Sociodemographic, clinical and treatment profile in geriatrics patients: A retrospective hospital based study in a psychiatric hospital in Nepal

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Abstract

BACKGROUND

Psychiatric illness and related morbidity is high among the elderly population. Despite this, literature regarding inpatient study in elderly is lacking especially in context to Nepal. This study aimed to study the sociodemographic, clinical and treatment profile in geriatrics patients admitted in a psychiatry hospital.

METHODS

This was a retrospective study of 140 patients aged 60 years and above admitted in hospital over 2072 to 2080 BS (2015 to 2023 AD). Data were collected by reviewing in-patient files from medical records. Descriptive analysis was done by using SPSS version 25; and results were expressed as means and percentages. Ethical clearance was taken from Nepal Health Research Council.

RESULTS

Out of 140 patients, 56.4 % were male and 70.7 % were married. Mean age of the participants was 67.75 years (standard deviation= 7.58). 73.6% of the participants belonged to age group 60 – 70 years. They had more affective disorders (32.9%) followed by psychotic disorders (29.3%). Among affective disorders, depressive disorder was seen in 19.3% patients. Mean age of onset of psychiatric illness was 51.14 years (standard deviation= 17.09) 36.2% had dual diagnosis and 67.9% patients had medical co-comorbidity. To manage acute agitation, 20.7% of patients required use ofrestraints. Polypharmacy was common, with almost all (95.6%) patients receiving multiple medications.

CONCLUSION

Through this study, we are able to present the socio-demographic, clinical and treatment profile of elderly patients admitted in a hospital. It also emphasizes that psychiatric illness is common in the geriatric population and highlights other issues like suicidal behaviour, restraint use for acute management, issues of polypharmacy and non adherence in this age group.

KEY WORDS

Elderly, Geriatric psychiatry, Psychiatric illness

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INTRODUCTION

The elderly population in Nepal is rapidly growing. According to the Senior Citizens Act 2063, individuals aged sixty and above are considered elderly. According to 2021 census, there are 29.1 million elderly people in Nepal. The proportion of elderly reached 10.12 percent of the total population which increased by 38% in the last decade. [1]

Aging brings about physiological changes that can increase the risk of various health problems, including psychiatric illnesses. [2] They are particularly vulnerable due to factors such as biological heterogeneity, increased comorbidities, and age-related socioeconomic stressors.[3,4] Organic factors, including underactivity of serotonergic transmission, hypersecretion of cortisol, and low levels of testosterone, can also contribute to the development of psychiatric illnesses in the elderly.[5] Additionally, cerebrovascular disease, age-related deterioration of frontal and temporal cortices, sensory deficits, frailty, and polypharmacy are linked to an increased risk of these conditions.[5,6]

Geriatric wards have been established in 94 hospitals in Nepal as per Progress of Health and Population Sector

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2022/23. However, almost no hospitals have specialized facilities to address the mental healthcare needs of geriatric patients.[7,8] The lack of priority given to mental wellbeing is a significant factor contributing to low awareness and untimely management of mental health problems in this age group. [8,9,10,11]

By providing prevalence data, this study underscores the urgent need for increased attention to mental healthcare for older adults in Nepal.

METHOD:

Ethical clearance was obtained from the Nepal Health Research Council (412/2023). A retrospective review of patients aged 60 and above (n=140) admitted to Rhythm Neuropsychiatry Hospital and research centre from 2072 to 2080 BS (2015 to 2023 AD) was conducted. Sociodemographic and clinical data were collected from the patients' medical records. Psychiatric consultants documented both provisional and final diagnoses per ICD-10 criteria.[12]

RESULTS:

Sociodemographic profile

In our study, more than half of sample (56.4 %) were males, 70.7 % were married, 76.4% belonged to urban residence of which 64.3% were from within Kathmandu. Mean age of the participants was 67.75 years (Standard deviation= 7.58). 73.6% of the participants belonged to age group 60 – 70 years. Only 0.7% of the patients were 90 years and above. (Table 1)

Table 1: Sociodemographic Profile of the study sample

Variables	Total sample (n=140) Mean (SD)/ Frequency (%)
Age in years	67.75 (7.58)
Age Category 60 – 70 71-80 81-90 Above 90	103 (73.6) 26 (18.6) 10 (7.1) 1 (0.7)
Gender Male Female	78 (56.4) 62 (43.6)
Marital status Married/ Remarried Unmarried/Divorced/Widowed	99 (70.7) 41 (29.3)
Locality Urban Rural	107 (76.4) 33 (23.6)
Kathmandu Within Outside	90 (64.3) 50 (35.7)

Clinical Profile

Affective disorders were most prevalent psychiatric diagnosis (32.9%), followed by psychotic disorders (29.3%). Depressive disorder (19.3%) was the most common affective disorder. Schizophrenia (7.9%) and unspecified psychosis (14.3%) were the common psychotic illnesses. Substance use disorder (SUD) (19.3%) and neurocognitive disorders (7.1%) were also significant diagnosis in the study. Suicidal ideation and attempts were reported in 14.2% of patients. The mean age of onset of psychiatric illness was 51.14 years (standard deviation = 17.09 years), and the mean total duration of illness was 179 months (standard deviation = 166.65 months).

Comorbid medical conditions were prevalent in almost two thirds (67.9%) of patients, with an average of 1.92 medical illnesses per patient (standard deviation = 0.96). Hypertension was the most common comorbidity (42.8%), followed by diabetes mellitus (22.1%).

Dual diagnosis was present in 36.7% of patients, with anxiety disorder being the commonest psychiatric diagnosis in these patients. 3.7% of patients were using more than one substance and 28.6% exhibited dependent pattern of alcohol use. Among alcohol-dependent individuals, 6.4% experienced complicated withdrawal symptoms. (Table 2)

Table 2: Clinical Profile of the study sample

Variables	Total sample (n=140) Mean (SD) / Frequency (%)
Psychiatric diagnosis Affective disorder (Depressive disorder, Bipolar affective disorder) Psychotic (Schizophrenia, Persistent delusional disorders, Acute and transient psychotic disorder, Unspecified psychosis) Substance dependence Anxiety disorder Neurocognitive disorder Organic disorder	46 (32.9) 41 (29.3) 27 (19.3) 5 (3.6) 10 (7.1) 9 (6.4)
Suicidality Suicidal ideation Suicidal attempt	**20 (14.2)** 10 (7.1) 10 (7.1)
Age of onset (in years) of psychiatric illness	**51.14(17.09)** [Range=15-85]
Total duration of psychiatric illness (months)	**179 (166.65)** [Range=0.5-600]
Number of patients with at least one medical diagnosis	95 (67.9)
Total medical illness	1.92(0.96)
Co-morbid medical diagnosis Hypertension Diabetes Mellitus Hypothyroidism Dyslipidaemia	60 (42.8) 31 (22.1) 16 (11.4) 3 (2.2)
Number of patients with Dual diagnosis	50 (36.7)
Psychiatric diagnosis in dual diagnosis Anxiety disorder Affective disorder Psychotic disorder Organic disorder	25(50) 12(25) 11(23) 1(2)

Patients taking more than one substance	5 (3.7)
Substance dependence Alcohol Tobacco Opioid Benzodiazepine	44(28.6) 6(4.3) 2(1.4) 3(2.1)
Alcohol withdrawal Complicated	9 (6.4)

Treatment profile

The majority of patients (87.1%) were admitted for the management of acute psychiatric disturbances, with 53.6% being admitted through the Emergency Department. The mean duration of hospital stay was 13.45 days (standard deviation = 14.65).

Medication non-adherence was prevalent in 40.9% of patients, while surreptitious medication use was reported in 20.6%. Complications during hospitalization occurred in over half (51.4%) of patients, including delirium, fever, and decreased oxygen saturation.

To manage acute agitation, 20.7% of patients required physical or chemical restraints. Polypharmacy was common, with almost all (95.6%) of patients receiving multiple medications. On average, patients were taking 4.95 total medications (standard deviation = 2.22) and 2.66 psychotropic medications (standard deviation = 0.97).

Consultation- Liaison services were utilized by 35% of patients, primarily in general medicine (21.4%), followed by endocrinology (3.6%) and cardiology (3.3%). Common medications included anti-hypertensive drugs (32.1%), anti-diabetes medications (10.7%), anti-lipid medications (12.9%), pantoprazole (37.9%), and vitamin supplements (44.6%).

After treatment, 61.4% of patients were discharged with advice from the treating team, while 22.9% were discharged upon request. Two patients (1.4%) did not survive their hospital stay. One of the patients died by suicide and other died due to cardiovascular arrest. (Table 3)

Table 3: Treatment Profile of the study sample

Variables	Total sample (n=140) Mean (SD) / Frequency (%)
Route of admission Emergency department Outpatient department	75 (53.6) 65 (46.4)
Reason of admission Management of acute disturbance Diagnostic clarification	122 (87.1) 17 (12.1)
Duration of stay(days)	13.45 (SD= 14.65) [Range= 1-80 days]
Poor Adherence of drugs	59 (40.9)
Surreptitious use of drugs	32 (20.6)
Complication in ward	72 (51.4)
Use of restraint	29 (20.7)
Polypharmacy(>1 drug)	135(95.6)
Total drugs	4.95(2.22)
Total psychotropic	2.66(0.97)
Medication for medical illness Anti-diabetes drug Antihypertensive drug Antilipid drug	15 (10.7) 45 (32.1) 18 (12.9)
Pantoprazole use	53 (37.9) (Mean dose= 52.07; SD= 18.53)
Consultation liaison	49 (35)
Referral from other centre	9 (6.4)
Discharge Routine Leave against medical advice Discharge on request Referral to other centre Demise in hospital stay	86(61.4) 7(5) 32(22.9) 13(9.3) 2(1.4)
Follow up duration(weeks)	2(SD= 0.98)

Both males and females exhibited a higher prevalence of affective disorders i.e. 31.6% and 34.4% respectively. However, gender disparities were observed in the prevalence of certain psychiatric disorders. Males had higher prevalence of substance dependence (51.8%, M:F= 4.4). Neurocognitive disorders (9.8%, M:F= 1:2) and organic disorders (9.8%, M:F= 1:2) were more commonly diagnosed in females. Suicidal behaviour was more prevalent among males (17.7%, M:F= 1.8:1). (Table 4)

Variable	Male (n=79) Frequency (%)	Female (n=61) Frequency (%)	P value (Chi square)
Use of restraint	9 (11.3)	20 (16.3)	0.003*
Suicidal behaviour	14 (17.7)	6 (9.8)	0.2
Poor adherence	29 (36.7)	27 (44.2)	0.3
Surreptitious use	17 (21.5)	11 (18.03)	0.6
Polypharmacy	74 (93.6)	60 (98.3)	0.3
Dual diagnosis	40 (50.63)	10 (16.3)	0.0001***
Substance dependence	41 (51.8)	11 (18.03)	0.001**
Medical Illness	52 (65.8)	43 (70.4)	0.5

Table 4: Comparison of clinical and treatment profile as per gender
***p≤ 0.001; **p≤0.01; *p≤0.05

DISCUSSION

Sociodemographic Profile

Elderly patients constituted 6.8% of all hospital admissions, which is higher than previous studies conducted in Nepal (3.7-3.9%). [13,14] This suggests a growing need for specialized geriatric mental healthcare services in the country. The majority of participants were male (56.4%), married (70.7%), and resided in urban areas (76.4%), consistent with trends observed in other studies conducted in Nepal. [13] However, the high proportion of urban residents may reflect the location of our hospital in Kathmandu, a major urban centre.

The mean age was 67.75 years (standard deviation = 7.58), with most participants (73.6%) aged 60-70 years. Only 0.7 % of patients were 90 years or older, indicating a younger elderly population compared to some studies in developed countries, where the proportion of older adults aged 80 and above is increasing.

Clinical profile

Affective disorder has a higher prevalence in our study (32.9%) followed by primary psychotic disorders (29.3%). In a study done from IOM, Maharajgunj, the most common diagnosis in the elderly was depression (29.6%). [13] Similarly, reports from in-patient study by Aich et al. also reported most common diagnosis as depression (23.2%) followed by psychosis (20.3%) which is comparable to our study.[14]

Studies from Asian countries, [15,16] indicate that lower levels of education, female gender, being single, low socio-economic status, higher age, interpersonal issues and loneliness were linked with elderly depression.

Nationwide studies on mental health conditions in elderly are scarce in Nepal. High prevalence of depression (53.1%) was shown in a recent nationwide study but it only included 18-65 years' adults. [17] One argument could be that as this demographic shifts to 65 years and above, we have a whole generation with affective disorders. So this study was not representative of entire geriatric population. We would expect increasing prevalence of depression as the cohort ages, which is represented in our study.

SUD was prevalent in 19.3% of the patients and more among males (51.8%). Among the substances used, alcohol use was the highest (28.6%), which was comparable to other studies. A nationwide survey about the magnitude of SUD in India found the highest prevalence of alcohol use among other substances (14.6%) in the elderly. [18]

SUD in our study has been found to be higher than previous studies done in Nepal (2.9- 8.1%). [13,14] This might be due to the fact that our inpatient does not have separate de-addiction unit.

The policies and practices for treatment of SUD and rehabilitation in Nepal lack guidelines and have shortcomings in supervision and monitoring even for elderlies.[19] Hence, family members prefer treatment in hospital setting. That might be the reason for higher prevalence in our study.

Neurocognitive disorders and organic disorders were more commonly diagnosed in elderly females in our study. In a study done in Romania to study the distress, female patients diagnosed with neurocognitive disorders had tendency to express a higher level of stress compared to those without the same. [20] This might have caused in early reporting to the hospital. Another argument can be that women have higher life expectancy than males thus making them vulnerable to develop these conditions.

Our study overall indicates higher prevalence of psychotic illness compared to other studies in the past. Population studies in Sweden and France have reported the prevalence of self-reported psychotic symptoms in the elderly without dementia ranging from 1.7% to 4.2%. [6,21] Another study even demonstrated one- year prevalence rate of reporting of psychotic symptoms in 0.71% and was found to be associated with somatic disorders. [22]

Furthermore, studies have demonstrated that polypharmacy and use of drugs like anticholinergics, antiparkinsonians, alcohol and benzodiazepine withdrawal, can cause psychotic symptoms.[23,24] In our study, it our study it was seen that those with psychotic symptoms were on antipsychotic drugs (0.01*), Lorazepam (0.01*), Thiamine (0.00001***), Multivitamin supplements (0.003**) and other medications like levothyroxine trihexyphenidyl, phenytoin, aspirin, etc. (0.001***). Polypharmacy was seen in almost all patients in our study and on an average, were taking higher number of mean drugs. It is important to rationalize drug use to reduce the burden of side effects which sometimes can mimic the primary illness.

Dual diagnosis

It is often associated with poorer prognosis, longer hospital stay, early recurrence of illness and greater risk of comorbid medical illness, violence and suicide. [25]

In our study, those with dual diagnosis were mostly males and married. Most common psychiatric diagnosis was

anxiety disorder followed by affective disorders. Only few studies have specifically focused on the dual diagnosis in elderly. In a systematic review on dual diagnosis in elderly mostly in the USA by Searby et al in 2015, the prevalence of depression as a primary diagnosis was highest (71%) followed by psychosis (10%).[26] Elderly with depression and SUD have a higher risk for suicidal behaviour and completed suicide.[27]

In a comparative study, Bipolar spectrum disorder among SUD group was found to be 35% when compared to the healthy control group which was only 2%. It was found that the bipolar disorder group had poorer quality of life.[25,28,29] However, the findings of this study was not limited to elderly population so we cannot comment on same. Also, there are limited Nepali data on elderly dual diagnosis. So, the results cannot be compared.

Suicidality

Suicidal behaviour was more common in males while compared to females in our study.

In our study, 10 out of 140 patients (7.1%) had suicidal behaviour. One person died by suicide during hospital stay. Most of them were diagnosed to be suffering from psychotic illness, male gender and belonged to younger age group (60-70).

Out of 19.28% patients with depressive disorder, 37.03% had suicidal behaviour in the form of suicidal ideation and attempt (p <0.001***). Past studies have indicated high prevalence of depressive symptoms in patients with suicidality.[30]

Suicide rates ranging from 2- 16% have been reported in the elderly in Nepal which is comparable to our study.[31,32,33] In another recent study done among 248 cases from suicide registry presenting to tertiary care centre in Kathmandu, the prevalence of patients who had attempted suicide above the age of 60, was found to be 0.4%.[34]

In previous studies, men who were 65 years and above had severe lethality of suicide attempts and high rates of completed suicide.[30, 35] Loneliness, which has been deemed a public health emergency by WHO, has been found to be the commonest cause along with past history of suicide and past traumatic events.[30, 35, 36]

In our study, completed suicide had not been taken into account. So, the profile of younger patients attempting more suicide is an expected pattern since older patients

might have completed suicide. The medical records in our hospital have documentation of prior suicide attempts as well. Hence, an important observation is that patients with more severe illness might have died by suicide and are not represented in this study.

Medical comorbidities and Non adherence

In our study, 40.9% of patients faced non-adherence. A systematic review from Nepal [37] found that half of hypertensive patients were non-adherent. The common reasons were forgetfulness, medication cost, comorbidities, and alternative treatments. Pantoprazole was prescribed to 37.9% of patients, particularly those with polypharmacy, though its use in the elderly is linked to increased fracture risk. [38]

Polypharmacy was seen in almost all patients. (95.6%) Additionally, 67.9% of our patients had medical comorbidities which further increases the burden of care.[3,4,24,39] Issue of non-adherence with use of psychotropic and non-psychotropic drug was similar, which was 41.1% and 40.8% respectively. Issues of non-adherence can be addressed by psychoeducation and involvement of caregivers.

Use of restraint

The prevalence of restraints in our hospital was 20.7%, primarily involving female patients with psychotic symptoms. In a study done among 399 patients in a General Hospital Psychiatry Setting from South India, the frequency of patients being restrained either through physical or chemical means was 19.09%.[40] The finding was comparable to our study.

However, in a study done in nursing homes and hospitals in Germany, the prevalence of restraint use among hospital patients was 9.3%, with higher rates observed in women, older patients, and those with high care dependency, disorientation, or conditions like polypharmacy.[41,42] We can argue that our (Nepali) practice standards are different and the patient population in our hospitals are way sicker than in the Western countries.

In our hospital, restraints were only used as a last resort after attempts of verbal de-escalation. The higher rate may be attributed to the fact that many general hospitals in Nepal lack the training to manage violent patients,[43] leading to referral to our facility. The study regarding use of restraint in psychiatric patient is not available from Nepal so the results cannot be compared.

CONCLUSION:

Our study highlights the socio-demographic characteristics, clinical profiles, and treatment parameters of inpatient elderlies in Nepal. Despite limited attention to geriatric psychiatry in this region, we found a high prevalence of psychiatric morbidity. This indicates a potential under-recognition and treatment gap in elderly mental health care. There is a need for greater awareness and prioritization in health policies. An integrated care system, along with appropriate screening tools and referral mechanisms, is crucial for improving elderly mental health.

LIMITATIONS:

The retrospective design and small sample size limit the generalizability of our findings. Additionally, the use of standard diagnostic manuals like ICD may under report psychiatric disorders in the elderly, as some conditions are not well-validated in this age group. However, this study's strength lies in its uniqueness as one of the few focused on elderly psychiatric in patients in a dedicated hospital setting in Nepal. Future studies with larger samples and standardized tools are needed to build on this foundation.

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