

Original Research

## Prevalence of depression in the elderly population of Surendranagar city

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### ABSTRACT:

**Introduction:** Depression is defined as an extended period of time (at least two weeks) in which a person experiences a depressed mood or loss of interest or pleasure in activities those were once enjoyed. Current study was carried out the data of which can be used as baseline to study the future trends in this field. **Objectives:** To estimate the Prevalence of Depression in Geriatric Population and to classify the severity of Depression in elders. **Methodology:** A cross sectional study was carried out with an approval from Ethical committee of C. U. Shah Medical College, Surendranagar. We included 390 elderly persons of age group 60 years and above as our study participants. **Results:** In current study, mean age of participants was  $65.54 \pm 5.08$ . Prevalence of geriatric depression was found to be 28% in current study. In our study education had significant association with depression with p value of 0.03(AOR: 0.55, CI: 0.33-0.92). **Conclusion:** In current study, prevalence of geriatric depression was found to be higher. So, there is a need to create awareness among the community about this mental health issue.

**Key words:** Geriatric, depression, satisfaction, helpless

### INTRODUCTION:

Depression is defined as an extended period of time (at least two weeks) in which a person experiences a depressed mood or loss of interest or pleasure in activities those were once enjoyed. Depressive symptoms include feeling sad or down most of the time, loss of interest in usual activities, significant weight loss or weight gain, a decrease or increase in appetite, difficulty in sleeping or sleeping too much, feeling agitated or irritable, feeling tired or loss of energy (fatigue),

feeling of worthlessness or excessive/ inappropriate guilt, difficulty in thinking, concentrating or making decisions, crying spells, feeling hopeless and suicidal thoughts and/or attempts. Depression with recurrent episodes and moderate to severe intensity may become a serious health condition causing the affected person to suffer greatly and function poorly. Although there are known, effective treatments for mental health disorders, more than 75% of people in low and middle income countries receive no treatment. Sometimes, barrier to effective care also include a lack of resources, lack of trained healthcare providers and social stigma associated with mental disorders.<sup>1,2</sup>

The United Nations (UN) Population Division projects an increase of the geriatric population (60 years and above) from 800 million representing 11% of the geriatric population, to 2 billion, i.e., 22% of the population by the year 2050. At present two-thirds of the world's elderly persons live in developing countries. Depression is a very common disorder in the elderly, with a prevalence of up to 30% worldwide. In India, at the dawn of the millennium, almost 7.7% (77 million) of the total population were old, amounting to 8.6% (104 million) in 2011 and 9.4% (125 million) in 2017. Even after being a second most populated country in the world in terms of the elderly population, geriatric depression is yet to be get noticed as a potential threat. Social connectedness is one of the key components of successful ageing, as old age is often depicted as a time of loneliness and 'rolelessness. With the changing family structure and shifting socio-economic milieu, the living arrangements of the elderly are also changing, and care giving is becoming a challenge. Older people living alone or only with their spouse has increased in recent years. In India, 6% of the elderly and around 9% of elderly women live alone which might act as a factor responsible for development of Depressive Disorder among elderly.<sup>1, 3-5</sup>

Depression has also conceptualized as a disorder of accelerated ageing and is often under diagnosed in older patients since the clinical presentation may differ from that in younger individual, for example, more physical symptoms and fewer psychological symptoms. Report suggests more than 80% of older adults with depression in United States seeking in primary care settings, often undiagnosed at the time of the visit. As being multifactorial conditions, geriatric syndrome often do not fit into discrete disease categories, share risk factors and commonly coexist. The Geriatric Depression Scale (GDS) can act as a good screening tool for diagnosing depression in the elderly who are healthy/ ill or mild to moderately cognitively impaired. Geriatric depression has also been recognized as an important risk for other chronic disease including coronary artery disease, hypertension, diabetes and migraine. The self destruction data in elders, with a close ratio of nearly 2:1 attempted and completed suicides, respectively shows that it is a significant contributor to suicide, making it even more dangerous than it ever thought to be.<sup>3, 6-10</sup>

With this background the study was carried out the data of which can also be used as baseline to study the future trends in this field. The study can also be useful for policy making and thereby taking preventive step to prevent depressive symptoms in elderly.

### **OBJECTIVE:**

1. To estimate the Prevalence of Depression in Geriatric Population
2. To classify the severity of Depression

### **METHODOLOGY:**

A cross sectional study was carried out with an approval from Ethical committee of C. U. Shah Medical College, Surendranagar. A verbal consent was taken from the study subjects to participate in study. Whenever necessary the family members were communicated for further clarification.

**Inclusion criteria:** We included elderly persons of age group 60 years and above as our study participants.

**Exclusion criteria:** Person who were currently on Anti-Depressant medications or mentally disabled persons were excluded from the study.

**Sample size and study period:** As of 52% prevalence rate (p) of Depression among elderly taken from previous study<sup>11</sup>, a sample size of 390 is reached by using an appropriate statistical formula  $n = 4pq/l^2$  (n = sample size, p = 52, q = 100-p = 48 and l = allowable error, which is taken 10 % of p = 5.2 & 5% Non-response Rate). The study was conducted in November-December 2022.

**Sampling Technique:** Study was conducted in Surendranagar City by using Multistage Sampling. There are total 13 wards of Surendranagar. From each ward, 3 societies were selected & from each selected societies 10 participants were selected randomly for the study to achieve the sample size of 390.

**Data collection:** Data were collected by personal interviews by using pretested semi structured questionnaire which includes: Geriatric Depression Scale (GDS-15) to assess level of depression.

**Data entry and analysis:** Data entry and analysis was done using excel. For analysis the data we have find out frequency and percentage. Chi square test was applied to check for any significant association. Binary logistic regression was also calculated to get the Adjusted Odds ratio.

**RESULTS:**

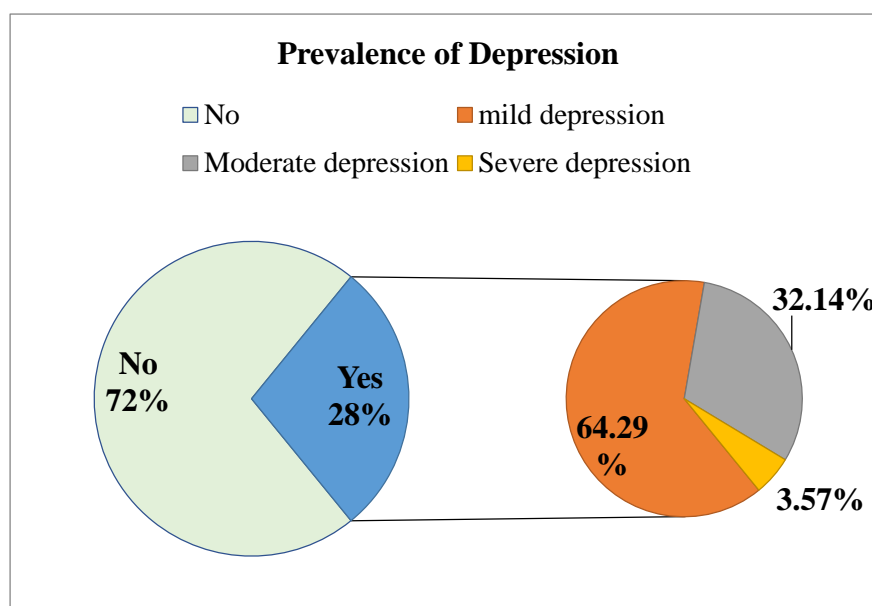
**Table -1 Socio demographic profile of study participants (n=390)**

<b>Socio demographic variables</b>	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b>Age group</b>		
60-69	322	82.56
70-79	60	15.38
80 and more	08	1.79
Mean age + SD	65.54 ± 5.08	
<b>Sex</b>		
Male	229	58.72
Female	161	41.28
<b>Marital status</b>		
Married	324	83.07
Unmarried	06	0.15
Widow/widower	60	15.38
<b>Education</b>		
Illiterate	34	8.72
Primary	77	19.74
Secondary	86	22.05
Higher Secondary	91	23.33
Graduate/Post graduate	102	26.15
<b>Socio Economic Class*</b>		
Upper	74	18.97
Upper Middle	125	32.05
Lower Middle	64	16.41
Upper lower	86	22.05
lower	41	10.51

\*kuppuswamy's socio economic classification

Table-1 shows socio-demographic profile of study subjects. In current study, mean age of participants was 65.54 ± 5.08. Male involvement in study was found 58.72%. Out of total participants, 83.07% and 15.38% were married and widow/widower respectively. Almost 32% were belonging to upper middle class. In our study prevalence of geriatric depression was found to be 28% in current study. Out of the total depressives, the elderly with severe, moderate and mild depression were 3.57%, 32.14% and 64.29% respectively (Figure-1). Table-2 shows association of different variables like age, gender, marital status, education, and socio economic class with geriatric depression. Out of above all variables, only education had significant association with depression with p value of 0.03. Table-3 shows binary logistic regression was carried out considering depression in elderly as dependent variable and different socio-demographic variables as independent variables. Significant association was found between education and elderly depression

**Figure-1 Prevalence of depression among old age persons**



**Table-2: Associations between Socio demographic variables and geriatric depression**

Socio demographic variables	Depression			P value*
	Present (N=110) n(%)	Absent (N=280) n (%)	Total	
<b>Age group (years)</b>				
60-69	95 (29.50)	227 (70.50)	322 (82.56)	0.27
70-79	12 (20.00)	48 (80.00)	60 (15.38)	
80 and above	03 (37.50)	05 (62.50)	08 (2.05)	
<b>Gender</b>				
Male	65 (28.38)	164 (71.62)	229 (58.72)	0.92
Female	45 (27.95)	116 (72.05)	161 (41.28)	
<b>Marital status</b>				
Married	93 (28.70)	231 (71.30)	324 (83.08)	0.62
Unmarried/widow	17 (25.76)	49 (74.24)	66 (16.92)	
<b>Education</b>				
≤ 8 <sup>th</sup> standard	40 (36.04)	71 (63.96)	111 (28.46)	0.03
>8 <sup>th</sup> standard	70 (25.09)	209 (74.91)	279 (71.54)	
<b>Socio economic class</b>				
Upper	54 (27.14)	145 (72.86)	199 (51.03)	0.43
Middle	22 (34.38)	42 (65.62)	64 (16.41)	
Lower	34 (26.77)	93 (73.23)	127 (32.56)	

Elderly having education more than primary level were 1.81 times [AOR: 0.55, CI: 0.33-0.92] more likely to develop depression.

**Table-3 Binary logistic regression for various factors of geriatric depression**

Variables	Sample size (n=390)	Presence of depression (n=110)	B	S.E.	P	Adjusted OR	95% CI for AOR
<b>Age group</b>							
60-69	322 (82.56)	95 (29.50)	0.485	0.323	0.13	0.62	0.33-1.16
70 and more	68 (17.44)	15 (22.06)				1	
<b>Sex</b>							
male	229 (58.72)	65 (28.38)	0.058	0.238	0.80	0.94	0.59-1.51
Female	161 (41.28)	45 (27.95)				1	
<b>Marital status</b>							
Married	324 (83.08)	93 (28.70)	0.235	0.312	0.45	0.79	0.43-1.46
Unmarried/widow	66 (16.92)	17 (25.76)				1	
<b>Education</b>							
≤ 8 <sup>th</sup> standard	111 (28.46)	40 (36.04)	0.603	0.263	0.02	<b>0.55</b>	0.33-0.92
>8 <sup>th</sup> standard	279 (71.54)	70 (25.09)				1	
<b>SEC</b>							
Upper	199 (51.03)	54 (27.14)	0.061	0.250	0.81	0.94	0.58-1.54
Middle + Lower	191 (48.97)	56 (29.32)				1	

**Figure -2: Distribution of GDS score according to Marital status**

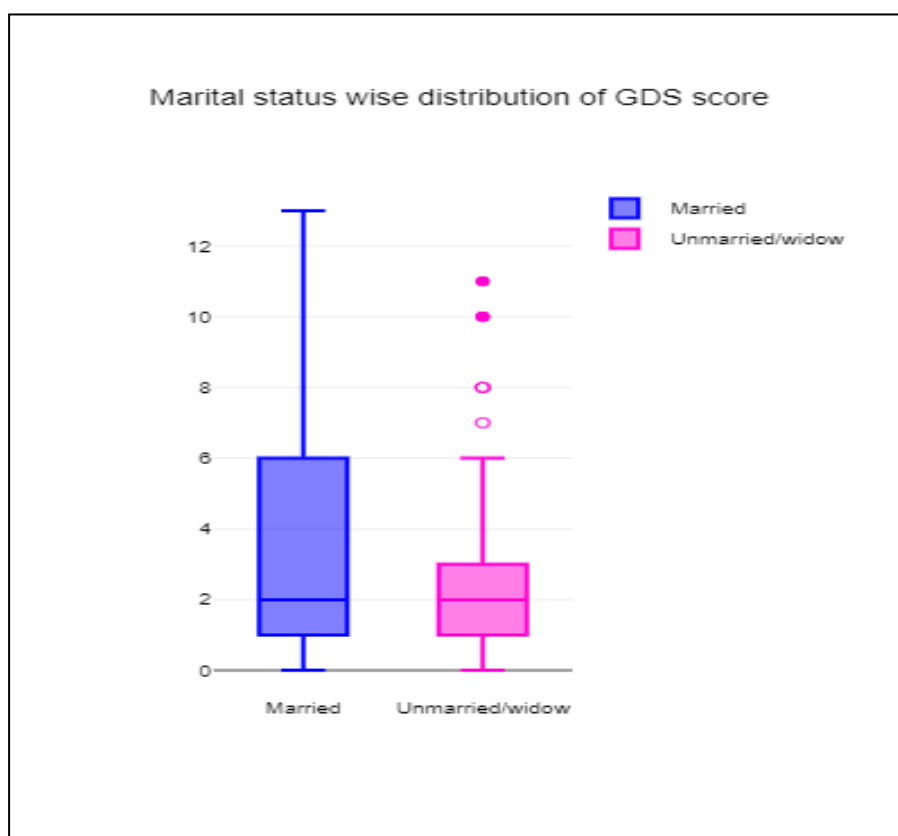


Figure- 2 Shows that data of GDS score of married elderly were positively skewed and more dispersed than that of unmarried/widow. While normal distribution was found for data of GDS score of unmarried/widow elderly.

**Table-4: Distribution of participants according to responses given for questionnaire of depression**

Sr. No.	GDS questionnaire	Yes N (%)	No N (%)
1	Are you basically satisfied with your life?	351 (90.00)	39 (10.00)
2	Have you dropped many of your activities and interests?	158 (40.51)	232 (59.49)
3	Do you feel that your life is empty?	73 (18.72)	317 (81.28)
4	Do you often get bored?	70 (17.95)	320 (82.05)
5	Are you in good spirits most of the time?	342 (87.69)	48 (12.31)
6	Do you feel scared that something bad is going to happen to you?	63 (16.15)	327 (83.85)
7	Do you feel happy most of the time?	332 (85.13)	58 (14.87)
8	Do you often feel helpless?	63 (16.15)	327 (83.85)
9	Do you prefer to stay at home, rather than going out and doing new things?	104 (26.67)	286 (73.33)
10	Do you feel you have more problems with memory than most people?	102 (26.15)	288 (73.85)
11	Do you think it is wonderful to be alive?	261 (66.92)	129 (33.08)
12	Do you feel pretty worthless the way you are now?	68 (17.44)	322 (82.56)
13	Do you feel full of energy?	323 (82.82)	67 (17.18)
14	Do you feel that your situation hopeless?	90 (23.08)	300 (76.92)
15	Do you think that most people are better off than you are	119 (30.51)	271 (69.49)

Table-4 shows distribution of participants according to responses given for questionnaire of depression. Among all, 90% were satisfied with their life, 18.72% elderly were feeling emptiness in life, 17.95% often got bored, 16.15% felt scared that something bad is going to happen to them, 85.13% felt happy most of the time, 83.85% often felt helplessness, 26.67% preferred to stay at home rather than going out and doing new things, 26.15% felt that they have they have more problems with memory than most people.

## DISCUSSION:

In current study, mean age of participants was 65.54 + 5.08. Our study had around 60% male elderly. Out of total study subjects, 83.07% and 15.38% were married and widow/unmarried

respectively. More than 40% were belonged to upper class followed by lower (32.56%) and middle class (16.41%).

In current study, prevalence of geriatric depression was found to be 28%. Similar studies on geriatric population have been carried out by researchers having wide range of prevalence of depression. Naveen KHS et al., Muhammad T et al. and Srivastava S et al. in their respective studies found 19.7%, 8.4% and 9.0% prevalence of geriatric depression which was lower than our study. While in a study from Chhattisgarh, prevalence was 59%. These differences in prevalence from various studies might be due to different socio demographic characteristics and time periods of studies.<sup>12-14</sup>

We checked for the association of different variables like age, gender, marital status, education, and socio economic class with geriatric depression. Education was found to be associated significantly with depression (p 0.03) in our study. Interestingly elderly having education more than primary level were 1.81 times more likely to develop depression (AOR: 0.55). The findings were in contrast to the study carried out at Chennai in which education was found to be inversely associated with depression.<sup>15</sup>

This study found that respondents with more than 70 years of age had lower depressive symptoms than their younger counterparts. People in older ages tend to have more experiences of negative emotions that lead to develop positive attitudes towards stressful events and increase their ability to fight health risks and have better mental health by utilizing available resources and services. But the difference was not significant which is in contrast to the result of study by Kedar M et al. who found higher prevalence in older elder than their counterpart and in-line with result of study carried out by Muhammad T et al. In current study no significant difference was found between gender and depression which was in line with the findings of Rathod MS et al.. We also tried to find out association between marital status of elderly and depression. In our study no such association found which was in contrast to the result of study carried out at puducherry in which they found significant association between single/widow and depression. We didn't found association between socio-economical class and depression which was in contrast to the result of study by Pilia M et al.<sup>16-21</sup>

## **CONCLUSION:**

In current study, prevalence of geriatric depression was found to be 28% which is somewhat higher. This psychological condition has major role to play with etiology of other diseases of elder age. So, there is a need to create awareness among the community about this mental health issue. In



our study the significant association was found between depression in elderly and the level of education. Other variables like age, gender, marital status and socio economic class has no any association with geriatric depression.

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