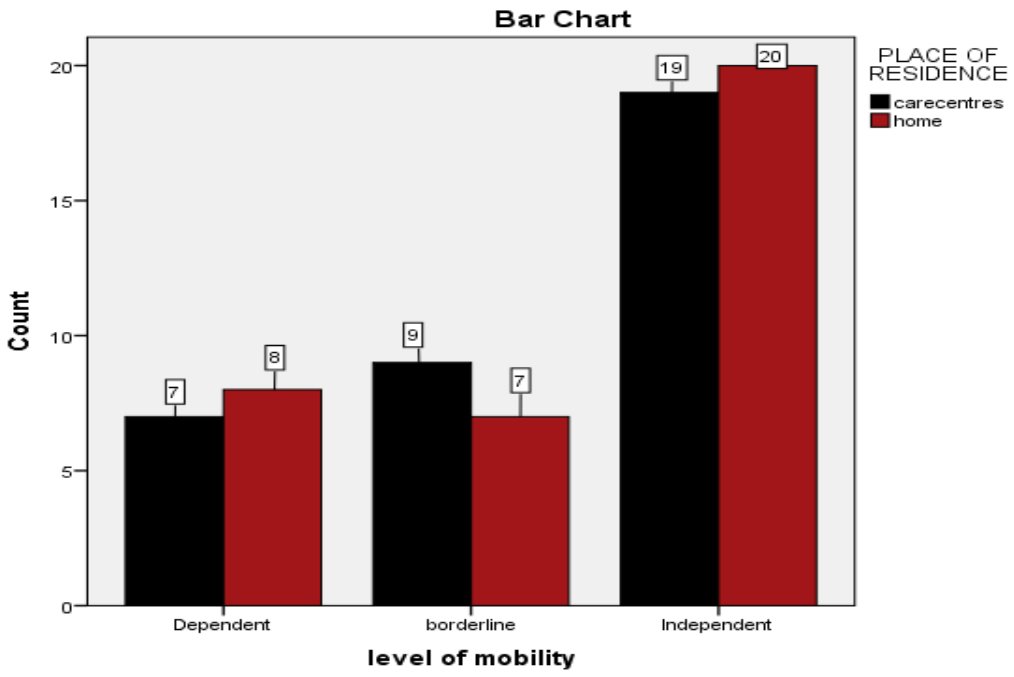


***Figure 10: place of residence and mobility***

In fig 20 Participants' "Place of Residence" and “Mobility restrictions" are cross-tabulated in the data given. This cross-tabulation offers information about the mobility levels of participants according to where they live (care facilities or homes). 7 of the participants who reside in care facilities have "Dependent" mobility, 9 have "Borderline" mobility, and 19 have "Independent" mobility. Whereas 20 participants living in home have an “Independent” level of mobility, 8 have a "Dependent" level, 7 have a "Borderline" level.

### 4.2.4. Relationship between depression and mobility restrictions

**Fig 21: Relationship between depression and mobility restrictions**

Correlations

| | | | mobility | depression |
|---|---|---|---|---|
| **Spearman's rho** | **level of mobility** | **Correlation Coefficient** | **1.000** | **-.662**** |
| | | **Sig. (2-tailed)** | **.** | **.000** |
| | | **N** | **70** | **70** |
| | **level of depression** | **Correlation Coefficient** | **-.662**** | **1.000** |
| | | **Sig. (2-tailed)** | **.000** | **.** |
| | | **N** | **70** | **70** |

****. Correlation is significant at the 0.01 level (2-tailed).**

***Table 9: depression and mobility relation***

The data in fig 21 shows the relationship between participants' "Mobility restriction" and their "Depression." The purpose of this correlation analysis is to comprehend the relationship between the participants' depression and their mobility levels. Mobility and Depression have a -0.662-correlation coefficient. Mobility and depression have a strong correlation that is statistically significant at the 0.01 level. According to the negative correlation as mobility declines, depression levels tend to rise, and vice versa.

### 4.3 Summary of the Chapter

The data analysis chapter included interpretations of socio-demographic details, the relationship between depression and variables like age, gender, marital status, and place of residence, and the relationship between mobility restrictions and variables like age, gender, marital status, and place of residence. The socio-demographic features were shown as graphs

and tables to explain frequencies and were also used to show the relationship and association between variables. Interpretations of graphs and tables were also given below the same.

# CHAPTER 5 DISCUSSIONS, FINDINGS AND SUGGESTION

# Chapter 5: discussion, findings and suggestion

## 5.1 Overview of the Chapter

The present study titled “Depression and Mobility: A Comparative Study among Elders at Home and in Care-centres”, aims to compare and contrast the prevalence, severity, and effects of depression and mobility issues among elderly living in care facilities against those living at home. Ultimately, it aims to identify the relationship between depression and mobility issues and to inform about the possible interventions to improve their overall well-being. The study was conducted among elderly people living in care centres and homes in Thiruvananthapuram district, and adopted a cross-sectional study design and the data was collected from 70 participants - 35 each from elderly living in care-centers and residing at homes respectively.. The data was collected using Geriatric Depression Scale and Elderly mobility scale. SPSS 22 version was used to conduct the data analysis thus formulating the needed information on the data collected. The major findings from each of the analysis are described as follows,

## 5.2 Socio-Demographic Profile of the Respondents

### Personal Profile

Age, gender, marital status, place of residence, and economic status are just a few of the socio-demographic characteristics of the study participants that provide a solid foundation for understanding how depression and mobility levels among the elderly population are influenced by these factors. These characteristics contribute to a more thorough understanding of the variables influencing the well-being of older adults and help contextualize the study's findings.

Looking at the participants' age distribution, the majority of the sample is between the 60-66 years age-groups (62 percent), followed those in the 67-73 years age group (31 percent), and a smaller percentage is between the ages of 74 and 80 (5 percent). This sample reflected a concentration on participants in the early stage of elderly demographics.

According to the gender distribution, there were 55.7% more female participants than male participants (44.3%). It was possible to comprehend the gender-based variations in the study variables due to the largely balanced nature of these representations.

According to the distribution of participants' marital status, more than half (50%) were married. A quarter each of the sample were either single (25%)or widowed (24%) respectively.

The distribution of participants based on place of residence shows that participants were split equally between those residing in care-centers (50%) and homes (50%).
The distribution of economic status, defined as APL (Above Poverty Line) and BPL (Below Poverty Line), shows a fairly equal split, with 48.6% APL and 51.4% BPL, bearing implication to the potential relationships between financial well-being and depression or mobility. In other words, economic factors may have a big impact on how easily elderly people can access healthcare, services, and housing, in short, their standards of living.

### 5.3 Prevalence of depression among elders in care centres and homes

The first objective was to compare the prevalence of depression among elderly people who live in care facilities versus those lived at home. The participants in the study, who lived at home or in care facilities, were divided into three groups based on their depression levels - Normal, Mild and Severe. When taking into account the entire participant pool, which includes both those living in care facilities and those at home, the distribution of depression levels is as follows: 43 participants (61.4%) were classified as having a "Normal" level of depression, 14 participants (20.0%) had "Mild Depression," and 13 participants (18.6%) reported having a "Severe" Depression.
Based on their residences, it was seen that 20 participants (57.1%) who resided in care facilities were classified as having a "Normal" level of depression, seven participants (20%) had "Mild" Depression, and eight participants (22.9%) had "Severe" Depression. In contrast, among those who still lived at home, 5 (14%) reported having a "Severe Depression," 7 (20%) reported having a "Mild Depression," and 23 (65%) reported having a "Normal" level of depression.

### 5.4 Prevalence of mobility restrictions among elders in care centres and homes

The second objective was to Investigate the extent and effects of elderly people's mobility issues in residential care facilities and at home. The analysis concentrated on the relationship between the participant's place of residence and their level of mobility as well as the cross-tabulation of mobility levels between these two living environments.

The cross-tabulation of participants' levels of mobility according to where they lived indicated that Seven people (20%) who resided in care facilities were classified as having a "Dependent" level of mobility, nine people (25%) as having a "Borderline" level, and 19 people (54%) as having an "Independent" level. Similarly, 20 people (57%) who were still living at home showed an "Independent" level of mobility, compared to 8 people (22 %) who had "Dependent," and "Borderline," levels of mobility, respectively.

The analysis' findings imply that whether elderly people live at home or in care facilities, the location of their residence may not have a significant impact on how mobile they are. This emphasizes how critical it is to address mobility issues thoroughly regardless of the living situation and to personalize interventions. It's important to recognize, though, that mobility problems can result from a range of other things besides where someone lives, such as their physical health, their level of fitness, their access to assistive technology, and their general way of life. Thus, H2-Elderly people who live in care facilities will have more mobility restrictions compared to those who live at home. and H6.1- There is a significant relationship between place of residence and mobility issues that are rejected. The lack of a statistically significant relationship between residence and level of mobility, as well as the consistency in the distribution of mobility levels across living environments, suggest that mobility issues are complex and influenced by a variety of factors other than the residence of elderly people.

### 5.5 Relationship between depression and mobility restrictions

The third objective is to analyse the connection between depression and mobility issues in both care facilities and home settings. The Researcher compared the Mobility Restriction Scores and Depression Scores and discovered a -0.662 correlation between Mobility Restrictions and Depression. This significant negative correlation shows that there is a strong and statistically significant link between elderly study participants' mobility restrictions and the presence of depression. In other words, as mobility declines, depression tends to rise and vice versa. The significance of the correlation at the 0.01 level underscores the robustness of this relationship. The finding suggests that mobility issues and depression are closely intertwined, and changes in one variable are associated with corresponding changes in the other. This relationship's importance is highlighted by the correlations at the 0.01 level. The results imply a close relationship between depression and mobility restrictions.

These findings highlight how critical it is to address elderly people's depression and mobility issues. Mobility problems may serve as potential indicators or predictors of depression, and

vice versa, which healthcare professionals, caregivers, and policymakers should be aware of. Therefore, programs and tactics designed to increase mobility may also benefit mental health, and vice versa. Therefore according to the study's findings, improving mobility improves recovery from depression; besides treating depression would have a better effect on the elder population. Therefore it is concluded that depression should be approached holistically in both care facilities and at-home settings. Future interventions might concentrate on expanding access to exercise, rehabilitation, and social interaction, all of which could have a positive effect on outcomes for mobility and mental health.

The study's findings, taken together, show a clear and significant link between depression and mobility problems among elderly people living at home and in nursing homes. Thus, the H 3: There is a relationship between Depression and Mobility issues in elders who are living in care centres and homes is proved.

### 5.6 Factors contributing to depression and mobility restriction in elderly people

The fourth objective is to examine the demographic factors contributing to depression and mobility restrictions in elderly people who live alone or in care facilities.

### Age and depression

Age and Depression correlation was found to be 0.382. This positive correlation suggests that there is a mild association between age and depression. This correlation is statistically significant, according to the p-value of 0.001. Accordingly, the likelihood of developing depression tends to rise with age. Thus, H 4: There is a significant relationship between age and depression is proved. Participants aged 60–66 years age-group made up 62.9% of the entire sample, according to the crosstabs data for age and depression severity. A "Normal" level of depression was present in 33% of them, a "Mild" level of Depression was present in 6%, and a "Severe" level of Depression was present in 5%. Participants aged 67-73 year age-group made up 31.4% of the sample, and the distributions for "Normal," "Mild Depression," and "Severe Depression" were 7%, 7%, and 8%respectively. Lastly, the distribution of depression levels among participants aged 74 to 80 represented 3% Normal, 1% Mild Depression, and 0 for Severe Depression.

**Age and mobility restriction**

On examining the relationship between aging and mobility, Age and Mobility were found to correlate with a -0.486 correlation coefficient. The associated p-value is less than 0.01, indicating a statistically significant correlation. According to the negative correlation coefficient, participants' level of mobility appears to decline with age. This suggests that as people get older, their mobility may decline. Hence H 4.1: There is a significant relationship between age and mobility issues is proved. Based on the participants' degree of mobility, the data divides them into three categories: "Dependent," "Borderline," and "Independent." Among those mobility issues were presented as follows. A "Dependent" level of mobility is present in 15 people. 16 people have "Borderline" mobility. 39 people can move around on an "Independent" level. According to the crosstabulation of the age and level of mobility data. In terms of mobility, among participants aged 60–66, 4 people fell into the "Dependent," 7 people into the "Borderline," and 33 people into the "Independent" category. For participants 67 to 73 years old, 10 identified as "Dependent," 8 people as "Borderline," and 4 people as "Independent.". Finally, among participants aged 74 to 80, 1 person identified as "Dependent," 1 person as "Borderline," and 2 persons as "Independent."

**Gender and depression**

Two gender categories male and female are included in the data. There were 31 men among the participants, making up 44.3% of the entire sample. The remaining 55.7% of the sample, or 39 persons included in the study are women. Based on the crosstabulation of the gender and depression score data. 70.9% or 22 of the male participants had "Normal" levels of depression, 16% or 5 people had "Mild Depression," and 12 % or 4 people had "Severe Depression.". 53.8% or 21 of the female participants had a "Normal" level of depression, 23.1% or 9 people had a "Mild Depression" level, and 23.1% or 9 people had a "Severe Depression" level. These results imply that the distribution of depression levels among elderly people may differ depending on a person's gender. Compared to male participants, women's proportions of "Mild Depression" and "Severe Depression" tended to be higher. This is consistent with prior research showing that older women frequently experience higher rates of depression than older men. Hence H 5: There is a significant relationship between gender and depression is proved.

**Gender and mobility restrictions**

Based on the data analysis, it is clear that there are 39 participants in the female group and 31 in the male group. The validity of the findings is also increased by this balanced representation of both genders in this distribution. The frequency distribution of mobility levels within each

gender group can be analysed to reveal important information. 15 of the male participants (48.39%) are classified as having a "Dependent" level of mobility, 16 (51.61%) as having a "Borderline" level, and none as having an "Independent" level. 9 (23.08 percent) of the female participants have "Dependent" levels of mobility, 8 (20.51 percent) have "Borderline" levels and 22 (56.41 percent) are classified as "Independent." The crosstabulation of mobility levels and gender shows that the distribution of mobility levels is influenced by gender. Comparatively to their male counterparts, female participants typically have higher percentages of "Independent" mobility levels. It is also evident that the relationship between gender and mobility level is not statistically significant because the correlation coefficient of 0.009 shows that gender and mobility have a very slender positive relationship. Inferring this correlation, the p-value of 0.938, which is higher than the usual significance level of 0.05, is greater than that value. Therefore, among the elderly study participants, gender may not be a reliable indicator of mobility levels. Hence H 5.1: There is a significant relationship between gender and mobility issues is rejected.

**Marital status and depression**

A significant correlation between marital status and depression levels in elderly people is shown by the data presented and the chi-square tests. This suggests that among the population under study, marital status has an impact on depression. Based on the cross tabulation There are 35 people in the married group overall. Of the married people, 26 people are classified as having "Normal" depression levels, 6 people have "Mild Depression," and 3 people have "Severe Depression." There are 18 people in the group who are not married. There is only 1 person with "Severe Depression," 0 people with "Mild Depression," and 17 people with "Normal" depression levels in the unmarried category. There is a total of 17 people in the widow/widower group. There are no members of the widow/widower group who have "Normal" depression levels, 8 people have "Mild Depression," and 9 people have "Severe Depression." Thus, it is clear from the frequency distribution that married people appear to have a higher percentage of people who have "Normal" depression levels. On the other hand, there are more people who fall into the "Severe Depression" category among the “widow or Widower" group. For the Pearson Chi-Square test the value is 38.885, and for the Linear-by-Linear Association test the value is 19.912. The p-values for all three tests are reported as .000, which denotes that the p-value is extremely close to zero. Hence H 7: There is a significant relationship between marital status and depression is proved.

**Marital status and mobility restrictions**

The crosstabulation data based on participant "Mobility Restrictions" and "Marital Status" offers insightful information about how mobility levels are distributed among various marital status groups. This analysis contributes to the goal of examining the variables influencing depression and mobility in elderly people living alone or in care facilities based on marital status and mobility by providing a clear picture of the relationship between these two variables**.** Of participants who have been married with regard to mobility presents, 5 people are "Dependent", The level of mobility for 9 people is "Borderline" and the level of mobility for 21 people is "Independent." Of participants who are unmarried with regard to mobility present, 1 person is "Borderline", The level of mobility for 17 people is "Independent" and no person is presented with a “Dependent” level. Women and men who have experienced widowhood present the level of mobility for 10 people as “Dependent” There are 6 people with "Borderline" mobility and 1 person with an "Independent" level. The Chi-Square tests' results point to a strong and statistically significant correlation between participants' mobility restrictions and their marital status. This has important ramifications for our comprehension of the causes of depression and mobility problems in elderly people who live alone or in care facilities. Because of the extremely low p-values, there is very little chance that the correlation between marital status and mobility restrictions that has been observed is merely coincidental. Hence, H 7.1: There is a significant relationship between marital status and mobility issues is proved. The strong correlation between marital status and mobility limitations raises the possibility that a person's level of mobility may vary depending on whether they are married or widowed. In the case of married people, this might be because they have a spouse or family to support them, whereas widowed people might change their mobility as a result of losing a partner.

## 5.7 Summary of the Chapter

The chapter described in detail explanation about the socio-demographic features of respondents. It also explained the prevalence, severity, and effects of depression and mobility issues among elderly people living in care facilities and those who are living at home to identify the relationship between depression and mobility issues. The relation between variables and depression and mobility restrictions are also discussed in this chapter.

## 5.8 Summary of Major Findings

### 5.8.1 Socio-Demographic Profile of the Respondents

**Age:** The majority of participants fall within the age range of 60 to 66 (62.9%), followed by the age ranges of 67 to 73 (31.4%) and 74 to 80 (5.7%). This indicates that the study predominantly included elderly individuals within the age of 60 to 73.

**Gender:** The study had a relatively balanced gender distribution, with 44.3% of participants being male and 55.7% being female.

**Marital Status:** Among the participants, 50.0% were married, 25.7% were unmarried, and 24.3% were widowed/widower. This indicates a diversity in marital status among the elderly population.

**Economic Status:** The economic status of the participants showed a relatively equal distribution, with 48.6% falling under the Above Poverty Line (APL) category and 51.4% under the Below Poverty Line (BPL) category.

**Place of Residence:** The participants were evenly split between care centres and home, with 50.0% residing in care centres and the other 50.0% living at home

**Suggestions**

Programs for tailored aging should be created to address the unique requirements of each age group. Address the various physical and mental needs of participants across a range of ages by adjusting fitness, healthcare, and recreational activities.

Gender-Specific Support: Create initiatives that are sensitive to gender and take into account the particular difficulties that both men and women face. Offer specialized assistance and services that address the social and health needs unique to each gender.

Holistic marital status care should take into account the variety of marital situations and provide tailored assistance. Create support groups, counselling services, and social events that are tailored to the needs of participants who are married, single, and widowed.

Healthcare that is accessible to all participants those who fall into the APL and BPL categories while remaining reasonably priced. Work together with government organizations and healthcare facilities to offer comprehensive medical care. Enhance home-based care services to offer complete healthcare, social interaction, and emotional support to elderly people who choose to live at home.

Facilities at Care Centers to be Improved, Pay special attention to creating a positive and stimulating environment for residents in care centres. Assure that care facilities provide medical, social, and recreational services that enhance a high quality of life

Launch awareness-raising initiatives to inform seniors and their families about the services, benefits, and resources that are available. Give them the information they need to decide on their housing and medical care.

Continuous Data Collection, Gather and analyse socio-demographic information on a regular basis to keep track of trends and adjust services as necessary. This data-driven approach will aid in improving strategies and offering efficient support.

Develop evidence-based policies that take into account the changing needs of the elderly population by working with researchers and policymakers. Encourage interdisciplinary research and application by creating an environment that supports it.

### 5.8.2 Depression and factors affecting depression in elders in home and care centres

**Prevalence of Depression:** The study reveals that depression is prevalent among the elderly population. The frequency distribution of depression levels indicates that 61.4% of participants have a "Normal" level of depression, while 20.0% have "Mild Depression," and 18.6% have "Severe Depression."

**Gender and Depression:** Gender-wise distribution shows that among males, 70.97% have a "Normal" depression level, 16,13% have "Mild Depression," and 12.90% have "Severe Depression. Among females, 53.85% have a "Normal" depression level, 23.08% have "Mild Depression," and 23.08% have "Severe Depression."

**Marital Status and Depression:** Examining depression levels by marital status, it's noted that among married participants, 74.29% have a "Normal" depression level, 1214% have "Mild Depression," and 8.57% have "Severe Depression." Among unmarried participants, 100% have a "Normal" depression level.

**Place of Residence and Depression:** Comparing depression levels by place of residence, it's seen that 57.14% of participants living in care centres have a "Normal" depression level, 20% have "Mild Depression," and 22.86% have "Severe Depression. Among those living at home, 65.71% have a "Normal" depression level, 20% have "Mild Depression and 14.29% have "Severe Depression."

**Age and Depression:** The correlation between age and depression reveals a significant positive correlation (0.290) with a p-value of 0.015. This suggests that as age increases, the likelihood of experiencing depression also increases.

**Mobility and Depression:** The correlation between mobility and depression is significantly negative (-0.762) with a p-value of 0.000. This indicates a strong inverse relationship between mobility issues and depression. As mobility decreases, depression tends to increase.

**Suggestions**

Develop specialized intervention plans that take into account the gender-specific risk factors for depression. The specific emotional and psychological requirements of both male and female participants may be met by these programs.

Establish support groups for married and single participants that are centered on the emotional wellbeing of both groups. Encourage their mental health by getting them involved in group discussions, counselling, and social activities.

Home Environment Assessment: Create a space that encourages social engagement and interaction for participants living in care facilities. Assure a welcoming environment that promotes routine interaction and company for those who are living at home.

Age-Responsive Interventions: Be aware of the increased susceptibility to depression that comes with growing older. Create programs that are age-responsive and focus on the mental and emotional health of older participants.

Design integrated programs that address both depression and mobility issues to promote both physical and mental health. To enhance both facets of wellbeing, incorporate physical therapy, exercise, and mental health support.

Implement programs to combat senior citizens' social isolation. To reduce the risk of depression, encourage interpersonal interaction, community involvement, and socialization. Offer those who are suffering from severe depression professional counselling services. Allow participants to talk to trained counsellors in a safe environment about their feelings, thoughts, and worries.

### 5.8.3 Mobility and factors affecting mobility in elders in home and care centres

**Prevalence of Mobility Levels:** The study indicates that a majority (557%) of the participants have "Independent mobility levels, followed by "Borderline" (22.9%) and "Dependent"

(21.4%) levels. This suggests that a significant portion of the elderly population has retained their independence in mobility.

**Gender and Mobility:** The crosstabulation between gender and mobility shows that among males, 48.39% have "Independent" mobility, 29.03% have "Borderline," and 22.58% have "Dependent mobility. Among females, 5641% have "Independent mobility, 20.51% have "Borderline," and 23.08% have "Dependent mobility

**Marital Status and Mobility:** The crosstabulation between marital status and mobility reveals that married participants mostly have "Independent mobility (60.00%), followed by "Borderline" (25.7190) and "Dependent" (14.29%) mobility, Unmarried participants predominantly have "Independent mobility (94,44%), while only 5.56% have "Borderline mobility

**Place of Residence and Mobility:** Place of residence doesn't significantly influence mobility levels, as shown by the crosstabulation between place of residence and mobility. Both care centre and home residents have similar distributions across mobility levels

**Age and Mobility:** The correlation between age and mobility is negative (-0.464), indicating that as age increases, the level of mobility tends to decrease. This correlation is significant with a p-value of 0.000

**Suggestions**

Encourage regular exercise routines that are appropriate for people with different levels of mobility. Stretching, seated exercises, and short walks can all help to increase flexibility and general physical health.

Availability of Mobility Aids: Ensure that wheelchairs, frames, walking sticks, and other mobility aids are available and used appropriately. These tools can increase freedom of movement and self-assurance.

Provide advice on making adjustments to your home to accommodate people with varying degrees of mobility. The home environment can be made safer and more accessible by installing grab bars, ramps, and non-slip surfaces.

Educational Programs: Hold workshops and sessions to inform participants and caregivers about the significance of maintaining mobility through exercise, wholesome eating, and sufficient hydration.

Organize social activities that promote conversation and movement to promote social participation. People can be inspired to stay physically active by taking part in group walks,

outings, and leisure pursuits. Exercises for improving mobility should be included in the balance and strength training regimen. In addition to improving overall mobility, these exercises can help prevent falls.

Individualized Care Plans: Create care plans for each participant that are tailored to their particular mobility issues. Develop individualized strategies in partnership with healthcare professionals.

Regular Health Assessments: Include mobility evaluations in regular health exams. As a result, timely interventions can be started and mobility changes over time can be tracked.

Nutritional Support: Stress the value of eating a balanced diet full of nutrients that are necessary to maintain muscle strength and joint health, which improves mobility.

Peer Support Groups: Form support groups where people with comparable levels of mobility can communicate, encourage one another, and share coping strategies.

### 5.8.4 Relationship between mobility and depression

**Correlation Between Mobility and Depression:** The study reveals a strong negative correlation between mobility and depression, with a correlation coefficient of -0.762. This indicates that as mobility decreases, the level of depression tends to increase, and vice versa. The correlation is statistically significant at the 0.01 level.

**Mobility Levels and Depression:** Crosstabulation between mobility levels and depression levels further substantiates the negative association. Participants with "Dependent" mobility have a higher prevalence of "Severe Depression" (66.67%), while those with "Independent mobility have a lower prevalence (10.26%).

**The severity of Depression and Mobility:** Crosstabulation also indicates that among those with "Severe Depression," a larger percentage (42.86%) have "Dependent" mobility, while only 5.13% of those with "Normal" depression have "Dependent" mobility.

**Suggestions**

Understand the interaction between mobility and depression when performing a holistic assessment. During routine health exams, look for signs of depression as well as mobility problems to spot people who need to be watched.

Integrated Interventions: Create treatment plans that deal with both depression and mobility. Both aspects can be targeted at once through exercise, physical activity, and outdoor pursuits.

Implement specialized exercise regimens that take into account varying levels of mobility.

Even modified forms of routine exercise can have a positive effect on both mobility and mental health.

Include counselling and psychological support services for people with limited mobility as part of your psychosocial support program. The motivation to engage in physical activity can be indirectly increased by addressing emotional difficulties.

Group Activities: Plan events for your group that encourage conversation and exercise. Walking, dancing, stretching, and other activities that foster both mobility and a good mood can be included in this list.

Include Mindfulness Techniques: Mindfulness techniques, such as deep breathing and meditation, can help reduce stress and anxiety, which can lead to better mental health and possibly increased motivation for exercise.

Promote participants' knowledge of the relationship between mobility, physical activity, and mental health. Encouraging them to take part in actions that have a positive impact on both aspects can inspire them.

### 5.9 Recommendation for further research

Longitudinal study: Investigate the evolution of depression and mobility over time with longitudinal studies. The causal connection between these variables and their long-term effects may become clearer as a result, offering new information.

Assessment of Specific Intervention Programs' Efficacy: Look into the success of particular interventions that address both depression and mobility. Compare various interventional approaches to find the most effective ones.

Qualitative Research: Investigate the perspectives and experiences of elderly people with regard to the connection between mobility and depression by using qualitative research techniques. Qualitative information can provide a more complex understanding.

Influence of Social Support: Consider how social support systems may affect both depression and mobility. Look into the effects of these interactions on family, friends, and the community.

Examine any potential gender differences in the correlations between depression, mobility, and other factors. This might provide insight into particular difficulties and coping strategies.

Environmental Effects: Research how mobility and depression are affected by one's home environment. Accessibility, safety, and social opportunities in various living arrangements could be important factors.

Comparative Studies: To find global patterns and context-specific variables, compare findings across various cultural contexts, socioeconomic backgrounds, and healthcare systems.

### 5.10 Implications of the study

**Family Assisted intervention**: Social workers can interact with families to educate, support, and provide resources because they are aware of how family dynamics affect mobility and depression. This can involve educating family members about mobility assistance methods and helping them comprehend the emotional requirements of their elderly relatives.

**Environmental modification**: Home modifications can significantly enhance elderly people's general well-being by removing environmental obstacles that limit mobility. To ensure a secure and comfortable living space, social workers can advocate for home modifications.

**Tailored intervention**: Interventions that are specifically targeted at improving mobility in order to lessen depression can be created by social workers based on the relationship between mobility and depressive symptoms. Plans can be developed specifically for each elderly person, taking into account their unique needs and preferences.

**Integrated Care coordination**: In order to provide integrated care for the elderly, social workers can play a significant part in encouraging collaboration between medical staff, caregivers, and mental health specialists. This can guarantee that both mobility and depression issues are fully addressed.

**Referral to Services**: based on the diagnosis, social workers can refer senior citizens to the right services, including physical therapy, mental health counselling, and neighbourhood initiatives that promote both mental and physical well-being.

**Advocacy:** Social workers can advocate for legislative modifications that support senior-friendly neighbourhoods, accessible transportation, and cost-effective healthcare options that may benefit elderly people in availing of better mobility and mental health services.

### 5.11 Conclusion

The study's findings represent a synthesis of complex threads that have been knitted together to reveal a tapestry of insights into the interactions between mobility, depression, and sociodemographic factors among the elderly population. It is crucial to consider the numerous implications that result from our research as we come to a close. The main findings of the study, their significance in a broader sense, and the directions they open for further

research are all summarized in this final section. In doing so, it emphasizes the importance of this study in the fields of geriatric care, mental health advocacy, and social work practice. This culmination serves as a crucial turning point for the study's progress, as well as for outlining the direction of concrete steps that can help improve the health and quality of life of our senior citizens

The importance of this study is reflected in the growing need to address the needs of an aging population in society as a whole. The results of this study can aid in the development of a more compassionate and inclusive society that values and supports its elderly citizens as the demographic shifts in society continues.

The study's applicability to social workers lies in its ability to educate them on the difficulties faced by the elderly. Social workers can create interventions that address the physical, emotional, and social dimensions of well-being more successfully by understanding the connections between mobility and depression and socio-demographic factors. This knowledge enables social workers to promote age-friendly policies, offer individualized support, and enable senior citizens to lead fulfilling lives.

This study explored the complex interactions among the elderly population living in nursing homes and other facilities, including mobility, depression, and various sociodemographic factors. The findings shed light on crucial insights that can guide geriatric care and mental health research as well as practice. Significant differences in depression and mobility levels were found across age groups, genders, marital statuses, socioeconomic backgrounds, and places of residence, according to the sociodemographic analysis. These realizations highlight the necessity of specialized interventions that take into account these variations and address the unique requirements of each group. In terms of the prevalence of depression, it was clear that a sizable portion of the elderly participants, regardless of their living situation, experienced depression to varying degrees. The lack of a significant correlation between residence and depression suggests that environments in care facilities and at home can both affect the prevalence of depression in the elderly. According to this finding, mental health support should take a holistic approach and go beyond the physical environment. Notable findings came from the investigation into mobility restrictions. The lack of a significant relationship between residence and mobility levels suggests that a number of variables other than living arrangements affect elderly people's mobility. Notably, the significant negative correlation between mobility and depression highlights the significance of addressing mobility issues as a component of all-encompassing depression management strategies. These results suggest that increasing mobility may help older people who are depressed. The study of the relationship

between mobility and marital status showed a strong correlation, with mobility levels being significantly influenced by marital status. This demonstrates how social support networks affect elderly people's physical capabilities. The link between marital status and depression also highlighted the precarious position of widowed people, highlighting the significance of specialized psychological and mobility support for this group. A significant correlation between mobility limitations and marital status was found by the Chi-Square test results. The importance of social support networks in preserving mobility in the elderly is highlighted by this finding, which highlights the need for interventions that take marital status into account as a key factor influencing mobility.

Several recommendations and implications are revealed in light of these findings. Given their potential influence on the discovered correlations, further study might delve into the subtleties of cultural factors in relation to depression and mobility. Furthermore, in the context of care facilities and home settings, future studies may examine the efficacy of integrated interventions addressing both mobility and depression. This study essentially acts as a first step toward a deeper comprehension of the complex relationships between elderly people's mobility, depression, and socio-demographic factors. Gained knowledge may influence practice, research, and policy, promoting a more welcoming environment for our aging population. Thus, in conclusion, this study inspires us to imagine a time when elderly people are not only understood but also given the tools they need to live lives of dignity, vitality, and well-being by illuminating the complex relationships between mobility, depression, and sociodemographic factors.

## References


Agarwal, A. L. (2020). Population Aging in India: Facts, Issues, and Options. *Population Change and Impacts in Asia and the Pacific, vol 30.*, 289-311.

B W Penninx, S. L. (1999). Exploring the effect of depression on physical disability: longitudinal evidence from the established populations for epidemiologic studies of the elderly. *American Journal of Public Health 89*, 1346-1352.

Bulloch AG, W. J. (2009). The relationship between major depression and marital disruption is bidirectional. *Depress Anxiety.26(12)*, 1172-1177.

Choi, J. H. ( 2018). The determinants of the elderly's life satisfaction in South Korea: A multilevel model among older adults living alone. *International Journal of Environmental Research and Public Health, 15(5)*, 1007.

Cummings, S. S. (2014). A diagnosis of dismobility–giving mobility clinical visibility: a Mobility Working Group recommendation. *JAMA 311*, 2061-2062.

(2013). *Diagnostic and Statistical Manual of Mental Disorders 5th edition* . American Psychiatric Association .

Ferrucci, L. C. (2016). Age-Related Change in Mobility: Perspectives From Life Course Epidemiology and Geroscience. . *The journals of gerontology. Series A,Biological sciences and medical sciences 71(9)*, 1184-1194.

Golant, S. M. (2003 ). Environmental interventions and the design of homes for older adults. *Environmental Gerontology: Making Meaningful Places in Old Age* , 235-256.

Grover S, M. N. (2015). Depression in elderly: A review of Indian research. . *J Geriatr Ment Health*, 4-15.

Hossain, B. Y. (2021). Association between physical limitations and depressive symptoms among Indian elderly: marital status as a moderator., . *BMC Psychiatry 21*, 573.

K. Bincy, M. L. (2021,, april-june). Depression and its associated factors among the older adults in rural, Tamilnadu, India,. *Clinical Epidemiology and Global Health,Volume 10,, 10*, 100677.

Lampinen P, H. E. (2003 Jun). Reduced mobility and physical activity as predictors of depressive symptoms among community-dwelling older adults: an eight-year follow-up study. . *Aging Clin Exp Res 15(3)*, 205-211.

M L Bruce, T. E. (1994). The impact of depressive symptomatology on physical disability: MacArthur Studies of Successful Aging. . *American Journal of Public Health 84*, 1796-1799.

Mukadder MollaoÄŸlu, F. Ã.–z. (2010). Mobility disability and life satisfaction in elderly people. *Archives of Gerontology and Geriatrics 51(3)*, 115-119.

Musich, S. W. (2018). The impact of mobility limitations on health outcomes among older adults. . *Geriatric Nursing, 39(2),* 162-169.

Newmann, J. P. (1989)). Aging and depression. *Psychology and Aging, 4(2,* 150–165.

Park JH, C. J. (2022 Oct 4). The effect of residential environment satisfaction on depression in the elderly: Focusing on the mediating effect of stress. *Front Public Health.* , 10.

Pilania, M. Y. (2019). Prevalence of depression among the elderly (60 years and above) population in India, 1997–2016: a systematic review and meta-analysis. *BMC Public Health 19,* 832.

SMITH, R. (1994). Validation and Reliability of the Elderly Mobility Scale. *Physiotherapy; 80 (11);,* 744-747.

((2011)). *World Health Organization.* World Report on Disability.

Yesavage JA, B. T. (1982-83). Development and validation of a geriatric depression screening scale: a preliminary report. *J Psychiatr Res.17(1),* 37-49.

Zhao, L. Z. (2022). The relationship between gender, marital status and depression among Chinese middle-aged and older people: Mediation by subjective well-being and moderation by degree of digitization. *Frontiers in Psychology 13,* 923597.

Elizabeth A Gardener, F. A. (2006). Middle-aged and mobility-limited prevalence of disability and symptom attributions in a national survey. *Journal of general internal medicine 21,* 1091-1096.

Eystein Stordal, M. B. (2001). Depression in relation to age and gender in the general population: the Nord-Trøndelag Health Study (HUNT). *Acta Psychiatrica Scandinavica 104 (3),* 210-216

John Mirowsky, C. E. (1992). Age and depression. *Journal of Health and social behaviour.*, 187-205.

Maria-Victoria Castell, M. S. (2013). Frailty prevalence and slow walking speed in persons age 65 and older: implications for primary care. *BMC family practice 14 (1),* 1-9.

Milaneschi Y, Penninx BW. Depression in older persons with mobility limitations. Curr Pharm Des. 2014;20(19):3114-8

van Gool CH, Kempen GI, Penninx BW, Deeg DJ, Beekman AT, van Eijk JT. Impact of depression on disablement in late middle aged and older persons: results from the Longitudinal Aging Study Amsterdam. Soc Sci Med. 2005 Jan;60(1):25-36

# ANNEXURES

**Annexures**

**Annexure I: Questionnaire**

**Section 1: Socio demographic details of the participant**

Age of the participant

60-66

67-73

74-80

Sex of the Participant

Male

Female

Marital status of the participant Unmarried

Married

Divorced

Separated

Economic status

APL

BPL

Place of residence

Care centre

Home

**Section 2: Geriatric Depression Scale**

1. Are you basically satisfied with your life? . . . . . yes no (1)

2. Have you dropped many of your activities and interests? . . . . . yes (1) no

3. Do you feel that your life is empty? . . . . . yes (1) no

4. Do you often get bored? . . . . . yes (1) no

5. Are you hopeful about the future? . . . . . yes no (1)

6. Are you bothered by thoughts you can t get out of your head? . . . . . yes (1) no

7. Are you in good spirits most of the time? . . . . . yes no (1)

8. Are you afraid that something bad is going to happen to you? . . . . . yes (1) no

9. Do you feel happy most of the time? . . . . . yes no (1)

10. Do you often feel helpless? . . . . . yes (1) no

11. Do you often get restless and fidgety? . . . . . yes (1) no

12. Do you prefer to stay at home rather than go out and do things? . . . . . yes (1) no

13. Do you frequently worry about the future? . . . . . yes (1) no

14. Do you feel you have more problems with memory than most? . . . . . yes (1) no

15. Do you think it is wonderful to be alive now? . . . . . yes no (1)

16. Do you feel downhearted and blue? . . . . . yes (1) no

17. Do you feel pretty worthless the way you are now? . . . . . yes (1) no

18. Do you worry a lot about the past? . . . . . yes (1) no

19. Do you find life very exciting? . . . . . yes no (1)

20. Is it hard for you to get started on new projects? . . . . . yes (1) no

21. Do you feel full of energy? . . . . . yes no (1)

22. Do you feel that your situation is hopeless? . . . . . yes (1) no

23. Do you think that most people are better off than you are? . . . . . yes (1) no

24. Do you frequently get upset over little things? . . . . . yes (1) no

25. Do you frequently feel like crying? . . . . . yes (1) no

26. Do you have trouble concentrating? . . . . . yes (1) no

27. Do you enjoy getting up in the morning? . . . . . yes no (1)

28. Do you prefer to avoid social occasions? . . . . . yes (1) no

29. Is it easy for you to make decisions? . . . . . yes no (1)

30. Is your mind as clear as it used to be? . . . . . yes no (1)

TOTAL: sum of all answers (worth one point) were counted for a total score. Scores: 0 - 9 Normal 10 - 19 Mild Depressive 20 - 30 Severe Depressive.

**Section 3: Elderly Mobility Scale**

Lying to Sitting

Independent – 2 point

Needs help of 1 person- 1 point

Needs help of 2+ people- 0 point

Sitting to Lying

Independent – 2 point

Needs help of 1 person- 1 point

Needs help of 2+ people- 0 point

Sitting to standing

Independent in under 3 seconds – 3 points

Independent in over 3 seconds – 2 points

Needs help of 1 person- 1 point

Needs help of 2+ people- 0 point

Standing

Stands without support and able to reach- 3 point

Stands without support but needs support to reach – 2 point

Stands but needs support- 1

Stands only with physical support of another person - 0 point

Gait

Independent (+ / - stick) – 3 point

Independent with frame – 2 point

Mobile with walking aid but erratic / unsafe – 1 point

Needs physical help to walk or constant supervision – 0 point

Timed Walk (6 metres)

Under 15 seconds- 3 point

16 – 30 seconds – 2 point

Over 30 seconds – 1 point

Unable to cover 6 metres Recorded time in seconds – 0 point

Functional Reach

Over 20 cm – 4 point

10 - 20 cm – 2 point

Under 10 cm – 0 point

Scores under 10 – generally these patients are dependent in mobility manoeuvres; require help with basic ADL, such as transfers, toileting and dressing.

Scores between 10 – 13 – generally these patients are borderline in terms of safe mobility and independence in ADL i.e. they require some help with some mobility manoeuvres.

Scores over 14 – Generally these patients are able to perform mobility manoeuvres alone and safely and are independent in basic ADL.