

# Prevalence and Risk Factors of Depression among the Elderly Population in Urban Field Practice Area of Katihar Medical College, Katihar, Bihar

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## ABSTRACT

**Background:** Depression among the elderly population is a serious problem with significant morbidity and mortality. It is one of the most common psychiatric disorders among the elderly nowadays.

The objective of this study to assess the prevalence of depression and to identify the associated risk factors of depression among the elderly population in the urban field practice area of Katihar Medical College, Katihar, Bihar.

**Materials & Methods:** A community-based cross-sectional study was conducted from March 2018 to August 2018 in the urban field practice area of Katihar Medical College, Bihar. A predesigned and pretested questionnaire assessing the socio-demographic characteristics and various risk factors for depression was administered to 518 participants after obtaining written informed consent. Depression was assessed using the 15 items Geriatric Depression Scale (GDS-15). Data were analyzed using Epi info -7.

**Results:** The overall prevalence of depression among the elderly population under study was found to be 41.3%. It was significantly higher among Female (47.7%), in the age group 76-80 years (42.1%), in Unmarried/divorced/separated (65.2%), in Joint family (45.2%) and in socio-economic class-V (52.7%).

**Conclusion:** The high prevalence of depression observed among the study population required attention. There is a need for screening and implementation of effective intervention and treatment of depression among the vulnerable population.

**Keywords:** Depression, elderly population, urban

## INTRODUCTION

The growing population of the geriatric age group is now a concern for both developed and developing countries. The aging population is growing rapidly, the percentage of population above 85 years is growing 6 times faster than the general population and for those above 100 years, the rate is 10 times higher. <sup>[1]</sup> The global share of older people (aged 60 or over) increased from 9.2% in 1990 to 11.7% in

2013 and will continue to grow as a population of the world, reaching 21.1% by 2050. Older persons are projected to exceed the number of children for the first time in 2047. <sup>[2]</sup>

Age is an important determinant of mental health. Old age is a period of transition when one has to deal not only with the physical aging but also with the challenges affecting the mental and social wellbeing. Due to the normal aging of the

brain, deteriorating physical health and cerebral pathology, the overall prevalence of mental and behavioral disorders tend to increase with age. [3] Among the various mental disorders, depression accounts for the greatest burden among the elderly. [4] The community-based mental health studies in India have estimated the prevalence of depressive disorders among the elderly Indian population between 8.9% to 62.16%. [4] The Global Burden of Disease (GBD) study projections shows that depression will be the single leading cause of Disability Adjusted Life Years by 2020 in the developing world. [5] According to World Health Organization, the overall prevalence rate of depressive disorders among the elderly generally varies between 10-20%, depending on the cultural situations. [6,7] Depressive disorders are a frequent cause of emotional and physical suffering, poor quality of life and increased morbidity and mortality among the individuals. [8] Few community-based studies have been conducted in India so far to address this issue. Hence, the aims and objective of this study is to estimate the prevalence of depression and identify the risk factors among the elderly in the rural area of Katihar, Bihar

### AIMS & OBJECTIVES

To assess the prevalence of depression among the elderly population in the urban field practice area of Katihar Medical College, Katihar, Bihar and to find out the factors associated with depression among the study group.

### MATERIALS & METHODS

A community-based cross-sectional study was conducted from March 2018 to August 2018. The study was conducted at the urban field practice area, Sharifganj, which is under the Urban Health Training Center of the Department of Community Medicine, Katihar Medical College; Katihar situated 8Kms away from the Medical College. The urban field practice area Sharifganj has been selected because there is no such study on the elderly conducted in

this field practice area. The elderly population (60 & above) of both sexes who were the residents of the urban field practice area of the Katihar Medical College, Katihar, Bihar are selected for the study. A total of 518 eligible respondents identified through the house to house survey. The houses that have at least one or more elderly person has been numbered serially from a random point, an interview in local languages was conducted using a predesigned, pretested questionnaire after obtaining informed consent. Assessment of depression was done by using a 15 items geriatric depression scale (GDS15). [9] The accuracy of the GDS-15 is not affected due to medical conditions, age, or other bio-social characteristics. Even the presence of a major depressive episode among elderly home-bound adults can be reliably assessed.

**Exclusion Criteria-** Deaf/Dumb/psychiatric patient, ill at the time of the study, not willing to participate

**Data analysis-** Data entry and statistical analysis were done using Epi Info version-7 software. Frequency distributions were calculated for almost all the variables. To test significant associations between independent variables and depression, a chi-square test was used ( $p < 0.05$ ).

### RESULTS

Out of 518 study respondents interviewed, the overall prevalence of depression was found as 214 (41.3%).

Table 1. According to severity of depression based on GDS-15 scores

GDS score	No.	Percentage
Absent (0-4)	304	58.7
Mild (5-8)	132	25.5
Moderate (9-11)	64	12.4
Severe (12-15)	18	3.4

Table 1 displays the distribution of the elderly population on the basis of GDS-15 scores. Mild depression was present in one-fourth (25.5%) of the study population followed by moderate depression (12.4%). Even 3.4% of the elderly were severely depressed.

**Table 2. Distribution of depression according to sex**

sex	Depression present		Depression absent	
	No.	%	No.	%
Male	102	36.0	181	63.9
Female	112	47.7	123	52.3
Total	214	41.3	304	58.7
$\chi^2$ value-6.68, df -1, p value-0.0098				

Table 2 shows that the prevalence of depression was significantly higher in the urban resident females (47.7%) as compared to males (36.0%). This study shows a statistically significant association between the sex of the individual and depression.

**Table 3. Distribution of depression according to Age in years**

Age in years	Depression present		Depression absent	
	No.	%	No.	%
60-75	116	41.3	165	58.7
76-80	72	42.1	99	57.9
>80	26	39.4	40	60.6
$\chi^2$ value-0.14, df-2, p value-0.9324				

Table 3 shows clearly indicates the prevalence of depression was maximum (42.1%) observed among the age group 76-80 years and minimum in > 80 years.

**Table 4. Distribution of depression according to marital status**

Marital status	Depression present		Depression absent	
	No.	%	No.	%
Married	83	26.2	234	73.8
Other*	131	65.2	70	34.8
$\chi^2$ value-75.53, df-1, p value-<.0001				

\*Includes divorced, separated, unmarried, widow/widower

Comparing the Marital status in Table 4, there were more (65.2%) depressed people among the other group (divorced, separated, unmarried, widow/widower). From this study, it can also observe that a statistically significant relationship exists between marital status and depression.

**Table 5. Distribution of depression according to the Type of family**

Family type	Depression present		Depression absent	
	No.	%	No.	%
Nuclear	63	34.2	121	65.8
Joint	151	45.2	183	54.8
$\chi^2$ value-5.45, df -1, p value - 0.0196				

As shown in Table 5 around half of the elderly population found depressed belongs to the joint family. The prevalence of depression was 34.2%, 45.2% in nuclear and joint family respectively. The study

shows a significant association between family type and depression.

**Table 6. Distribution of depression according to Socio-economic scale\***

Socio-economic class	Depression present		Depression absent	
	No.	%	No.	%
Class-I	1	12.5	7	87.5
Class-II	3	25	9	75
Class-III	34	24.1	107	75.9
Class-IV	128	48.1	138	51.9
Class-V	48	52.7	43	47.3
$\chi^2$ value-31.25, df-4, p value-<.0001				

\*Modified BG Prasad classification 2018

It is clearly seen from the table that the prevalence of depression was maximum in socio-economic class V (52.7%) and minimum in class I (12.5%). And the association was statistically significant between the socioeconomic scale and depression.

## DISCUSSION

In this study, the overall prevalence of depression was 41.3%, out of the 3.4% met the criteria for severe depression based on GDS 15 score. Similarly, in the context of the severity of depression, 12.4% were scored for moderate and 25.5% were in mild depression. A high prevalence (52.2%) of depressive disorders was observed among the elderly  $\geq 60$  years in the study conducted by Nandi *et al*, in the rural areas of West Bengal. [10] The result observed in this study was much higher as compared to studies in Dharwad and that in Vellore which reported the prevalence of depression 29.36% and 12.7% respectively. [11,12] Similarly Barua *et al*, [13] and Ramachandran *et al* [14] reported the prevalence of depressive disorders in the elderly population to be 21.7%, and 24.1% respectively. The differences in the prevalence rate may be attributed to the different cross-cultural setting or use of the instrument for evaluating the depression. In this study female elderly population was found significantly associated with depression. A similar finding was also reported in other studies. [15,16] This study shows a significant association between marital status and depression. Those who

were single (divorced, separated, unmarried, widow/widower) were found to be more susceptible to depression. Sherina et al found that those who were unmarried, without formal education, low total family income and urban residence were associated with depression.<sup>[17]</sup> A study in Pakistan also reported female gender, elderly without a spouse, low level of education, and unemployment to be independent predictors of depression.<sup>[18]</sup> The association between lower socioeconomic status and depression is well documented in this study. Low socioeconomic status not only increases the risk of onset, but it also increases the risk for persistence of depression. A meta-analysis carried out by Lorant et al, to evaluate the socioeconomic inequalities in depression revealed that individuals with low socioeconomic status had higher odds of being depressed.<sup>[19]</sup> Accordingly, all elderly people suffering from various physical illnesses must be screened for depression, and it must be treated adequately.

## CONCLUSION

The high prevalence of depression observed among the study population required attention and suggest that there is a need to sensitize the primary care physicians and specialists from different specialties to identify and manage depression. There is a need for screening and implementation of effective intervention and treatment of depression among the vulnerable population. With increasing longevity and proportion of the elderly population in India and the trend toward urbanization, depression among the elderly is likely to become a disease demanding “public health problem” status soon.

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