

Original Research Article

Psychiatric comorbidity among elderly inpatients admitted to a regional geriatric center in Northeast India: a cross-sectional study

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ABSTRACT

Background: Psychiatric disorders frequently coexist with medical illnesses in elderly patients and often remain under-recognized, adversely affecting treatment outcomes and recovery. The aim of this study was to estimate the prevalence and pattern of psychiatric morbidity among elderly inpatients admitted to a Regional Geriatric Centre and to examine the relationship with socio-demographic characteristics and cognitive status.

Methods: This hospital-based cross-sectional study was conducted over one year (August 2016-July 2017) among 85 consecutive inpatients aged ≥ 60 years admitted to a tertiary care geriatric center in Northeast India. Diagnoses were made using ICD-10 criteria, supported by mini-mental state examination (MMSE) and brief psychiatric rating scale (BPRS). Data were summarized using descriptive statistics.

Results: Psychiatric morbidity was present in 40 (47.1%) participants. Depression was the most common disorder (40%), followed by dementia (20%) and substance use disorders (20%). Cognitive impairment was observed in a substantial proportion of patients with psychiatric morbidity. Psychotic symptoms were present in 10 (11.76%) participants.

Conclusions: Nearly half of elderly inpatients had psychiatric co-morbidity, with depression and cognitive disorders being predominant. Routine screening and early psychiatric intervention may improve outcomes in geriatric inpatient care.

Keywords: Geriatric psychiatry, Psychiatric co-morbidity, Depression, Dementia, Mini-mental state examination, Brief psychiatric rating scale

INTRODUCTION

The elderly population constitutes a rapidly increasing and represents a major share of inpatient admissions in tertiary hospitals. Aging is accompanied by a higher burden of chronic medical conditions, declining functional reserve, and increased vulnerability to cognitive and emotional disorders.^{1,2} In clinical practice, psychiatric symptoms in late life often coexist with physical illness and may influence the course of medical treatment. Psychiatric co-morbidity in elderly inpatients is clinically important because it can reduce adherence to

treatment, delay functional recovery, and increase caregiver burden. Depression is one of the most common psychiatric disorders in late life and has a well-established association with disability, medical co-morbidity, and poor quality of life.^{3,4}

Cognitive impairment and dementia are also frequently encountered in hospitalized elderly patients and may complicate history taking, decision-making capacity, and discharge planning.^{5,6} Indian studies have documented a substantial burden of psychiatric morbidity among geriatric populations across community and hospital settings.⁷⁻¹¹ However, in medical wards, psychiatric

disorders may remain undetected due to atypical presentations, overlapping somatic complaints, and prioritization of physical illness management. Evidence from acute geriatric admissions also highlights that psychiatric disorders are common and require active screening for timely intervention.¹² Substance use disorders among elderly patients are increasingly recognized, particularly alcohol and tobacco use, and may contribute to medical complications and behavioral disturbances during hospitalization.^{13,14} In addition, suicide risk in elderly patients is an important concern, especially in the context of co-existing depression, medical illness, and psychosocial stressors.¹⁵

Despite the relevance of these issues, data from Northeast India regarding psychiatric co-morbidity in elderly inpatients admitted to dedicated geriatric wards remain limited. The present study was conducted at a regional geriatric centre in Assam to estimate the prevalence and pattern of psychiatric morbidity among elderly inpatients and to explore its association with socio-demographic factors and cognitive impairment.

METHODS

This hospital-based cross-sectional observational study was conducted at a tertiary care geriatric centre in Northeast India from August 2016 to July 2017. A total of 85 consecutive inpatients were selected from the inpatient department of the regional geriatric centre.

The inclusion criteria for the study were patients aged ≥ 60 years, admitted to the Regional Geriatric Centre, and availability of a reliable informant.

The exclusion criteria were refusal of consent, physical unfitness for interview, and medications that could alter cognitive function. Consecutive sampling was used to recruit participants during the study period.

Basic characteristics such as age, gender, locality, marital status, educational status, family type, and psychiatric morbidity. The tool used for assessment was a semi-structured proforma, MMSE, BPRS, and ICD-10 diagnostic criteria.

The study was approved by the Institutional Ethics Committee of Gauhati Medical College and Hospital (Approval No. MC/217/2016/190).

Statistical analysis

Data was analyzed using descriptive statistics and expressed as frequencies and percentages.

RESULTS

Among 85 participants, 48 (56.5%) and 37 (43.5%) were female. The majority, 47 (55.3%) resided in rural areas, while 38 (44.7%) resided in urban areas. Psychiatric

morbidity was present in 40 (47.1%) of participants, and absent in 45 (52.9%) participants. Detailed socio-demographic profile of participants is provided in Table 1.

138 (95.8%) were aware about the vaccine is available for the dog bite, out of 138, 125 (90.5%) said that the vaccine is available in government hospitals while 13 (9.4%) said in private hospitals. A large number of participants answered 14 injections 46 (31.9%) followed by 7 injections 22 (15.2%), 5 injections 28 (19.4%). Similarly, about the site of administration for the vaccine to be given was abdomen 91 (65.9%), buttocks 22 (15.9%), shoulder 18 (13.04%), thigh 2 (1.4%), don't know 5 (3.6%).

Psychiatric diagnosis was done using ICD-10. Depressive disorder was observed in 16 (40%) participants, dementia and substance use disorder in 08 (20%), anxiety disorders in 05 (12.5%), bipolar affective disorder, schizophrenia, and sleep disorder in 02 (5%) participants (Table 2).

Among participants with psychiatric morbidity, severe impairment (score 0-9) was observed in 03 (7.5%) participants, moderate impairment (score 10-19) in 10 (25%), mild impairment (score 20-24) was observed in 08 (20%), and normal cognition (score 25-30) in 19 (47.5) participants (Table 3). Additionally, psychotic symptoms were observed in 10/85 (11.76%) participants as assessed by BPRS.

Table 1: Socio-demographic profile of geriatric inpatients.

Variable	Category	N (%)
Age group (in years)	60–69	42 (49.4)
	70–79	32 (37.6)
	80–89	08 (9.4)
	≥ 90	03 (3.5)
Sex	Male	48 (56.5)
	Female	37 (43.5)
Locality	Rural	47 (55.3)
	Urban	38 (44.7)
Marital status	Married	52 (61.2)
	Widowed	26 (30.6)
	Unmarried	06 (7.1)
	Divorced	01 (1.2)
Education	Illiterate	17 (20)
	Up to 5 th standard	19 (22.3)
	Matriculation	22 (25.9)
	Higher secondary	17 (20)
	Graduate	09 (10.6)
	>Graduate	01 (1.2)
Family type	Joint	56 (65.9)
	Nuclear	29 (34.1)
Psychiatric morbidity	Present	40 (47.1)
	Absent	45 (52.9)

Table 2: Pattern of psychiatric disorders among those with psychiatric morbidity.

Psychiatric diagnosis (ICD-10)	N (%)
Depressive disorder	16 (40)
Dementia	08 (20)
Substance use disorder	08 (20)
Anxiety disorders	05 (12.5)
Bipolar affective disorder	02 (5)
Schizophrenia	02 (5)
Sleep disorder	02 (5)
Somatoform disorder	01 (2.5)
Other psychotic disorder (delusional disorder)	01 (2.5)
Suicide attempt	03 (7.5)

Table 3: Mini-mental state examination distribution and psychiatric morbidity.

MMSE score category	Total (n=85)	Psychiatric morbidity (n=40)
0–9	03 (3.5%)	03 (7.5%)
10–19	09 (10.5%)	10 (25%)
20–24	27 (31.8%)	08 (20%)
25–30	46 (54.1%)	19 (47.5%)

DISCUSSION

The present study found that psychiatric morbidity was present in nearly half of elderly (47.05%) elderly inpatients, highlighting the significant burden of mental health disorders in this population. These findings are consistent with previous studies conducted in geriatric settings, which report high prevalence rates of psychiatric co-morbidity among hospitalized elderly individuals.^{3,12}

Depression was the most frequent psychiatric diagnosis (40%). This finding is consistent with Indian geriatric research describing depression as a leading contributor to psychiatric morbidity in late life.^{7,8,10,11} Depression in elderly inpatients may be difficult to identify because symptoms such as reduced sleep, appetite disturbance, fatigue, and somatic complaints overlap with medical illness presentations. In addition, psychosocial stressors such as bereavement and loss of independence may contribute to depressive symptoms in older adults^{16–18}. These factors underline the need for targeted screening and clinical attention to mood symptoms during hospitalization.

Dementia was diagnosed in 20% of psychiatric cases, and cognitive impairment was prominent, with more than half of psychiatric morbidity cases showing MMSE scores below 25. Cognitive impairment in hospitalized elderly is associated with communication difficulties, increased risk of poor compliance, and higher dependency, thereby affecting clinical outcomes and discharge planning.^{5,6,19} The MMSE findings in the present study emphasize the value of routine cognitive screening in geriatric wards.

Substance use disorder was observed in 20% of psychiatric morbidity cases, with alcohol being the most reported substance. Geriatric substance use is increasingly recognized in clinical settings and may contribute to medical complications, sleep disturbance, irritability, and behavioral symptoms.^{13,14} Evidence from Northeast India also supports the presence of distinct patterns of substance use in the region.²⁰ Therefore, screening for alcohol and tobacco use should form part of routine inpatient geriatric evaluation.

Suicide attempts were present in 7.5% of psychiatric cases, with self-poisoning being the most frequent method. This highlights the importance of suicide risk assessment in elderly inpatients, particularly those with depression, substance use, or significant medical co-morbidity.^{15,21} The inpatient setting provides an opportunity for early identification of risk factors and initiation of preventive interventions.

Findings of this study support the integration of brief screening tools such as MMSE and BPRS into routine geriatric inpatient assessment, along with early psychiatric referral when indicated. A collaborative liaison model between geriatric medicine and psychiatry may improve holistic care and patient outcomes.

Limitations

The limitations of this study include a small sample size, a cross-sectional design, and no follow-up. Also, a hospital-based sample may not represent the general population. Moreover, single-stage screening during hospitalization; treatment outcomes were not assessed.

The strengths of the study include highlighting under-recognized psychiatric co-morbidity among elderly inpatients with medical illness and including socio-demographic for identifying vulnerable groups.

CONCLUSION

Psychiatric co-morbidity is highly prevalent among elderly inpatients, with depression, dementia, and substance use disorders being the most common conditions. Routine screening and early psychiatric intervention should be incorporated into geriatric inpatient care to improve overall outcomes.

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