

Original Research Article

Prevalence of depression among the elderly in urban area of Perambalur district

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ABSTRACT

Background: Depression at any age needs attention. Geriatric population being most vulnerable, are more prone to many morbidities, physically and mentally. Geriatric depression is one among them which needs prompt attention. The objectives of the present study were to estimate the prevalence of geriatric depression and association of depression with various sociodemographic factors.

Methods: A cross sectional study carried out among 300 geriatric subjects. A structured interview schedule was used to collect data.

Results: The prevalence of depression was found to be 44.4%. Female gender, marital status, family type was found to be positively associated with depression.

Conclusions: Geriatric depression in our study is found to be on little higher side. Lifestyle modifications and support from family members are needed to improve the quality of life of these people.

Keywords: Geriatric depression, Prevalence, Sociodemographic factors

INTRODUCTION

Ageing is a process which is inevitable. In words of Marcus Tullius “Old age: The crown of life, our play’s last act”, it marks an important phase of life. The United Nations cutoff for classifying a person as old (or) elderly is more than 60 years. Further classification like oldest old (refers to eighty to hundred years), centenarian (more than hundred) and even super centenarian (more than one hundred and ten) is also made.¹ In India, according to National policy on older persons 2011, senior citizens are those who are aged sixty and above.^{2,3} WHO report says that between 2015 and 2050, the proportion of the world’s population over 60 years will form one fourth of the population. In 2050, eighty percent of elderly people

will be living in low- and middle-income countries.⁴ In recent times, there has been an increase in the life expectancy and resulting increase in the elderly population. Mortality and morbidity of the elderly population is decreasing due to development in health services and many national programs are intended at improving the quality of life of elderly persons

Though the endurance of life help elderly cherish memories, physical and mental changes in health over years burden them. Depression is one of the most common psychological disturbance occurring in the elderly. Feeling of isolation and helplessness make them to feel depressed. This happens at time of retirement or during the death of their loved one. Components of geriatric triad (loneliness, illness and poverty), conflicts

with family members, changes in the traditional lifestyle patterns aggravate depression. Further the preference of the nuclear family over joint family in the community makes them easy victims of depression. Depression remains a “silent killer” and cause morbidity and mortality in the elderly.

As an impact of urbanization and changing lifestyle patterns, depression is more common in urban areas. Due to urbanization, as younger generation from rural areas are forced to move towards the urban area for living, they leave the old parents behindhand to look after themselves, which makes them isolated. Further presence of adverse environmental factors such as overcrowding, pollution, abuse and reduction of social support makes them more prone to depression.¹⁹

Global prevalence of depression is found to be 4.4%. It has been estimated that in 2015, 300 million people are affected by depression. South East Asian region comprise about one fourth of the cases. Depressive disorder contributes to 7.5% of all years lost to disability).⁴ Mental and behavioral disorders account for 12% of the global burden of disease.⁵

Objectives

The objectives of the present study were to estimate the prevalence of depression among the elderly in urban area of Perambalur district, Tamil Nadu and to study the association of depression with other sociodemographic factors.

METHODS

This is a community based cross-sectional study done in the urban field practicing area of Dhanalakshmi Srinivasan Medical College, Perambalur. The study period was from June to July 2019. All men and women aged above 60 years were taken for the study. Persons with communication difficulties and terminally ill patients were excluded from the study. Informed consent was obtained from all the participants. Prevalence of depression in the elderly was considered to be 7%.⁶ With the allowable error 10% of the prevalence, within 95% confidence limits, the calculated sample size is 250. The estimated population of elderly in our urban field practicing area was 1000. With the calculated sample size, the power of the study was 66.9%. Then the individuals were selected by systematic sampling.

Data was collected using a semi-structured questionnaire. The survey questionnaire was completed by face-to-face interviews. Sociodemographic details of the individuals such as name, age, sex, occupation, socioeconomic class, marital status and type of family were collected. Comorbidities were self-reported by the participants when they were interviewed regarding their current health status and history of medication. The age group was divided into three, 60-69 years, 70-79 years and ≥ 80

years. The occupation of the participants was classified as employed and unemployed. Participants who were found to have depression at the end of the study has been advised to seek treatment at Dhanalakshmi Srinivasan Medical College and hospital, Perambalur.

Study tool

The 15-item geriatric depression scale (GDS-15) was used to assess depressive symptoms. The instrument focuses on psychological symptoms: 10 questions indicated the presence of depression when answered positively while the rest 5 questions indicated depression when answered negatively. The GDS-15 questions were read out to the study participants and they were asked how they felt over the past week using a yes and no response format. The screening tool has a sensitivity of 92% and a specificity of 89%. Score of 0-4 is considered normal, 6-9 is suggestive of depression and needs comprehensive assessment, 10-15 is indicative of depression. Data was collected in local language and data was analyzed using IBM SPSS version 21.0. Descriptive analysis included mean, median, frequencies, interquartile range. Inferential statistics was used to find association. A p value of <0.05 is considered statistically significant.

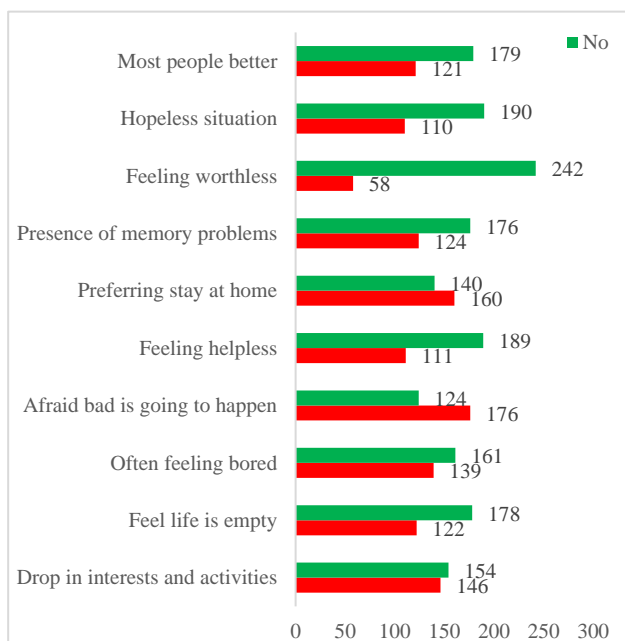
RESULTS

Total of 300 subjects was interviewed. Prevalence of depression was found to be 44.4%. Mean age group of the population was 69.4 years. Majority of the elderly population was in class IV (according to modified B.G. Prasad socioeconomic class classification). Majority of the study population was in the age group 60-69 years (82%). There was an equal proportion of male and female. 70% of the families of the study participants was found to be nuclear. 57.7% of the study population was employed. Marital status of the participants was interviewed. All of the participants were married and 66.7% of the study subjects reported that their partner was alive. Out of the 300 participants interviewed, 133 (44.4%) had depression. Frequency of morbidities (diabetes, hypertension, absence of morbidities) is listed. The socio demographic details of the study population were explained in Table 1.

Subjects were interviewed using GDS-15. 10 questions indicated depression when answered positively. 5 questions indicated depression when answered negatively. Majority of the responses were for the question when they were asked that whether they are afraid that something bad is happening to them ($n=176$). Among the questions indicating depression when answered negatively, majority of the responses were for the question when they were asked whether they are feeling wonderful to be alive ($n=174$). The responses for various questions are summarized in the following Figure 1 and 2.

Table 1: Demographic characteristics of the population (n=250).

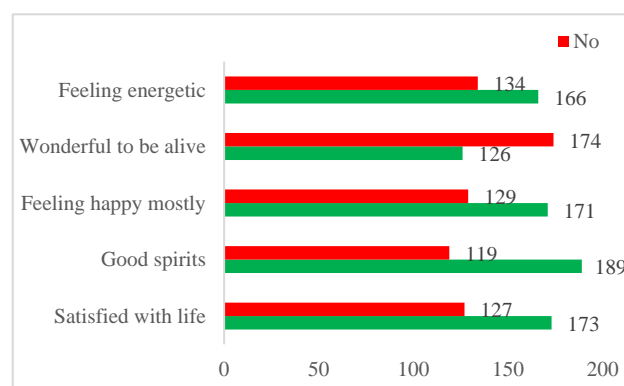
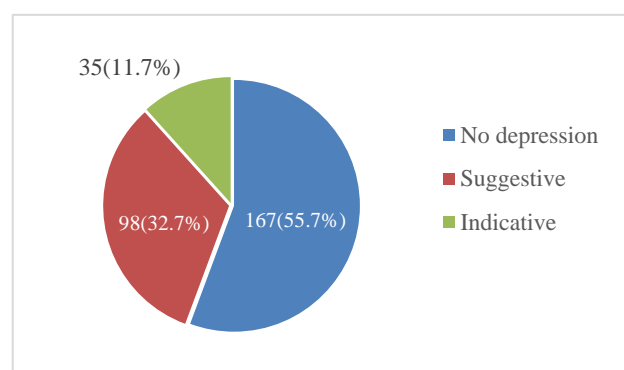
Characteristic	Variables	Number (N)	Frequency (%)
Age (in years)	60-69	246	82
	70-79	39	13
	≥80	15	5
Gender	Male	153	51
	Female	147	49
Marital status	Partner alive	200	66.7
	Partner dead	100	33.3
Employment status	Employed	173	57.7
	Unemployed	127	42.3
Family type	Joint family	90	30
	Nuclear family	210	70
Total members in family	1-3	148	48
	4-6	135	44
	7-8	17	5.7
Co morbidities	Diabetes only	146	48.6
	Hypertension	106	35.2
	Nil morbidities	95	31.6

**Figure 1: GDS-15 questions indicating depression when answered positively (n=250).**

In the study population, majority of them (167, 55.6%) were having no depression, suggestive in (98, 32.7%) and indicative in (35, 11.7%) according to GDS-15. The results of the depression were represented in the Table 2 and visualized using Figure 3.

Table 2: Levels of depression (n=250).

Depression	N	%
No depression	167	55.6
Suggestive	98	32.7
Indicative	35	11.7

**Figure 2: GDS-15-questions indicating depression when answered negatively (n=250).****Figure 3: Levels of depression (n=250).**

Associations were analyzed between various characteristics and presence of depression using Chi-square test. A p value of <0.05 is considered significant. Significant association was not found between age group and employment status. There was significant association

between marital status, gender (females more depressed than males) and type of family. Age, employment status and socioeconomic status is not found to be significantly

associated with depression. The associations of these variables was represented in the Table 3.

Table 3: Association of sociodemographic factors with depression (n=250).

Characteristic	Variable	Depression			P value
		No depression (0-5)	Suggestive (6-9)	Indicative (10-15)	
		N (%)	N (%)	N (%)	
Age group (in years)	60-69	138 (56.6)	82 (33.6)	24 (9.8)	Not significant (p value=0.1)
	70-79	18 (46.2)	14 (35.9)	7 (17.9)	
	≥80	8 (57.1)	2 (14.3)	4 (28.6)	
Gender	Female	70 (46.6)	53 (36.8)	24 (16.7)	0.02*
	Male	97 (62.7)	45 (30)	11 (7.3)	
Marital status	Partner alive	127 (62.4)	62 (32.0)	11 (5.7)	0.00*
	Partner dead	40 (40)	36 (36)	24 (24)	
Family type	Joint	46 (51.1)	23 (25.6)	21 (23.3)	0.00*
	Nuclear	121 (57.6)	75 (35.7)	14 (6.7)	
Employment status	Employed	106 (61.3)	49 (28.3)	18 (10.4)	0.07 (not significant)
	Unemployed	61 (48)	49 (38.6)	17 (13.4)	

*: Significant p value<0.05 (chi-square test used).

DISCUSSION

Geriatric depression is a noteworthy problem and is on the rise. In this study, we have found out that the prevalence of depression as 44.2%. Sociodemographic factors other than age and employment status was found to be significantly associated with depression. But in studies by Mamatha et al and others, they observed that with increasing age, factors such as illiteracy and loneliness is found to be on increase and they are found to be associated with depression.^{7,9,10,13,17} This may be due to the fact that as age progresses, morbidities tend to occur more and more in the elderly makes them dependent on others, which in turn contributes to psychological depression. In our study, association was found between gender and depression. Study by Thirtalli et al and a meta-analysis showed that female sex was associated with depression.^{14,15} This circumstance is due to that, males more influenced by external risk factors for morbidity and mortality (accidents, smoking, alcohol, occupational exposure) tend to die soon and widowed women experience more loneliness. But studies by Anku et al revealed that there was no association of gender with depression. In our study, prevalence of depression was found to be 44.2%. This prevalence coincides with Jain et al which showed that 45.9% of elderly had depression. In addition to the other socio demographic factors, the study showed the association of depression with sleep deprivation and substance abuse.⁸ A study by Pracheth showed the prevalence of depression in the urban areas to be 27.71%.⁹ Sufferers of chronic diseases showed high levels of depression.

Comparative studies done on psychological illnesses such as depression, anxiety and stress, it was reported that 93.9% of geriatric population suffered from depression, anxiety and stress.¹⁰ Screening for geriatric depression by

Raul et al showed the prevalence of 21.2%.¹¹ Association of disability to depression was observed by a study from Netherlands.¹² In a study done by Saikia et al prevalence of depression was found to be 17.25% and depression was found to be associated with physical and financial status.¹³ A study by Thirtalli et al estimated the overall prevalence of depression to be 37.8% (95% CI: 33.43-42.16).¹⁴ Multivariate analysis revealed independent risk factors for depression. These risk factors are idleness, illness, female gender and conflicts in family.

Meta-analysis analyzing fifty-one studies from 16 states of India among the elderly population found 34.4% of the Indian elderly population had depression. High prevalence was shown by studies using non probability sampling, GDS and CES-D screening tool.¹⁵

Variations in prevalence may be due to the usage of different scales for assessing depression such as Major Depression Inventory Scale Depression Anxiety and stress scale, predesigned questionnaire including WHO 5 well-being index and mastering depression in primary care version 2.2, WHO disability assessment schedule, Centre for epidemiologic studies depression scale.^{7,10,11,12,14}

CONCLUSION

The prevalence of depression in our study is found to be high. The associated factors with depression are gender, family type, marital status, employment status. Depression has to be managed and treated as early as possible since it co-exist with other serious medical illnesses.

Recommendations

Geriatric population being the most vulnerable population should be screened for psychiatric disorders. Implementation of screening programmes in the current national programmes of non-communicable diseases will be helpful. Recreational homes can be developed for the old age where they can involve in some recreational activities in the daytime. Treatment modalities include talk therapy, cognitive behavioral therapy and medications help in treating depression.

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REFERENCES

- World Health Organization, Elderly population. Available at: http://www.searo.who.int/entity/health_situation_trends/data/chi/elderly-population/en/. Accessed on 1 August 2019.
- National policy on Senior citizens 2011.pdf. Available at: <http://socialjustice.nic.in/writereaddata/UploadFile/dnpsc.pdf>. Accessed on 1 August 2019.
- UNFPA India. The Status of Elderly in Tamil Nadu, 2011. Available at: <https://india.unfpa.org/en/publications/status-elderly-tamil-nadu-2011>. Accessed on 1 August 2019.
- Mental health of older adults. Available at: <https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults>. Accessed on 1 August 2019.
- Elderly depression in India: an emerging public health challenge. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3626025/>. Accessed on 1 August 2019.
- Murthy RS. National Mental Health Survey of India 2015-2016. Indian J Psychiatr. 2017;59(1):21-6.
- Rathod MS, Dixit JV, Goel AD, Yadav V. Prevalence of depression in an urban geriatric population in Marathwada region of Western India. Indian J Psychol Med. 2019;41(1):32-7.
- Jain RK, Aras RY. Depression in geriatric population in urban slums of Mumbai. Indian J Public Health. 2007;51(2):112-3.
- Goswami S, Deshmukh PR, Pawar R, Raut AV, Bhagat M, Mehendale AM. Urban-rural comparison of depression among the elderly population: a cross-sectional study. Int J Med Sci Public Health. 2016;5(5):866.
- Katyal R, Joshi HS, Agarwal S, Singh H, Tanwar H. Comparative Study of Psychological Morbidities in Geriatric Population of Rural and Urban Dwellers of Bareilly, Uttar Pradesh. Nat J Community Med. 2018;9(12):4.
- Raul A, Sagare SM. 2608- Screening for depression in elderly urban population. Europ Psychiatr. 2013;28:1.
- Depression, disability and somatic diseases among elderly. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/24992026>. Accessed on 1 August 2019.
- Saikia DAM, Mahanta DN, Saikia AM, Deka DH, Boruah DB, Mahanta R. Depression in elderly: a community-based study from Assam. Indian J Basic App Med Res. 2016;5(4):42-8.
- Thirthahalli C, Suryanarayana SP, Sukumar GM, Bharath S, Rao GN, Murthy NS. Proportion and Factors Associated with Depressive Symptoms among Elderly in an Urban Slum in Bangalore. J Urban Health. 2014;91(6):1065-75.
- Pilania M, Yadav V, Bairwa M, Behera P, Gupta SD, Khurana H, et al. Prevalence of depression among the elderly (60 years and above) population in India, 1997-2016: a systematic review and meta-analysis. BMC Public Health. 2019;19:832.
- Yadav SP, Doibale MK, Aswar NR, Inamdar IF, Sonkar VK, Gadekar RD. Assessment of Socio-demographic correlates of depression among the elderly in an urban area in Maharashtra. J Evol Med Dent Sci. 2013;2(51):9895-900.
- Arumugam B, Nagalingam S, Nivetha R. Geriatric depression among rural and urban slum community in Chennai- a cross sectional study. J Evol Med Dent Sci. 2013;2(7):795-800.
- Conradsson M, Rosendahl E, Littbrand H, Gustafson Y, Olofsson B, Lövhelm H. Usefulness of the Geriatric Depression Scale 15-item version among very old people with and without cognitive impairment. Aging Ment Health. 2013;17(5):638-45.
- Srivastava K. Urbanization and mental health. Ind Psychiatry J. 2009;18(2):75-6.

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