

Prevalence and risk factors of depression among elderly population in a rural area

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ABSTRACT

Background: The community-based mental health studies in India have estimated the prevalence of depressive disorders among elderly population between 13% and 25%. Despite of the widespread belief that depression in elderly in India is less compared with west by virtue of family structure and socio-cultural factors, studies have shown a reverse trend. Female gender, poor health status, prior depression, poor self-perceived health are some of the significant risk factors for depression among the elderly as identified by meta- analysis. Hence the present study aims to find out the prevalence of depression and associated risk factors among elderly in rural area.

Material and Methods: A cross sectional study was conducted in rural health training center, Vutoor, Karimnagar during November- December 2012. A semi-structured questionnaire assessing the socio-demographic characteristics and various risk factors for depression was administered to 190 participants. Depression among the elderly was assessed by patient health questionnaire (PHQ-9). Statistical measures obtained were proportions, mean, standard deviation and multiple linear regression.

Results: The mean age of the participants was 65.62 ± 5.47 with the age range of 60 to 89 years. Males accounted for 121 (63.7%) of the total sample and 135 (71.1 %) belonged to the lower socioeconomic class. Of the total sample 30 (15.8%) met the criteria for major depression and 55 (28.9%) met the criteria for minor depression. In the context of the severity of depression 34 (17.9%) scored for moderate depression, 27 (14.2%) for moderately severe depression and 2 (1.1%) for severe depression. Among the various risk factors, socioeconomic status ($p = 0.018$), past history of depression ($p = 0.019$), perceived poor health status ($p = 0.011$) were significantly associated with depression.

Conclusion: High prevalence of depression observed among the studied population warrants an immediate attention. Perceived poor health status and past history of depression are significant risk factors for depression. There is a need of screening and effective intervention strategies for early detection and treatment among this vulnerable population.

Key words: Depression, Elderly population, Risk Factors

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INTRODUCTION

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.^{1,2} There is a wide range in prevalence of depression in elderly ranging from 4.8% in countries like Spain and up to 35% in countries like Hong Kong and Turkey.^{3, 4, 5} Depression causes the largest amount of disability,

accounting for almost 12% of all disabilities.¹ Unipolar depression is second only to stroke as the leading cause of disability adjusted life years. The World Health Organization has predicted that the number of people aged 65 years or older will rise from 390 million to 800 million by 2025 - reaching 10% of the total population and this increase of up to 300% of the older population is expected in many developing countries, especially in Latin America and Asia.⁶ The elderly population in India accounts for 7.4% of the total population in 2001 and both the share and the size of the elderly population is increasing over time and is projected to increase from 5.6% in 1961 to 12.4% of population by the year 2026.⁷ Despite of the widespread belief that the depression in elderly in India is less compared to west by virtue of family structure and socio-cultural factors, recent studies have shown a reverse trend.⁸ The community-based mental health studies in India have revealed that the point prevalence of depressive disorders in elderly Indian population varies between 13-25%.^{8,9} Depressive disorders are a frequent cause of emotional and physical suffering, poor quality of life and increased morbidity and mortality among the individuals.¹⁰ Several quantitative as well as qualitative meta-analysis have shown that medical illness, poor health status, prior depression, poor self-perceived health, disability and female gender are risk factors for depression among elderly people.¹¹ Depressive disorders among elderly people go undetected even more often than the younger adults because they are often mistakenly considered as a part of the ageing process.² The untreated depressed elderly patients have significant clinical and social implications as these disorders decrease an individual's quality of life and increases dependence on others. Hence in the present study, we tried to estimate the prevalence of depression and associated risk factors among elderly population in rural area.

MATERIAL AND METHODS

A cross sectional study was carried out in the rural health training center (RHTC) Vutoor, a field practice area of the Department of Community Medicine, Prathima Institute of Medical Sciences, Karimnagar during November – December 2012. Vutoor village was having a population of 4346 as per the data obtained by village and family health

survey 2012, conducted by the department of community medicine. A list of the total 214 people aged 60 years and above was obtained from the survey data. All the elderly population available on the survey day and willing to participate were included in the study. The purpose of the study was explained and informed consent was obtained from only 190 elderly respondents. A semi-structured questionnaire was designed which consisted of socio-demographic profile and information regarding risk factors of depression. Patient Health Questionnaire (PHQ-9) scale was used to assess the depression among the respondents.¹² The socio-demographic information obtained includes the age, gender, educational and occupational status of the respondents. Socioeconomic status was calculated by using Kuppaswamy's classification.¹³ Other risk factors for depression included personal income, past history of depression, perceived health status and associated co-morbidities among the participants. The Patient Health Questionnaire (PHQ-9) scale was used to screen depression. The PHQ-9 is the questionnaire meant for common mental disorders designed for use in primary care that reflects DSM-IV diagnostic criteria for the depression, and so can be used as a diagnostic tool for major and minor depression. Depression severity can also be assessed with the PHQ-9 and can be graded as minimal, mild, moderate, moderately severe and severe depression.¹² PHQ-9 is a promising depression scale that has been validated with an elderly population in a primary care setting.¹⁴ Statistical measures obtained were proportions, mean and standard deviation. Multiple linear regression analysis was performed to evaluate the various risk factors for depression.

RESULTS

Table 1 represents the baseline characteristics of the respondents. The mean age of the participants was 65.62 ± 5.47 with the age range of 60 to 89 years and most of them, 75 (39.5%) were in the age group of 60-64 years. Males accounted for 121 (63.7%) of the total sample and 135 (71.1 %) belonged to the lower socioeconomic class. Majority of them 159 (83.7%) were illiterate, whereas 25 (13.2%) were educated up to schooling. Of the total sample 89 (46.8%) rated their perceived health as poor and 121 (63.6%) were having some or other co-morbidities.

Table 1: Baseline characteristics of respondents

Characteristics		Number	Percentage
Age(in years)	60-64	75	39.5
	65-69	70	36.8
	70-74	27	14.2
	>75	18	9.5
Sex	Male	121	63.7
	Female	69	36.3
Education	Illiterate	159	83.7
	Schooling	25	13.2
	Tertiary	6	3.3
Socio Economic Status	Middle	55	28.9
	Lower	135	71.1
Living Status	Living with family	134	71
	Alone / with Relative	56	29.4
Perceived Health Status	Poor	89	46.8
	Good	101	53.2
Presence of Co-morbidities	Present	121	63.6
	Absent	69	36.3

Table 2 shows the prevalence of depression among the respondents. Of the total sample 30 (15.8%) met the criteria for major depression and 55 (28.9%) met

the criteria for minor depression, whereas 105 (55.3%) were having no depression as per PHQ-9 scale.

Table 2: Prevalence of depression among respondents

Prevalence of Depression	Number	Percentage
No Depression	105	55.3
Minor Depression	55	28.9
Major Depression	30	15.8

Table 3 represents the severity of depression as per PHQ-9 scores. In the context of the severity of depression 34 (17.9%) were scored for moderate depression, 27 (14.2%) were scored for moderately

severe depression and 2 (1.1%) were scored for severe depression, whereas 82 (43.2%) scored for mild depression.

Table 3: Severity of depression as per PHQ 9 Scores

Prevalence of Depression	Number	Percentage
None	45	23.7
Mild	82	43.2
Moderate	34	17.9
Moderately Severe	27	14.2
Severe	2	1.1

A multiple linear regression analysis was performed to evaluate the various risk factors for depression among the respondents. Socioeconomic status ($p =$

0.018), past history of depression ($p = 0.019$), perceived poor health status ($p = 0.011$) were significantly associated with depression.

Table 4: Evaluation of risk factors of depression among respondents

Risk factors	B	t	P
Age	.080	1.137	0.252
Sex	.818	.970	0.333
Literacy	.684	1.638	0.103
Total score (SES)	-.261	-2.379	0.018
Living status	-.676	-.472	1.637
Past history of depression	1.083	1.171	0.019
Perceived health	2.316	2.585	0.011
Present co-morbidities	-1.335	-1.415	0.159

DISCUSSION

In this study, the overall prevalence of depression was 44.7%, out of them 15.8% met the criteria for major depression. Similarly in the context of the severity of depression, 33.2% were scored for moderate to severe depression. A high prevalence (52.2%) of depressive disorders was observed among the elderly ≥ 60 years in the study conducted by Nandi *et al*, in the rural areas of West Bengal.¹⁵ Whereas Barua *et al*,¹⁶ and Ramachandran *et al*¹⁷ reported the prevalence of depressive disorders in the elderly population to be 21.7%, and 24.1% respectively. The differences in prevalence rate may be attributed to the different cross cultural settings or use of the instrument for evaluating the depression. Among the various risk factors lower socioeconomic status, past history of depression, perceived poor health status were significantly associated with depression. The association between lower socioeconomic status and depression is well documented. Low socioeconomic status not only

increases the risk of onset, it also increases the risk for persistence of depression. Depression could be a result of the higher burden of socioeconomic problems and lack of buffer mechanism for stress like coping style, self-esteem, mastery, and locus of control where as upper socioeconomic classes are better endowed with this mechanism. 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.¹⁸ In a prospective community based study Schoevers *et al*, showed that older individuals with a previous history of depression are more vulnerable to relapse.¹⁹

A meta-analysis conducted by Chang-Quan *et al*, revealed that poor self-rated health status and the presence of chronic disease are risk factors for depression among the elderly. Although Poor self-rated health is viewed as a concomitant phenomenon of depression Chang-Quan *et al*, in their meta-analysis showed that poor self-rated health status is a

more significant risk factor for depression than the presence of chronic disease.²⁰

Barua et al, in their systematic review identified the potentially modifiable risk factors for depression in the geriatric population which includes low socioeconomic status and chronic co-morbidities.⁹

CONCLUSION

The high prevalence of depression observed among the studied population requires attention. Poor socioeconomic status, perceived poor health status, past history of depression are significant risk factors for depression. There is a need for screening and implementation of effective intervention strategies for early identification and treatment of depression among this vulnerable population.

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