ISSN–2230-7346
*Journal of Global Trends in Pharmaceutical Sciences*

# ASSOCIATION OF RISK FACTORS IN GERIATRIC DEPRESSION IN A TERTIARY CARE HOSPITAL: A CROSS-SECTIONAL STUDY

**Rajkiran Kolakota[*1], Tanuja Rupiti[1], Manasa Naidana[1], Susmita Yeleti[1], Anusha Ruttala[1]**

[1]Department of Pharmacy Practice, Vignan Institute of Pharmaceutical Technology, Duvvada, India.

[*]**Corresponding author:** rajkiran.kolakota@gmail.com

**ARTICLE INFO**

**Key Words**
Geriatrics, Geriatric Depression Short Form, living status, social support.

Access this article online
Website: https://www.jgtps.com/
Quick Response Code:

**ABSTRACT**

The aim of the present study was to assess the depression in geriatric patients using Geriatric Depression Short Form scale. A cross-sectional study was carried out on 250 geriatric patients attending different outpatient wards. Geriatric Depression Short Form questionnaire was used to know the depression in the geriatric patients. The Oslo Social Support Scale was used to know the support status for the patients. The Chi-Square test was used to find the association between sociodemographics and depression in the patients. Sixty-percent of the geriatrics was suffering from some form of depression. 28% males and 32% females are suffering from some form of depression. The sleep hygiene was poor (65%). Sixty-six percent of geriatrics lives with their family. However, out of 66%, more than half of the geriatrics is having some form of depression (55.15%). 90% of geriatrics are suffering from different forms of depression with poor social support. There was a significant association between the sleep duration (p=0.014), living status (p=0.002), and social support (p<0.00001) with depression. Providing awareness about better sleep hygiene and ways for better social support would benefit the patients.

## INTRODUCTION

Depression affects the feeling. Thinking, and cognition of a person and we are unaware of it most of the times. [1] The elderly is more vulnerable to depression due to their age, comorbidities, decline in energy so that they cannot do their own activities and has to depend on others, impaired cognition. All these effects contribute to depression. Approximately five million older adults worldwide experience late-onset depression. However, it remains under-recognized and inadequately treated. [1] The prevalence of depression in India was as high as 34.4%. Also, World Health Organization study on Global Aging and Adult Health (2007-2010) documented higher prevalence of depression in Indian elderly Population than other low- and middle- income countries. [2] Geriatric depression is a risk factor of many other diseases and vice versa. Depression has been linked to several cardiovascular diseases, cognitive decline and multiple morbidities among elderly. [3] In fact, depression has been shown as an intermediary in the pathway of most diseases of geriatric age group, which makes it an important risk factor for all chronic health conditions. Women are prone to more depression when compared to men due to physical and mental stress. [4, 5] Patients with depression have more functional impairment and poorer quality of life than patients with other chronic illnesses. [6-8] So, we aimed to study the association of risk

factors with geriatric depression in geriatrics using short form Geriatric Depression Scale.

## MATERIALS AND METHODS

**Study Site, duration and selection criteria**: This prospective observational study was carried out in Visakha Institute of Medical Sciences, a tertiary care hospital for a duration of six months (22-08-2019 to 04-02-2020). Patients attending different outpatient departments with following criteria were included in the study: age above 65 years, both genders. Patients with age below 65 years, with dementia, with hearing impairment, and critically ill patients were excluded from the study.

**Ethical Committee Approval:** The study was approved by the Institutional Ethics Committee (VIPT/IEC/79/2019). A written informed consent was taken from all the participants.

**Sample size estimation and sampling technique**: Simple Random sampling was employed to select patients. The estimated sample size was 249 (with a 5% margin of error, 95% confidence interval, 700 population size, and a 50% response distribution).

**Data collection**: A prestructured profile form which suits our study was designed. It contains provision for collecting patient demographics, history comorbidities, sleep duration, living status, etc. The depression was determined using Geriatric Depression Short Form (GDS-SF) questionnaire. The social support status was determined using Oslo Social Support Scale.

**Study Instruments**: The Geriatric Depression Short Form (GDS-SF) contains 15 items. Each item contains two options Yes or No. A score of 0-5 is normal, whereas, a score greater than 5 indicates depression. Mild depression yields a score between 6-8, moderate between 9-11, and severe depression yields a score between 12-15. The Oslo Social Support Scale contains three questions. A score of 3-8 indicates poor support, 9-11 indicates moderate support, and a score of 12-14 indicates strong support.

**Data analysis**: Quantitative data was summarized using mean and standard deviation, whereas, frequency and percentage was used to summarize qualitative data. Association between socio demographic variables and geriatric depression was calculated using Chi-square test. The level of significance was considered at p-value<0.05. A p<0.01 was considered as statistically highly significant. Jeffrey's Amazing Statistics Program (JASP version 0.12.1) was used for the statistical analysis.

## RESULTS

Table 1 shows the association of sociodemographic variables with the depression status. In our study, sixty-percent of the geriatrics was suffering from some form of depression. 28% males and 32% females are suffering from some form of depression. The sleep hygiene was poor (65%). Sixty-six percent of geriatrics lives with their family. However, out of 66%, more than half of the geriatrics is having some form of depression (55.15%). Majority of them are non-alcoholics (74.8%), non-smokers (72%) and have comorbidities (88%). In our study, 90% of geriatrics is suffering from different forms of depression with poor social support. As shown in Table 2, majority of the geriatrics with depression have GI disorders (69.15%), hypertension (63.64%), and other comorbidities. As shown in Table 3, only 17.6% geriatrics had strong social support. Out of 60% of different forms of depression, nearly 30% are having mild form of depression.

## DISCUSSION

The key results of our study were, we observed a statistically high significant association between geriatric depression and sleep duration (p=0.006), living status (p=0.002), and social support (p<0.00001). Franzen et al [9] concluded that sleep strongly influences both the development and trajectory of depression, impacting episode frequency, severity and duration suggests that sleep-related symptoms may be important and modifiable risk factors to prevent depression and/or achieve and maintain depression remission. Jin et al [10] stated that sleep disturbance is substantially associated with the risk of depression recurrence in older adults and is suggested to be a priority target for clinical intervention to reduce depressive morbidity in older adults with a prior history of depression. Stahl et al [11] observed that living alone was more highly associated with depression when the perceived social quality of the neighbourhood was low and those who

lived alone and were single or divorced reported higher levels of depression than who lived with a family member. This finding is

**Table 1: Association between sociodemographic characteristics and depression status**

| Characteristics | Normal | Mild Depression | Moderate Depression | Severe Depression | p-value |
|---|---|---|---|---|---|
| Gender | | | | | 0.193 |
| Male | 56 | 39 | 21 | 11 | |
| Female | 42 | 35 | 29 | 17 | |
| Sleep duration | | | | | 0.006* |
| < 6 hours | 76 | 45 | 26 | 16 | |
| 6 – 8 hours | 6 | 5 | 2 | 4 | |
| ≥ 9 hours | 14 | 26 | 20 | 10 | |
| Occupation | | | | | 0.522 |
| Retired | 29 | 24 | 14 | 8 | |
| Housewife | 41 | 33 | 25 | 17 | |
| Others | 28 | 17 | 11 | 3 | |
| Living status | | | | | 0.002* |
| With family | 74 | 50 | 30 | 11 | |
| With spouse | 21 | 19 | 10 | 9 | |
| Others | 3 | 5 | 10 | 8 | |
| Alcohol | | | | | 0.718 |
| Alcoholic | 22 | 20 | 15 | 6 | |
| Non alcoholic | 76 | 54 | 35 | 22 | |
| Smoking | | | | | 0.864 |
| Smokers | 28 | 19 | 16 | 7 | |
| Non – smokers | 70 | 55 | 34 | 21 | |
| Chronic diseases | | | | | 0.320 |
| Present | 83 | 64 | 47 | 26 | |
| Absent | 15 | 10 | 3 | 2 | |
| Social support | | | | | < 0.00001** |
| Poor support | 13 | 37 | 28 | 25 | |
| Moderate support | 53 | 27 | 20 | 3 | |
| Strong support | 32 | 10 | 2 | 0 | |

P* value < 0.05 = Statistically Significant; ** p<0.01

**Table 2: Distribution of depression status according to comorbidities**

| S.NO | Comorbidities | With Depression | Without Depression |
|---|---|---|---|
| 1. | ***Diabetes*** | | |
| | *Present* | 62 (60.19%) | 41 (39.81%) |
| | *Absent* | 90 (61.22%) | 57 (38.77%) |
| 2. | Hypertension | | |
| | *Present* | 112 (63.64%) | 64 (36.36%) |
| | *Absent* | 40 (54.05%) | 34 (45.94%) |
| 3. | Thyroid | | |
| | *Present* | 10 (76.93%) | 3 (23.07%) |
| | *Absent* | 142 (59.91%) | 95 (40.09%) |
| | GI disorders | | |
| 4. | *Present* | 56 (69.15%) | 25 (30.85%) |
| | *Absent* | 96 (56.81%) | 73 (43.19%) |

| | | | |
|---|---|---|---|
| 5. | Others | | |
| | *Present* | 55 (60.44%) | 36 (39.56%) |
| | *Absent* | 97 (61.01%) | 62 (38.99%) |

**Table 3: Distribution of depression and social support in geriatrics**

| Category | Frequency (%) | Mean ± SD |
|---|---|---|
| | Depression Status | |
| *Normal* | 98 (39.2%) | 3.27±1.53 |
| Mild | 74 (29.6%) | 7.03±0.87 |
| Moderate | 50 (20%) | 9.90 ±0.68 |
| Severe | 28 (11.2%) | 12.92±1.05 |
| | Social Support Status | |
| Strong Support | 44 (17.6%) | 12.89±0.95 |
| Moderate Support | 103 (41.2%) | 10.07±0.76 |
| Poor Support | 103 (41.2%) | 6.27±1.44 |

Consistent with studies showing that marital status is an important correlation of depression. In contrary, Karakaya et al [12] stated that most of the elderly living at home (88%) were living with their relatives, and they had fewer depressive symptoms than their nursing home resident counterparts, home-dwelling elderly people were either living with a spouse or relatives, and were less depressed than the nursing home residents. Bisschop et al [13] concluded that psychological and social support resources have a direct favorable effect on depressive symptoms. Wang et al [14] observed that elderly patients with major depression had worse family functioning and lower social support than non-depressed elderly people and there were correlations between depression and family functioning as well as social support. Problem Solving, Roles and Affective Involvement dimensions of family functioning, social support from friends and marital status were significant predictors of depression in elderly patients. Golden et al [15] found that social isolation, whether subjective (loneliness), or objective (non-integrated social network) accounted for 70% of the prevalence of depressed mood in the elderly patients. Chronic medical illness was found to increase the risk of depression. [16, 17] Co-morbidities along with depression increases physical disability, poor compliance and increased health care utilization leading to poor quality-of-life and further complicating the treatment of depression. Majority of depressed subjects were suffering from hypertension and diabetes mellitus. [18] When a person is physically inactive, along with the physical problems related to physical inactivity like chronic diseases, negative emotional effects can also develop. Poor physical health may affect a person's independence, change the way he lives, perceives himself and relates to others. Hence, he may find it difficult to cope with his illness which may lead to depression. [19] The World Health Organization has listed adverse life events including separation, divorce, social isolation, and lack of adequate social support as risk factors for depression among elderly. [20] Depression among elders living alone/single is explainable by their solitude and lack of companionship. This has been shown to reduce social interactions and therefore resulting in depression. [21]

## CONCLUSION

We observed that Sleep duration, living status, and social support were significantly associated with depression in geriatrics. Awareness on the Sleep hygiene along with ways of providing social support from different sources would benefit the geriatric patients. The family should offer needed support for the geriatrics to feel secured which comforts the elderly.

**Conflict Of Interest:** The authors declare no conflict of interest.

## REFERENCES

1. Viscogliosi G, Andreozzi P, Chiriac IM , et al. Depressive symptoms in older people with metabolic syndrome: is there a relationship with

inflammation? Int J Geriatr Psychiatr. 2013;28(3):242–247.
2. Anand A. Understanding depression among older adults in six low- middle income countries using WHO-SAGE survey. Behav Heal [Internet]. 2015;1(2): 1–11.
3. Satapathy R, Kar N, Das I, Kar GC, Pati T. A study of major physical disorders among the elderly depressives. Indian J Psychiatry. 1997;39: 278–281.
4. Kiecolt-Glaser JK, Glaser R. Depression and immune function Central pathways to morbidity and mortality. J Psychosom Res. 2002;53: 873–876.
5. Fiske A, Wetherell JL, Gatz M. Depression in older adults. Annu Rev Clin Psychol. 2009;5: 363–389.
6. Wells KB, Stewart A, Hays RD, et al. The functioning and well-being of depressed patients: results from the Medical Outcomes Study. JAMA. 1989;262:914–919.
7. Hays RD, Wells KB, Sherbourne CD, Rogers W, Spritzer K. Functioning and well-being outcomes of patients with depression compared with chronic general medical illnesses. Arch Gen Psychiatry. 1995;52:11–19.
8. Wells KB, Sherbourne CD. Functioning and utility for current health of patients with depression or chronic medical conditions in managed primary care practices. Arch Gen Psychiatry. 1999;56:897–904.
9. Franzen P, Buysse D. Sleep disturbances and depression: risk relationships for subsequent depression and therapeutic implications. Dialogues Clin Neurosci. 2008;10(4):473-481.
10. Cho. Sleep Disturbance and Depression Recurrence in Community-Dwelling Older Adults: A Prospective Study. American Journal of Psychiatry. 2008;165(12):1543-1550.
11. Stahl S, Beach S, Musa D, Schulz R. Living alone and depression: the modifying role of the perceived neighborhood environment. Aging & Mental Health. 2016;21(10):1065-1071.
12. Karakaya M, Bilgin S, Ekici G, Köse N, Otman A. Functional Mobility, Depressive Symptoms, Level of Independence, and Quality of Life of the Elderly Living at Home and in the Nursing Home. Journal of the American Medical Directors Association. 2009;10(9):662-666.
13. Bisschop M, Chronic diseases and depression: the modifying role of psychosocial resources. Social Science & Medicine. 2004;59(4):721-733.
14. Wang J, Zhao X. Family functioning and social support for older patients with depression in an urban area of Shanghai, China. Archives of Gerontology and Geriatrics. 2012;55(3):574-579.
15. Golden J, Conroy R, Bruce I, Denihan A, Greene E, Kirby M et al. Loneliness, social support networks, mood and wellbeing in community-dwelling elderly. International Journal of Geriatric Psychiatry. 2009;24(7):694-700.
16. Behera P, Sharan P, Mishra A, Nongkynrih B, Kant S, Gupta S. Prevalence and determinants of depression among elderly persons in a rural community from northern India. The National Medical Journal of India. 2016;29(3):129 - 135.
17. Gupta M, Lehl SS, Boparoy NS, Katyal R, Sachdev A. A study of prevalence of depression in older people with medical disorders. J Indian Acad Geriatrics. 2010; 6**:**18–22.
18. Jahnavi R, Lakshmi P, Jayanthi S, Gangaboraiah B, Sanjay T. Prevalence and factors influencing depression among elderly living in the urban poor locality of Bengaluru city. International Journal of Health & Allied Sciences. 2014;3(2):105.
19. Pracheth R, Geriatric Depression Scale: A tool to assess depression in elderly. International Journal of Medical Science and Public Health. 2013;2(1):31- 35

20. World Health Organization (2001) The World Health Report. Mental Health. New Understanding. New Hope. Geneva WHO.
21. Reddy Konda P. Geriatric Depression and its Correlates among South Indian Urbans. Journal of Depression and Anxiety. 2018; 07(04):314.