

Depression in Elderly Patients Attending the Psychiatric Outpatient Department: A Cross Sectional Study



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Abstract

Background: Cognitive impairment is a common clinical condition among elderly patients suffering with depression and has a well-known aetiology. The present study planned to determine the prevalence of cognitive impairment and depression in geriatric patients attending Psychiatric outpatient department services. **Methods:** The study was a prospective cross-sectional one and carried out with a sound methodology on elderly patients attending the Psychiatric OPD of Indira Gandhi Medical College, Shimla-1, Himachal Pradesh. A total of 130 patients were screened, out of which 105 patients have fulfilled the inclusion criteria and enrolled after written informed consent form. The cognitive function and depression were assessed by using standardized Mini-Mental State Examination of Folstein (MMSE) and the Geriatric Depression Scale (GDS), respectively. **Results:** Prevalence of cognitive impairment was found 42.9% (44.2% in women, 35.5% in men), whereas the prevalence of depression was found 48.6% (56.30% women, 41.10% men) which was statistically significant ($p < 0.05$). **Conclusions:** Cognitive impairment and depression were found to be more prevalent in the females than in the males. So, it is advised that psychiatrist should provide special attention for early detection and treatment of depressive symptoms in elderly patients suffering with cognitive impairment.

Keywords: Cognitive impairment, Depression, Elderly patients

Introduction

We all know that elderly people are the ones that are mostly neglected. Central Nervous Disorders like Depression is one of the most important reasons that they are being ignored in the society. The geriatric population is defined as population aged 60 years and above. By the year 2025, this population is expected to constitute 10.2% of the total world population.^[1] The speed of population ageing is already a major social health issue in the developed countries. The life expectancy of an average Indian has increased from 54 years in 1981 to 64.6 years in 2002. The geriatric population is likely to constitute 18.4% of the total population in India by the year 2025.^[2]

Though, the improved healthcare promises longevity but social and economic conditions, such as poverty, break up of joint families, and poor services to the elderly persons pose a psychiatric threat to them. However, the feeling of loneliness along with the natural ageing in the physical and physiological functioning, makes the elderly more prone to psychological disturbances.^[3] Functional dependency is very common among elderly persons and many will need assistance in their activities of daily routine. Long-term care

has become one of the major problems addressing an ageing society. A recent review reported a wide range of estimates for mental health morbidities in the elderly, ranging from 2.2 to 33.3% for age specific populations.^[4]

The magnitude of mental health burden in the Indian scenario is a serious cause of concern. The main risk factors are loss of fortune, fall in self-esteem, illiteracy, poor health, social and gender discrimination, sense of helplessness, financial debt and status as a widowed person.^[5] The physical illnesses have a causal role or are associated significantly or non-significantly with psychiatric illness, especially with cognitive impairment and depression of all the problems associated with an ageing population, health care demands top priority.^[6]

In the light of the above considerations, this study was carried out to identify the various psychiatric problems or comorbidities of the elderly patients in a general hospital setting, in order to assess their health needs, which will be useful to plan health and other supportive services for the elderly, in initiation of geriatric clinics in the community. So, this study was planned to evaluate the cognitive impairment and depression problems in the elderly patients.

Material and Methods:

Set up: The study was conducted at Indira Gandhi Medical College, Shimla, which is a Tertiary Care Centre of Himachal Pradesh, located in North India.

Study design: A Cross-Sectional Study.

Study population and sample size: Patients attending out-patient department (OPD) services of Psychiatric Department, who were diagnosed with some cognitive impairment, were screened for enrolment in the study during February 2016 to May 2016. The eligible patients who fulfilled inclusion and exclusion criteria and gave written informed consent were enrolled in the study. A total 130 elderly patients aged 55 years and above of both sexes were screened; only 105 patients were enrolled. Each patient was put to a series of tests, using a pre-tested, pre-structured study questionnaire after completion of physical assessment by the clinician.

Assessment of cognitive function and depression:

Cognitive function was assessed by using standardized Mini-Mental State Examination (MMSE) of Folstein.^[7] MMSE scores ranges from 0 to 30, with lower scores indicating increasing severity of cognitive impairments in the domains of orientation, memory, attention, and executive functions. Patients with cognitive impairment had

scores between 0 and 18. The sensitivity of the test was 88% and specificity was 83%. Depression was assessed with the Yesavage's Geriatric Depression Scale (GDS)^[8], a questionnaire specifically developed for screening depressive symptoms in elderly populations.

-Shorter version 44 was used to detect whether the patients under study were having depression or not.

The shorter version of the scale consists of 15 questions and each negative answer will carry a mark and thus the more the scoring is, the chances of having depression is more. The maximum score that one can get is 15, which indicates a severe grade of depression. The cut-off for normal range was 10. The sensitivity and specificity of the test was 85% and 95%, respectively.

Ethics: A due permission was taken from the Institutional Ethics Committee before the commencement of the study.

Statistics:

Various demographic and clinical characteristics as defined in study objectives were entered into Microsoft Excel and analysed in the study population using appropriate statistical methods. The categorical variables and continuous variables were reported as percentages and mean \pm standard deviation, respectively. Data was analysed using statistical software Epi Info version 7.2.0.1.

Table 1: Socio-demographic features of the subjects.

Patients characteristics	Number of patients (Percentage) (n=105)	Mean \pm SD
Age (Years)		69.70 \pm 12.30
Age Group (Years)		
55-65	67 (63.8%)	
66-75	24 (22.9%)	
76-85	12 (11.4%)	
>86	2 (1.9%)	
Gender		
Male	62 (59.0%)	
Female	43 (41.0%)	
Marital Status		
Unmarried	01 (1.0%)	
Married	43 (41.0%)	
Divorced/Separated	6 (5.7%)	
Widowed	55 (52.3%)	
Caste		
General	58 (55.2%)	
Others	47 (44.8%)	
Education level		
Illiterate	20 (19.0%)	
Primary Education	56 (53.3%)	
Graduation	24 (22.9%)	
Post-graduation	5 (4.8%)	

Occupational Status		
Unemployed	11 (10.5%)	
Govt. Service	10 (9.5%)	
Businessman	8 (7.6%)	
Agriculture	69 (65.7%)	
Others	6 (5.7%)	
Religion		
Hindu	65 (61.9%)	
Muslim	8 (7.6%)	
Christian	22 (21.0%)	
Others	10 (9.5%)	
Socioeconomic status		
Upper	0	
Upper Middle	8 (7.6%)	
Lower Middle	59 (56.2%)	
Upper Lower	32 (30.5%)	
Lower	6 (5.7%)	
Chronic diseases		
Diabetes Mellitus	11 (10.5%)	
Hypertension	17 (16.2%)	
Diabetes Mellitus & Hypertension	14 (13.3%)	
Others	63 (60.0%)	

Table 2: Distribution of patients with cognitive impairment based on age

Sr. No.	Age Group (Years)	MMSE				Total number of persons (n=105)
		Normal (%)	Mild (%)	Moderate (%)	Severe (%)	
1	50-65	34 (50.7%)	20 (29.9%)	12 (17.9%)	1 (1.5%)	67
2	66-75	17 (70.8%)	5 (20.9%)	2 (8.3%)	0	24
3	76-85	8 (66.7%)	2 (16.7%)	1 (8.3%)	1 (8.3%)	12
4	>86	1 (50.0%)	1 (50.0%)	0	0	2
	Total=	60 (57.1%)	28 (26.7%)	15 (14.2%)	2 (2.0%)	105

($X^2 = 65.68$, $df = 2$; p value < 0.0001)

Table 3: Distribution of patients by cognitive status with relation to gender

Sr. No.	Gender	MMSE				Total number of persons (n=105)
		Normal (%)	Mild (%)	Moderate (%)	Severe (%)	
1	Male	40 (64.5%)	13 (21.0%)	7 (11.3%)	2 (3.2%)	62
2	Female	24 (55.8%)	15 (34.9%)	3 (7.0%)	1 (2.3%)	43

($X^2 = 63.72$, $df = 12.6$; p value < 0.005)

Table 4: Distribution of elderly patients by cognitive status with relation to diabetes mellitus and hypertension

Sr. No.	Chronic Diseases	Cognitive Impairment		Total number of persons (n=105)
		Normal (%)	Impaired (%)	
1	Diabetes Mellitus	8 (72.7%)	3 (27.3%)	11
2	Hypertension	12 (70.6%)	5 (29.4%)	17
3	Diabetes Mellitus + Hypertension	9 (64.3%)	5 (35.7%)	14
4	Others	40 (63.5%)	23 (36.5%)	63
	Total=	68 (63.5%)	37 (63.5%)	105

($X^2 = 0.76$, $df = 3$; $p = 3.4$)

Table 5: Prevalence of depression in study population based on age

Sr. No.	Age Group (Years)	Geriatric Depression Scale (GDS)		Total number of persons (n=105)
		Yes (%)	No (%)	
1	55-65	31 (46.3%)	36 (53.7%)	67
2	66-75	12 (50.0%)	12 (50.0%)	24
3	76-85	7 (58.3%)	5 (41.7%)	12
4	>86	1 (50.0%)	1 (50.0%)	2
	Total=	51 (48.6%)	54 (51.4%)	105

$$X^2 = 6.56, df = 1; p = 0.005$$

Results:

Diabetes Mellitus and Hypertension were the common chronic diseases present in the present study, which were (10.05%) and (16.2%), respectively and (13.3%) having both (Table-1). As seen in Table-2, 42.9% elderly subjects had cognitive impairment, in that 26.6% were mild cognitive impairment, 14.3% had moderate impairment and 2.0% had severe cognitive impairment. The prevalence and severity of the cognitive impairment was found to be more with increasing age.

The prevalence of cognitive impairment in males was (35.5%). In male patients, 21.0% had mild cognitive impairment, 11.3% had moderate impairment and 3.2% were having severe impairment. While in females patients (44.2%) had cognitive impairment, of this 34.9% had mild cognitive impairment, 7.0% had moderate cognitive impairment and 2.3% had severe cognitive impairment. The females had higher value of cognitive impairment than in males. This difference was found statistically significant (p value <0.005) (Table-3).

Cognitive impairment was more (35.7%) among those who were having combined chronic diseases (diabetes mellitus and hypertension), followed by only hypertension (29.4%) and diabetes mellitus (27.3%). But this was statistically not significant (Table-4).

Overall prevalence of depression was 48.6%. It was observed that the prevalence of depression increased with increasing age group (46.3% in age group of 55-65 years, 50.0% in age group of 66-75 years and 58.3% in age group 80 above), which was found statistically significant. The prevalence of depression was found to be more in elderly females (56.3%) than in male subjects (41.1%). The difference in the prevalence of depression between the male and female patients was found statistically significant (Table-5).

The prevalence of depression in people suffering with diabetes mellitus had 46.5%, while in people with hypertension it was found to be 44.6%. The difference was found statistically insignificant when compared with elderly people having both diseases.

Discussion:

The present study was conducted to find the prevalence of cognitive impairment and depression among the geriatric population of Himachal Pradesh. Depressive symptoms and cognitive impairment were correlated significantly showing that they do co-occur in this age group.^[9]

The present study showed that almost 43.0% elderly subjects had cognitive impairment. Besides, the prevalence and severity of cognitive impairment which was found to be positively associated with increasing age. The males had a lower prevalence of cognitive impairment when compared to female, which was found statistically significant. Mild and moderate cognitive impairment were found higher in females as compared to males. Though, cognitive impairment was more (35.7%) with combined disease patients (diabetes mellitus and hypertension), but there was no significant difference observed with these patients when compared to individual diseases.^[10-12] In the present study, the overall prevalence of depression was 48.6%. The prevalence of depression increased with increasing age group in this study. The prevalence of depression was found to be more in elderly females (56.3%) than in male subjects (41.1%). The reasons for high prevalence among elderly females might be due to living alone or neglected by family members, widowhood status, belonged to a poor family, increased physical dependency, lack of income and poor health. The difference in the prevalence of depression between the male and female subjects was found statistically significant.^[13]

Singh VB et al.^[14] observed that the prevalence rate of depression was 18.0%, more common in the elderly women (37.5%) than men (14.28%). In a study by Palmer RM^[15], they found that 10.0% of people older than 65 years had depressive symptoms and 1.0% had major depressive disorders. Goswami A et al.^[16] found that the prevalence rate of depression was 44.5% and 63.2% in male and female subjects respectively, and this difference was found to be statistically significant. Jain RK^[17] noted that the prevalence of depression was found to be 45.9% with the mean score of 5.10+8.26. The studies of Hughes et al.^[18] and Venkoba Rao A^[19] observed the prevalence of depression as 61.5% and 43.0%, respectively.

The findings of our study were similar with some previous studies that depression is more prevalent in elderly patients and that too in females.^[12-15] A few studies show that depression is a risk factor for the development of cognitive decline, whereas others could not confirm this finding.^[16-17] The relationship between depression and cognitive impairment shows that depression in old age is an associated phenomenon of already existing cognitive impairment rather than an independent risk factor.

Our findings were in coherence with previous findings that depression is prevalent in elderly patients with a higher proportion in females.

Earlier studies^[11-15] showed that depression is a risk factor for the development of cognitive impairment. The relationship between depression and cognitive impairment shows that depression in old age is an associated phenomenon of already existing cognitive comorbidities rather than an independent risk factor. Our findings, based on various measures of cognitive function and depression scale are in coherence with previous prospective population-based studies.

Conclusion:

Hence, we concluded that early detection of depressive symptoms in elderly persons with cognitive impairment is of great importance to develop preventive and early rehabilitation. Though, a detailed research into the various causes of cognitive impairment, relationship between cognitive functions and depression and furthermore identifying the high risk groups for screening and various methods of screening would be more useful.

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