



## DEPRESSION AND ITS ASSOCIATED FACTORS IN RURAL ELDERLY OF DISTRICT GAUTAM BUDDHA NAGAR

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### ABSTRACT

**Background:** Elderly face a multitude of psychological, social and physical health problems, with depression being a very common problem. **Aims & Objectives:** To find the prevalence of depression and its associated factors among geriatric age group and to study the health seeking behavior among them. **Settings and Design:** Rural setting and cross-sectional study design. **Material & Methods:** The community based study was conducted over a period of 1 year among eight villages located in the rural area of Gautambudh nagar. 400 elderly were included as study participants. The villages were selected by simple random sampling. Socio-demographic and socio-cultural details were collected using a pre-designed, pre-tested questionnaire. A validated geriatric depression scale was used to assess their depression status. **Statistical Analysis used:** The data was analyzed using SPSS version 17. **Results:** 61% elderly suffered from mild depression and 10.5% from severe depression. Depression was significantly high among elderly aged 70-79 years, currently married, belonging to lower socio-economic class, residing in nuclear families and retired from government services. There was no statistical association between gender & depression. Only 7.02% elderly sought medical help for their problems. **Conclusion:** Geriatric depression is prevalent in India. There is a requirement for improving geriatric health care services and giving social support to elderly people.

**KEYWORDS:** Prevalence, Depression, Geriatric, Rural, Socio-demographic factors, health seeking behavior.

### INTRODUCTION

Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings, and sense of well-being. A depressed mood is a normal temporary reaction to life events such as loss of a loved one. It may also appear as a symptom of some physical diseases and a side effect of some drugs and medical treatments. Some mood disorders like major depressive disorder and dysthymia, may also express themselves in the form of depression/depressed mood.<sup>[1]</sup>

The following factors are considered to be linked to the development of depression, and can be used as a means of identifying and targeting high risk groups- Physical illness, especially if painful or disabling, loneliness, sensory difficulties, past or family history of depression, medications, loss of economic independence, neglect,

and boredom (no one to talk to especially in urban areas).<sup>[2]</sup>

Depression is a common cause of disability in the elderly. Among its consequences are reduced life satisfaction and quality, social deprivation, loneliness, increased use of health and home care services, cognitive decline, impairments in activities of daily living, suicide, and increased non-suicide mortality. Interest in geriatric depression has increased in recent years, and several population studies have examined its prevalence, with results ranging from 1% to 20%; however, methodological differences may account for this variability. However, most of these studies included few individuals older than 80 years. Other reports that include very elderly individuals suggest that the prevalence of depression may increase after this age.<sup>[3]</sup>

## AIMS AND OBJECTIVES

1. To find the prevalence of depression among geriatric population and its co-relation with socio demographic distribution in rural areas of Gautam Buddha Nagar.
2. To study the health seeking behavior among the geriatric population.

## MATERIAL AND METHODS

A community based cross-sectional study was carried out on elderly people in rural field practice area of RHTC under the Department of Community Medicine SMS&R, located in the Panchayatan village of Gautam Buddha Nagar. The field practice area comprises of eight villages viz, Panchayatan, Chirsi, Inayatpur, Kullipura, Rouni, Girdharpur, Patlakheda & Ghangola. The total population of these villages is 10000(approx.).

According to a study by Radhakrishnan S and Nayeem A<sup>4</sup>, the prevalence of depression was found to be 50% in the geriatric population and taking the confidence interval as 95% and the maximum allowable error as 10%, for calculation of sample size ( $4PQ/e^2$ ), the sample size came to be 384 which was rounded off to 400 approx. As per census 2011, the proportion of elderly population out of the total population of India, is 8%. So expecting 8% elderly population, we estimated 800 elderly in our practice area. Therefore, every second elderly in the selected areas was chosen for the study. First household was selected randomly and second elderly was taken while moving in one direction from that household. This was followed in each of the 8 villages till the required sample size was attained. Geriatric Depression Scale to assess the prevalence of depression & Modified Udai Pareek Scale for Socio Economic Status were used in this study.

## RESULTS

Table 1: Based on the geriatric depression score, participants were categorized as mild depression (10-19) and severe depression (20-30). There were 61% elderly who were suffering from mild depression while 17.5% were having severe depression. There was no statistically significant difference between the two forms of depression in relation to gender.

**Table 1: Prevalence of depression amongst elderly.**

Depression score	Male (n=255) N (%)	Female (n=145) N (%)	Total (n=400) N (%)	P-value
0-9 (normal)	57 (22.4)	29 (20)	86 (21.5)	0.7489
10-19 (mild depression)	152 (59.6)	92 (63.4)	244 (61)	
20-30 (severe depression)	46 (18.0)	24 (16.6)	70 (17.5)	

Table 2: Mild depression was found more common among 80 year & above. The prevalence was more or less same among 60-69 year old & 70-79 year age group. Severe depression was found maximum among 60-69 year old & least among 80 & above age group. This difference in prevalence of severe depression was found to be statistically significant ( $P < 0.001$ ). There was significant difference in the prevalence of mild & severe depression among different socio- demographic variables like marital status, types of family, occupation & socio-economic status. Depression was found to be associated with married elderly, joint family, upper middle & middle classes, unemployed elderly and farmers ( $P$  values between  $< 0.001 - 0.038$ ).

Table 3: Regarding awareness about depression, 40.8% (n=104) males and 15.9% (n=23) females had heard about depression. This difference in awareness levels among the two sexes was statistically significant ( $P < 0.0001$ ). Among those who had heard about depression, nearly one third of the elderly had consulted a health professional for depression (31.8%). More number of elderly males had consulted a health professional as compared to elderly female and this was also found to be significant ( $P < 0.001$ ). Overall majority of the study participants consulted for depression to an ayurvedic physician (n=56; 44.1%). Health workers were the second most commonly consulted (n=34; 26.7%). Only 27 people (21.3%) consulted a physician while psychiatrists were consulted by 10 participants (7.9%) only. Ayurvedic doctors were consulted mostly by males (48.1%) while health workers were consulted mostly by females (43.5%).

Among those who visited the doctor, 73.2% (n=93) were prescribed medicine and out of these 81.7% (n=76) took medicines as prescribed. The most common reason for not taking medicine as advised was inability of the participants to buy medicine (n=13; 76.4%). Out of 76 who took medicine, 55 (72.4%) said that they were benefited. Compliance to treatment was 100% in females but lower in males (75.7%).

The association between gender and awareness, health seeking behavior and treatment practices were statistically significant.

**Table 2: Association of depression with socio-demographic factors amongst elderly.**

Socio-demographic factors	Normal & Mild depression (n=330) N (%)	Severe depression (n=70) N (%)	Total N=400	p value
Age (years)				<0.001
60-69	96(74.4)**	33(25.6)	129(32.2)*	
70-79	149(83.7)	29(16.3)	178(44.5)	
80 and above	85(91.4)	8(8.6)	93(23.3)	
Marital Status				<0.001
Married	316(85.2)	55(14.8)	371(92.7)	
Others#	14(48.3)	15(51.7)	29(7.3)	
Type of family				0.028
Joint	75 (75.8)	24 (24.2)	99(24.7)	
Nuclear	255 (84.7)	46 (15.3)	301(75.3)	
Occupation				0.008
Farmer	120 (84.5)	22 (15.5)	142(35.5)	
Shop keeper	97 (90.7)	10 (9.3)	107(26.7)	
Own business	10(76.9)	3(23.1)	13(3.3)	
Unemployed <sup>+</sup>	103(74.6)	35(25.4)	138(34.5)	
Socio-economic status <sup>***</sup>				0.038
Upper middle	100 (75.8)	32 (24.2)	132(33)	
Lower middle	151 (84.8)	27 (15.2)	178(44.5)	
Lower	79 (87.8)	11 (12.2)	90(22.5)	

\*Percentages in brackets are from respective column totals.

#others includes widow/widower, unmarried individual

\*\*Percentages from respective Row totals

+Unemployed includes those who had retired from service (Govt./Pvt.) or were not currently employed or House wives.

\*\*\*None of the study subjects belonged to upper class.

**Table 3: Awareness about depression and related health seeking amongst the study participants.**

Variables	Male (n=255) No. (%)	Female (n=145) No. (%)	Total (n=400) No. (%)	P Value
<b>Awareness About Depression</b>				
Heard about depression				
Yes	104 (40.8)	23 (15.9)	127 (31.7)	0.000
No	151 (59.2)	122 (84.1)	273 (68.3)	
<b>Health Seeking Behavior</b>				
Ever consulted doctor for the illness				
Yes	69 (27.1)	23 (15.9)	92 (23.0)	0.0125
No	186(72.9)	122 (84.1)	308 (77.0)	
consulted any health professional				
Yes	104 (40.8)	23 (15.9)	127 (31.8)	0.000
No	151 (59.2)	122 (84.1)	273 (68.2)	
Which person was consulted	Males n=104	Females n=23	N=127	
Physician	21(20.2)	6(26.1)	27(21.3)	
Psychiatrist	9 (8.6)	1(4.3)	10(7.9)	
Ayurvedic Doctor	50(48.1)	6(26.1)	56(44.1)	
Health Worker	24(23.1)	10(43.5)	34(26.7)	
<b>Practices Regarding Compliance to Treatment</b>				
Were you given medicine	n=104	n=23	N=127	P value
Yes	70 (67.3)	23 (100)	93 (73.2)	0.0003
No	34 (32.7)	0 (0)	34 (26.8)	
Have you taken the medicine as advised	N=70	N=23	N=93	
Yes	53 (75.7)	23 (100)	76 (81.7)	0.0089
No	17 (24.3)	0 (0)	17 (18.3)	
Those who took the medicine, did you feel better	N=53	N=23	N=76	
Yes	32 (60.4)	23 (100)	55 (72.4)	0.0004
No	21 (39.6)	0 (0)	21 (27.6)	

## DISCUSSION

In our study based on GDS, study subjects were categorized into mild and severe depression and in our study 61% (244/400) of the subjects were suffering from mild depression whereas 17.5% were suffering from severe depression. Similarly a study by Krishnan SR<sup>[4]</sup> assessed depression among geriatric population at Attayampatti village in Salem district and found that 37.8% were having mild depression and 21% were severely depressed. However a study done in Punjab by Goyal A<sup>[5]</sup> recorded 60% subjects suffering from severe depression which is much higher than our findings. Prevalence of mild depression was quite high in our study. This may be because of a difference in family and economic conditions as compared to other studies.

In our study, mild depression is more in females than males (63.4% vs. 59.6%). In other studies also,<sup>[6]</sup> it was seen that more female elderly were depressed as compared to males Prakash et al<sup>7</sup> found that 42% of elderly had psychosocial problems in which the number of females was high (48%) as compared to males (37.8%).

In our study 92.7% of subjects were married, out of which 14.8% suffered from severe depression. While out of those who belonged to other categories, 51.7% suffered from severe depression. This was found to be significant. The Chennai urban rural epidemiological study (CURES)<sup>[8]</sup> similarly reported that the prevalence of depression was higher among the widowed (26.6%) and married (15.9%) individuals as compared to unmarried ( $p=0.001$ ). However the effect depends largely on the quality of the marriage and individuals with poor marital quality tend to experience worse health both physical and mental than the unmarried.<sup>[9,10]</sup> The decreased prevalence of severe depression in the married group in the present study could be a reflection of the improved emotional support due to company of the spouse.

In the present study a significantly higher proportion of subjects suffering from depression were from the upper middle socio-economic class. This result is contrary to the cross-sectional studies reporting associations between individuals with lower socio-economic status and depression.<sup>[11]</sup>

In our study, severe depression was found to be more in unemployed (25.4%) relative to own business (23.10%) and farmer (15.5%). Severe depression in socio economic status was found to be more in upper middle class (24.2%), in lower middle class 15.2% and in lower class 12.2%.

Among those who visited doctor, 73.2% (n=93) were prescribed medicine and out of these, 81.7% (n=76) took medicines as prescribed. The most common reason for not taking medicine as advised was inability of the participants to buy medicine (n=13; 76.4%). Out of 76

who took medicine, 55 (72.4%) said that they were benefitted. In a study by Jang et al<sup>[12]</sup> which explored knowledgeable out depression among Korean American older adults and it was found to be generally low. The participants provided on an average only 42.6% correct answers on the 12-item Depression in Late Life Quiz, and for 9 items, more than 50% of the participants provided incorrect answers. Another study by Mellor D et al<sup>[13]</sup> in Australia showed that all geriatric participants were critical of their knowledge and skills in recognizing depression.

A study done in the rural areas of Karnataka by Shailendra Kumar B Hedg<sup>[14]</sup> showed that 91.7% sought healthcare for their chronic illness and 85.65% sought health for their acute illness. A study by S.Vijaya Kumar in rural India showed that about 30% of the elderly suffering from illnesses sought treatment and over 55% did not receive even minimum care and personal help.<sup>[15]</sup>

## CONCLUSION

There were 61% elderly who were suffering from mild depression while 17.5% were having severe depression. There was no statistically significant difference between the forms of depression and gender.

Statistically significant differences were observed between mild and severe depression groups based on age, marital status, type of family, occupation, socio-economic status. Increasing age emerged as significant protective factor against severe depression.

Most elderly who did not consult any doctor for their illness cited non-availability of health services in their vicinity as the most common reason. Among those who visited doctors, almost one-fifth of patients did not take prescribed medicines. The most common reason for not taking medicine as advised was inability of the participants to buy medicine.

## RECOMMENDATION

There is a lack of awareness regarding depression among the elderly population. Increased IEC activities in this regard will be necessary to educate the elderly regarding the signs and symptoms of depression and the necessity of getting treatment for the same.

Toll free help numbers for the depressed elderly can provide a sense of caring in loneliness and thus reduce the extent of depression in this population. The numbers can also be used by people with suicidal tendencies for consultations.

## Limitations of study

Due to logistic & time constraints we could not cover the urban population & therefore comparison between Rural & Urban population for depression could not be done. We have not taken physical disabilities into account

though they have been shown to be associated with depression among elderly.

### Relevance of study

The study brings out the extent of depression prevailing in the geriatric people in rural area of Gautam Buddha Nagar. Such a study has not been done earlier in the district.

### Authors Contribution

All the authors have contributed to the study design, analysis & drafting the article & final approval of the version of study to be published.

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