Original Article

Patterns of Psychiatric Illness over 3 years: A single Centre Inpatient Study From Nepal

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Abstract

Introduction: *Inpatient psychiatric patients are a major group of our treatment domain and they are different from outpatients in certain characteristics. In this study, we assessed the patterns of psychiatric illnesses along with socio-demographic variables in patients admitted in a psychiatry ward of a tertiary hospital over three consecutive years.* ***Methods:*** *This is a retrospective review of all patients admitted in psychiatry ward Tribhuvan University Teaching Hospital over a three year period between 2067 Baisakh to 2069 Chaitra (2010 April to 2013 April) by reviewing in-patient admission charts from medical records section of the hospital. Descriptive analysis was done by using SPSS version 19; Chicago, IL, with p value of <0.05 being considered statistically significant.* ***Results:*** *There were a total of 881 patients admitted in the psychiatry ward during the study period (281 patients in 2067, 303 in 2068 and 297 in 2069). Patients in the age group of 20-30 years comprised the majority (n=295; 33.5%) of the total population followed by age group 10-20 years (n=239; 27.1%). Males constituted 50.3% of the total patients. Most of the patients belonged to the central developmental region (n=580; 65.8%). Brahmins comprised the majority (n=374; 42.5%) and 98.8% of the patients were Hindus. The most common diagnosis was schizophrenia and related disorders (25.5%) followed by acute and transient psychotic disorders, ATPD (14.4%). Majority of the patients (n=422; 47.9%) had hospital stay duration of 7-14 days. About 98% of patients were discharged with no cases of mortality over three years studied. Overall trend in those three years was similar except for ethnicity, diagnosis, and duration of stay (p≤0.001).*

Conclusion: *We conclude that schizophrenia and related disorders were the most common diagnosis and 20- 30 years age group was the most commonly afflicted age- group among psychiatry inpatients. This adds insight to our understanding of predominant psychiatric illness in inpatients and how they differ from outpatients aiding in scaling of services in inpatients.*

Keywords: psychiatry inpatients, pattern of illness, socio-demographic profile

INTRODUCTION

Mental and behavioral disorders are common, affecting more than 25% of all people at sometime during their lives. These high prevalence relapsing and remitting conditions are well recognized as significant contributors to impaired quality of life, disablement and increased consumption of health services.[1]

The first global burden of disease study in 1990 showed that neuropsychiatric disorders accounted for more than a quarter of all non-fatal burden, measured in years lived with disability (YLDs). In 2010, mental and substance use disorders accounted for 7.4% of total disease burden and were the fifth leading disorder in category of global disability-adjusted life years (DALYs). Depression was

one of the leading causes of YLDs in 2010. The highest proportion of DALYs occurred in adolescents and young to middle-aged adults (aged 10–29 years).[2,3]

Mental and behavioral disorders are significant contributors to morbidity rather than mortality and therefore, very important from viewpoint of quality of life. Recently, more focus is being given to mental disorders and Nepal is not an exception. Inpatient service is an important aspect of patient care which is indicated in Psychiatry when a patient can't be adequately managed at home or outpatient, is a risk to self and others and is poorly compliant with medicines.[4,5] Scaling of services in any area requires knowledge of the pattern of illnesses and their various presentations. We therefore conducted this study aiming to see the pattern of neuropsychiatric illness in an inpatient unit of tertiary care center.

MATERIAL AND METHOD

This is a retrospective descriptive study of all patients admitted in psychiatry ward of Tribhuvan University Teaching Hospital over a period of three years between 2067 Baisakh and 2069 Chaitra (April 2010 to April 2013). We obtained inpatient number of all patients from the inpatient register maintained in psychiatry ward and evaluated detailed patient chart of each patient from the medical records section of the hospital. Diagnoses of the patients were made as per the ICD-10 diagnostic criteria. Socio-demographic and clinical variables for each patient were collected. Data were analyzed using SPSS version 19, Chicago, IL; and results were expressed as percentages. Chi square test was utilized to compare the results between the years of admission, with p value of <0.05 considered being statistically significant.

RESULT

The results are summarized in table 1. There were a total of 881 patients admitted over the period of three years (281 in 2067, 303 in 2068 and 297 in 2069).

Demographics:

Majority of the patients were in age group 20-30 years (n=295; 33.5%), followed by age group 10-20 years (n=239; 27.1%). There were only 34 patients (3.9%) aged over 60 years. The age group distribution among the three years of study was similar. Males outnumbered females slightly, however not to a level of statistical significance. Majority of the patients (65.8%) were from central developmental region of the country and this trend was similar over the three years. Majority of the patients were Brahmins (42.5%), followed by Chhetris (23.4%). The population of Brahmins increased from 39.9% in 2067 to 45.5% in 2069 (p=0.001). Hindus comprised 98% of the total patients and this trend was comparable among three different years.

Diagnosis, treatment, and outcomes:

The cases requiring admission were organic, substance related, schizophrenia, PDD (Persistent delusional disorders), ATPD (Acute and transient Psychotic Disorder), BPAD (Bipolar affective disorders), depression, anxiety, somatoform, headache/epilepsy. Overall, major diagnosis was schizophrenia and related disorders (25.5%) followed by ATPD (14.4%) and depression (12.4%). Organic causes comprised only a minor volume of overall admissions (1.1%). Trend analysis over the three years revealed that substance related admissions increased from 1.4% in 2067 to 9.9% in 2068 then decreased to 4.4% in 2069 (p=0.001). Depression showed a persistent decline in trend (16% in 2067 to 9.1% in 2069). Other diagnoses had more or less stable trend over three years (Table 1). Majority of the patients (47.9%) had a hospital stay of 7-14 days. Patients requiring hospitalization for more than a month were less than 1%. In 2067, 44.8% patients stayed for 7-14 days, with 2.8% patients requiring hospitalization for more than a month; while in 2069, 53.4% stayed for 7-14 days with no patient requiring hospitalization for more than a month ($p<0.001$). There was no in-hospital mortality; and majority of the patients (96.4%) were discharged home; few patients were transferred to another medical facility; and few patients left the hospital against medical advice.

Table 1: Summary of the socio-demographic and other related variables

Variables		All patients (n=881)	Year 2067 (n=281)	Year 2068 (n=303)	Year 2069 (n=297)	P value
Age, n(%)	<10 years	17 (1.9)	5 (1.8)	7 (2.3)	5 (1.7)	0.208
	10-20 years	239 (27.1)	83 (29.5)	70 (23.1)	86 (29.0)	
	20-30 years	295 (33.5)	90 (32.0)	94 (31.0)	111 (37.4)	
	30-40 years	166 (18.8)	60 (21.4)	61 (20.1)	45 (15.2)	
	40-50 years	99 (11.2)	23 (8.2)	45 (14.9)	31 (10.4)	
	50-60 years	31 (3.5)	10 (3.6)	12 (4.0)	9 (3.0)	
	>60 years	34 (3.9)	10 (3.6)	14 (4.6)	10 (3.4)	
Sex, n (%)	Male	443 (50.3)	134 (47.7)	145 (47.9)	164 (55.2)	0.113
	Female	438 (49.7)	147 (52.3)	158 (52.1)	133 (44.8)	
Address, n (%)	Eastern region	79 (9.0)	19 (6.8)	35 (11.6)	25 (8.4)	0.587
	Central region	580 (65.8)	192 (68.3)	186 (61.4)	202 (68.0)	
	Western region	153 (17.4)	45 (16.0)	57 (18.8)	51 (17.2)	
	Mid western region	56 (6.4)	20 (7.1)	21 (6.9)	15 (5.1)	
	Far western region	9 (1.0)	4 (1.4)	3 (1.0)	2 (0.7)	
	Abroad	4 (0.5)	1 (0.4)	1 (0.3)	2 (0.7)	
Ethnicity, n (%)	Brahmin	374 (42.5)	112 (39.9)	127 (41.9)	135 (45.5)	0.001
	Chhetri	206 (23.4)	65 (23.1)	72 (23.8)	69 (23.2)	
	Newar	59 (6.7)	21 (7.5)	16 (5.3)	22 (7.4)	
	Mongolian	123 (14)	35 (12.5)	42 (13.9)	46 (15.5)	
	Dalit	24 (2.7)	4 (1.4)	18 (5.9)	2 (0.7)	
	Others	77 (8.7)	38 (13.5)	23 (7.6)	16 (5.4)	
	Unknown	18 (2.0)	6 (2.1)	5 (1.7)	7 (2.4)	
Religion, n (%)	Hindu	863 (98.0)	275 (97.9)	298 (98.3)	290 (97.6)	0.586
	Muslim	14 (1.6)	6 (2.1)	4 (1.3)	4 (1.3)	
	Christian	3 (0.3)	0 (0)	1 (0.3)	2 (0.7)	
	Others	1 (0.1)	0 (0)	0 (0)	1 (0.3)	
Diagnosis, n (%)	Organic (Delirium/dementia)	10 (1.1)	3 (1.1)	6 (2.0)	1 (0.3)	0.001
	Substance related (Induced and withdrawal)	47 (5.3)	4 (1.4)	30 (9.9)	13 (4.4)	
	Schizophrenia/PDD (Persistent delusional disorders)	225 (25.5)	72 (25.6)	70 (23.1)	83 (27.9)	
	ATPD (Acute and transient psychotic disorders)	127 (14.4)	48 (17.1)	32 (10.6)	47 (15.8)	
	BPAD (Bipolar affective disorders)	102 (11.6)	26 (9.3)	39 (12.9)	37 (12.5)	
	Depression	112 (12.7)	45 (16.0)	40 (13.2)	27 (9.1)	
	Anxiety disorders	21 (2.4)	6 (2.1)	6 (2.0)	9 (3.0)	
	Somatoform/dissociative disorders	89 (10.1)	31 (11.0)	31 (10.2)	27 (9.1)	
	Headache/epilepsy	45 (5.1)	14 (5.0)	10 (3.3)	21 (7.1)	
	Others	103 (11.7)	32 (11.4)	39 (12.9)	32 (10.8)	
Duration of stay, n (%)	<7 days	254 (28.8)	77 (27.4)	103 (34.0)	74 (24.9)	<0.001
	7-14 days	422 (47.9)	126 (44.8)	136 (44.9)	160 (53.9)	
	14-21 days	161 (18.3)	54 (19.2)	57 (18.8)	50 (16.8)	
	21-28 days	36 (4.1)	16 (5.7)	7 (2.3)	13 (4.4)	
	>28 days	8 (0.9)	8 (2.8)	0 (0)	0 (0)	
Outcome, n (%)	Mortality	0 (0)	0 (0)	0 (0)	0 (0)	0.124
	Discharge	849 (96.4)	268 (95.4)	290 (95.7)	291 (98.0)	
	Transfer	8 (0.9)	4 (1.4)	1 (0.3)	3 (1.0)	
	Left against medical advice	24 (2.7)	9 (3.2)	12 (4.0)	3 (1.0)	

DISCUSSION

Studies have revealed that four of the six leading causes of years lived with disability are due to neuropsychiatric disorders (depression, alcohol-use disorders, schizophrenia and bipolar disorder).[6] These disorders account for greater morbidity than mortality in patients and therefore directly related to impaired quality of life. Many studies have been conducted in developed countries and some in developing countries attempting to study the pattern of neuropsychiatric illness in outpatient settings and in inpatients. In Nepal, only one such study has so far been conducted in psychiatric inpatients and that too more than a decade ago.[5] There are studies seeing the diagnostic and socio-demographic profile of patients visiting out- patient settings, however.

Major finding of our study is that two thirds of patients requiring admission are young aged between 10 and 30 years. This most productive age group is found to comprise a significant volume of inpatient caseload. Worldwide, the leading cause of YLDs for 10-24-year-olds was neuropsychiatric disorders (45%) and the main risk factors for incident DALYs in 10–24-year-olds were alcohol (7% of DALYs), unsafe sex (4%), iron deficiency (3%), lack of contraception (2%), and illicit drug use (2%).[7] Observations similar to ours were noticed in other studies. Study by Avasthi et al.[8] showed that more than three quarters (78%) of the patients belonged to the age group of 21 to 45 years. Similarly, studies by Issa et al. [4] and Pokharel et al. [5] found 20 to 40 years to be the most common age group seen in inpatients. Most of the studies done in outpatient departments (OPD) also showed similar findings. Shreshta et al. [1] and Khattri et al. [9] showed that majority of the psychiatry outpatients were comprised by the age group 20 to 30 years followed by 31 to 40 years. Another study, however, found different results showing that patients of age group 41-50 years comprised the majority (27.89%) followed by 11-20 years (22.19%).[10]

Our study found majority of the patients admitted were from central developmental region (68%). This is usually expected because our facility is located in Kathmandu, central developmental region catering patients mainly from this area of Nepal. Although our facility is serving as the tertiary referral center from all over the country, due to recent openings of tertiary care facilities outside the capital might have reduced the volume load from outside the central developmental region. In our study, majority of the patients (53.9%) had hospital stay of one to two weeks. Study by Chaturvedi et al.[11] found majority of patients (59.4%) with hospital stay less than 4 weeks and the mean duration was 29.39 days. Similarly, duration of stay in study by Pokharel et al. was 17.69 days.[5] One study found the duration of stay for majority of patients (61.0%) to be 30 days.[4] We did not, however compare the hospital stay duration with diagnosis.

The most common diagnosis in our patients was schizophrenia/ persistent delusional disorders (27.9%) followed by acute and transient psychotic disorders (15.8%) and bipolar affective disorders. So, overall psychotic patients were most common diagnostic groups among the admitted cases in all the years. One inpatient study done in psychiatric hospital in Libya also assessed the diagnostic profile of patients where the most prevalent diagnosis was schizophrenia in 51% followed by bipolar I disorder (42.3%).[8] Study done more than a decade ago[5] found mood disorders to be the most common diagnosis (35%) followed by schizophrenia and related disorders (28%). Similarly, many studies found schizophrenia to be the most predominant diagnosis[12-16] while a study by Thompson et al. reported depression and anxiety to be the most common diagnosis for admission followed by schizophrenia and related psychoses.[17]

The most common diagnoses in OPD settings, however, have been neurotic, stress- related, somatoform, and depressive disorders. [1,9,10, 18,19] Similarly, diagnostic profile of mentally ill patients attending a mental health camp revealed neurotic, stress- related and somatoform disorders to be the most common diagnosis.[6] Thus, we may safely argue that schizophrenia and related disorders are the most common diagnoses in inpatients while neurotic, stress- related and somatoform disorders the most common diagnoses in outpatients. It is mainly because the psychotic patients are admitted at first instance because they lack insight and are usually difficult to control at home while for neurotic patients, the norm is outpatient treatment for majority of the cases, being admitted only when they are severe enough, have suicidal tendencies or present with complications. Majority of our

patients (98%) were discharged home after improvement; which reinforces the quality of service we provide to our patients being a tertiary referral center of the country.

CONCLUSION

Inpatient psychiatric service is one very important part of psychiatric treatment. Majority of patients requiring admission are young, and they tend to be psychotic rather than neurotic. We attempted to study the pattern of psychiatric illness in this patient population. This adds insight to our understanding of predominant psychiatric illness in inpatients and how they differ from outpatients aiding in scaling of services in inpatients.

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