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Original Research Article

A descriptive analysis of patients admitted in short stay ward at psychiatric centre, Jaipur, Rajasthan, India

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ABSTRACT

Background: The average length of stay (LOS) at psychiatric centre and the factors determining longer LOS in Psychiatry disorders remains largely unexplored. Longer LOS is associated with social isolation and maladaptive behaviours in patients thus warrants a shorter stay. The observed LOS and predicted LOS among different psychiatry hospitals in future may serve as an index of quality care and efficient management of meagre but available resources in our country. The aim was (1) To study the socio demographic and clinical factors of patients admitted at our hospital and (2) To ascertain the relationship between the socio demographic, clinical factors and LOS.
Methods: A retrospective analysis of psychiatry inpatients admitted at Psychiatric Centre, Jaipur during July 2014 and June 2015. The data was analysed studying the 489 case records. The socio demographic characteristics and clinical factors were correlated with LOS in hospital.
Results: Our study has shown the correlation of socio-demographic factors and clinical factors with LOS. Rural population, marital status, employment status, number of episodes and diagnosis itself has positive correlation with longer LOS.
Conclusions: From present study it was shown the correlation of socio-demographic factors and clinical profile with LOS. Rural population, marital status, premorbid employment status, number of episodes and diagnosis itself has positive correlation with longer LOS. However, gender and substance abuse had no correlation with LOS. Short term and planned admissions along with individualized treatment plans fitting patient's social background may be more beneficial as compared to long term admissions.

Keywords: Clinical factors, Correlation, Length of stay, Psychiatry in patients, Socio-demographic

INTRODUCTION

A majority of the psychiatric illnesses have a chronic relapsing and deteriorating course. Approximately 40-50% of the patients get readmitted to hospital within a year after discharge.[1] According to the World Health Organization (WHO), Southeast Asia and some African countries have the lowest number of psychiatric beds per population and the majority of them are available in major cities.[2] Psychiatric disorders are among the many causes of DALY (Disability-Adjusted Life Years) and is predicted to be a leading cause by year 2030, yet remain lowest on the agenda of policy makers.[3]

So, the mental health services to a great extent rely on shorter duration of hospital stay and providing community-based services including awareness programmes. Currently, there is growing interest in length of stay (LOS) at psychiatric hospitals as this may be used as an indicator of quality of care and an important factor for utilization of available resources.[4] Hirsh et al have shown that there was no advantage of

long term hospitalisation and the correlation between length of stay and diagnosis has not been yet established.[5] If LOS as a function of diagnosis can be ascertained, then the difference between observed LOS (oLOS) and predicted LOS (pLOS) will serve as a valuable indicator and an index of quality care.[6] Prolonged LOS may increase the burden on patient's care givers, socially isolate the patient and may initiate maladaptive behaviour.[7]

On the other hand, Lars et al concluded that patients who are admitted for longer durations have had appropriate treatment planning, follow-up, and lesser readmission after discharge.[8] Other researchers found that the length of stay of the patient had no impact on the improvement of depressive symptoms in patients with Depression.[9]

However, Diagnosis, severity of illness, age, sex, treatment issues and chronic course of the illness have been already confirmed as LOS determinants with more or less strength across the above referred studies.[10] Data from these studies conducted in the developed countries on length of stay were unable to voice a unanimous opinion and the results were equivocal.

Further, data from Indian sub-continent remains largely untapped. Therefore, we systematically describe the admission pattern and LOS at S.M.S Medical College and attached Psychiatric Centre, a tertiary care hospital in the capital city of Jaipur. Our study is based on the analysis of one year admission records. In doing so, this study aimed to generate baseline data and information from the Indian context, which may be further used to formulate better healthcare delivery, fund allocation and management.

Aim of the study

- To study the socio demographic and clinical profile of patients admitted at our hospital.
- To ascertain the relationship between the socio demographic profiles, clinical factors and Length of Stay.

METHODS

Study setting

The psychiatric centre is a 320 bed teaching hospital and exclusively a psychiatry setting located in Jaipur. The hospital is one amongst the six attached hospitals of the S.M.S. Medical College, Jaipur, Rajasthan, India.

It has fully equipped 50 bedded Emergency Ward setting dedicated solely to the Management and care of acutely ill. The four psychiatric units, under direct supervision of unit heads and other associated faculty runs outpatient clinic throughout the week. Round the clock availability of Psychiatry Resident Doctors, Psychologists, Psychiatric social workers and Psychiatric nurses provides high level of care under direct supervision of respective Unit heads.

Methodology

Record of all admissions from emergency ward of hospital between 1st July 2014 and 30th June 2015 were obtained from the Medical Record section. The detailed information record includes socio-demographic variables (age, sex, religion, occupation, education, marital status, socio economic status, type of family) and clinical data (family history of Psychiatric illness, time taken for first treatment contact, previous hospital admissions, substance use, diagnoses and LOS at hospital).

Date of admission and discharge were recorded and used to calculate length of hospital stay (LOS). The global clinical outcome was recorded at discharge and categorized as follows: improved, unchanged, absconded and deceased. This rating was completed by Psychiatrist. Patients suffering from medical, neurological and surgical comorbidities were excluded from the study as comorbidity is associated with increased LOS.[11] Patients with Intellectual disability were also excluded.

For data analysis, discharge diagnoses were summarized into broad diagnostic classes according to the international Classification of Diseases 10th edition. The ICD 10 is a diagnostic system used in clinical and research settings in many parts of the world, including India.[12] Provisional diagnosis was made in outpatient department according and reconfirmed on subsequent visits. Data were analysed using the Statistical Package for Social Sciences, version 20 (SPSS 20).[13] Frequency distribution, cross tabulations, chi squared figures and Pearson correlation were calculated for the variables and statistical significance was set at 5%.

RESULTS

Out of 545 records of the admission identified and retrieved within the study period, 489 (89.9%) had complete patient information and were analyzed as a sample size. Table 1 shows the socio demographic details of the study sample. In our study, majority of admissions were predominantly male (70.8%) and females constituted 29.2% of the study population. The age of patients ranged from 14 to 68 years with a mean of 25.5 years. Patients under the age of 16 constituted 0.7% of admissions while those above 40 years of age constituted 20.2%. However, age group of the majority of patients (72.1%) lied between 16-40 years. Patients coming from rural background (84.9%) constituted most of the admissions while patients from urban area were meagre (15.1%). So our study sample comprised of young, married Hindu male, belonging to rural areas and living in a nuclear family. Table 2 shows the clinical profile of the study population. In our sample, schizophrenia was the most common diagnosis (40.7%) followed by bipolar disorder (37.0%) and ATPD and other psychotic disorder

constituted 11.2% of admissions. Similarly, substance use disorder was not frequent (4.3%) although 55.4% of patients had abused substances, mostly tobacco. Only 12 patients (2.5%) had a diagnosis of panic disorder, Conversion Disorder, Adjustment Disorder, Personality Disorder, Dementia and OCD which we have included in others category. Family history of psychiatric illness was present in 46.2% of study group. A total of 324 (66.3%) out of 489 patients have had 2-5 episodes/exacerbations of the illness in the past although 129 patients (26.3%) were admitted for the first time in their first episode. Almost a quarter (27.7%) of patients suffered from psychiatric illness for a duration of more than 12 months before first treatment contact. Only 62 (12.6%) patients visited a psychiatrist within 15 days of onset. Based on the clinical outcome on discharge, about 91.6% of patients had improved, 5.2% (25) had absconded and only 3.2% of patients showed no change. However no mortality was recorded.

Table 1: Socio-demographic profile of patients.

	Percentage (n=489)
Gender	
Male	70.8
Female	29.2
Age	
<16	0.7
16-40	72.1
>40	20.2
Marital status	
Unmarried	28.0
Married	54.4
Divorced	9.0
Seperated	8.6
Residence	
Rural	84.9
Urban	15.1
Religion	
Hindu	80.6
Muslim	14.9
Other	4.5
Occupation status	
Employed	56.2
Unemployed	43.8
Education	
Illiterate	20.9
Literate	
• Primary	16.0
• High school	36.0
• Graduate and above	27.1
Socio economic status	
Lower	48.7
Middle	49.1
Upper	2.2
Family type	
Joint	30.7
Nuclear	69.3

Table 2: Clinical profile of admitted patients at psychiatric centre, Jaipur.

	Percentage (N=489)
Diagnosis	
Schizophrenia	40.7
Bipolar affective disorder.	37.0
Acute transient psychotic disorder and other psychotic disorder.	11.2
Depression	4.3
Substance use disorder	4.3
Others	2.5
Substance abuse	
None	44.6
Tobacco	22.1
Alcohol	5.3
Cannabis	2.1
Multiple	25.9
Family history of psychiatric illness	
Absent	53.8
Present	46.2
Number of episodes	
1st	26.3
2-5	66.3
>5	7.4
Time taken for first treatment contact	
< 1/2 month	12.6
½ - <2 months	26.4
2-12 months	33.3
>12 months	27.7
Length of stay at hospital	
<7 days	20.9
7-14 days	54.0
>14 days	25.2
Clinical outcome	
Improved	91.6
Unchanged	3.2
Absconded	5.2
Deceased	0

The outcome measure calculated from the data was the length of stay (LOS). Schizophrenia (mean LOS= 12.3 days) and Bipolar patients (mean LOS= 12.1 days) had longer than mean LOS (10.3 days). The mean length of stay (LOS) of patients was 10.3 days and roughly half (54%) of the patients stayed in hospital for 7- 14 days.

Table 3 shows the correlations of LOS with different socio demographic and clinical variables. The patients who were married, employed, residing in rural areas, having less than 5 episodes had longer LOS at our centre. Regarding diagnosis, on intergroup comparison, there was no significant difference in mean LOS in Schizophrenia and Bipolar patient's group, but their mean LOS was higher than other groups.

Table 3: Comparison of socio demographic and clinical factors with length of stay (LOS).

	Length of stay			X^2	df	P value
	<7 d	7-14 d	>14 d			
Gender						
Male	78	189	79	4.2	2	.120
Female	24	75	44			
Marital status						
Unmarried	30	62	45	61.9	6	.000*
Married	51	170	45			
Divorced	0	22	22			
Separated	21	10	11			
Occupation status						
Working	82	126	67	32.1	2	.000*
Not working	20	138	56			
Residence						
Rural	92	233	90	17	2	.000*
Urban	10	31	33			
Number of episodes						
1st	46	14	43	17.9	14	.000
2-5	56	236	67			
>5	0	12	13			
Diagnosis						
Schizophrenia	25	117	57	94.5	10	.000*
Bipolar affective disorder.	23	92	66			
Acute transient psychotic disorder and other psychotic disorder.	27	28	0			
Depression	11	10	0			
Substance use disorder	10	11	0			
Others	6	6	0			
Family history of psychiatric illness						
Absent	47	162	54	13.3	2	.001*
Present	55	102	69			

*Significant $p<0.05$.

DISCUSSION

This is the first descriptive analysis reporting on the pattern of psychiatric admissions in Psychiatric Centre, Jaipur. Most of the variables determining admission could be understood in terms of the expected socio-demographic characteristics of patients and quality of care received at the centre. Thus, the predominance of patients under the age of 40 can be explained by predominance of patients with schizophrenia and bipolar disorder, both of which have an early onset and for which the treatment has to planned and tailored. The higher admission of males (70.8%) can be explained by our social factor like preference for male child and that male is sole bread runner of the family. Although females constitute approximately 50% of the population (sex ratio 933) but only 143 (29.2%) out of 489 patients were females. Lower admission rate among females may be due to better prognosis (particularly in schizophrenia), higher tolerance by care givers, lack of family support and lesser economic power among Indian women. However, considering the LOS, there was no statistical difference reported among males and females (p=0.12).

Low rate of admission of child and adolescent patients under the age of 16 into Emergency wards is clearly due to the lack of available services and stigma attached to exclusive psychiatry settings. The care of the young may be improved by establishing Child and Adolescent Psychiatry wards in General Hospital settings.[14]

The lower proportion of patients admitted above the age of 40 years (20%) is partly due to the low inception rate of psychotic disorders in late life and neglect of older patients. Similarly, the geriatric population should be addressed through specialised Geriatric Clinics and outreach programmes. More than half (266) of the patients were married and approximately three fourth of them (215) stayed in the hospital for more than one week. On the statistical analysis p value is significant($x^2=61.9$, df = 6 and p value<0.05). This correlation can be attributed to good social support in married patients and

can be beneficial for better outcome and management of disease. Our findings is supported by findings of Lars et al 2002. A total of 415(84.9%) patients were from rural background and there length of stay is significantly higher han patients from urban population which is significant on statistical analysis (x^2 = 17, df = 2 and p<0.001). The reason behind longer LOS among rural population is availability of free medicines, investigations, ward services and food. Employed (56.2%) patients LOS was more than unemployed (43.8%) patients which is statistically significant(x^2= 32.1, df=2, p value <0.001). Reputation in society, affordability of services and premorbid socially productive life would be responsible for this difference.[15]

Two third of admitted patients (66.3%) have had 2-5 episodes/exacerbations and their LOS was observed much longer than admissions in first episode (x^2=17.9, df=14, p=0.000) as these patients are likely to come with severe and chronic illness which may in turn lead to slower treatment response.[14] The patients with a diagnosis of Schizophrenia had mean LOS of 12.3 days whereas mean LOS of patients with Bipolar illness was 12.1 days which was not statistically significant between these two groups (p>0.05). When we compare these two groups with other diagnoses, the mean LOS is statistically significant (p<0.05). The fact that Schizophrenia and Bipolar illness have huge impact on social and occupational functioning and require continuous treatment for long duration, along with slow response to treatment may be a reason for longer LOS.[16] There may also be an increased possibility of stigma associated with the illness in the family, which may make them further dissociate from the patient or deny his/her illness and avoid health facilities or by probably holding him/her responsible for noncompliance with treatment and hence may worsen the severity of illness resulting in prolonged LOS on psychiatric admission. This may increase the burden of care and further weaken the available family support.[17]

The mean LOS at our centre was 10.3 days and was higher for schizophrenia and bipolar disorder which is in line with the findings of Addisu F et al., 2015 which concluded that patients with psychoses and bipolar disorder have lengthier hospital stays burdening the cost of care of psychiatric treatment in a general hospital setting.[18] Similarly, in a cross-cultural comparison between two hospitals in Germany and Japan, Schizophrenia and related psychosis was the most common diagnosis in both hospitals. Length of stay was significantly longer at the hospital in Japan (75 days) than at the Germany (28 days).[19] Overall, the LOS in developing countries is much lower than that in developed countries.

Limitations

- The results couldn't be generalized because of socio cultural differences in different study populations.
- As ours is an exclusive psychiatry setting, the results may differ from other psychiatry wards in general hospitals.
- There may be recall bias in reporting age at onset, number of episodes and other clinical variables.
- After extensive review of literature, studies focussing on LOS in India and in the world are very limited to compare our findings.

CONCLUSION

From present study it was shown the correlation of socio-demographic factors and clinical profile with LOS. Rural population, marital status, premorbid employment status, number of episodes and diagnosis itself has positive correlation with longer LOS. However, gender and substance abuse had no correlation with LOS. Short term and planned admissions along with individualized treatment plans fitting patient's social background may be more beneficial as compared to long term admissions.

Implications

- The difference between observed LOS (oLOS) and predicted LOS (pLOS) may be used as an indicator of quality care in psychiatry units.
- The observed difference between oLOS and pLOS may guide allocation of funds to different treatment settings.
- This study also highlights the factors associated with longer LOS among inpatients.

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