

## Original Article

# Prevalence of Depression and Anxiety among Elderly Patients Visiting Tertiary Care Hospital

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**Background** : Among the elderly population, the most common psychiatric conditions include depression and anxiety, which often go untreated or unrecognized, owing to the lack of knowledge and misperceptions about these conditions. As the rise in ageing population is the current trend all over the World, these morbidities may result in decreased Quality of Life among elderly population if left untreated.

**Materials and Methods** : The study was conducted at Tertiary Care Hospital ASCOMS on 90 cases above 60 years of age. Data was collected by doing face to face interviews using Geriatric Depression Scale -10 and Geriatric Anxiety Scale-10.

**Results** : The mean age of the participants was 71.8±8.2 years. Most of the participants were Males (54.4%), 85.6% were physically independent and 81.1% had some physical problems. Regarding depression, 16.7% had mild Depression, 18.9% had moderate depression followed by 5.5% with severe Depression. Whereas, 7.8% had severe symptoms of anxiety. The anxiety and depression were significantly correlated with companion of living, education status, physical dependency and co-morbid physical problem.

**Conclusion** : Elderly cases have symptoms of depression and anxiety. Having physical health problems, being physically dependent are likely to result in poor psychological health in elderly. There is a need to recognize the mental health problem of elderly in community settings.

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**Key words** : Anxiety, Depression, Elderly, Psychiatric Conditions.

Ageing is an inevitable developmental phenomenon bringing along a number of changes in the physical, psychological, hormonal and the social conditions. The aged become increasingly dependent on others. As man grows, his reduced activities, income and consequent decline in the position of the family and society makes his life more vulnerable. An old person begins to feel that even his children do not look upon him with that degree of respect, which he used to get some years earlier. The old persons feel neglected and humiliated. This may lead to the development of psychology of shunning the company of others. Ageing begins with conception and terminates with death<sup>1</sup>.

Senior citizens are at risk of developing mental and physical health problems and are particularly vulnerable to major depressive episodes and also suffer from co-morbid anxiety disorders. Depression

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### Editor's Comment :

- Anxiety and Depression is common among elderly patients. It is important to screen the patients with mental health issues in other medical speciality so that they can be appropriately referred to mental health professional for better care and management.

and anxiety are the most common mental health problems and were identified as leading contributors to global disability<sup>2</sup>. Together with modernization, elderly in Asian countries also is living alone and are vulnerable to mental health. In such context, identification and treatment of mental health problems in older adults has become increasingly important<sup>3</sup>.

Depression is a major mental health problem, which is yet to be recognised as an important public health challenge. About 322 million persons are affected by Depression Worldwide<sup>4</sup>. Depression is single largest contributor to the global disability (7.50%, 2015) and suicides (about 8,00,000 annually)<sup>5</sup>.

In India, the elderly persons (above 60 years) constitute 8.60% of total population (Census 2011), which is expected to reach 19.0% by 2050<sup>6</sup>. Therefore, Depression among the elderly population is a major cause of the disease burden in future. Female gender, chronic morbidity, ignorance of elderly in household decision making, day-time spending without the work or hobbies and death of the close

relatives were identified as the significant risk-factors of Depression in elderly<sup>7</sup>. With this background, this study has been taken up with the objective to assess and compare Depression and anxiety among the elderly people.

### MATERIALS AND METHODS

It is a cross-sectional study. This study included 90 patients with age above 60 years both, Males and Females and providing informed consent were included in the study.

The present study was conducted at tertiary care hospital. Data was collected from elderly patients attending Tertiary Care Hospital and was screened for Depression and Anxiety.

Convenience sampling technique was used to obtain the sample. Appropriate ethical clearance was obtained from the Institutional Ethics Committee and measures were undertaken to maintain confidentiality of caregivers throughout the study and also during the analysis of data. All participants were fully informed about the purpose of the study. Written informed consent was obtained from each participant after the consent form was read by the participants. The consent form was in Hindi and in English and it stated that the participation was completely voluntary and that the participant could withdraw at any time from the study. Confidentiality was maintained throughout the study.

#### Inclusion Criteria :

- Patients above 60 years of age.
- Both genders and providing informed consent.

#### Exclusion Criteria :

- Patients with history of psychiatric illness / Dementia.
- Patients not giving informed consent and were too ill to be assessed.

#### Socio Demographic Data :

This arranged format was used to assess the variables of socio-demographic profile such as sex, age, marital status, religion, income, locality and type of family.

Geriatric Depression Scale (GDS-10) as mentioned by Yesavage J, *et al*<sup>8</sup> was used as the study proforma. It was transformed into local vernacular language. The severity of anxiety was assessed using Geriatric Anxiety Scale (GAS). GAS was developed by Segal and colleagues in 2010. The GAS investigates three dimensions of anxiety, namely Somatic, Cognitive, and Affective ones and this factorial structure has been confirmed in recent research<sup>10</sup>.

### Statistical Analysis :

Microsoft Excel was used in creating the database and producing graphs, while the data was analysed using the Statistical Package for the Social Sciences (SPSS) version 23 for Windows<sup>11</sup>. Mean and Standard Deviation ( $\pm$ SD) were used to describe quantitative data meeting normal distribution. Continuous two independent groups were compared by parametric independent Student's t test. Discrete (categorical) groups were compared by chi-square ( $\chi^2$ ) test was used. P values less than 0.05 ( $p < 0.05$ ) was considered statistically significant.

### OBSERVATIONS AND RESULTS

In present study the majority of the studied cases were in the age group ranging from 61-70 years (57.8%) with mean age 71.8 $\pm$ 8.2 years and slight male pre-dominance (54.4%).

In 16.7% were having mild Depression, 18.9% with moderate Depression and 5.5% with severe Depression. 78.8% were having minimal to mild anxiety followed by 13.3% with moderate anxiety level and 7.8% were having severe anxiety. Depression and anxiety were significantly higher in those elderly people who were living alone, having physical health issues, need support and feel difficult to walk even with support and whose educational status is very low ( $p < 0.05$ )(Tables 1-4 & Figs 1-2).

Table 1 — Demographics and Clinical Characteristics of study participants

Variables	No of cases (n=90)	Percentage
<b>Age in years :</b>		
61-70	52	57.8
71-80	31	34.4
>80	7	7.8
<b>Mean Age</b>	71.8 $\pm$ 8.2	
<b>Gender :</b>		
Male	49	54.4
Female	41	45.6
<b>Living Companion :</b>		
Family	61	67.8
Husband Wife only	22	24.4
Alone	7	7.8
<b>Having Physical health issues :</b>		
Yes	73	81.1
No	17	18.9
<b>Physical Dependency :</b>		
Independent	77	85.6
Need support	9	10.0
Difficult to walk even with support	4	4.4
<b>Educational Status :</b>		
Illiterate	10	11.1
Primary	21	23.3
Secondary	29	32.2
Higher School	11	12.2
Graduate	19	21.1

**Table 2 — Prevalence of Depression and Anxiety in elderly patients**

Mental Health	No. of cases (n=90)	Percentage
Depression	Normal	53 (58.8)
	Mild	15 (16.7)
	Moderate	17 (18.9)
	Severe	5 (5.5)
Anxiety	Minimal	4 (4.4)
	Mild	67 (74.4)
	Moderate	12 (13.3)
	Severe	7 (7.8)

**Table 3 — The association between Depression and Independent variables among the study participants**

Variables	Depression		p-value
	No (n=53)	Yes (n=37)	
<b>Age in years :</b>			
61-70	36	16	0.083
71-80	13	18	
>80	4	3	
<b>Gender :</b>			
Male	33	16	0.075
Female	20	21	
<b>Living Companion :</b>			
Family	39	22	0.039
Husband Wife only	13	9	
Alone	1	6	
<b>Having Physical health issues :</b>			
Yes	47	26	0.028
No	6	11	
<b>Physical Dependency :</b>			
Independent	50	27	0.017
Need support	2	7	
Difficult to walk even with support	1	3	
<b>Educational Status :</b>			
Illiterate	2	8	0.002
Primary	7	14	
Secondary	13	16	
Higher School	3	8	
Graduate	16	3	

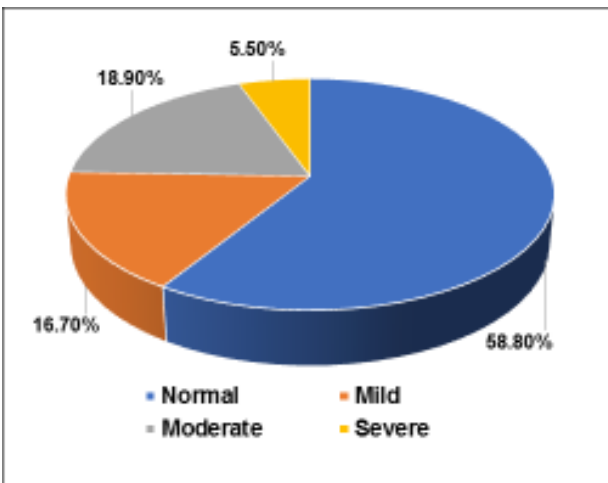


Fig 1 — Prevalence of depression in study participants

**Table 4 — The association between Anxiety and Independent variables among the study participants**

Variables	Anxiety		p-value
	Minimal to Mild (n=71)	Moderate to Severe (n=19)	
<b>Age in years :</b>			
61-70	45	11	0.289
71-80	22	9	
>80	4	3	
<b>Gender :</b>			
Male	39	10	0.858
Female	32	9	
<b>Living Companion :</b>			
Family	58	3	<0.001
Husband Wife only	11	11	
Alone	2	5	
<b>Having Physical health issues :</b>			
Yes	55	18	0.048
No	16	1	
<b>Physical Dependency :</b>			
Independent	67	10	<0.001
Need support	3	6	
Difficult to walk even with support	1	3	
<b>Educational Status :</b>			
Illiterate	4	6	0.014
Primary	12	9	
Secondary	27	2	
Higher School	10	1	
Graduate	20	1	

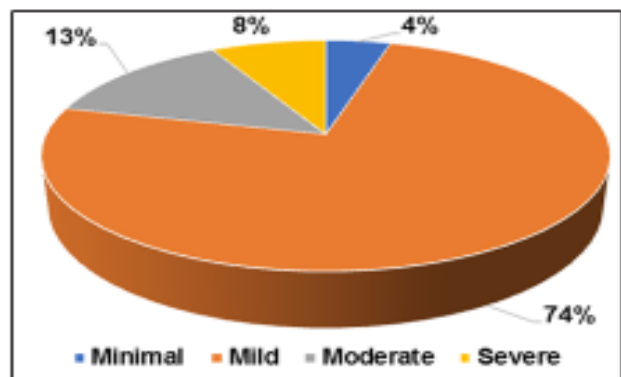


Fig 2 — Prevalence of Anxiety in study participants

**DISCUSSION**

Psychiatric morbidity is one of the domains which can significantly influence the Quality of Life of elderly people. Because depression and anxiety are the most common psychiatric morbidity among elderly persons, understanding this issue is vital for comprehensive geriatric assessment and care<sup>12,13</sup>.

In present study the majority of the studied cases were in the age group ranging from 61-70 years (57.8%) with mean age 71.8±8.2 years and slight male predominance (54.4%). 67.8% were living with their family and 81.1% were having physical health problems. Our findings were in accordance with the findings of Sharma M, *et al* who reported that among

the 245 senior citizens, mean age was  $78.3 \pm 6$  years. Majority respondents (52.2%) were female and 12(4.9%) were living alone in their home. Majority (54.2%) could not read and write, (68.2%) had some sort of physical health problems and (66.9%) were taking some types of regular medications for their health conditions<sup>2</sup>. According to Kumar P, *et al* majority of the elderly people were in the age group of 60-69 years. Overall mean age of the elderly population was  $68.55 \pm 6.54$  years<sup>14</sup>. Joshi OS and Ghorpade N reported that in urban group, 50.0% were in age group 60-70 years, 45.0% in 71-80 years. In rural group 50.0% were in age group 60-70 years, 45.0% in 71-80 years. In urban group according to gender, 55.0% were males and 45.0% were females and similar data was in rural also. In urban group according to education, 11.0% were illiterate, 22.0% were educated up to primary, 33.0% up to secondary, 13.0% up to higher secondary and 21.0% were graduates. In rural group 16.0% were illiterate, 35.0% were educated up to primary, 25.0% up to secondary, 13.0% up to higher secondary and 11.0% were graduates.

In our study, the 41.1% had depression, 16.7% were having mild depression, 18.9% with moderate depression followed by 5.5% having severe depression. 78.8% were having minimal to mild anxiety followed by 13.3% with moderate anxiety level and 7.8% were having severe anxiety. Our findings were consistent with the findings of Sahni B, *et al* who reported 40.7% of the subjects reported depressive symptoms. However, out of the 66 depressed senior citizens in the total sample, 65.0% had only mild depression while moderate to severe depression was observed in 14.2%<sup>16</sup>. Kumar P, *et al* reported the overall study of depression and anxiety was 66.1% and 93.8%, respectively which was higher than our study which may be because they have conducted the study on elderly living in old age homes<sup>14</sup>. Sharma M, *et al* reported that overall anxiety score, 64.5% senior citizens in this study had minimal, 15.5% had mild, 11.8% had moderate, and 8.2% had severe symptoms of anxiety.

Depression and anxiety were significantly higher in those elderly people who were living alone, having physical health issues, need support and feel difficult to walk even with support and whose educational status is very low ( $p < 0.05$ ). Our findings were comparable to the findings of previous study among similar population by Beekman AT, *et al* had found concurrent anxiety and depressive disorder in 47.5% and 21.0% of elderly. Additionally, living without partner ( $p = 0.001$ ) and having lower education status ( $p = 0.000$ ) would likely to 3 times increase respondents' chances of having anxiety.

Moreover, anxiety was associated with having physical health problems and physical dependence of the respondents<sup>17</sup>. Similar to this finding, Sousa RD, *et al* found significant association of female sex and low educational level with anxiety symptoms<sup>18</sup>. Previous studies also reported higher prevalence of anxiety among women than male. However, anxiety was not significantly associated with the sex of senior citizens in this study<sup>19,20</sup>.

According to Sousa RD, *et al*<sup>18</sup> low educational levels significantly associates with Depression of elderly. On the other hand, education level, marital status, living companion and physical dependency were associated with depression in their study. A study by Perkovic R, *et al* found a significantly higher incidence of depression in male (63.0%) and anxiety among female (42.0%) respondents<sup>21</sup>.

Nautiyal A, *et al* stated that out of 53 depressive participants, 44 people were found to be males, reflecting depression conditions more in males<sup>22</sup>.

Another study by Rao AV, *et al* also showed that geriatric depression was more common among males<sup>23</sup>. In contrast, Jain RK, *et al* in their study reported that prevalence of depression was found to be more in females (57.8%) than in males (45.9%)<sup>24</sup>.

Elderly people living alone/living with their children without their spouse had increased rate of depression. These factors show that depression among geriatric people could be due to financial dependency on others/ loss of their partner. Similar results were reported by Nautiyal A, *et al*, Jariwala V, *et al*, Rajkumar AP, *et al* and Jones RN, *et al*<sup>22,25-27</sup>.

Swarnalatha N study states that the prevalence of Depression was found to be inversely proportional to the literacy status. Literacy reflects economic dependence<sup>28</sup>. Similar findings were observed by Rajkumar AP, *et al* and Ramachandran V, *et al* in India<sup>26,29</sup>.

Based on the first wave of the Survey of Health, Ageing and Retirement in Europe (SHARE), depressive symptoms of 28,538 persons aged 50 to 89 from eleven European countries and Israel are analysed using a negative binomial regression model. The results indicate that the number of depressive symptoms measured by EURO-D scores increase with age and are higher among women than among men. When including socio-demographic characteristics, health conditions and economic strains, the association between depressive symptoms and age vanishes for men and even reverses for women. Thus, the association between age and mental health is mediated by the health and living conditions of older persons; age by itself has no explanatory power.

### Limitations :

- The small sample size affects generalizability.
- Being a cross sectional study, causality cannot be established.
- The data cannot be generalized for larger area as the study was carried out in Tertiary Care Hospital.

### CONCLUSION

Senior citizens with Anxiety tend to have Depression too and vice versa. There are chances of increased anxiety level with lower education status and living without a partner. Having physical health problems increases the chances of having Depression. The senior citizens, living without companions and having physical health problems need to be assessed and cared for mental health status like Anxiety and Depression. Results from this study highlight the need for proper assessment and confirmation of Depression and Anxiety, especially among elderly persons.

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**Conflicts of Interest :** There are no conflicts of interest.

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