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Research Article

PREVALENCE OF DEPRESSION AMONG GERIATRIC POPULATION

Lt Col Sindhu Gopal*, Lt Col Meena Chacko, Brig Punita A Sharma, and Lt Col D Mitra

Dept of Psychiatric Nursing, CON, AFMC, Pune

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ABSTRACT

Background : Over the last 70 years, life expectancy has increased in India. According to 2016 report by the ministry for statistics and programme implementation, India has 103.9 million elderly people above age 60, about 8.5 percent population. Indian elderly population is currently the second largest in the world. 20% of illness in the elderly is due to mental or a neurological illness and the most common being dementia and depression. Objectives of the study was to – assess the prevalence of depression among geriatric population attending OPD of selected tertiary hospitals and associate with selected demographic variables.

Methodology: A cross sectional descriptive study was conducted in the year 2016-2017 on geriatric population attending Out Patient Departments of selected tertiary hospitals using a self administered semi structured questionnaire. The questionnaire included section I, socio demographic data and section II Geriatric Depression Scale Short Form (GDS-SF). 120 samples selected by stratified simple random sampling. Ethical clearance obtained from Institutional Research Ethical committee. Permission obtained from tertiary hospital and informed consent was taken. Data collected was analyzed using SPSS 19 and interpreted the depression levels and their associations with the socio demographic variables.

Results: Prevalence of depression was 24.2%. Significant association exists between depression and marital status (p value - 0.003) and living arrangement (p value - 0.006).

Conclusion: With the gradual greying of population expected in India over the coming time, maintaining a good quality of life for the senior citizens is the need of the hour.

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INTRODUCTION

Life expectancy has increased in India over the last 70 years. In 1951, life expectancy at birth was 36.7 years and as per the recent data of 2012, it is reported to be about 67 years.¹ Resultantly, the proportion of the elderly population in India has risen from 5.6% in 1961 to 8.5% in 2011.²

According to 2016 report by the ministry for statistics and programme implementation, India has 103.9 million elderly people above age 60, about 8.5 percent population.³ The Indian aged population is currently the second largest in the world and is projected to rise from 70 million, according to the National Census of 2011, to almost 324 million by the year 2050, with serious social, economic and public health consequences.⁴ Elderly will form 19% of the total population.⁵ Geriatric psychiatry is concerned with preventing, diagnosing and treating psychological disorders in older adults. Persons with a healthy mental adaptation to life are likely to live longer than those stressed with emotional problems.

Studies have shown that 5% of people seeking help in a tertiary care or general hospital setting happen to be older than 60 years. A recent study using Geriatric Depression Scale⁶ reported a prevalence of 45.9%. Similar rates were reported from West Bengal⁷ and Uttar Pradesh⁸. A study from a rural community near Vellore in Tamil Nadu⁹ reported a prevalence of 12.7% for depression.

MATERIALS AND METHODS

This was a cross sectional descriptive study that was conducted in the OPDs of selected tertiary hospitals of Pune for a period of 6 weeks in Sep-Oct 2016. Stratified simple random sampling was used. Sample size was 120 calculated from the previous studies using the formula

$$n = \frac{(Z_{\alpha})^2 pq}{E^2}$$

n = Required Sample Size

Z_α = Confidence interval at 95 % (standard value is 1.96)

*Corresponding author: Lt Col Sindhu Gopal
Dept of Psychiatric Nursing, CON, AFMC, Pune

p = 45% (Prevalence of cognitive dysfunction and depression in geriatric population as per previous studies)

Margin Of error = E = 9%

q = (1-p) = (100 – 45) = 55

Confidence level = 95%

n= (1.96)²45 × 55/(9)²

n = 3.84x45 x55/81

n = 117

Sample Size :120

Inclusion Criteria

- Age more than 60 yrs
- Attending Out Patient Department of tertiary hospital
- Willing to participate

Exclusion Criteria

- Person with Acute Delirium
- Individual with brain SOL/CNS infections
- Suffering from major mental illness
- Person suffering from oncological conditions
- Recent bereavement
- Suffering with HIV infection
- Post stroke
- Severe head injury

Tool and technique

- The Section- I of the tool consisted of the variables which have an effect on depression level of geriatric population such as Age,Gender,Education,Marital status,Mobility,Living arrangement,Medical illness,Family income,Individual income.
- Section- II is the Geriatric Depression scale short form to assess depression which has 15 questions.
- Fischer’s exact test is used for inferential statistics and SPSS 19 version is used for statistical analysis.

Legal and Ethical Aspects

Permission was taken from the Head of the institutions where the study was conducted. Ethical clearance from IEC obtained. Written Consent from participants taken.

RESULTS

- Prevalence of depression-24.2% (Mild-18.4%.Moderate-3.3%,Severe-2.5%)
- Living arrangement and marital status have significant association with depression

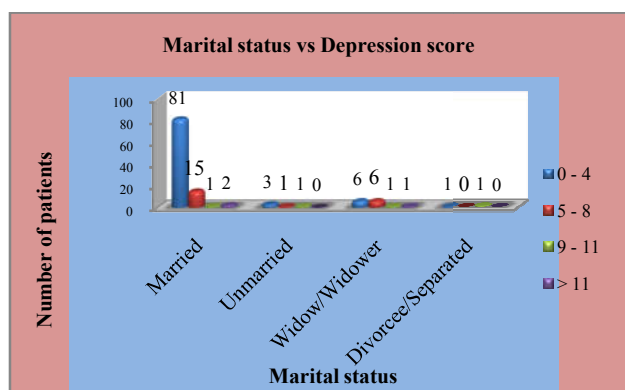


Figure 1 Bar diagram representing association of Depression and marital status

Table 1 Distribution of Socio demographic variables in frequency and percentage

Factors	Classification	Frequency(f)	Percentage (%)
Gender	Male	92	77
	Female	28	23
Age	60- 70 yrs	74	61.7
	71 – 80	36	30.0
	> 80	10	8.3
Education	60- 70	74	61.7
	Primary	9	7.5
	Secondary	66	55.0
	Higher secondary	20	16.7
	Graduate	19	15.8
Marital status	Post graduate	6	5.0
	Married	99	82.5
	Unmarried	5	4.2
	Widow/Widower	14	11.7
	Divorcee/Separated	2	1.7
Mobility	Ambulatory	97	80.8
	Ambulatory with Support	22	18.3
	On Wheel chair	1	0.8
Living arrangement	Alone	8	6.67
	With family	107	89.17
	Others	5	4.17
Medical illness	Hypertension	41	34.17
	Heart Disease	24	20.00
	Diabetes Mellitus	20	16.67
	Renal illness	17	14.17
	Orthopedics	15	12.50
	Gynecological	3	2.50
Family income	No income	24	20.1
	up to 10000	25	20.8
	10001 – 20000	43	35.8
Individual income	> 20000	28	23.3
	No Income	39	32.5
	up to 5000	29	24.2
	5001 – 10000	21	17.5
	> 10000	31	25.8

Table 2 Distribution of prevalence of depression in frequency and percentage

Depression score	Frequency (f)	Percentage (%)
0-4(No depression)	91	75.8
5 – 8(Mild)	22	18.4
9-11(Moderate)	4	3.3
> 11(Severe)	3	2.5
Total	120	100.0

Table 3 Association of Depression score and living arrangement in frequency and percentage n=120

Living arrangement	Depression score group				Total number	p-value
	0 - 4	5 - 8	9 - 11	> 11		
Alone	4(50)	3(38)	0	1(12)	8	0.006
With family	86(80)	16(15)	3(3)	2(2)	107	
Others	1(20)	3(60)	1(20)	0	5	
Total	91	22	4	3	120	

*Figures in parenthesis represent percentage

DISCUSSION

Description of the Socio Demographic Variables

In the present study 76.7% were males and 23.3% were females, in contrast with a study by Anita Bhaskar *et al* (2014)¹⁰. There were 43% males and 57% females among the subjects. Males accounted for 63.7% in a study by Bodhare *et al* (2013)¹¹ which is similar to the present study.

In the present study the age group was divided into three class intervals. The majority of the samples were in the age group 60-70 yrs (61.7%), and minimum were in the age group of >80 (8.3%).

Mean age of the population was 65.75 ± 5.78 years, with male having mean age of 66 ± 5.9 years and female 65 ± 5.7 years, in a study by Inderjeet Gambhir (2014)¹² which is similar to the present study.

Majority had education up to secondary (66%). Postgraduates were 5%. Study by Anita Bhaskar¹⁰ had primary level of education >50%.

82.5% were married and 11.7% widow/widower. Widowed (22.54%) were there in a study by Swapnil Yadav (2015)¹³.

80.8% were ambulatory and 18% were ambulatory with support. 23.9% had family income >Rs.20000 and 17.9% had no family income. 28.9% were having no individual income whereas 27.2% had individual income >Rs.10000.

Assessing the Prevalence of Depression among geriatric population

91 (75.8%) of the total samples had no depression, 22 (18.3%) had mild depression, 04 (3.3%) had moderate depression and 03 (2.5%) had severe depression. The total prevalence of depression was 24%. In a study by Sankar *et al* (2011)¹⁴ 41.2% were normal, 37.8% were having mild depression and 21% were severely depressed.

The present study shows same prevalence as in the study by Barua A and Kar N (2002)¹⁵ as the prevalence of depression in elderly population was determined to be 21.7% (95% CI = 18.4 - 24.9).

Prevalence of depression was found to be 36% in urban poor locality of Bengaluru as per a study by Sanjay TV *et al* (2012)¹⁶, by applying GDS-15 Kannada version which is higher than the present study.

The overall prevalence of depression in elderly Chinese people was found to be 24.3% (95% CI: 20.8%–28.3%) (Giri M, Chen T 2016)¹⁷.

Association of Depression with the Socio Demographic variables

In the study by Naveen Kumar D, Sudhakar TP (2013)¹⁸ prevalence of depression was 44.8% (51.0% women, 39.6% men); with relation to age, gender, literacy and economic status, there were significant differences observed.

In terms of socio-demographic variables, female gender, widowed state, unemployed condition, low social class, nuclear family, living alone, physical illness and sensory deficits were significantly associated with depression in old age as per the study by Ramachandran (1982)¹⁹. Other studies by Seby K *et al*,

Javed S *et al* and Kamble SV *et al*²⁰ showed high level of depression among females as compared to males and this difference was statistically significant in their studies showing sex as a risk factor associated with depression.

In the present study 18% married, 40% unmarried, 57% widows and 50% divorcees had depression. p value - 0.003 (<0.05). So there is significant association exists between depression and marital status. It is found that marital status, increasing age, and cognitive impairment were associated with high risk of late-life depression. (Giri M. 2016)¹⁷. Similar findings have been reported among the geriatric population in Pakistan. (Taqui AM 2007)²¹.

On the contrary, a study by Prasanth AK *et al* (2015)²² the major factors influencing depression based on probability were financial fear and income insufficiency. The prevalence was 58.5%. Similarly, Socio-demographic correlates like age, living arrangement, working status, chronic illness were significantly associated with depression (P<0.05) among elderly in the study by Swapnil Yadav (2013)¹³. Almost 34% respondents were suffering from depression who were living alone as compared to 11.52% found among those who were living with their family.

In the present study. 50% staying alone, 20% with family and 80% stay by other means had depression. p value - 0.006 (<0.05). So there is significant association exists between depression and living arrangement.

In the present study 24% had depression along with hypertension, 29% had mild depression with heart disease, 20% had depression along with diabetes, 18% had mild-moderate depression in renal illness, 33% had depression with orthopaedic problems, 67% had mild depression with gynaecological problems. p value - >0.05. There is no significant association between depression and medical illness. A study by Swapnil Yadav (2013)¹³ shows out of total 141 (52.22%) respondents who were suffering from different types of chronic morbidities like diabetes, hypertension, visual impairment, loco motor disabilities etc, 21.28% respondents showed presence of depression.

CONCLUSION

All health care professionals who deal with older people should be able to administer a short depression screening test suitable for their workplace, and be aware of its limitations. They should also be aware of the longer tests available and their potential for a more in depth assessment. The present study found a significant proportion of the elderly population 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 them can help the health care providers to plan for better care of the geriatric population and reduce the severity of the occurrence of these diseases among them. Knowing the prevalence rate of depression in elderly, together with the associated factors may inform policy makers and aid in designing better geriatric friendly health services.

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