



A STUDY ON DEPRESSION AND ITS ASSOCIATED RISK FACTORS AMONG ELDERLY IN URBAN
FIELD PRACTICE AREA OF SHRI B.M.PATIL MEDICAL COLLEGE, VIJAYAPUR

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ABSTRACT

Introduction: Depression is one of the most common mental health disorders and is represented as an emerging public health problem. According to the Diagnostic and Statistics Manual of Mental Disorders V (DSM V), depression is characterized by the presence of five or more symptoms for a period of 2-week and represent a change from previous functioning, with at least one of the symptom of depressed mood or loss of interest or pleasure. Depression is also a major cause of morbidity and disability. Its burden of disease ranks high in many countries. Depression is ranked as the fourth disorder in the global burden of disease and by the year 2030, it is expected to be the highest disorder in developing countries

Objectives: To determine the prevalence of depression, its associated factors among adults in urban practice area, Vijayapur

Methods: A cross sectional study was conducted to assess depression among all patients aged 60 years, between Oct and Dec 2015. A sample of 200 patients was included in the analysis. A total score of 10 in the PHQ-9 was considered as major depression

Results: The prevalence of severe depression was 12% and mild depression was 23.5%. The major depression was significantly higher in females than males and among non working elderly. The prevalence was rising significantly with advancing age, and high in elderly who were living single or widowed. A multiple linear regression analysis was performed to evaluate the various risk factors for depression among the respondents. Age, whether family living together or not, history of sleep disturbance and past history of mental illness were significantly associated with depression.

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INTRODUCTION

Depression is found to be the second leading cause of disability worldwide by 2020¹. However, prevalence of depression is higher in elderly when compared to others. Whatever the outcomes, depression in elderly poses a real threat. Firstly there are many hurdles and problems in diagnosing the condition especially in the geriatric age group². The presence of multiple medical problems further confuses the diagnosis and the priority of treatment given to the patient with the presenting symptom. In the outpatient setting, there are tendencies by the health care providers to miss the diagnosis and not giving proper treatment to the patients³.

According to the Diagnostic and Statistics Manual of Mental Disorders V (DSM V), depression is characterized by the presence of five or more symptoms for a period of 2-week and represent a change from previous functioning, with at least one of the symptom of depressed mood or loss of interest or pleasure⁴. Depression causes increased morbidity and mortality. It increases demand on relatives, social and health services. Depression causes disability in its own way and also adds to disability from physical disorder leading to greater risk of hospitalisation³. Depression is also an independent risk factor for other illnesses. It has been shown that it is associated with stroke, both in western and eastern culture. In

older group of people, it is linked with heart failure. In women over 50, being depressed is associated with a higher than expected rate of hip fracture. Depression can also lead to suicide, which accounts for the loss of about 850000 lives every year^{1,2}.

Among the aged population, depression presents with signs of depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep, reduced appetite, energy deficient and poor concentration. These problems can become chronic or recurrent, and can lead to substantial impairment in the ability to carry out everyday responsibilities⁵.

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. There are no published studies available on depression and its associated risk factors among elderly, especially those who are residing in Northern Karnataka. In this background the present study will be conducted in Vijayapur District of Karnataka to estimate the prevalence of depression and associated risk factors among elderly population in urban field practice of Shri B.M.Patil Medical College, Vijayapur.

Objectives

To determine the prevalence of depression, its associated factors among adults in urban practice area, Vijayapur

MATERIALS AND METHODS

A cross sectional study was carried out in the urban health training center (UHTC) Kalalgalli, a field practice area of the Department of Community Medicine, Shri B.M.Patil Medical College, Vijayapur, during October to December 2015. Kalalgalli was having a population of 10000 as per the data obtained by survey, conducted by the department of community medicine. A list of the total 227 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 200 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. The socio demographic information obtained includes the age, gender, educational and occupational status of the respondents. Socioeconomic status was calculated by using Kuppuswamy's classification. 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. 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 Socio Demographic characteristics of the respondents (n= 200)

		Number	Percentage
Age	60-64	57	28.5%
	65-69	73	36.5%
	70-74	41	20.5%
	>75	29	14.5%
Sex	Male	119	59.5%
	Female	81	40.5%
Education	Illiterate	111	55.5%
	School	75	37.5%
	College	14	7%
Socio economic status	Middle	93	46.5%
	Lower	107	53.5%
Living health status	Living with family	114	57%
	Alone	86	43%
Perceived health status	Poor	167	83.5%
	Good	33	16.5%
Presence of co-morbidities	Present	179	89.5%
	Absent	21	10.5%

Table 1 represents the socio demographic characteristics of the respondents. It was found that age of the respondents ranged from 60 to 81. The mean age of the respondents was 68±3.49. Most of the respondents were in age group of 65-

69(36.5%) followed by the age group of 60-64(28.5%). Majority of the respondents were male (59.5%) followed by females (40.5%). Almost 56% of the respondents were illiterate, followed by only 37.5% had education level up to high school. Socioeconomic status was calculated by using Kuppuswamy's classification and it was found that 53.5% of the study sample belonged to lower class and 46.5% belonged middle class. 57% of the people responded that they reside with the family, while 43% told that they stay alone, on their own. 83.5% perceived that their health is in bad status, while 89.5% of the respondents replied that they were suffering from one or the other health related co-morbidities.

Table 2 Prevalence of depression (n=200)

Prevalence of Depression	Number	Percentage
None	99	49.50%
Mild	47	23.50%
Moderate	30	15%
Severe	24	12%

Table 2 represents the severity of depression as per PHQ-9 scores. In the context of the severity of depression 99 (49.5%) scored for no depression, 47 (23.5%) were scored for mild depression and 30 (15%) were scored for moderate depression, whereas 24 (12%) scored for severe depression.

Table 3 Factors associated with elderly depression by logistic regression in elderly patients

Variables	Odds Ratio	95% CI	p value
Age	60-64	1	
	65-69	1.653	0.63- 4.21
	70-74	1.044	0.71- 3.05
	>75	1.474	0.12- 9.11
Gender	Male	1	
	Female	1.87	1.28-2.19
Marital status	Married	1	
	Widowed	2.08	1.13-3.42
Total Income	>10000	1	
	5000- 9999	1.558	0.15- 15.71
Family living together	<5000	0.332	0.08-1.325
	Yes	1	
Presence of care taker	No	2.83	1.97-3.67
	Present	1	
Presence of medical problems	Absent	1.56	1.17-1.96
	Absent	1	
Sleep disturbance	Present	2.42	1.51-3.31
	Absent	1	
Past history of mental illness	Present	1.36	1.12- 1.92
	Absent	1	
Family history of mental illness	Present	1.97	1.73- 2.12
	Absent	1	
Occupation	Present	2.17	1.89- 2.93
	Working	1	
	Not Working	3.263	1.486-7.167

A multiple linear regression analysis was performed to evaluate the various risk factors for depression among the respondents. Age, whether family living together or not, history of sleep disturbance and past history of mental illness were significantly associated with depression.

DISCUSSION

In this study, the overall prevalence of depression in the elderly was found to be 50 out of which 24% were mildly to moderately depressed while 12% were severely depressed. Increasing age was found to be a risk factor (p=0.003). A high prevalence (52.2%) of depressive disorders was observed among the elderly 60 years in the study conducted by Nandi

*et al*⁶, in the rural areas of West Bengal.¹⁵ Whereas Barua *et al*⁷, and Ramachandran *et al*⁸ reported the prevalence of depressive disorders in the elderly population to be 21.7%, and 24.1% respectively. A possible explanation for this could be the fact that the older a person gets, the greater the likelihood of suffering from more age-related degenerative changes, co-morbid conditions and disabilities which are associated with increased prevalence and morbidity of depressive illness. The differences in prevalence rate may be attributed to the different cross cultural settings or use of the instrument for evaluating the depression.

We found depression to be more common among the female subjects than the males though not statistically significant. Prior international experience is that female gender is a strong risk factor for depressive symptoms among the elderly. In Nigeria, similar results were obtained in a study. Possible explanation could be that most women have a higher average number of co-morbid medical conditions a relatively lower educational background and a higher impact of widowhood than their male counterparts¹⁰, both of which are risk factors for depression in the elderly⁹. In India, the joint families are gradually turning into nuclear families. The status of the elderly is also changing with the present family system and leading to feeling of loneliness among them¹¹.

In this study, Widowhood was also found to be a risk factor for depression though not statistically significant. This is consistent with most other findings in a study done by Mills TN *et al*¹², and Sidik SM *et al*¹³. This could be attributed to lack of social support and decreased income especially on the part of the women, who had lost their breadwinner, who themselves for the most part had little formal education and skills and who, had often been dispossessed of their family belongings by negative cultural practices.

In this study, three factors were found to be significantly related to the incidence of elderly depression. They were, staying with their family or not, history of sleep disturbance and history of mental illness.

Nearly 43% of the elderly were staying alone and it was found that depression was found to significantly associated. This is similar to a study conducted by Djernes J.K. *et al*, and Gazmararian J *et al*¹⁵. Possible explanation is that, many of its young inhabitants are away working in the other places, only to come back during festive seasons, school holidays and when the parents fell sick. For the elderly, the presence of their children is very precious. The other factors in the domain of family dynamics; type of people staying together, role played by the elderly in making decision in the family, the presence of someone to express feeling. Staying together with such large number of people may dilute the effects of the depression.

Also elderly who gave the history of sleep disturbances had significant associated with the prevalence of depression. This was similar to a study done by Chang-Quan *et al*¹⁶ and Serby M *et al*¹⁷. A meta-analysis conducted by Cole M.G *et al*¹⁸, determined sleep disturbance to be an important risk factor for depression among elderly community subjects.

Prior history of depression was found to be significantly associated with a higher prevalence of depression. This is in agreement with findings of Kraji *et al* and Heun *et al*.

CONCLUSION

The present study found a significant proportion of the rural elderly population to having depressive symptoms. Several important risk factors were found to be associated with depression. Identification of these risk factors among the elderly population and their use to identify the individuals at higher risk for depression can help the health care providers to plan for better care of the elderly and reduce the severity of the occurrence of depression among them. 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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