

Current Trends of Geriatric Depression at an Indian Tertiary Care Center

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ABSTRACT

Background: Aging is a progressive process beginning with life & ending with death. There is a massive growth in elderly population & age associated diseases. Depression is frequently associated with aging, associated comorbidities & treatment compliance in this fragile age group. **Aims & Objective:** To study prevalence of depression in elderly using Geriatric Depression Scale (GDS) and its associated risk factors. **Method:** Three hundred elderly (≥ 60 years) patients were assessed at Mahatma Gandhi Medical College & Hospital, Jaipur in an observational, cross sectional study using Geriatric Depression Scale (GDS). Correlation with associated risk factors were evaluated. Statistical analysis was done using SPSS version 12.0. **Results:** Prevalence of depression was 29.3% of which 62 (20.67%) were mildly depressed and 26 (8.67%) were severely depressed. Depression was significantly higher in elderly subjects with comorbid chronic disease ($p < 0.0001$), inadequate sleep ($p < 0.001$), absent social participation ($p < 0.002$) and in those who did not engage themselves in day time work or hobbies ($p < 0.0002$). **Conclusions:** Depression is common in elderly, its undiagnosed & overlooked. Prevention of risk factors & early diagnosis may significantly reduce morbidity, mortality & improve quality of life.

Keywords: Depression, Elderly, Prevalence, Risk Factors.

Aging is a progressive process which begins with life & continues throughout life cycle, finally ending with death [1]. It is a universal phenomenon [2] resulting in a process called “demographic transition” [3] i.e. is a shift from high mortality and fertility to low, thus causing an increase in elderly population.

India, is presently in demographic transition with 72 million above 60 years of age, which is expected to increase to 179 million in 2031 and further to 301 million in 2051. This massive increase in geriatric population will put an enormous pressure on health care services [4]. India

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being a developing nation needs to be prepared for this challenge, with more knowledge on the disease & comorbidity pattern in this population at risk. Early diagnosis and treatment remains the mainstay to reduce the burden of this disease.

Elderly being economically unproductive, are commonly neglected[5], stressed & more prone to mental disorders [3] of which depression is common. Depression is difficult to diagnose, especially when associated as a co morbidity in chronic diseases of elderly. Depression leads to an increase in morbidity, mortality, health care utilization, treatment cost, along with a reduction in quality of life [6]. Depressed elderly adhere less to diet, exercise, and medication. Depression is projected to become the second-leading cause of disease burden after ischemic heart disease by the year 2020. [7]

Early diagnosis and treatment remains the mainstay to reduce depression burden in elderly. Studies on depressed elderly are very few in India, this study is an attempt to diagnose elderly with depression, determine factors responsible & suggest preventive measures.

METHOD

Source of Data

In our study, 300 patients with age ≥ 60 years, were randomly selected at Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India; over a study period from October 2013 to November 2014. Patients with known psychiatric comorbidity, psychiatric treatment (pharmacological or non-pharmacological) or severe unstable condition & associated conditions interfering with interview were excluded from the study. A formal written consent was taken from all patients.

General Protocol

Patient's clinical profiles were reviewed and information was procured pertaining to demographic aspects, past medical history, and use of medications. Geriatric depression scale (GDS) was used for diagnosis of major depression & its severity. GDS screens for seven characteristics of depression in elderly, which are somatic concerns, lower affect, cognitive impairment, feelings of discrimination, impaired motivation, lack of future orientation and lack of self-esteem. It consists of 30 questions with a maximum score of 30. A score of 10 and more were diagnosed with depression. Socioeconomic profile & risk factors for depression were evaluated with pre-structured Performa.

Statistical Analysis

Descriptive statistics was used for analysis. Chi-square test was used to find out the association between two variables and $p < 0.05$ was considered to be statistically significant. Statistical analysis was carried out using the SPSS 12.0.

RESULTS

Of the 300 study subjects who participated in the study, 186 (62%) were females and 114 (38%) were males. 88 (29.33%) were diagnosed with major depression (GDS score ≥ 10).

Table 1 summarizes the socio-demographic characteristics of the elderly studied. The mean age of the studied subjects was 66.7 years. Most of the sample consisted of Hindus (238, 79.33%), illiterates (164, 54.67%), non-working (177, 59%), married (206, 68.67%) & living in joint families (115, 38.33%). More than one third 113 (37.67%) belonged to class IV SES (Modified B.G. Prasad Classification 2011).

Of the 300, overall prevalence of depression was 64 (29.36%), of which 62 (20.67%) were mildly depressed and 26 (8.67%) were severely depressed. Female gender & Age group ≥ 70 years were more depressed. Depression showed a significant association with age ≥ 70 years, illiterates, lower socio-economic status (SES) & single (widowed/unmarried/divorced) marital status. An inverse relationship was seen between SES and depression, with depression being higher in low socioeconomic group. Association of socio-demographic characteristics with depression is shown in Table 3.

On evaluating the risk factors leading to depression in elderly, 113 (53.3%) physically active subjects were not depressed as compared to 66 (75%) inactive subjects suffering from depression (p 0.0001).

Depression was significantly higher in elderly subjects with comorbid chronic disease (p 0.0001), inadequate sleep (p 0.001), absent social participation (p 0.002) and in those who did not engage themselves in day time work or hobbies (p 0.0002). Association of risk factors in causation of depression in elderly is discussed in Table 4.

Table 1: Socio- Demographic Characteristics of Elderly subjects

Characteristic		TOTAL (n=300) No. (%)
Sex	Male	114 (38)
	Female	186 (62)
Age	60-69 years	204 (68)
	≥ 70 years	96 (32)
Religion	Hindu	238 (79.33)
	Muslim	58 (19.33)
	Others	4 (1.33)
Education status	Illiterates	164 (54.67)
	Literates	136 (45.33)
Occupation	Non Working	177 (59)
	Working	123 (41)

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Socio-economic Status *	Class I	28 (9.33)
	Class II	69 (23)
	Class III	79 (26.33)
	Class IV	113 (37.67)
	Class V	11 (3.67)
Family Type	Nuclear	94 (31.33)
	Joint	115 (38.33)
	Three Generations	91 (30.33)
Marital Status	Widowed/ Unmarried/ Divorced	94 (31.33)
	Married	206 (68.67)

* Modified B.G. Prasad Classification 2011

Table 2: Prevalence of Major Depression in Elderly subjects using Geriatric Depression scale (GDS)

GDS Score	Males No. (%)	Females No. (%)	Total No. (%)
Normal (0-9)	85 (74.56)	127 (68.28)	212 (70.66)
Mild (10-19)	24 (21.05)	38 (20.43)	62 (20.67)
Severe (20-30)	5 (4.39)	21 (11.29)	26 (8.67)
Total	114 (38)	186 (62)	300 (100)

Table 3: Correlation of Depression with Sociodemographic characteristics of Elderly

Characteristics		Without Depression (n=212)	With Depression (n=88)	p value
Sex	Males	85 (40.09)	29 (32.95)	0.292
	Females	127 (59.91)	59 (67.05)	
Age	60-69 yrs	150 (70.75)	54 (61.36)	0.04*
	≥70 yrs	58 (27.36)	38 (42.18)	
Education Status	Illiterates	133 (62.74)	31 (35.22)	0.009*
	Literates	99 (46.7)	37 (42.04)	
Occupation	Non-Working	119 (56.13)	58 (65.91)	0.08
	Working	93 (43.86)	30 (34.09)	
Socio- economic status	Class I+II	80 (37.74)	17 (19.32)	0.0005*
	Class III	57 (26.89)	22 (25)	
	Class IV+V	70 (33.02)	54 (61.36)	
Family Type	Nuclear	63 (29.72)	31 (35.23)	0.88
	Joint	81 (38.21)	34 (38.63)	
	Three Generations	68 (32.07)	23 (26.14)	
Marital Status	Widowed/ unmarried/ divorced	49 (23.11)	45 (51.14)	0.0001*
	Married	157 (74.06)	49 (55.68)	

* p≤0.05

Table 4: Risk Factors for depression in Elderly

Risk Factors		Without Depression (n=212)	With Depression (n=88)	p value
Addiction	Yes	88 (41.98)	46 (52.27)	0.08
	No	123 (58.02)	42 (47.73)	
Physical Activity	Active	113 (53.3)	22 (25)	0.0001*
	Inactive	99 (46.7)	66 (75)	
Comorbid Chronic Disease	Absent	166 (78.3)	40 (45.45)	0.0001*
	Present	46 (21.7)	48 (54.55)	
Social Participation	Present	162 (76.42)	49 (55.68)	0.002*
	Absent	50 (23.58)	39 (44.32)	
Daytime Involvement	Engaged	147 (69.34)	33 (37.5)	0.0002*
	Not Engaged	65 (30.66)	55 (62.5)	
Recreational activity participation	Yes	133 (62.74)	58 (65.91)	0.72
	No	79 (37.26)	30 (34.09)	
Sleep Pattern	Satisfied	121 (57.1)	17 (19.32)	0.001*
	Not Satisfied	91 (42.91)	71 (80.68)	

* p≤0.05

DISCUSSION

Depression in elderly is a commonly missed, undiagnosed, unrecognised clinical diagnosis. It is mostly assumed to be a normal response to aging, comorbidity, physical losses or other life events. It causes excess physical & psychological disability and has an adverse impact on physical health.[11]

In our study, almost one third of elderly (29.33%) suffered from depression. Those elderly subjects found to be prone for depression, were found to be commonly associated with several risk factors were like higher age, low socio-economic status, single or widowed marital status, physical inactivity, presence of chronic diseases, lack of social participation and inadequate sleep.

In our study, females were more depressed than their male counterparts (67.05% vs. 32.95%), this can be attributed to Indian socio-cultural factors & psychological factors, as women throughout their lifetime face more stressful events and have a greater sensitivity towards them. Similarly, the prevalence of depression has been found to be higher in elderly women in other Indian studies done by Jain RK [12], Rajkumar AP et al [13] and by Poongothai S et al [14]. On the contrary, Sandhya GI et al [4] showed that the prevalence of depression was lower in females (22.9%) when compared to males (29.1%) in a study done in a rural community in South Kerala.

In our present study, single (widowed/unmarried/divorced) elderly subjects showed a significant (p 0.001) higher prevalence of depression (51.14%). In late life, more emotional support is

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required as to face challenges posed by physical & psychological stressors, debility, worsening of chronic disease condition due to improper treatment compliance & neglect. Death of a spouse causes irreparable psychological damage, making the vulnerable to depression. Adjustment disorders are common in late life divorce or separation, leading to depressive symptomatology. Single individuals, lack the much required support of spouse and children in late life. Kamble SV et al [5] in a study showed similar results, that marital disruption, widowhood and single status were associated with a higher prevalence of depression in both men and women.

Elderly subjects with lower socio-economic status showed a higher prevalence of depression in our study. Similar results were showed in several Indian studies by Jain RK et al [12] and Rajkumar AP et al [13]. This can be attributed to increased stress, insecurity, uncertainties to future, poor accessibility to health care system & neglect of chronic disease process causing its worsening. Hence making them more prone for depression.

Three fourth of the depressed subjects (75%) were physically inactive and more than half (54.55%) had at least one chronic disease. Poor physical activity can make an individual more prone to depression owing to worsening of physical debility, chronic disease, visio-spatial coordination & sensory deprivation. Lack of physical activity makes the individual more dependent on care takers, curbs independence, lowers self-esteem, enormously changing the way a person lives, copes to stressors and his perception of himself & his surroundings. Similar results on association of poor physical health with depression was seen in Seby K et al [4] and Rajkumar AP et al [13].

Lack of social participation showed an association with depression in our study. Social participation maintains the liveliness and gives a feeling of bonding with the group or community. Lack of social participation makes an individual alone, gives a feeling of worthlessness & emptiness. Sandhya GI et al [4] had similar results in a study done in rural community in South Kerala

Disturbed sleep pattern as seen among 80.68% subjects was also a statistically significant risk factor leading to depression in present study, as also stated by Jain RK et al [12]. Depression in elderly is both preventable & treatable as observed by Korte J et al [15]. Its easy diagnosis, prognostic significance, impact on quality of life & health care cost in elderly population makes it an important issue to address in this population.

CONCLUSION

India in this era of demographic transition, has an enormous geriatric population prone to depression. Presently one in every three elderly subjects suffer from major depression. Depression is common comorbidity associated with chronic diseases & often overlooked attributing to disease related factors. Understanding of its risk factors & making consolidated

efforts towards its diagnosis & treatment may go a long way in reducing morbidity, mortality & quality of life of elderly.

DECLARATIONS

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