

## Study of depression in the geriatric patients attending psychiatry OPD in a tertiary care hospital

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### Abstract

**Introduction:** Major depressive disorder is widely prevalent in the general population and depression in geriatric patients is quite common. Increasing geriatric population in the country coupled with lack of awareness of depression and therefore lack of adequate care may lead to the suffering of the elderly people. We attempted to study depression in geriatric patients and the associated risk factors.

**Aims:** Our aim was to study characteristics and associated risk factors of depression in geriatric patients attending the psychiatry outpatient department (OPD) for the first time.

**Materials and Methods:** A total of 100 geriatric patients aged above 60 years, attending psychiatric OPD for the first time were enrolled in the study. Informed consent of patients who agreed to participate in the study was taken and socio-demographic data collected. A 30 item Geriatric depression scale was used to assess the severity of depression. Cognitive functions were screened by using the Mini-mental status examination (MMSE) in those suspected of neuro-cognitive problems. We excluded patients having psychotic and substance use disorders and having cognitive impairment interfering with giving information.

**Results:** Headache and sleep disturbances were the most common presenting symptoms in geriatric patients with depression. The two non-modifiable risk factors found to be significantly associated with depression in the geriatric population were older age group and female gender. However, the potentially modifiable risk factors for depression in the geriatric population were low socioeconomic status, loss of a spouse, living alone, chronic co-morbidities, cognitive impairment, bereavement and restricted activities of daily living (ADL).

**Conclusion:** Geriatric patients attending psychiatry OPD primarily for their somatic symptoms should be evaluated for depression, as a high prevalence rate of depression was found among them. Better awareness regarding depression will help for early identification and treatment.

**Keywords:** Geriatric depression, Risk factors, Somatic symptoms.

### Introduction

India is the second most populous country in the world. Life expectancy has increased over the years. In 1951, life expectancy at birth was 36.7 years which increased to 67 years in 2012.<sup>1</sup> Consequently, the proportion of the elderly population in India has risen from 5.6% in 1961 to 9% by 2015 and projections are being made that India will house 300 million elderly by 2050 and elderly will form 19% of the total population.<sup>2</sup> Elderly people not just deal with physical aging, but also face social and mental challenges which affect their normal living. With aging, natural atrophy of brain or pathology of the brain as well as deteriorating physical health lead to the prevalence of mental and behavioral disorders among them.<sup>3</sup> Disability arising due to various illnesses, loneliness, lack of family support, restricted personal autonomy, and financial dependency are other important contributing factors for the higher prevalence of mental and behavioral disorders. Among the various mental disorders, depression accounts for the greatest burden among the elderly. Depression decreases an individual's quality of life and increases dependence on others. If depression is left untreated, it can have significant clinical and social implications in the lives of the elderly.<sup>4</sup> Early recognition, diagnosis, and initiation of treatment for depression in older people present opportunities for improving their quality of life, preventing suffering or premature death, and maintaining optimal levels of functioning and independence. Early diagnosis and effective treatment of depression in old age can

also lead to a significant reduction in mortality due to suicide and medical illnesses, and health care costs.

World Health Organization estimated that the overall prevalence rate of depression in the geriatric population generally varies between 10% and 55% depending on the cultural situation.<sup>5-7</sup> The community-based studies in mental health in India have revealed that the point prevalence of depression in the geriatric population varies between 13% and 25%.<sup>4</sup> There are various risk factors which are associated with geriatric depression found by different studies across the globe.<sup>8-11</sup>

### Aims and Objectives

Our aims were to study characteristics of depression in geriatric patients attending psychiatry OPD for the first time. The objectives were to study the severity of depression, the relationship between various risk factors with geriatric depression, socio-demographic factors and presenting symptoms of geriatric depression in tertiary care general hospital OPD setting.

### Materials and Methods

We used a convenient sampling method and enrolled patients aged 60 years and above, attending a psychiatric outpatient clinic either directly or referred from other departments in the study, who are coming to psychiatry OPD first time. We excluded patients whose presenting symptoms were suggestive of some medical illness and persons with

psychotic disorders and substance use disorder. Patients were evaluated with DSM IV-TR criteria for exclusion.

MMSE examination was done, in patients who had some neurocognitive problems on examination, to understand the severity of neurocognitive dysfunction.<sup>12</sup> Patients having MMSE finding suggestive of cognitive impairment (score is less than 26) were excluded from the study.

Informed consent of patients, who agreed to participate in the study, was taken. Patients were asked to fill up a proforma which includes demographic details, symptom checklist, stressors checklist and list of comorbidities for which treatment is already going on. Patients were asked to report their main presenting symptoms in chronological order.

The geriatric depression scale (GDS) was used to check for the presence of depression and assess the severity of depression. Geriatric depression scale is a self-rating, valid and reliable instrument for screening elderly patients with depression.<sup>13</sup> It contains 30 items with a total score of 30; where scores from 0 to 9 were considered as the absence of depression, 10-19 were mild and 20-30 were severe depression. As most of the patients speak and read the local language, the scale was translated into a local language by a psychiatrist and a nurse, who were good at both languages

and the scale was again back-translated into English by a different team of a psychiatrist and nurse. Two other senior psychiatrists checked the translated version, used in 5 patients knowing both languages and approved the same for the study. Educated patients were asked to read and give responses on the local version of the geriatric depression scale else scale was read aloud and answers were recorded.<sup>13</sup>

### Statistical Analysis

Sofastats free version was used to do Chi-square test to assess the relationship of different variables and depression. Fisher test is applied where the Chi-square test is not admissible.<sup>14</sup>

### Results

We included 110 patients initially and among them, 8 had a score of MMSE below 26, one patient had undiagnosed hypertension, and one was very distressed during the clinical assessment. These 10 patients were excluded from the study and a total of 100 patients were counted for the final results. Age ranged from 60 years to 85 years with a mean age being 66.87 years. (Table 1)

**Table 1:** Socio-demographic data

Demographic variable	Values	N=50
Age	<60-69 years	77
	70 and onwards	23
Sex	Female	54
	Male	46
Education	Less than 8 standard	78
	Between 8 to 12 standard	15
	Graduation or above	13
Marital status	Married	69
	Single (widow-widower)	31
Family type	Nuclear	30
	Joint	70
Medical illness	Present	49
	Absent	51

**Table 2:** Common presenting symptoms in mild and severe geriatric depression

Symptoms	Mild depression			Severe depression		
	1 <sup>st</sup> c/o	2 <sup>nd</sup> c/o	3 <sup>rd</sup> c/o	1 <sup>st</sup> c/o	2 <sup>nd</sup> c/o	3 <sup>rd</sup> c/o
Headache	15	4	2	6	1	3
Sleep Disturbance	10	11	5	12	5	7
Forgetfulness	2	0	1	0	2	0
Body Ache/Limb Pain/Leg Pain	0	7	1	0	3	4
Lack of Interest	0	3	2	3	4	1
Difficulty In Walking	1	2	0	-	-	-
Dry Mouth/ Vomit/ Acidity/Sweating	2	0	1	-	-	-
Joint Pain	1	2	1	-	-	-
Excessive Thoughts	-	-	-	4	6	1
Crying Spells	-	-	-	2	3	2
Worries/Tension/Fear	-	-	-	2	1	3
Decrease Appetite	-	-	-	0	3	3
Irritability	-	-	-	2	0	1
Ghabharaman/Becheni*	-	-	-	1	3	1
Giddiness	-	-	-	0	2	2

\*Ghabharaman/becheni is a word used for inner restless or anxiety in local language

As seen in table 2 headache, sleep disturbances and different type of pains were the commonest presentations among patients of mild and severe geriatric depression. While excessive thoughts, worries/tensions, ghabharaman/becheni, crying spells, irritability were only reported by patients having severe depression.

Sleep disturbances, headache, forgetfulness, aches at different parts of the body, sadness, lack of interest and dislike to talk with others were common symptoms presented in male patients. While sleep disturbances, headache, ghabharaman/becheni, worries, abdominal pain and chest discomfort, weakness and giddiness were common symptoms presented in female patients.

On comparing between presenting complaints and answers reported on the GDS, it has been observed that in patients verbatim forgetfulness and lack of interest statement were only symptoms presented as well as reported by GDS by mild depressed patients. Worthlessness and anxiety were not primarily reported by them however reflected by statements for the same while applying GDS. Crying spells, excessive thoughts, ghabharaman (becheni), worries, tension, fear, and lack of interest were presenting symptoms in severe depression were also highlighted in GDS. Emptiness in life and difficulty in concentration were reported by GDS but not mentioned as a primary complaint by the patient with severe depression.

**Table 3:** Relationship between socio-demographic variables and depression

Patients with	Depression Severity		Total Depression	No depression	p-value
	Mild	Severe			
<b>Age</b>					
60-69	26	30	56	21	.5955
70 and onwards	12	6	18	5	
<b>Gender and depression</b>					
Male	19	15	34	12	0.9854
Female	19	21	40	14	
<b>Family type and depression</b>					
Joint	26	23	49	21	0.1836
Nuclear	12	13	25	5	
<b>Marital status</b>					
Married	24	25	49	20	0.3119
Single (widow-widower)	14	11	25	6	
<b>Educational status and depression</b>					
Less than 8 standard	28	25	53	19	0.5526
Between 8 to 12 standard	6	4	10	5	
Graduation or above	4	7	11	2	
<b>Medical illness and depression</b>					
Present	15	21	36	13	0.9056
Absent	23	15	38	13	

Out of 100 patients, 74 has depression as per geriatric depression scale and among them, 36 patients have score suggesting of severe category. (Table 3) The most common associated factor with depression was family conflicts. (Table 4)

**Table 4:** Type of stressor and its relationship with the occurrence of depression

	Stressor	Depression		Total Depression	No depression	p-value
		Mild	Severe			
1	Death in the family (n= 8)	5	1	6	2	0.946
2	Family conflicts (n= 25)	11	13	24	1	0.004*
3	Chronic illness in the family (n=6)	3	2	5	1	0.591
4	Economical problems (n=20)	7	11	18	2	0.068
5	Change in the home (n=2)	0	1	1	1	0.397
6	New illness in last 6 months (n=12)	2	5	7	5	0.187
7	Substance use in the family (n=6)	1	5	6	0	0.134
8	Past H/o Depression	2	3	5	3	0.439

## Discussion

Prevalence of depression was highest in the group aged 60–69 years according to previous studies<sup>15</sup> and a similar finding was observed in our study where patients aged between 60 to 69 years had more symptoms of depression rather than patients with age 70 years or more.

There was a high prevalence of depression among the geriatric females like in other studies done before.<sup>9,16,17</sup> Majority of patients were between 60 to 70 years age and having more depression among this group, which is different from studies done by Kennedy Gary et al<sup>17</sup> Penninx Brenda et al,<sup>16</sup> Braune<sup>18</sup> which had reported a high prevalence of depression among the individuals aged above 74 years.

Studies conducted by Kennedy Gary<sup>17</sup> and Ramachandran et al<sup>9</sup> had documented a significantly high prevalence of depression among the singles who were either unmarried or widowed which was not seen in our patients as they had good social support despite their widowed status. In our study, the significantly high prevalence of depression was there among those who had a history of death in their family within the last 6–12 months which is similar to studies done in past.<sup>17,19,20</sup>

Kennedy Gary et al<sup>17</sup> had observed a high prevalence of depression in individuals of geriatric population, who were suffering from four or more co-morbid chronic conditions that included diabetes, arthritis, bronchial asthma/chronic obstructive pulmonary disease (COPD), cerebrovascular accidents (stroke), mental disorders and visual, hearing and functional impairments which is not seen in our study.

In our study, the majority of patients who had chronic co-morbidities were either hypertensive or diabetic or both. But there was almost equal distribution of depression in the geriatric population who had co-morbidities unlike reported from studies conducted by others.<sup>16,18,21</sup>

There was heterogeneity in the results for some risk factors (i.e., lower education level, functional impairment, cognitive impairment, chronic co-morbidities), perhaps related to different definitions of these variables in different studies and small study groups in some studies. Consequently, the results of the systematic review for these risk factors must be interpreted cautiously as mentioned by Cole.<sup>22</sup>

Different studies have identified, older age group, female gender, chronic co-morbidities, less education, unemployed status in the past, low socioeconomic status, cognitive impairment, unmarried status, loss of spouse, living alone, bereavement, restricted ADL, and vision or hearing or functional impairment; as risk factors for depression in geriatric population.<sup>15,23</sup> In our study age between 60–70, female patients, joint family, married, less education and financial problems were common risk factors and among them, only one of these risk factors was statistically significant, and that was family conflict ( $p=0.004$ ). Studies done in the past reported a significantly high prevalence of depression among individuals with a lower level of education and who belonged to lower socioeconomically condition, we had similar findings.<sup>9,16,17</sup>

The high prevalence rate was also observed by the researcher in Taiwan where a high risk of depressive disorders was found among widows with a low educational level living in the urban community, and among those with physical illnesses.<sup>24</sup> Similarly in our study depression was more common in lower educational status as our hospital services are more utilized by lower economical as well as lower educational status people, however contradictory to this, our study found depression was more in married and almost equal in persons with and without physical illness.

In few studies, sleep disturbance was considered to be one of the risk factors. However, we considered it as a common presenting symptom and not as a risk factor, and found it to be a common presenting complaint of geriatric depression.

Past history of depression is also seen as one of the risk factors for depression in the geriatric population, however, only five patients had a past history of depression in our study ( $p= 0.598$ ).

It was observed that a large proportion of depression in geriatric population people in the community was attributed to one of these risk factors. Since these risk factors are frequent in the geriatric population age group, their modification can be expected to have an important public health impact. The geriatric population can be screened to identify individuals at high risk of depression. Subsequently, these individuals can be targeted for interventions by identifying modifiable risk factors and reduce the risk of depression. Such interventions might include education about the significance of the risk factors, bereavement counseling and support, new skills training, "maintenance of routines" protocols, enhancement of social supports, individual or group therapy to facilitate adjustment to the loss of function and sleep enhancement protocols.<sup>25-27</sup>

## Conclusion

In this cross-sectional study, the potentially modifiable risk factors for depression in the geriatric population were identified as family conflicts. Headache was the commonest presentation for mild depression and sleep disturbances for severe depression. Similarly classical depressive symptoms are also common in severe depression. These findings might guide efforts to develop effective interventions for preventing geriatric depression. Unipolar depression is expected to become the second leading cause of disability worldwide in 2020, hence it is very important to adequately screen for and treat depression.<sup>18</sup> Screening of population with identifying risk factors can be helpful in checking the risk of depression and aid the development of population-based interventions to reduce the frequency of depression among geriatric people. These symptoms will also help us to identify early and do an intervention when they approach for any other medical condition to the medical fraternity.<sup>20</sup>

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