

Factors Affecting Duration of Stay among Psychiatric Patients in a Tertiary Care Hospital of Northern Part of India: A Cross Sectional Analytical Study

Sanjay Pathak¹, Vineet Kumar², Vikesh Gupta^{3*}¹Senior Medical Superintendent, HHMH & R, Shimla, Himachal Pradesh India²Resident, Department of Community Medicine, IGMC Shimla, Himachal Pradesh India³Medical Officer (Psychiatry), HHMH & R, Shimla, Himachal Pradesh IndiaDOI: [10.36347/sjams.2019.v07i06.031](https://doi.org/10.36347/sjams.2019.v07i06.031)

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*Corresponding author: Vikesh Gupta

Abstract

Original Research Article

In psychiatric practice, some mentally ill patients spend their life in continuous or prolonged hospitalization; that is, as long stay patients. The locus of provision of psychiatric care has shifted from institutions to community mental health in USA and many other countries. This study was planned in this institute to find factors which are associated with long stay of patients in psychiatric hospital. This study was a record based cross sectional study done in Himachal Hospital of Mental Health and rehabilitation which is a tertiary care Institute situated in Shimla, capital of a Northern Hilly state of India. Data of all the patients discharged with various illnesses from the institute during January 2014 to December 2018 was examined and analyzed from hospital record. In this study we found that out of 403 total patients 302(74.94%) were male, 101(25.06%) were female. 290 (71.96%) were from age group less 40 years. Most patients 200 (49.63%), had diagnosis of schizophrenia and acute transient psychosis. About 75% of patients had long duration of stay in mental hospital in our study. Patients with diagnosis of Schizophrenia and acute and transient psychosis has longer stay after adjusting for other factors as compared to BPAD and mania.

Keywords: Psychiatric patients, duration of hospital stay, Schizophrenia, Risk factors, BPAD and mania.

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INTRODUCTION

In psychiatric practice, some mentally ill patients spend their life in continuous or prolonged hospitalization; that is, as long stay patients [1, 2]. This is due among other reasons to severe mental illness with poor symptom control, substance dependence, homelessness and abandonment by the patients' relatives [1, 2]. Longer hospital stays do not necessarily mean better mental health care, improved social adjustment or diminished psychopathology [5, 6]. The locus of provision of psychiatric care has shifted from institutions to community mental health in USA and many other countries[7-10]. In India the focus also changed toward right to community leaving for person with mental illness according to Indian Mental Health Care Act, 2017, chapter 5 and section 19[11]. Over the years, long-stay patients have been extensively studied in Europe and North America [12-14]. However, in such developed nations and since the 1950s, deinstitutionalization led to a remarkable decline in the

number of long-stay patients and closure of a number of the then mental health asylums [15,16] with the alternative provision of community care[14,1] Length of stay in hospitals has drastically dropped in the USA[18].

Some previous studies had found that some factors which are useful in estimating length of stay are available at time of admission. According to studies from the past have consistently shown that substance abuse has been associated with shorter length of stay and higher readmission rates [19-21]. Some outcome studies of discharged patients reported worse clinical profiles for them following discharge [22]. Further, many of the patients have severe mental illnesses that are difficult to manage in the community facilities, hence the necessity for prolonged long-stay hospitalization [16, 19]. Himachal Pradesh the northern state of India is a hilly state. State has only one mental hospital that is Himachal Hospital of Mental Health and

Rehabilitation situated at Shimla. Most of psychiatric patients who needs long stay are referred to this hospital from different General hospital psychiatric units situated in this state (GHPU). This study was planned in this institute to find factors which are associated with long stay of patients in psychiatric hospital.

MATERIAL AND METHODS

This study was a record based cross sectional study done in Himachal Hospital of Mental Health and rehabilitation which is a tertiary care Institute situated in Shimla, capital of a Northern Hilly state of India. Data of all the patients discharged with various illnesses from the institute during January 2014 to December 2018 was examined and analyzed from hospital record. A patient was considered only once for the study data collection. Readmission patients during the study period were excluded from the study. Available data on psychiatric diagnoses, duration of admission hospital case files and other relevant registers. Data was entered in Microsoft excel spreadsheet, cleaned for errors and was analyzed using Stata Software version 15. Descriptive statistics were used to summarize the demographic data. Frequencies, percentages and their 95% confidence intervals were used to describe categorical variables. Pearson Chi-square and Fischer Exact test was used for univariate association analysis. Factors with p value of ≤ 0.2 were included in

multivariate logistic regression model. A two-sided p value of < 0.05 was considered as statistically significant.

RESULTS

In this study we found that out of 403 total patients 302(74.94%) were male, 101(25.06%) were female. 290 (71.96%) were from age group less 40 years old and mostly were from known locality (324 i.e.80.40%). 393(97.52%) patients were from India and 351(87.10%) have families however 52(12.90%) patients were destitute. Most patients i.e. 195(48.39%) were admitted voluntary, 184(45.66%) were admitted through reception orders and 24(5.96%) were transferred from other government aided institutes. Most patients 200 (49.63%), had diagnosis of schizophrenia and acute transient psychosis. Diagnosis of unspecified non organic psychosis (NOS) had been found in 101(25.06%) patients, 60(14.89%) patients had Bipolar Affective Disorders (BPAD) and mania, 24(5.96%) patients had schizoaffective and 9(2.23%) patients had Mental Retardation (MR) with other diagnosis and others each respectively. Among 183(45.41%) patients co-morbid use had been found and cannabis and tobacco in combination had been found to be most common substance in co-morbid substance user. Around three fourth of patients had more than one month of hospital stay. (Table 1)

Table-1: Description of baseline socio-demographic and clinical variables among study participants

| Variable | Frequency | Percentage (%) | 95% CI |
|------------------------------------|-----------|----------------|-------------|
| 1. Gender | | | |
| Male | 302 | 74.94 | 70.46-78.93 |
| Female | 101 | 25.06 | 21.06-29.54 |
| 2. Age Group | | | |
| <40 | 290 | 71.96 | 67.36-76.14 |
| >40 | 113 | 28.04 | 23.86-32.64 |
| 3. Locality | | | |
| Known | 324 | 80.40 | 76.22-84.0. |
| Unknown | 79 | 19.60 | 16.00-23.78 |
| 4. Type of Locality | | | |
| Urban | 27 | 8.33 | 5.77-11.89 |
| Rural | 297 | 91.67 | 88.10-94.23 |
| 5. Citizenship | | | |
| Others | 10 | 2.48 | 1.34-4.56 |
| India | 393 | 97.52 | 94.44-98.66 |
| 6. Family/Destitute | | | |
| Destitute | 52 | 12.90 | 9.96-16.56 |
| Family | 351 | 87.10 | 83.44-90.04 |
| 7. Psychiatric Diagnosis | | | |
| Schizophrenia & ATP* | 200 | 49.63 | 44.75-54.51 |
| Psychosis NOS ^s | 101 | 25.06 | 21.06-29.54 |
| BPAD** & mania | 60 | 14.89 | 11.73-18.72 |
| MR ^{ss} & other diagnosis | 9 | 2.23 | 1.16-4.24 |
| Schizoaffective | 24 | 5.96 | 4.02-8.74 |
| Other | 9 | 2.23 | 1.16-4.24 |
| 8. Co-morbid Substance use | | | |
| No | 220 | 54.59 | 49.71-59.39 |
| Yes | 183 | 45.41 | 40.61-50.29 |
| 9. Co-Morbid Substance Type | | | |
| Tobacco alone | 52 | 28.42 | 22.31-35.42 |
| Cannabis and Tobacco | 102 | 55.74 | 48.42-62.81 |

| | | | |
|---|-----|-------|-------------|
| Alcohol Tobacco and Cannabis | 16 | 8.74 | 5.41-13.83 |
| Others | 13 | 7.10 | 4.15-11.89 |
| 10. Admission Type | | | |
| Reception Order | 184 | 45.66 | 40.84-50.56 |
| Voluntary | 195 | 48.39 | 43.52-53.28 |
| Transfer | 24 | 5.96 | 4.02-8.74 |
| 11. Reception Type | | | |
| Poor Social Support | 94 | 51.09 | 43.84-58.28 |
| From Jail | 27 | 14.67 | 10.23-20.60 |
| Unknown/Wanderer/Others | 63 | 34.24 | 27.70-41.43 |
| 12. Hospital Stay | | | |
| <1Month | 101 | 25.06 | 21.06-29.54 |
| >1Month | 302 | 74.94 | 70.46-78.94 |
| 13. Patient Handed Over at Discharge | | | |
| Family | 303 | 75.19 | 70.72-79.17 |
| Government Shelter home | 38 | 9.43 | 6.93-12.70 |
| Absconded | 26 | 6.45 | 4.42-9.32 |
| others | 8 | 1.99 | 0.99-3.93 |
| Jail | 26 | 6.45 | 4.42-9.32 |
| Died | 2 | 0.50 | 0.12-1.97 |

*Acute transient psychotic disorders

^sNon organic psychosis

** Bipolar affective disorder

^{ss} Mental Retardation

In our study we found that hospital stay of more than one month in age group >40 years had been found in 78.76% whereas among <40 years age group it was 73.45% which is statistically not significant. Hospital stay more than one month among destitute group of patient was 86.54% and 73.22% in group of patients who has family, it is statistically high among destitute group of patients with p value 0.039. Long

hospital stay was found in patients diagnosed with MR with other psychiatric co-morbidities (88.89%) followed by schizoaffective (87.50%), Schizophrenia and acute transient Psychosis (79%), other psychiatric Diagnosis (77.78%), unspecified Non Organic Psychosis (72.28%) and least in patients with diagnosis of BPAD And Mania (58.33%). These finding were statistically significant with p value 0.020. (Table 2)

Table-2: Association of sociodemographic and clinical variables with Duration of hospitalization among psychiatric patients

| Variable | Hospital Stay | | p value |
|-------------------------------------|--------------------------|-------------------------|---------|
| | <1Month Frequency (%) | >1moth Frequency (%) | |
| 1. Age | | | |
| <40 | 77(26.55%) | 213(73.45%) | 0.269 |
| >40 | 24(21.24%) | 89(78.76%) | |
| 2. Gender | | | |
| Male | 77(25.50%) | 225(74.50%) | 0.728 |
| Female | 24(23.76%) | 77(76.24%) | |
| 3. Family/destitute | | | |
| Destitutes | 7(13.46%) | 45(86.54%) | 0.039 |
| Family | 94(26.78%) | 257(73.22%) | |
| 4. Psychiatric Diagnosis | | | |
| Schizophrenia & ATP [*] | 42(21%) | 158(79%) | 0.020 |
| Psychosis NOS ^s | 28(27.72%) | 73(72.28%) | |
| BPAD ^{**} & Mania | 25(41.67%) | 35(58.33%) | |
| MR with other psychiatric diagnosis | 1(11.11%) | 8(88.89%) | |
| Schizoaffective | 3(12.50%) | 21(87.50%) | |
| Other | 2(22.22%) | 7(77.78%) | |
| 5. Substance abuse | | | |
| No | 47(21.36%) | 173(78.64%) | 0.060 |
| Yes | 54(29.51%) | 129(70.49%) | |
| 6. Criminality | | | |
| No | 85(24.64%) | 260(75.36%) | 0.632 |
| Yes | 16(27.59%) | 42(74.94%) | |

*Acute transient psychotic disorders

^sNon organic psychosis

** Mental Retardation

Table-3: Multivariate analysis of risk factors for longer duration of stay among study participants.

| Variable | Odds Ratio (95% CI) | P value |
|---|---------------------|--------------|
| 1. Age>40 | 1.31 (0.75-2.28) | 0.349 |
| 2. Female Sex | 0.74 (0.38-1.45) | 0.381 |
| 3. Substance Abuse Present | 0.69 (0.39-1.20) | 0.193 |
| 4. Psychiatric Diagnosis | Reference | |
| Schizophrenia & acute transient psychotic disorder | 0.57 (0.31-1.02) | 0.059 |
| Unspecified non organic psychosis | 0.39 (0.21-0.73) | 0.004 |
| BPAD & Mania | 1.33 (0.15-12.0) | 0.799 |
| Mental retardation with other psychiatric diagnosis | 1.99 (0.56-7.03) | 0.284 |
| Schizoaffective | 0.78 (0.15-3.95) | 0.760 |
| Other | | |
| 5. Criminality present | 0.94 (0.48-1.82) | 0.852 |
| 6. Family present | 0.43 (0.17-1.13) | 0.087 |

We found that patients with diagnosis Schizophrenia and acute and transient psychosis had longer stay (more than 1month) after adjusting for other factors as compared to BPAD and mania (Table 3).

DISCUSSION

In our study 74.94% of our patients were male and 71.96% were in <40 years of age. According to study by Ithman *et al.* 56% of the patients were male, and the average age was 37 years [24]. A study by Gigantesco *et al.* revealed that mean age of their patients was 49.9 years and 53% of patients were male. These findings were almost similar to our finding [24]. In our study we found female (76.24%) were having longer stay than male (74.50%), which is not statistically significant, however there was preponderance of long hospital stay of patients in previous studies [23]. Similar to previous studies half of our patients were having diagnosis of schizophrenia and ATP (49.63%) and 25.06 % patients have diagnosis Psychosis NOS [1, 13, 16, 23]. Schizophrenia is known to be associated with poor clinical and social outcome including a high rate of unemployment and being unmarried or having poor marital adjustment [24, 25].

We found that patients with diagnosis of Schizophrenia and acute and transient psychosis had longer stay (more than 1month) after adjusting for other factors as compared to BPAD and mania. The correlation between longer hospital stay and patient with psychotic illness has been found stronger which suggest patients with psychotic diagnosis have longer stay than other diagnosis. This finding is consistent with many other studies in the past [28-30]

CONCLUSION

About 75% of patients had long duration of stay in mental hospital in our study. Patients with diagnosis of Schizophrenia and acute and transient psychosis has longer stay after adjusting for other factors as compared to BPAD and mania.

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