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Geriatric Medicine

An Observational Study of Depression among Elderly Patients Attending Tertiary Care Hospital

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Original Research Article

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Abstract: The elderly population is on the rise in India. Mood disorders particularly Depression are prevalent in this group and is considered as silent Epidemic. Several studies in India conducted in various set ups have given different results ranging from 11- 60%. Geriatric Depression Scale- short form is found to be an useful tool to screen particularly if used in local language. To identify prevalence of depression among older patients regularly attending the exclusive Geriatric Outpatient clinic of Government General Hospital Chennai- a tertiary care hospital and to find out the correlation of various sociodemographic factors and comorbid conditions with depression. 350 elderly patients were interviewed with a pre designed questionnaire in a calm environment. The selected participants were questioned about their educational status, socio economic status, living arrangement and whether economically dependent or independent. They were gently probed about possibility of abuse- if so by whom. The comorbidities were listed using their OP records of geriatric and other departments. All the participants were screened for depression using Geriatric Depression scale (short form) Tamil version. Based on the score were grouped in to not depressed / depressed. Among the 350 participants, 170 were males and 180 were females with the mean age being 67.7. The prevalence of depression was 64% and the proportion of moderate and severe depression was high. Low income, living alone, being dependent, experiencing emotional abuse and 2 or more comorbid conditions were found to be having statistically significant correlation. The prevalence of depression is high among elderly attending the exclusive geriatric outpatient clinic of our urban tertiary care hospital. There was significant correlation between chronic systemic diseases and depression. Physicians should keep it in mind and try to unfold and address the depression since they can affect the course of the disease.
Keywords: Geriatric depression, urban, tertiary care hospital.

INTRODUCTION

The elderly population in the world is increasing rapidly. India is also witnessing an explosion of elderly population and is expected to be about 20% of total population by 2050[1]. As the life expectancy increases, the prevalence of disabilities and diseases also increase. Apart from physical health problems, elders are also prone to develop mental health problems. Increasing burden of geriatric Mental health in India is perceived as silent epidemic. Mental disorders frequently encountered in India are Dementia and Mood disorders particularly depression [2]. The prevalence of depression is found to be around 11- 60% as found in various hospital and community based studies and is higher than world scenario [3]. In addition to typical life stressors, the mental health of elderly is also influenced by various social, psychological and economic factors.

As the physical and mental health is closely related and influences each another. So screening elderly individuals for psychiatric comorbidities is important. Early identification and appropriate treatment of one, significantly influences the outcome of other illnesses as well as functional integrity of the older patient.

The 15-item Geriatric Depression Scale (GDS-15) is one of the most widely used screening instruments for depression among the elderly. It was developed to give a simple, easy to use approach to screening for depression in older adults. The advantage of the GDS for medically ill populations is that the instrument purposely does not assess the somatic symptoms of depression as to not inflate the total score by inadvertently attributing symptoms of medical

illness to depression. A risk in this approach is that the scale might underestimate cases of depression by systematically excluding those symptoms of depression that are somatic [5]. In view of this, we conducted a study in the setting of outpatient geriatric clinic of Rajiv Gandhi. Government General Hospital, an urban tertiary care hospital located in South India

AIM AND OBJECTIVES

To identify the prevalence of depression using GDS-Short form in local language (Tamil) ,in the elderly attending Geriatric Outpatient department.

To study the association of depression with various socio- demographic factors

To identify the associated co-morbid medical illnesses in depressed elders

METHODOLOGY

This cross sectional study was conducted in the outpatient Department of Geriatric Medicine, Madras Medical College/ Rajiv Gandhi Government General hospital, Chennai. After obtaining informed consent, 350 patients (both males and females) attending Geriatric OPD aged 60 and above were included in the study. They were interviewed face to face in a calm environment using predetermined questionnaire. People who are non- communicative, cognitively impaired and unwilling to participate were excluded.

The selected participants were questioned about their educational status (Literate/ Illiterate), socio economic status (Lower/middle or higher income group), living arrangement and whether economically dependent or independent. They were gently probed about possibility of abuse- if so by whom. The comorbidities were listed using their OP records of geriatric and other departments. All the participants were screened for depression using Tamil version of Geriatric Depression scale (short form). The total score is 15, 0-4 were taken as no depression, 5-8 as mild depression, 9-11 moderate and 12 and above severe depression[4].

RESULTS

Age and Gender

There were 350 total participants. Of them 170 were males and 180 were females constituting 48.6% and 51.4% of study group respectively. The participants range from 60 years old to 92 years.59.7% of study population were young old (60-69 Yrs), 30.8% were in 70-79 years of age and the very old elderly were 9.5% of the group. The mean age of the study participants was 67.71 with standard deviation of 6.81. The 95 % confidence interval of the age was 67.99 -69.42 which shows that almost 95% study participants were in the age group of 68-69.

Severity of depression

Out of the 350 participants, 224 i.e., 64% scored above 4/15 in GDS. Out of them, 35 were having mild depression, 90 moderate depression and 99 severe depression. In other words, majority of them were severely depressed. The mean GDS of the study participants was 10.99 with standard deviation of 4.03.

Out of 170 men, 13.5% were mildly depressed and 27.6% moderately and 24.7% severely depressed. Out of 180 women, the proportions were 6.6%, 23.8% and 31.6 % respectively. In all the age groups, moderately and severely depressed collectively was more than that of mildly depressed? 58 males and 68 females were not depressed constituting 36% of study

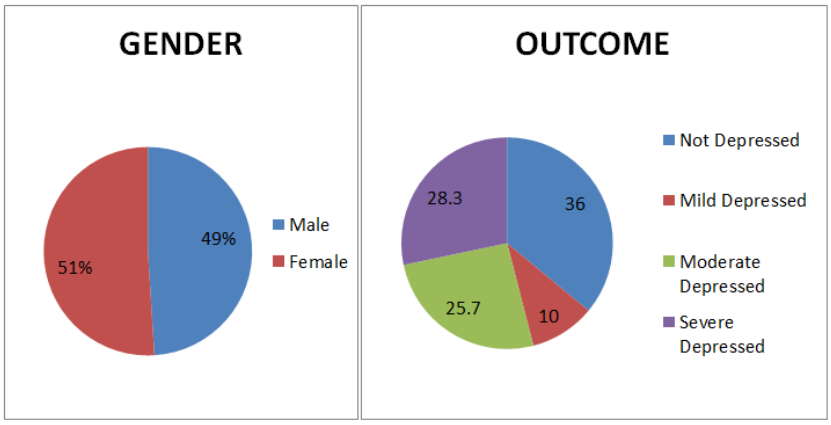

Fig-1

The other socio-demograpic details of the study like gender, literacy, socio-economic status, dependency status, living arrangement are mentioned in table no 1.

Literacy

In this study majority (227/350) had primary school education only followed by those who were totally illiterate (108/350) .only 15 of the participants had college level education. About 64% of the school

level literates we depressed and 68% of illiterates were depressed though it was not statistically found significant.(P Value-0.300) Socio economic status.

Table-1: Socio Demographic Details

	Variable	Total
Age group	60-69	209 (59.7%)
	70-79	108 (30.8%)
	80 and above	33 (9.5%)
Sex	Male	170 (48.6%)
	Female	180 (51.4%)
Literacy	Low	238 (68%)
	Middle	110 (31.4%
	High	2 (0.6%)
Economic status	Dependent	182 (52%)
	OAP (govt. Aid)	72 (20.6%)
	Others (pension ETC.)	96 (27.4%)
Living arrangement	Alone	77 (22%)
	Spouse	95 (27.1%)
	Joint	164 (46.9%)
	Home	14 (4%)
Abuse	Yes	87 (24.9%)
	No	263 (75.1%)
No. of risk factors	1	55 (15.4%)
	2	114 (32.9%)
	3	88 (25.1%)
	4	79 (22.6%)
	5	14 (4%)

About 68% (238/350) were belonging to low socio-economic status and of them about 71% were depressed. In persons among middle income group 51% were depressed. In both the groups the percentage of moderately and severely depressed was way higher than mildly depressed and there was significant statistical correlation the P value being 0.0001.

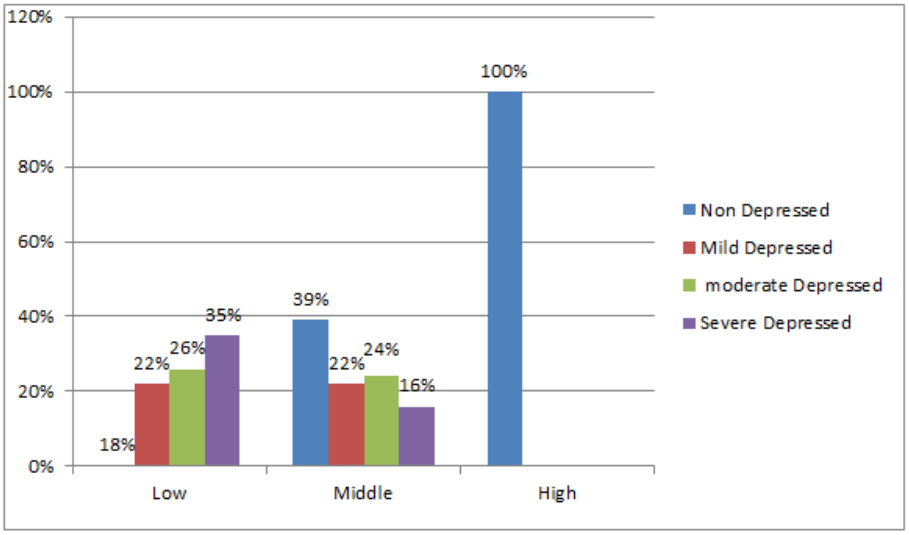

Fig-2

Economic dependence

Among the participants, 52% were dependent on somebody mostly their sons/daughters for livelihood. About 21% were getting government aid in the form of old age pension (1000 Rs per / month/person in TN). About 27% were getting income from other sources like working as watchman, house maid, rent from their property or pension from their job. There was no statistically significant correlation between income pattern and depression (P Value-0.484).

Living arrangement

The prevalence of depression was higher in those who were living alone and at old age homes compared to those living with spouse or as joint family. It was found to be statistically significant too with P value 0.0001.

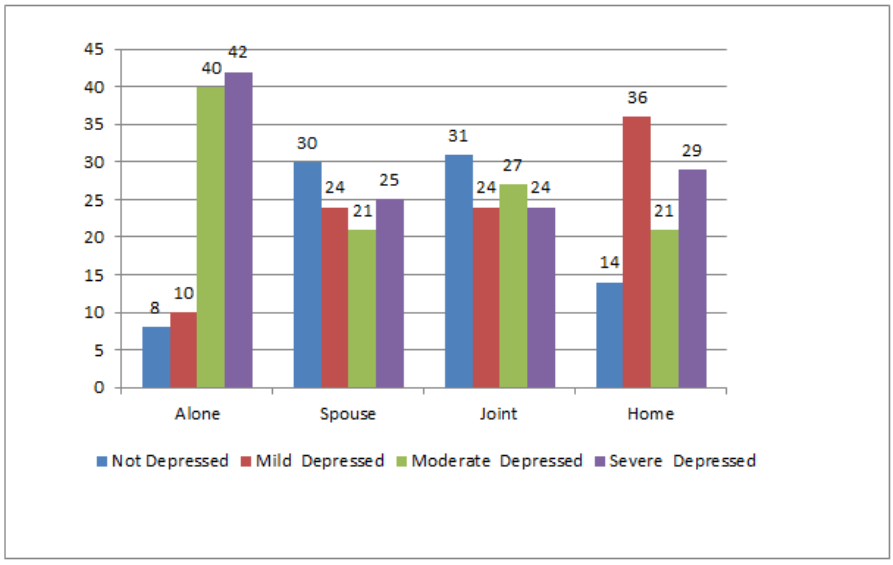

Fig-3

Abuse

Among 350 participants, 87(25%) reported verbal or emotional abuse. Those who were living in joint family and dependent reported more abuse. 75% reported no such abuse. There was statistically significant correlation between abuse and depression. P value-0.0001.

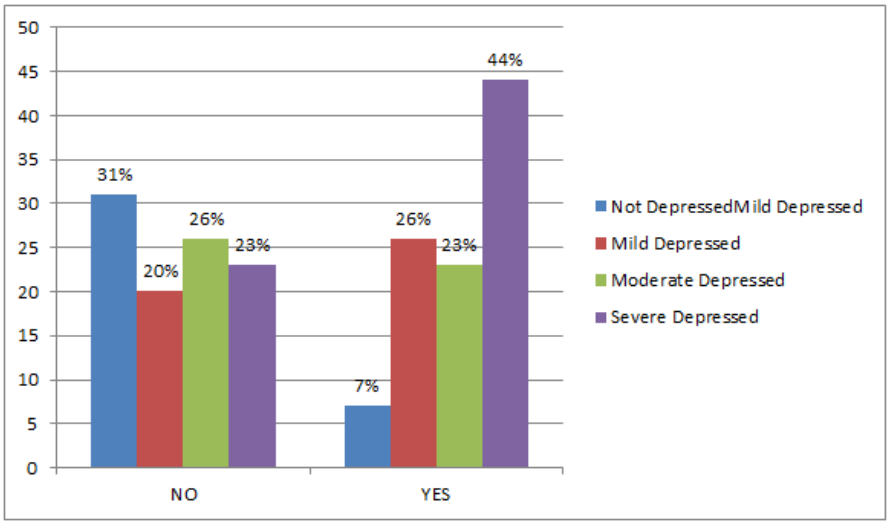

Fig-4

Co- morbid illness and depression

The common comorbidities found among the participants were HT, DM, CAD, and COPD, sequel of CVA, Parkinson's disease, Epilepsy, Thyroid disorders, musculoskeletal disorders, and chronic psychiatric disorders.

The association of Depression with comorbid conditions

There was statistically significant correlation between no of co-morbidities and depression. The prevalence was more in persons having 2 or more co morbid conditions. The P value was <0.0001; for increasing no of comorbidities.

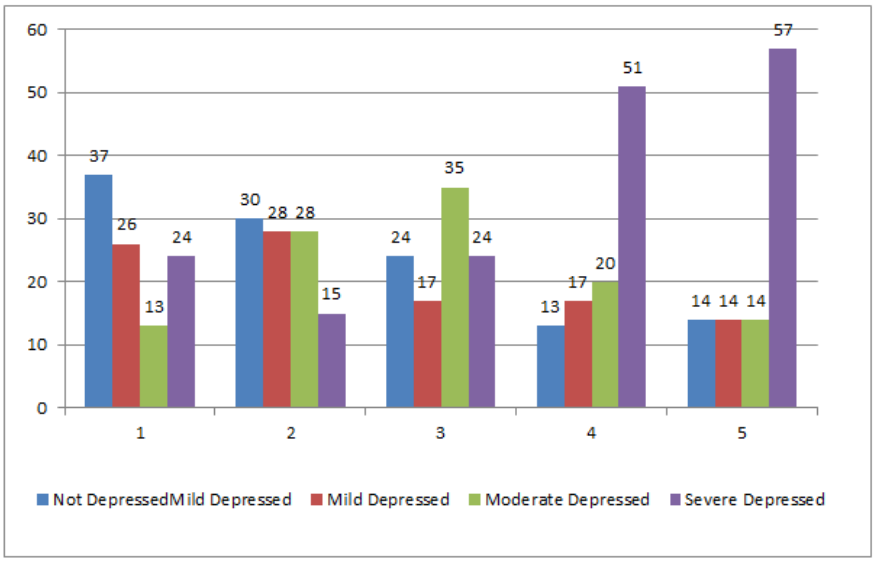

Fig-5

Table-2: Statistical association of risk factors with depression

Risk factor	Specification	Outcome		Chi-square	p-value
		Not Depressed	Depressed		
Age	60-70 years	93 (39.4%)	143 (58.0%)	11.9045	0.064
	71-80 years	28 (31.81%)	60 (68.1%)		
	Above 80	5 (19.3%)	21 (80.75%)		
Gender	Male	58 (34.12%)	112 (65.8%)	6.4208	0.093
	Female	68 (37.78%)	112 (62.2%)		
Education	School	82 (32.12%)	145(63.88%)	7.2274	0.300
	College	9 (60%)	6 (40%)		
	illitereate	35 (32.41%)	73 (67.59%)		
Income group	Low	70 (29.41%)	168 (70.59%)	18.994**	0.0001
	Middle	54 (49.09%)	56 (50.91%)		
	High	2 (100%)	0 (0%)		
Living arrangement	Family	68 (41.46%)	96 (58.54)	39.269**	0.0001
	Old age institution	7 (50%)	7 (50%)		
	Alone	9 (11.69%)	68 (88.31%)		
	With spouse	42 (44.21%)	53 (55.79%)		
Financial status	Dependent	62 (34.07%)	120 (65.93%)	5.478	0.484
	Old age pension (OAP)	23 (31.94%)	49 (68.06%)		
	Pension (other source)	41 (42.71%)	55 (57.29%)		
Abuse	Yes	108 (41.06%)	155 (58.94%)	18.3804**	0.0001
	No	20 (18.69%)	69 (79.31%)		
Number of chronic	1	29 (52.73%)	26 (47.27%)	50.24**	0.0001
comorbidities	2	50 (43.86%)	64 (56.14%)		
	3	30 (34.09%)	64 (65.91%)		
	4	14 (17.72%)	65 (82.28%)		
	5	126 (24.90%)	224 (75.10%)		

DISCUSSION

Several studies in India done at various set ups like community level, psychiatric outpatient clinics, inpatients in hospital, outpatient medical clinics and few old age homes try to measure the prevalence of depression in elderly. As in our study, GDS – short form was the screening instrument.

Screening the patients in local language is better than using the standard version. In this study, we used GDS Tamil version which was well validated using field studies like few other local languages in. India [6,7]. Usefulness of GDS in local language is also confirmed by fewer other international studies [8].

In this tertiary hospital based study, the prevalence of elderly with depression is about 64%.

Comparing with similar studies done in India, the study conducted by Dey *et al*. at geriatric clinic, Delhi reported 50% of prevalence [10] and a study done on sick geriatric patients by Raichandani *et al*. the prevalence was found to be 63%[11],though it was done in a smaller sample. Similarly an international study on 195 patients from 4 geriatric hospitals in North Korea also reported 78.4% prevalence [12].

This is higher than various community based studies done in India and Outside(13,14,15).only one study done by Nandi *et al*. done on rural community, west Bengal has reported a prevalence of 61%(16). Majority of the similar studies done in India are community based and the prevalence ranged from 8.9 to 62.1% [6]. In a review article reviewing world literature comparing with Indian scenario, Barua *et al*. Has mentioned that the median prevalence rate of depression in India is above 18% compared to that of 5.4 worldwide [9].

In this study, among the depressed, about 84% scored above 8 and were moderately and severely depressed. This was also observed by Vandana and all [17]. Regarding the association of various socio-demographic factors with geriatric depression, in our study, Low income group, dependent conomic status, Living alone, report of verbal abuse, 2 or more comorbid health conditions were significantly associated with depression. Several Indian studies in this regard have confirmed these observations [18, 19].

Increasing age is quoted as independent risk factor for development of depression in elderly; our study did not find any such correlation. This was also reported in other community based studies [13,21].This could be due to relatively lesser no of participants in the very old age group.

(Only 25% among depressed were above 75 years, only 9% of the depressed were above 80 years of age).one of the common observation in geriatric OPD is those who are very old and having multiple co morbidities find it difficult to access the hospital regularly. So a community based study with equal participation of very old may reflect true relationship between age and depression.

In addition to increasing age, female gender, illiteracy, and marital status were also not correlated with depression in our study, though some other studies conducted in India showed significant correlation [16]. In a study conducted in urban setting like ours, female gender, marital status, financial status were not found to be statistically significant [20].

Among 350 participants, 87(25%) reported verbal abuse. Those who were living in joint family and dependent reported more abuse. 75% reported no such abuse. There was statistically significant correlation between abuse and depression. The association between depression and abuse were reported in various international studies also [22-24].

As in the case of our study, most of the studies have found significant correlation if there are 2 or more comorbidities [6]. Specific disorders like SHT, diabetes with its associated complications, coronary artery disease and its complications, Post Cerebrovascular accident conditions- either alone or in combinations along with pain caused by musculo- skeletal disorders were associated with geriatric depression[21].

CONCLUSION

The present study which was done in a tertiary care hospital geriatric OP setting has shown higher prevalence of moderate to severe depression in elderly. Various socio demographic factors like lower socio economic status, economic dependency, loneliness and emotional abuse were identified as significant risk factors. An elderly with more than 2 comorbid health conditions are at higher risk of developing depression.

As in our urban study, the prevalence of depression among rural elderly could also be high. Since most of the rural elderly and elderly with multiple comorbidities are being treated by primary care physicians and specialists, sensitizing them for screening the elderly for depression also is very much needed.

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