ORIGINAL RESEARCH PAPER

Medicine

Subclinical Depression among elderly patients admitted to medicine wards in a tertiary care hospital

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ABSTRACT

Elderly people have a high probability to develop mental morbidities like depression and cognitive impairment.[2]Data is sparse on the subclinical depression in elderly patients admitted to a hospital for medical problems. This study was taken up to know the subclinical depression among elderly patients admitted to medicine wards in a tertiary care hospital.

METHOD: The study was a hospital based cross sectional observational study done in a tertiary care hospital, JSS Medical College Hospital, Mysuru, Karnataka. 72 elderly patients (>65 years) admitted to medicine wards of JSS Hospital during the study period were recruited into the study by consecutive sampling method. Patients who were already diagnosed with depression and critically ill subjects were excluded from the study. Patient's consent was taken. Sociodemographic characteristics like age, sex, education, residence, locality, occupation and marital status were looked into. Activities of daily living were assessed using Barthel's ADL score. Depression was assessed using Geriatric Depression Scale 15. Geriatric Depression Scale-short form (GDS-15) is a brief 15-item instrument validated as a screening tool for depression based on self-reported feelings over the past 1-week.[5] Additionally the details of the acute illness due to which the patient got admitted was also noted and the presence of chronic illnesses were enquired. These were entered in a pre tested structured questionnaire by interviewing the elderly patients and cross checking with their caretakers. The data collected was entered in MS Excel 2010 and analyzed using SPSS version 22. Descriptive statistical measures like percentage, mean and Standard deviation was applied. Inferential statistical tests like, chi square test, Mann Whitney's U test and Spearman Correlation were done to know the predictive ability of various independent variables. Associations and Differences were interpreted as statistically significant with P value of <0.05 .

RESULT: The present study showed the overall prevalence of depression among the elderly patients admitted in medical wards to be 63.9%.

CONCLUSION: To conclude, when confronted with myriads of medical illnesses in the elderly, there are possibilities of overlooking the most prevalent mental disorders like subclinical depression and cognitive impairment even in a tertiary health care setting. Early detection and treatment of these disorders is crucial in improving the quality of life of the elderly. Basic screening for depression and cognitive impairment needs to be made an integral part of patient examination, when dealing with a elderly patient.

ORIGINAL ARTICLE:

The demography of India is undergoing a rapid transformation. The elderly in India which was 96 million according to the 2011 census has been projected to rise to about 324 million by the year 2050. [1] Elderly people have a high probability to develop mental morbidities like depression and cognitive impairment.[2][3] There is a bidirectional relationship between depression and chronic medical disorders. Comorbid depression is associated with increased medical symptom burden, functional impairment, medical costs and increased risk of morbidity and mortality in patients with chronic medical disorders. Studies have shown that up to half of the patients with these morbidities who are seen by physicians for medical illnesses remain unrecognized and thus untreated.[4] Data is sparse on the subclinical depression in elderly patients admitted to a hospital for medical problems. This study was taken up to know the subclinical depression among elderly patients admitted to medicine wards in a tertiary care hospital.

Materials & Methods : The study was a hospital based cross sectional observational study done in a tertiary care hospital, JSS Medical College Hospital, Mysuru, Karnataka. 72 elderly patients (>65 years) admitted to medicine wards of JSS Hospital during the study period were recruited into the study by consecutive sampling method. Patients who were already diagnosed with depression and critically ill subjects were excluded from the study. Patient's consent was taken. Sociodemographic characteristics like age, sex, education, residence, locality, occupation and marital status were looked into. Activities of daily living were assessed using Barthel's ADL score. Depression was assessed using Geriatric Depression Scale 15. Geriatric Depression Scale-short form (GDS-15) is a brief 15-item instrument validated as a screening tool for depression based on self-reported feelings over the past 1-week.[5] "Yes" response to negatively worded questions and "No" response to positively worded questions are given a score of one. A total score of 5 or more suggests the presence of depression. A score of 5-8 suggests mild depression, 9-11 suggests moderate depression and 12-15 suggests severe depression. A validated local language (Kannada) version of GDS 15 was used. Cognitive impairment was assessed with Mini-Cog Test. Mini-Cog was developed as a very brief screening tool for primary care settings. [6,7] It consists of two orally presented tasks (a three-item word recall) combined with an executive clock drawing task (CDT). Mini-Cog scores range from 0 (worst) to 5 (best).[6] A cut-off of two out of five provides the optimal combination of sensitivity (99%) and specificity (96%) for detecting cognitive impairment.[6] It was preferred over MMSE (Mini mental state examination) and AMT (Abbreviated mental test) as Mini-Cog proved to have superior discriminatory power and is demonstrated to be a valid "short" screening instrument taking 3 to 4 minutes to administer in the geriatric setting.[8] Additionally the details of the acute illness due to which the patient got admitted was also noted and the presence of chronic illnesses were enquired. These were entered in a pre tested structured questionnaire by interviewing the elderly patients and cross checking with their caretakers. The data collected was entered in

MS Excel 2010 and analyzed using SPSS version 22. Descriptive statistical measures like percentage, mean and Standard deviation was applied. Inferential statistical tests like, chi square test, Mann Whitney's U test and Spearman Correlation were done to know the predictive ability of various independent variables. Associations and Differences were interpreted as statistically significant with P value of <0.05 .

Results:

Table. 1 Distribution of study subjects on the basis of depression

Category	Frequency	Percent
Normal	26	36.1
Depressed	46	63.9
Total	72	100.0

Among 72 subjects included in the study 46 were found to have depression. Thus prevalence of depression among study subjects was found to be 63.9%.
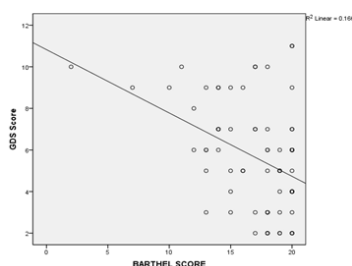
Table.2. Distribution of study subjects based on the factors affecting depression

Factors	Depression			Chi Square value	P Value
	AbsentNo(%)	Present No(%)	Total		
1.Age					
65-70	17(43.6)	22(56.4)	39	3.84	0.279
71-75	7 (36.8)	12(63.2)	19		
76-80	1 (14.3)	6 (85.7)	7		
81and above	1 (14.3)	6 (85.7)	7		
2.Sex					
Male	15(39.5)	23(60.5)	38	0.394	0.53
Female	11(32.4)	23(67.6)	34		
3.Residence					
Lives alone	0(0)	5(100.)	5	5.316	0.15
Lives with family	25(38.5)	40(61.5)	65		
Lives in old age home	0(0)	2(100)	2		
4.Locality					
Urban	6(46.2)	7(53.8)	13(100)	0.694	0.405
Rural	20(33.9)	39(66.1)	59(100)		
5.Education					
Literate	9(56)	7(43)	16		
Illiterate	17(30)	39(70)	56		
6.Marital Status					
Married	24(43.6)	31(56.4)	55	0.994	0.01
Divorced	1(100.0)	0(0)	1		
Widow	1(6.3)	15(93.8)	16		

Table 3 Distribution of subjects with depression based on severity of depression

	Frequency	Percent
Mild	31	67.4
Moderate	15	32.6
Total	46	100.0

Table 4 Relationship between Barthel's score and depression

There was a significant negative correlation between Barthel Score for ADL and GDS Score for depression.

Table 5 Distribution of study subjects on the basis of presence of cognitive impairment

	Frequency	Percent
Positive	13	37.1
Negative	22	62.9
Total	35	100.0

Out of the 35 subjects who were included in the Cognitive assessment study,13(37.1%) were found to have cognitive impairment.

Table 6 Relationship between depression and cognitive impairment.

Depression	Cognitive Impairment		Total	Chi square test	P
	Positive No.(%)	Negative No.(%)			
Normal	3(17.6)	14(82.4)	17	5.381	0.020
Depressed	10(55.6)	8(44.4)	18		
Total	13(37.1)	22(62.9)	35		

From table 6, it can be observed that 55.6% of the subjects who had depression had coexisting cognitive impairment. This was found to be statistically significant.

Discussion: Elderly have a high probability to develop mental morbidities due to the ageing of the brain, physical disabilities, cerebral pathologies and socio-economic factors like economic dependence and family issues.[2][3] Moreover, many of the elderly patients with multiple chronic medical problems will be suffering from unrecognized depression leading to increased morbidity and mortality, decreased psychosocial functioning and productivity and an increased use of medical resources. [17] Study by Borus et al had shown that up to half of the patients with these morbidities seen by physicians for medical illness remain unrecognized and thus untreated [4]. The present study showed the overall prevalence of depression among the elderly patients admitted in medical wards to be 63.9%(Table 1). Different Indian studies have reported prevalence of depression in medical out patients ranging from 4.3% to 39.3% [10, 11]. Females had a higher prevalence of depression(67.5%) which might be due to widowhood status and postmenopausal syndromes.(Table. 2) Depression was observed more in patients from rural areas and in illiterate patients.(Table. 2) Similar results had been observed in previous studies.[12,13,14] Depression was less common in the elderly patients living with family compared to the subjects living alone or in an old age home.(Table. 2)

In the present study , among the depressed patients 67.4% had mild and 32.6% had moderate depression.(Table 3) Recognition of mild and moderate depression are of importance as early intervention and treatment would avert their progression to severe depression. Depression assessment is often overlooked as most elderly or their caretakers do not report depression as they consider it as a natural response to aging. The physicians also pay more attention to the acute condition by which they either miss the subclinical depression or overlook it[14,15]. All elderly patients must be examined for the presence of depression, which may otherwise go unrecognized because of their subclinical nature. Out of the many screening tests which have been tried out, Geriatric Depression Scale 15 and Mini Cog stand out as effective tests for geriatric patients in a routine clinic setup.

In the present study, there was a negative correlation between Barthel Score and GDS.(Table. 4) This might be due to the fact that mental instability almost always extrapolates to physical instability. During the interview, the Barthel Score was assessed in relation to their physical activity status prior to their hospitalisation thus eliminating the possibility of the medical illness adding to it. In the group which completed mini cog, 37.1% were found to have cognitive impairment(Table.5) and 55.6% of them had coexisting

depression which was statistically significant(Table.6). Studies by Pattnayak et al have shown that depression is a risk factor for the development of cognitive decline and the onset of depressive symptoms is often misinterpreted as worsening of cognitive decline and hence it remains under-diagnosed. [15][13][16]

There is a bidirectional relationship between depression and chronic medical disorders. Biological changes and complications associated with chronic medical disorders may precipitate depressive episodes.The adverse health risk behaviors and psychobiological changes associated with depression increase the risk for chronic medical disorders. Depression may worsen the course of medical disorders because of its effect on proinflammatory factors, hypothalamic - pituitary axis, autonomic nervous system, and metabolic factors, in addition to being associated with a higher risk of obesity, sedentary lifestyle, smoking, and poor adherence to medical regimens[16.17]. Both evidence-based psychotherapies and antidepressant medication are efficacious treatments for depression. Collaborative depression care has been shown to be an effective way to deliver these treatments to large primary care populations with chronic medical illness and depression.[17

The limitation of this study included a small study sample which was drawn from a single tertiary care hospital which may not be a true reflection of the Indian elderly society. The second limitation is the non completion of Minicog among study subjects due to their inability to complete the CDC. Only 35 of the 72 could complete the CDC part of the Mini Cog test. This was because the rural elderly were not able to read the clock, or even hold a pen. There could be a bias to urban and literate population. However we used mini cog for this study because in a study done by Monika Milian et al[8] it was found to be suitable for all ages and was less affected by education than MMSE. In the present study, Mini Cog was found be a good screening test as it is short and effective. An equivalent of Mini Cog for Indian rural population should be created where CDC is replaced by another effective tool which can be used on Indian rural elderly population.

To conclude, when confronted with myriads of medical illnesses in the elderly, there are possibilities of overlooking the most prevalent mental disorders like subclinical depression and cognitive impairment even in a tertiary health care setting. Early detection and treatment of these disorders is crucial in improving the quality of life of the elderly. Basic screening for depression and cognitive impairment needs to be made an integral part of patient examination, when dealing with a elderly patient.

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