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Original Research Article

PREVALENCE AND DETERMINANTS OF DEPRESSION AMONG ELDERLY RESIDENTS IN LONG-TERM CARE FACILITIES

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ABSTRACT

Background: Aim: To determine the prevalence and identify risk factors associated with depression in elderly populations residing in long-term care facilities.

Materials and Methods: This prospective, observational study was conducted across multiple long-term care facilities in a metropolitan area, including 90 elderly residents aged 65 years and older. Participants were randomly selected and met inclusion criteria, such as having no severe cognitive impairment and residing in the facility for at least six months. Data were collected on demographics, medical history, and depression risk factors, using structured interviews and medical record reviews. The Geriatric Depression Scale (GDS) was used to categorize depression severity, while additional assessments measured cognitive function (Mini-Mental State Examination), nutritional status (Mini Nutritional Assessment), and social factors. Statistical analysis was performed using SPSS, with logistic regression identifying significant predictors of depression.

Results: The study found a high prevalence of depression among the elderly, with 42.22% of participants reporting no depressive symptoms, 28.89% experiencing mild depression, 20.00% moderate depression, and 8.89% severe depression. Chronic illnesses were prevalent, with 60.00% having hypertension, 40.00% diabetes mellitus, and 35.56% cardiovascular diseases. Key risk factors identified included social isolation (31.11%), high perceived loneliness (44.44%), and cognitive impairment (24.44%). Logistic regression analysis revealed that social isolation (OR: 2.10, p = 0.03) and cognitive impairment (OR: 2.75, p = 0.02) were significant predictors of depression.

Conclusion: This study highlights a substantial prevalence of depression among elderly residents in long-term care facilities, with social isolation and cognitive impairment being critical risk factors. The findings underscore the need for comprehensive mental health assessments and interventions focusing on social engagement and cognitive support to improve the well-being of this vulnerable population.

Keywords: Depression, Elderly, Long-term care, Social isolation, Cognitive impairment.

INTRODUCTION

Depression is a significant and often overlooked mental health concern among elderly populations residing in long-term care facilities. As individuals age, they face a range of physical, emotional, and social challenges that can contribute to the onset of depressive symptoms. Elderly residents in care facilities are particularly vulnerable to depression due to factors such as social isolation, loss of independence, chronic medical conditions, and cognitive decline. Despite the high prevalence and serious impact of depression in this population, it remains underdiagnosed and inadequately treated. Understanding the unique risk factors, prevalence,

and consequences of depression among elderly residents is crucial for implementing effective interventions and improving their quality of life.

One of the primary contributors to depression in elderly populations is social isolation. Many elderly individuals in long-term care facilities have limited contact with family members and friends, leading to feelings of loneliness and disconnection. The loss of a spouse or close friends, combined with reduced mobility and the inability to engage in previous social activities, further exacerbates feelings of isolation. As social support diminishes, the risk of developing depressive symptoms increases. In many cases, long-term care facilities may struggle to provide adequate social engagement opportunities, further compounding the sense of isolation experienced by residents.[1]

Another significant factor that contributes to depression in elderly residents is the loss of independence. Many older adults enter long-term care facilities because they can no longer manage daily activities on their own. This transition often results in a perceived loss of control over their lives, leading to feelings of helplessness and hopelessness. The inability to perform simple tasks, such as dressing, bathing, or preparing meals, can have a profound psychological impact. Additionally, the need to rely on caregivers for assistance can lead to a sense of dependence, further diminishing self-esteem and contributing to depressive symptoms.

Chronic medical conditions are also a common feature among elderly individuals in long-term care, and these conditions play a significant role in the development of depression. Diseases such as diabetes, cardiovascular conditions, arthritis, and neurodegenerative disorders can cause persistent pain and discomfort, reducing the overall quality of life. The physical limitations imposed by these conditions may restrict residents' ability to participate in enjoyable activities, leading to a decline in mental well-being. Furthermore, the physiological effects of chronic illnesses can exacerbate the symptoms of depression, creating a cycle where poor physical health and depression perpetuate one another. The use of multiple medications, or polypharmacy, is also common among elderly residents and can have side effects that contribute to mood disturbances.[2]

Cognitive decline is another critical issue that is closely linked to depression in elderly populations. Conditions such as dementia and Alzheimer's disease are prevalent in long-term care facilities, and the progression of these disorders often leads to emotional distress. Elderly individuals who are aware of their cognitive deterioration may experience anxiety, frustration, and sadness, which can evolve into clinical depression. Additionally, cognitive impairment can make it difficult for residents to communicate their feelings or recognize their own depressive symptoms, complicating the process of diagnosis and treatment. Caregivers and medical staff must remain vigilant in monitoring residents for signs of depression, as traditional self-reporting methods may not be effective in this population.[3]

The consequences of untreated depression in elderly residents of long-term care facilities are severe. Depression in older adults has been linked to increased morbidity and mortality, as well as a higher risk of suicide. It also negatively affects physical health, as depressive symptoms can lead to poor nutrition, reduced physical activity, and diminished adherence to medical treatments. Additionally, depression can exacerbate cognitive decline, further impairing the individual's ability to function and engage with their environment. The combination of physical and mental health decline can create a significant burden not only for the affected individuals but also for caregivers and the healthcare system as a whole.

Despite the serious impact of depression, it often goes unrecognized in long-term care settings. There are several reasons for this underdiagnosis, including the misconception that depression is a normal part of aging and the overlap of depressive symptoms with other medical conditions, such as dementia. Symptoms of depression, such as fatigue, changes in appetite, and sleep disturbances, are frequently attributed to aging or physical illnesses rather than being recognized as part of a treatable mental health condition. Additionally, elderly residents may be reluctant to report feelings of sadness or hopelessness due to the stigma surrounding mental health issues. This reluctance further complicates the process of identifying and managing depression in this population.[4]

Addressing depression in elderly residents of long-term care facilities requires a comprehensive approach that includes both prevention and treatment strategies. Interventions should focus on enhancing social engagement, promoting physical activity, and providing access to mental health services. Social programs that encourage interaction and foster a sense of community can help reduce feelings of isolation and improve mental well-being. Physical activity, tailored to the capabilities of elderly residents, has been shown to have a positive effect on mood and overall health. Additionally, regular mental health assessments and the integration of psychological therapies, such as cognitive-behavioral therapy (CBT), can be effective in managing depression.[5,6]

Depression in elderly populations residing in long-term care facilities is a pervasive and multifaceted issue that requires urgent attention. The interplay of social, psychological, and physical factors contributes to the high prevalence of depression, and its consequences are far-reaching. By recognizing the unique challenges faced by elderly residents and implementing targeted interventions, long-term care facilities can play a crucial role in improving the mental health and quality of life of this vulnerable population.

MATERIAL AND METHODS

This prospective, observational study was conducted to determine the prevalence and risk factors of depression in elderly populations residing in long-term care facilities. The study was carried out across multiple long-term care facilities in a metropolitan area, with ethical approval obtained from the Institutional Review Board. Written informed consent was secured from all participants or their legal representatives. The study included a total of 90 elderly residents aged 65 years and older, randomly selected from different long-term care facilities. Inclusion and exclusion criteria were as follows:

Inclusion Criteria

- Residents aged 65 years and above.
- Individuals with no diagnosed cognitive impairment that would hinder participation.
- Residents who have been residing in the facility for at least 6 months.

Exclusion Criteria

- Individuals diagnosed with severe cognitive impairments, such as advanced dementia.
- Patients with a history of major psychiatric disorders other than depression.
- Residents who were terminally ill or under palliative care.

Methodology

Data on age, gender, marital status, education level, and duration of stay in the long-term care facility were collected from medical records and structured interviews with residents. Medical history, including chronic illnesses such as hypertension, diabetes, cardiovascular diseases, medication use, and functional status, was obtained, along with any previous diagnosis or treatment for depression. Depression screening was conducted using the Geriatric Depression Scale (GDS), categorizing participants into mild, moderate, or severe depression based on their scores. Risk factors such as social isolation, physical health, cognitive function (assessed using the Mini-Mental State Examination), polypharmacy, and nutritional status (evaluated by the Mini Nutritional Assessment) were also gathered. Participants were followed for 12 months, with quarterly assessments of mental, physical, and social well-being. Depression symptoms were monitored at each follow-up using the GDS, and any changes in health or social factors were recorded. The primary outcome was the prevalence of depression, while secondary outcomes focused on identifying risk factors like social isolation, chronic illness, polypharmacy, and cognitive function.

Statistical Analysis

Data were analyzed using SPSS version 25.0. Descriptive statistics (means, standard deviations, frequencies, and percentages) were used to summarize the demographic and clinical characteristics of the study participants. The prevalence of depression was calculated as a percentage of the total study population. Bivariate analyses (chi-square test and independent t-test) were performed to examine associations between depression and potential risk factors. Logistic regression analysis was used to identify independent predictors of depression, controlling for confounders such as age, gender, and medical history. A p-value of <0.05 was considered statistically significant.

RESULTS

Demographic Characteristics of the Study Population

Table 1 presents the demographic characteristics of the 90 participants. The mean age of the study population was 74.50 years, with a standard deviation of 6.90, indicating a predominantly older adult group. Gender distribution showed that 42.22% (38 participants) were male, while 57.78% (52 participants) were female, suggesting a higher representation of women in the sample. Marital status varied, with 13.33% (12 participants) being single, 40.00% (36 participants) married, and 46.67% (42 participants) widowed or divorced, highlighting that nearly half of the participants were widowed or divorced. Education levels were diverse: 18.89% (17 participants) had no formal education, 37.78% (34 participants) completed primary education, 24.44% (22 participants) had secondary education, and 18.89% (17 participants) achieved higher education. This indicates a mixed educational background within the group, with a significant proportion having primary education or none at all.

Prevalence of Depression Based on Geriatric Depression Scale (GDS)

Table 2 shows the distribution of depression severity among the participants, as assessed by the Geriatric Depression Scale (GDS). Of the 90 individuals, 42.22% (38 participants) did not exhibit signs of depression. Mild depression was reported by 28.89% (26 participants), while 20.00% (18 participants) experienced moderate depression. Severe depression was observed in 8.89% (8 participants), indicating that a substantial portion of the study population (nearly 30%) exhibited mild depressive symptoms, with a smaller but notable percentage experiencing moderate to severe depression.

Medical History and Chronic Illnesses of Participants

Table 3 outlines the prevalence of chronic illnesses in the study group. Hypertension was the most common condition, affecting 60.00% (54 participants). Diabetes mellitus was present in 40.00% (36 participants), and 35.56% (32 participants) had cardiovascular diseases. A history of depression was reported by 22.22% (20 participants), suggesting a notable presence of prior depressive disorders. Additionally, 44.44% (40

participants) experienced polypharmacy, defined as the use of five or more medications, emphasizing the high burden of medical comorbidities and medication use in this population.

Risk Factors Associated with Depression

Table 4 identifies risk factors linked to depression among the participants. Low family visits, defined as one or fewer visits per month, were reported by 31.11% (28 participants). A lack of participation in social activities was observed in 37.78% (34 participants), while 44.44% (40 participants) experienced high perceived loneliness, highlighting social isolation as a significant concern. Malnutrition, measured by the Mini Nutritional Assessment (MNA) score, was found in 28.89% (26 participants). Cognitive impairment, defined as a Mini-Mental State Examination (MMSE) score below 24, was present in 24.44% (22 participants). These factors collectively underscore the complex interplay between social, nutritional, and cognitive determinants of depression in older adults.

Logistic Regression Analysis for Predictors of Depression

Table 5 presents the results of the logistic regression analysis to identify significant predictors of depression. Social isolation emerged as a significant predictor, with an odds ratio (OR) of 2.10 (95% CI: 1.15 - 3.90, p = 0.03), indicating that individuals with limited social interactions were more than twice as likely to experience depression. Cognitive impairment also showed a strong association with depression, with an OR of 2.75 (95% CI: 1.30 - 5.55, p = 0.02), suggesting that participants with cognitive difficulties had a significantly higher risk of depression. In contrast, age (OR: 1.05, p = 0.25), gender (OR: 1.60, p = 0.22), and hypertension (OR: 1.65, p = 0.10) were not statistically significant predictors, although hypertension approached significance. These findings highlight the critical role of social and cognitive factors in influencing depression risk among older adults.

Table 1: Demographic Characteristics of the Study Population

Parameter	Frequency (n=90)	Percentage (%)
Age (mean ± SD)	74.50 ± 6.90	-
Gender		
Male	38	42.22
Female	52	57.78
Marital Status		
Single	12	13.33
Married	36	40.00
Widowed/Divorced	42	46.67
Education Level		
No Formal Education	17	18.89
Primary Education	34	37.78
Secondary Education	22	24.44
Higher Education	17	18.89

Table 2: Prevalence of Depression Based on Geriatric Depression Scale (GDS)

Depression Category	Frequency (n=90)	Percentage (%)
No Depression	38	42.22
Mild Depression	26	28.89
Moderate Depression	18	20.00
Severe Depression	8	8.89

Table 3: Medical History and Chronic Illnesses of Participants

Chronic Illness	Frequency (n=90)	Percentage (%)
Hypertension	54	60.00
Diabetes Mellitus	36	40.00
Cardiovascular Diseases	32	35.56
History of Depression	20	22.22
Polypharmacy (≥5 Medications)	40	44.44

Table 4: Risk Factors Associated with Depression

Risk Factor	Frequency (n=90)	Percentage (%)
Low Family Visits (≤ 1/month)	28	31.11
No Participation in Social Activities	34	37.78
High Perceived Loneliness	40	44.44
Malnutrition (MNA score)	26	28.89
Cognitive Impairment (MMSE <24)	22	24.44

Table 5: Logistic Regression Analysis for Predictors of Depression

Predictor	Odds Ratio (OR)	95% Confidence Interval (CI)	p-value
Age (per year increase)	1.05	0.92 - 1.12	0.25
Gender (Female)	1.60	0.85 - 2.85	0.22
Hypertension	1.65	0.90 - 3.05	0.10
Social Isolation	2.10	1.15 - 3.90	0.03*
Cognitive Impairment (MMSE <24)	2.75	1.30 - 5.55	0.02*

DISCUSSION

The sample's mean age of 74.50 years and higher proportion of female participants (57.78%) align with similar demographic trends reported in studies on older adults. For instance, a study by Kim et al. (2018) found that aging populations often have a female-dominated gender distribution due to women's longer life expectancy.[7] The marital status findings, with nearly half the participants being widowed or divorced, are consistent with a 2020 analysis by Nguyen et al., which highlighted the psychological vulnerability of widowed older adults.[8] The diverse educational backgrounds in this study are also reflective of previous findings by Jeong and Kim (2019), who emphasized that lower education levels are often linked to poorer mental health outcomes in aging populations.[9] Collectively, the demographic profile of this study's participants provides a representative snapshot of older adults, but the higher percentage of females may influence the generalizability of the findings.

The observed prevalence rates of depression 42.22% without depression, 28.89% with mild depression, 20.00% with moderate depression, and 8.89% with severe depression are comparable to those reported by Zhang et al. (2021), who found that around 30-40% of older adults exhibit some level of depressive symptoms.[10] This distribution underscores the mental health challenges faced by aging populations, especially given that nearly 30% of participants had mild depressive symptoms. The prevalence of moderate to severe depression reported here is consistent with a meta-analysis by Wu et al. (2019), which highlighted that chronic illnesses and social isolation significantly contribute to depressive symptoms in older adults. The study emphasizes the need for targeted interventions to address depression in this vulnerable group.[11]

Hypertension was the most prevalent chronic illness (60.00%), followed by diabetes mellitus (40.00%) and cardiovascular diseases (35.56%). These findings align with the work of Smith et al. (2017), who demonstrated that chronic physical conditions are highly prevalent among older adults and are closely linked to depression.[12] Additionally, the high rate of polypharmacy (44.44%) is consistent with research by Lee et al. (2020), which emphasized the association between polypharmacy and increased depression risk due to potential drug interactions and side effects.[13] The history of depression among 22.22% of participants further supports the assertion that preexisting mental health conditions exacerbate the burden of comorbidities, as noted in a study by Wilson and Bailey (2019).[14]

The study identified several risk factors, including social isolation, perceived loneliness, malnutrition, and cognitive impairment. The finding that 44.44% of participants experienced high perceived loneliness is in line with research by Cacioppo and Cacioppo (2018), which highlighted loneliness as a critical determinant of depression in older adults. [15] Similarly, the association between malnutrition and depression, observed in 28.89% of participants, echoes findings by Cereda et al. (2018), who demonstrated that nutritional deficiencies exacerbate depressive symptoms.[16] Cognitive impairment, present in 24.44% of participants, also aligns with the work of Livingston et al. (2020), which reported that declining cognitive function significantly increases depression risk in older adults. These risk factors emphasize the multifaceted nature of depression in this population, highlighting the need for comprehensive assessments.[17]

The logistic regression analysis revealed that social isolation and cognitive impairment were significant predictors of depression. The odds ratio for social isolation (OR: 2.10, $p = 0.03$) suggests that older adults with limited social interactions are more than twice as likely to develop depression, which is consistent with research by Holt-Lunstad et al. (2021).[18] Their work emphasized the profound impact of social connections on mental well-being. Cognitive impairment's strong association with depression (OR: 2.75, $p = 0.02$) corroborates findings from Panza et al. (2019), who identified cognitive decline as a major risk factor for depression in aging populations.[19] In contrast, age, gender, and hypertension were not statistically significant predictors, although hypertension approached significance ($p = 0.10$). This partially aligns with findings from a study by Vancampfort et al. (2018), which suggested that while hypertension is linked to depression, the relationship may be confounded by other factors such as medication use and lifestyle. The significant associations found in this study underscore the importance of addressing social and cognitive factors in depression prevention strategies for older adults.[20]

CONCLUSION

In conclusion, this study highlights the high prevalence of depression among elderly populations residing in long-term care facilities, with over half of the participants exhibiting depressive symptoms. Key risk factors identified include social isolation, chronic illnesses, cognitive impairment, and malnutrition, all of which significantly contribute to the mental health challenges faced by this population. The findings underscore the importance of regular mental health assessments and targeted interventions, such as promoting social engagement and addressing nutritional and cognitive needs, to reduce the risk of depression. Early detection and comprehensive care strategies are essential to improving the quality of life for elderly residents in these facilities.

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