

## Original Research Article

# Prevalence and factors associated to depression among geriatric population in a rural area of Kanyakumari district Tamil Nadu

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**Received:** 06 December 2018

**Accepted:** 10 January 2019

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### ABSTRACT

**Background:** Aging is a universal process. It has been documented that elderly are more prone to psychological problems and depression is the commonest geriatric psychiatric disorder. In India the prevalence of depression among elderly population between 13% and 25%. Depression usually becomes unnoticed and untreated in the elderly. Depression in late life is associated with significant morbidity including deficits in a range of cognitive functions, functional impairment, decreased quality of life, increased rate of suicide. The objectives of this study was to find out the prevalence of depression and its risk factors in geriatric population.

**Methods:** This cross-sectional study was conducted from March 2017 to August 2017 among 75 elderly people who were attending the rural health centre Marappadi were included for the study. Depression was assessed by Geriatric Depression Scale (GDS).

**Results:** The mean age of the participants were 72.63. Majority of them were females (56%). Most of them had middle school education (48 %) and 77.3% belong to joint family. The overall prevalence of depression in the study population was 76%. 30.7% of the elderly had severe depression and 16% are having moderate depression. There is significant association between depression with female sex, primary education, marital status, lower socio-economic status and presence of chronic illness.

**Conclusions:** This study indicates high prevalence of depression in elderly population. Female sex, unemployment, marital status as married and joint family are the risk factors of depression in geriatric population.

**Keywords:** Elderly, Depression, Risk factors, Prevalence

### INTRODUCTION

Ageing is a universal problem. Old age is an incurable disease quoted by the word of Seneca.<sup>1</sup> According to WHO in 2025 number of people aged 65 years or older will rise up to 800 million i.e; 10% of the total population.<sup>2</sup> In India there are 72 million people aged above 60 years are living and it is expected to rise in 179 million in 2031. Mental health is very well important in older age.<sup>1</sup> Depression is a common mental disorder among elderly mostly it is untreated and unrecognized almost. Depression increases the morbidity, mortality and

impacts the quality of life of the elderly.<sup>1</sup> Geriatric depression is yet to be recognized as a public health problem. According to the global DALY in 2020 the mental disorders will increase up to 15% of the global disease burden and depression will be second leading cause of disease burden next to Ischemic heart disease.<sup>4</sup> There are studies showing depression with various demographic factors such as education, income, marital status and gender.<sup>1</sup> Urbanization has influenced the cultural and social life of the people in rural area where the elderly are ignored such that their physical and mental health is affected which lead to depression.<sup>5</sup> The

objectives of this study were to find out the prevalence of depression and its risk factors in geriatric population.

## METHODS

This cross sectional study was carried out from March 2017 to August 2017 at rural health centre of Sree Mookambika Institute of Medical Sciences situated in Marappadi, kanyakumari district Tamilnadu. The sample size was obtained by using the formula  $4pq/d^2$ . According to a previous study done by S. Suganathan<sup>5</sup> in rural population of Tamilnadu in which the overall prevalence of depression among elderly was 70.4, the prevalence  $p$  was taken to be 70.4%  $q = 100-p = 29.6\%$ , with 15% relative precision the sample size was estimated to be 75. Convenient sampling technique was used for the selection of samples. The patients attending the out-patient clinic, who met the inclusion criteria evaluated. The inclusion criteria for the study were (i) people who are greater than 65 years (ii) those who are residents for 1 year. The exclusion criteria were (i) those who are not giving consent (ii) those who are suffering from memory loss. Self administered questionnaire was used for collecting the information. Questionnaire was divided into two parts. First part consists of socio-demographic information and second part consists of scale for measuring depression. Socio-demographic information was collected on age, sex, education, type of family, marital status and socio economic status. The modified BG Prasad scale was used to classify socioeconomic status.

**Measurement of depression:** Depression was evaluated using Geriatric Depression Scale (GDS). Geriatric Depression Scale (GDS), is a 15 item self-report assessment used as a basic screening measure of depression in the elderly. Total score ranged from 0 to 15 and depending upon the total score, severity of depression was classified as follows: none (0-4), mild (5-8), moderate (9-11) and severe (12-15).

**Statistical analysis:** Depending on the variable distribution, results were expressed as numbers, percentages, and mean  $\pm$  SD. Data was analyzed using SPSS software trial version 20.0. Prevalence of depression was determined by calculating the percentage of patients with severity symptoms on GDS. Univariate analysis was done to find the association of depression with various demographic factors using the Chi-square test and Fisher's Exact test.  $p < 0.05$  was considered to be statistically significant.

## RESULTS

**Socio demographic characteristics:** A total of 75 elderly people were included in the study with the mean age of  $72.63 \pm 5.183$  with the range of 65 to 84 years. 42 (56%) were females and 33 (44%) were males. Majority of them fall under the age group of 65–69 years i.e. 29 (38.7%)

followed by 21 (28%) were of 75-79 years. Almost half of the study participants have middle school education (48%) and 4 (5.3%) were illiterate. 77.3% were from joint family and 12% from nuclear family and 10.7% were from extended family. 47 (62.7%) were married remaining 12(29.3%) were either unmarried or widowed. Considering their socio economic status, majority of them were included in class IV (44%) followed by class V (37.3%) and class III (18.7%) (Table 1). 32% (24) have diabetes, 22.7% (17) have hypertension and 18.7% (14) have both diabetes and hypertension (Figure 1).

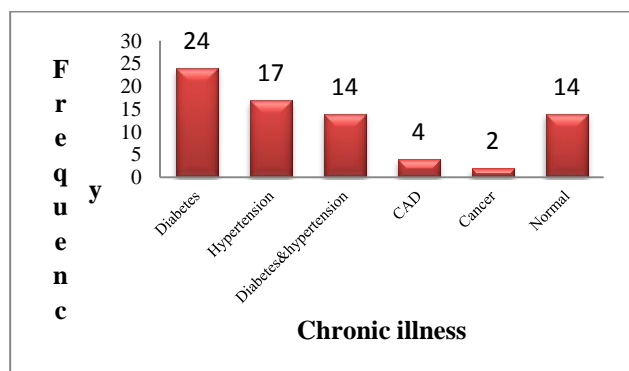
**Table 1: Socio-demographic characteristics of study population.**

Characteristics	Frequency	Percentage
<b>Gender</b>		
Male	33	44
Female	42	56
<b>Age group (in years)</b>		
65-69	29	38.7
70-74	18	24
75-79	21	28
80-84	7	9.3
<b>Education</b>		
Illiterate	4	5.3
Primary	19	25.3
Middle school	36	48
High school	16	21.3
<b>Type of family</b>		
Joint	58	77.3
Nuclear	9	12
Extended	8	10.7
<b>Marital status</b>		
Married	47	62.7
Unmarried	3	4
widowed	19	25.3
Divorced/ Separated	6	8
<b>Socio economic status</b>		
Class III	14	18.7
Class IV	33	44
Class V	28	37.3

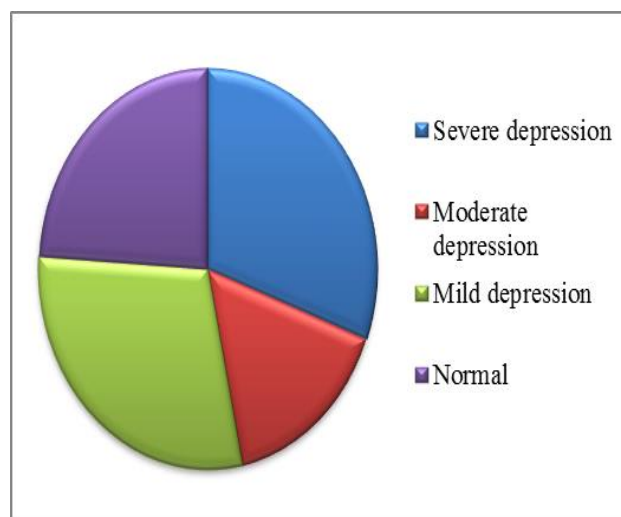
**Prevalence of depression:** In this study, based on Geriatric Depression Scale (GDS), the overall prevalence of depression in the study population was 76% (57), of which 23 (30.7%) people have severe depression. A total of 12 (16%) patients have moderate depression, followed by 22 (29.3%) having mild depression and 18 (24%) having no depression (Figure 2).

**Determinants of depression:** The present study found that depression was more common in females (85.7%) as compared to males (63.6%). Depression among 65-69 years age group people was more (89.7%) than remaining age groups. Depression was more in those who have primary school education (89.5). Unmarried/ widowed/

divorced/ separated people with depression were more (92.9%) than married people with depression. Depression was also more common in individuals who belonged to class V Socio-Economic status (89.3%) and those who were suffering from some chronic illness (83.6%). All the associations were found to be statistically significant ( $p < 0.05$ ) (Table 2).



**Figure 1: Distribution of chronic illness in the study population.**



**Figure 2: Prevalence of depression in the elderly population.**

**Table 2: Association between depression and the socio demographic factors.**

Variables	Depression present N (%)	Depression absent N (%)	P value
<b>Gender</b>			
Male	21 (63.6)	12 (36.4)	0.026*
Female	36 (85.7)	6 (14.3)	
<b>Age group (in years)</b>			
65-69	26 (89.7)	3 (10.3)	0.019*
70-74	15 (83.3)	3 (16.7)	
75-79	13 (61.9)	8 (38.1)	
80-84	3 (42.9)	4 (57.1)	
<b>Education</b>			
Illiterate	3 (75)	1 (25)	0.001**
Primary	17 (89.5)	2 (10.5)	
Middle school	31 (86.1)	5 (13.9)	
High school	6 (37.5)	10 (62.5)	
<b>Type of family</b>			
Joint	43 (74.1)	15 (25.9)	0.627
Nuclear	8 (88.9)	1 (11.1)	
Extended	6 (75)	2 (25)	
<b>Marital status</b>			
Married	31 (66)	16 (34)	0.008**
Unmarried/ Widowed/ Divorced/ Separated	26 (92.9)	2 (7.1)	
<b>Socio economic status</b>			
Class III	5 (35.7)	9 (64.3)	0.000***
Class IV	27 (81.8)	6 (18.2)	
Class V	25 (89.3)	3 (10.7)	
<b>Chronic illness</b>			
Yes	51 (83.6)	10 (16.4)	0.003**
No	6 (42.9)	8 (57.1)	

## DISCUSSION

In the current study, the overall prevalence of depression among the elderly was found to be 76% which was similar to the findings of a study done by Suganathan and Thilak et al.<sup>5,6</sup> In this study elderly females with depression were more compared to males, similar to the results in a study in Vadodara and Chittoor.<sup>7,3</sup> In rural areas, females are not getting much importance than males and studies prove that they are much more neglected in their old age which can lead to increased depression in elderly females. Our study also shows that depression was more common among 65-69 years of age, this result was similar to the study conducted in a rural population of Tamilnadu.<sup>5</sup> It was also found that there was a significant association between depression and education, depression was found to be more common among the people who have primary education which was similar to a study done by Manissha et al.<sup>8</sup> Present study showed that depression was more among the people who were living in nuclear family which was similar to the results of a study done by Paramita et al.<sup>9</sup> It is due to the loneliness they are facing which causes a bad effect on their mental health. Our study revealed that depression was more common among those who were unmarried/widowed/divorced/separated in comparison to those who were married, this result was similar to the study conducted by Sharvanan et al and Thilak et al.<sup>3,6</sup> As the age advances emotional support from the partner is essential and the death of the spouse can act as a risk factor for increased depression. A significant association was also noted between Socio-economic status and depression, it was found that depression was more common in the people belonging to lower socio-economic status (Class IV and V), (81.8% and 89.3%) this was similar to a study done in an urban slum of Davangere city and Chittoor.<sup>1,3</sup> Those who belong to lower socio economic status had less access to basic amenities which can cause increased mental stress. In the present study showed that depression was more common in those who were suffering from a chronic illness, it was similar to a study done by Ruchi et al.<sup>1</sup>

The limitation of the present study were, as the study subjects are from rural center under the department it will not reflect the whole population of the district.

## CONCLUSION

The high prevalence of depression observed among the studied population requires attention. In our study the participants are mainly female. Depressive symptoms were more predominant in females. Female gender, increased age, lower education, marital status, poor socio economic status and the history of chronic illness are significant risk factors for depression in geriatric population. Our study concludes that major portion of geriatric population is suffering from depression. Expertise health services such as recognition of the problem, screening, treatment and monitoring is essential

in order to maintain the good mental health of the geriatric population.

## ACKNOWLEDGEMENTS

We express our gratitude towards the college management for providing us the opportunity to conduct the study. We thank all the faculty of the Department of Community Medicine

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

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**Cite this article as:** John J, Nath KR. Prevalence and factors associated to depression among geriatric population in a rural area of Kanyakumari district Tamil Nadu. *Int J Community Med Public Health* 2019;6:804-7.