

Patterns and prevalence of psychiatric illnesses presenting to the emergency department

Sandeep Patil, Nanasaheb Madhavrao Patil,
Raghvendra Bhimappa Nayak, Sameeran Suresh Chate,
Veerappa Patil, Bheemsain V Tekkalaki

Summary

Background: Psychiatric emergencies are often difficult to study, owing to their acute and quite frequent syndromic presentation. There is a scarcity of data regarding the prevalence and patterns of psychiatric emergencies attending general hospital psychiatric units.

Objective: To identify the pattern and prevalence of psychiatric illnesses presenting to the emergency departments in a general hospital care setting.

Material and Methods: This cross-sectional study included 82 psychiatric patients aged 10 to 60 years and above. Sociodemographic details were obtained, and psychiatric diagnoses were based on the International Classification of Diseases 10th edition diagnostic criteria. Statistical analysis was performed using Epi Info 7 software.

Results: The overall prevalence of psychiatric emergencies was found to be 1.59%. They were most prevalent among males and females aged 20-39, females involved in household work, males involved in agriculture, patients with lower socio-economic status and residents of rural areas. A significant gender difference was observed regarding patients' occupational and living status. Common diagnoses included substance use disorders (21.9%), dissociative disorders (18.3%), bipolar disorder (17.1%), psychotic disorders (17.1%), and depressive disorders (14.6%).

Conclusion: Overall, this study provides insight into various types of presentations of psychiatric disorders in patients visiting the emergency department. Moreover, it is a contribution to determining the prevalence of psychiatric emergencies in a general hospital setting.

psychiatric emergencies; prevalence, substance abuse; disorders

INTRODUCTION

Psychiatric disorders include a major bulk of behavioral emergencies which, if untreated, may lead to harm, either to the affected individual or to others in the environment [1]. Although psychiatric emergency services handle a sizeable chunk of behavioral emergencies, the available

Sandeep Patil¹, Nanasaheb Madhavrao Patil¹, Raghvendra Bhimappa Nayak¹, Sameeran Suresh Chate¹, Veerappa Patil¹, Bheemsain V Tekkalaki¹: ¹Department of Psychiatry, KLE University's Jawaharlal Nehru Medical College, Nehru Nagar, Belagavi 590010, Karnataka, India

Correspondence address: thbheemsain@gmail.com

services remain inadequate. Furthermore, there is minimal research and paucity of data in this field [2]. In India, acute psychiatric emergencies constitute about 9% of all emergencies [3]. Studies report higher prevalence of psychiatric disorders among children and youth [4].

Sociodemographic factors like young age, female gender, low education, unemployment and living in urban areas are all considerable risk factors of mental health disorders. Others include economic, marital, health, cultural, or religious differences, and limited acceptance by host population [4,5]. Acute psychiatric emergencies are now handled more frequently in general hospital care settings. A concept of general hospital care was not there in the past. However, though gradually, the number of general hospital psychiatry units has increased quite substantially and most psychiatric emergencies are handled there [6, 7].

Given their acute and quite frequent syndromic presentation, psychiatric emergencies are often difficult to study. Also, the current key data regarding psychiatric emergencies is either unavailable or difficult to legitimize. Moreover, in India, after 1980s, very little research has been done on psychiatric emergencies, their patterns, and prevalence. Hence, this study aimed to identify the pattern and prevalence of psychiatric emergencies presenting to the emergency departments in a general hospital care setting.

METHODOLOGY

Study design and sampling

This 1-year-long (January 1st to December 31st, 2013), cross-sectional, hospital-based descriptive study included 82 patients presenting with psychiatric complaints to the emergency department or referred from other medical departments. According to the previous year's patient data, there were an average of 502 psychiatric patients visiting the emergency room. The investigator was informed about all the psychiatric patients visiting the emergency department, but following the selected stratified sampling method, every fifth patient was invited to participate in the study, resulting in 100 patients in total. Informed consent was obtained from

all patients/relatives. All necessary information was collected from the patients and/or caregivers before commencing the study. However, 18 patients refused to provide their consent to participate, and thus dropped out from the study. Therefore, a total of 82 patients were recruited for further analysis.

Data collection

A detailed medical history and sociodemographic information including age, gender, religion, marital, educational, occupational, residential, and socio-economic status (following the modified BG Prasad classification) were collected from all patients [8]. All the patients with psychiatric disorders were evaluated by a consultant psychiatrist using the International Classification of Diseases 10th edition diagnostic criteria [9]. The diagnoses were further grouped under the labels of: substance use disorders, dissociative disorders, bipolar disorder (manic type), non-affective psychotic disorders, depressive disorders, organic psychotic disorders, acute stress reactions and treatment/drug-related complications. The data was collected using a predesigned performa and analyzed using EPI INFO 7 software. Mean, standard deviation, and percentages were used to describe the sample.

RESULTS

Out of the 31500 patients attending the emergency department, 502 received a psychiatric referral, with an overall prevalence of 1.59%. Most of the patients (84.2%) were brought to the emergency department either by a friend or a family member, 14.6% were referred from other medical agencies and the remaining 1.2% reported on their own. The mean age of the patients included in the study was 33.60 ± 12.64 years, with the males aged 35.81 ± 12.58 years and females – 31.75 ± 13.00 years.

Sociodemographic characteristic of all patients attending the emergency department due to psychiatric emergencies are presented in Table 1.

Table 1. Sociodemographic characteristics of the sample

| Variables | Male, n = 42 | Female, n = 40 | P value |
|-----------------------------|--------------|----------------|---------|
| Age | | | |
| 10 – 19 | 3 (7.1) | 5 (12.5) | 0.54 |
| 20 – 29 | 13 (30.9) | 17 (42.5) | |
| 30 – 39 | 16 (38.3) | 11 (27.5) | |
| 40 – 49 | 3 (7.1) | 2 (5.0) | |
| 50 – 59 | 4 (9.5) | 1 (2.5) | |
| ≥ 60 | 3 (7.1) | 4 (10.0) | |
| Religion | | | |
| Hindu | 38 (90.5) | 32 (80.0) | 0.30 |
| Muslim | 4 (9.5) | 8 (20.0) | |
| Marital status | | | |
| Married | 29 (69.0) | 22 (55.0) | 0.29 |
| Unmarried | 13 (31.0) | 17 (42.5) | |
| Divorced | 0 (0) | 1 (2.5) | |
| Educational status | | | |
| No formal education | 7 (16.7) | 3 (7.5) | 0.67 |
| Primary School | 6 (14.3) | 9 (22.5) | |
| High School | 17 (40.4) | 13 (32.5) | |
| Pre-University | 7 (16.7) | 10 (25.0) | |
| Graduate | 4 (9.5) | 4 (10.0) | |
| Post Graduate | 1 (2.4) | 1 (2.5) | |
| Occupational status | | | |
| Household work | 0 (0) | 29 (72.5) | < 0.05 |
| Agriculture work | 18 (42.8) | 1 (2.5) | |
| Student | 7 (16.7) | 5 (12.5) | |
| Business | 17 (40.5) | 1 (2.5) | |
| Unemployed | 0 (0) | 4 (10.0) | |
| Socioeconomic status | | | |
| Class I | 1 (2.4) | 1 (2.5) | 0.31 |
| Class II | 3 (7.2) | 5 (12.5) | |
| Class III | 19 (45.2) | 16 (40.0) | |
| Class IV | 10 (23.8) | 15 (37.5) | |
| Class V | 9 (21.4) | 3 (7.5) | |
| Place of residence | | | |
| Rural | 22 (52.4) | 31 (77.5) | 0.03 |
| Urban | 20 (47.6) | 9 (22.5) | |

Data are expressed in numbers and percentage

Psychiatric emergencies were most prevalent among both male and female patients aged 20-39 years; females involved in household work; males working in agriculture; patients with lower socio-economic status; and residents of rural

areas. No significant differences were observed between the two genders regarding age, marital, educational, or socioeconomic status ($P>0.05$). Significant gender differences were found, however, with respect to occupational and living status ($P<0.05$).

The most common psychiatric diagnoses of patients presenting to the emergency department are shown in Table 2. Substance use disorder (21.9%) was the most prevalent psychiatric diagnosis, followed by dissociative disorder (18.3%), bipolar disorder and non-affective psychosis (17.1% each).

Table 2. Common psychiatric diagnoses in the investigated sample (N = 82)

| Psychiatric Diagnosis | N (%) |
|--------------------------------------|-----------|
| Substance Use Disorder | 18 (21.9) |
| Dissociative Disorder | 15 (18.3) |
| Bipolar Disorder (Manic Type) | 14 (17.1) |
| Psychotic Disorder (Non-affective) | 14 (17.1) |
| Depressive disorder | 12 (14.6) |
| Organic Psychotic Disorder | 5 (6.1) |
| Acute Stress Reaction | 3 (3.7) |
| Treatment/Drug-related complications | 1 (1.2) |

Data are expressed in numbers and percentage

Various types of psychiatric presentations and their observed prevalence in different psychiatric disorders are shown in Table 3. The most common presenting complaints were aggressive/agitated behavior (19.6%), followed by substance intoxication/withdrawal (14.6%), dissociative symptoms (13.4%) and irritable/elated mood (13.4%), while the less common ones included acute perceptual disturbances (8.53%), disorientation/confusion (8.53%), suicidal attempt (7.3%), low mood (7.3%), and panic attack (2.4%).

Table 3. Types of psychiatric symptoms/presentations observed in different psychiatric disorders (N = 82)

| Psychiatric presenting complaints | N = 82 |
|--|-----------|
| Agitation/Aggressive Behavior, (n = 16) | |
| Bipolar disorder | 9 (56.2) |
| Psychotic disorder (non-affective) | 4 (25) |
| Substance use disorder | 3 (18.8) |
| Substance Intoxication/Withdrawal, (n = 12) | |
| Substance Use disorder | 10 (83.3) |
| Bipolar disorder | 2 (16.7) |

| | |
|--|----------|
| Dissociative stupor/convulsions/possessions, (n = 11) | |
| Depressive disorder | 2 (18.2) |
| Dissociative disorder | 9 (81.8) |
| Irritable/Elated Mood, (n = 11) | |
| Bipolar disorder | 8 (72.7) |
| Psychotic disorder (non-affective) | 1 (9.1) |
| Substance use disorder | 2 (18.2) |
| Acute perceptual disturbances, (n = 7) | |
| Psychotic disorder | 5 (80) |
| Organic psychotic disorder | 2 (20) |
| Disorientation/Confusion, (n = 7) | |
| Substance use disorder | 5 (62.5) |
| Organic psychotic disorder | 2 (25) |
| Drug/treatment-related complications | 1 (12.5) |
| Suicidal Attempt, (n = 6) | |
| Depressive disorder | 4 (66.6) |
| Bipolar disorder | 2 (33.4) |
| Low Mood, (n = 6) | |
| Depressive disorder | 4 (66.6) |
| Dissociative disorder | 2 (33.4) |
| Panic Attacks, (n = 2) | |
| Acute stress reaction | 2 (100) |

Data are expressed in numbers and percentage

DISCUSSION

In the changed scenario, non-governmental centers, private psychiatric nursing homes and medical college-affiliated general hospital psychiatry units receive many psychiatric patients and emergencies. Hence, this study aimed to assist medical professionals in properly diagnosing psychiatric emergencies, identifying common psychiatric illnesses that may share symptoms with somatic conditions, and improving management of psychiatric emergencies in a general hospital setting.

The low prevalence rate (1.59%) of psychiatric emergencies reported in our study could be attributed to the prevailing social stigma associated with mental illness and lack of social awareness. Similar studies by Abdel MK *et al.* [10] and Adityanjee *et al.* [11] also reported 1.71% and 2.0% of psychiatric emergencies, respectively

[9,10]. In contrast, Pajonk *et al.* reported a higher prevalence rate of 9.2% [12].

Similar to our study, other reports suggest higher prevalence of psychiatric emergencies in patients between 20 and 40 years of age, with male predominance [13]. Marriage acts as a protective factor against psychiatric illness [14]. However, our findings suggest that married individuals experiencing mental health problems are more likely to be brought to an emergency room. In our study, patients who acquired high school education belonged to class III, which is comparable to other studies [15, 16]. This may be accounted for by the fact that most of the residents of the investigated area discontinued education after high school due to various reasons, one of which could be low socioeconomic status.

Most of the study participants come from an agricultural background, where men are responsible for supporting their families financially and women are expected to take care of household activities, which is in accordance with findings of Abdul *et al.* (31.5%) [17]. Most of the patients in our study were Hindus and Muslims, which is probably consistent with the ratio in the general population of these communities. However, there is no data in the literature to support these findings. High prevalence of psychiatric emergencies among residents of rural areas observed in our study is similar to the findings of Saddichha *et al.* (74.3%) [1]. This might be either due to the inaccessibility of psychiatric emergency services at a primary health care level or the location of our hospital in a predominantly rural geographical area.

Studies report substance use disorders to be the leading psychiatric diagnoses in the emergency care setting, which is consistent with our findings [18, 19]. Patients with substance use disorders, including alcohol and cannabis use, seek medical assistance either due to intoxication or withdrawal symptoms, and sometimes also due to substance-induced psychosis. The second most common cause of psychiatric emergencies in our study were dissociative seizures, which is in accordance with other published reports [20, 21]. However, these studies failed to describe other patterns of dissociation, such as possession or stupor. Such difference in modes of presentation could be attributed to cultural variations in different parts of the coun-

try. We also observed higher prevalence of bipolar disorder, a finding similar to study conducted by Garekar *et al.* (12.4%) [3]. This could be accounted for by the fact that individuals with irritable mood may cause significant damage to property and pose a threat to themselves, their family members, and others. Hence, these people are brought to the emergency department as early as possible. The rates of non-affective functional psychotic disorders observed in our study (17.1%) were slightly higher than those found in other similar studies by Kropp *et al.* [22], or Abdul *et al.* [17], who reported 14.2%, and 12.9%, respectively. Depressive disorder was another psychiatric emergency reported in our study (14.6%), linked also to suicide attempt, which is similar to findings of Jesse *et al.* (14.4%) [18]. Common modes of suicide attempts included poisoning, hanging, and drug overdose [23].

In our study, a major source of referral to psychiatric emergency were family/friends, reflecting good social support and similar family values [17]. Other sources of referrals included neurologists, general practitioners and other private care settings. Among these, the majority of referrals were issued by neurologists, which indicates the overlapping of symptoms between neurological and psychiatric conditions.

LIMITATIONS

Since psychiatric emergencies are handled by various service centers, such as private nursing homes, government hospitals or even faith and traditional healers, and the scope of this study was limited to the emergency department only, our findings cannot be generalized to the entire population.. Psychiatric emergencies presenting directly to the outpatient department and referrals from different hospital departments, which may constitute a sizable proportion of all psychiatric emergencies, were not included either. Finally, this study follows a cross-sectional design, hence the results need be substantiated in a large cohort. However,, there is still a lot of stigma and myths associated with psychiatric illness. Faith healing practices are prevalent in our area, which may be another factor affecting psychiatric emergency visits.

CONCLUSION

The study provides detailed sociodemographic characteristics of psychiatric patients attending emergency services. It also provides insight into various types of presentations of psychiatric disorders in patients visiting the emergency department. Moreover, it is a contribution to determining the prevalence of psychiatric emergencies in a general hospital setting. Finally, it lays the ground for larger epidemiological and clinical studies involving psychiatric emergency patients in Indian population.

Conflict of Interest:

None

Acknowledgements:

We thank all the patients for participation in the study.

Funding Sources:

None

REFERENCES

1. Saddichha S, Vibha P, Saxena MK, Methuku M. Behavioral emergencies in India: a population based epidemiological study. *Social psychiatry and psychiatric epidemiology* 2010;45(5):589-93.
2. Vibha P, Saddichha S. The burden of behavioral emergencies: need for specialist emergency services. *Internal and emergency medicine* 2010;5(6):513-9.
3. Garekar H, Bhargava M, Verma R, Mina S. Aggression and Psychosis in Patients Seeking Emergency Psychiatric Care in New Delhi, India. *Mania*. 2015; 7: 1-5.
4. Akkaya-Kalayci T, Popow C, Waldhör T, Winkler D, Özlü-Erkilic Z. Psychiatric emergencies of minors with and without migration background. *neuropsychiatrie* 2017;31(1):1-7.
5. Ayehu M, Solomon T, Lemma K. Socio-demographic characteristics, clinical profile and prevalence of existing mental illness among suicide attempters attending emergency services at two hospitals in Hawassa city, South Ethiopia: a cross-sectional study. *International journal of mental health systems* 2017;11(1):32.
6. Lipsitt DR. Psychiatry and the general hospital in an age of uncertainty. *World Psychiatry* 2003;2(2):87-92.
7. Mavrogiorgou P, Brüne M, Juckel G. The management of psychiatric emergencies. *Deutsches Ärzteblatt International* 2011;108(13):222.
8. Singh T, Sharma S, Nagesh S. Socio-economic status scales updated for 2017. *International Journal of Research in Medical Sciences* 2017;5(7):3264-7.
9. Organization WH. The ICD-10 classification of mental and behavioural disorders: diagnostic criteria for research: World Health Organization; 1993.

10. Abdel Shafy M, Rafik R, Wael A-h, Saber AM, Mohammed AE. Prevalence of psychiatric emergencies. *Arabpsynet e Journal* 2005;8:11.
11. Adityanjee, Mohan D, Wig N. Alcohol-related problems in the emergency room of an Indian general hospital. *Australian and New Zealand journal of psychiatry* 1989;23(2):274-8.
12. Pajonk F, Bartels H, Biberthaler P, Bregenzer T, Moecke H. Psychiatric emergencies in preclinical emergency service; incidence, treatment and evaluation by emergency physicians and staff. *Der Nervenarzt* 2001;72(9):685-92.
13. Mohamed SA, Raya YM, Khalil D, Youssef UM. Patterns of psychiatric emergency at tertiary referral psychiatric hospital. *Middle East Current Psychiatry* 2014;21(2):121-6.
14. Pilgrim D, Pescosolido B, Rogers A. *The Sage Handbook of mental health and illness*: Sage Publications; 2011.
15. Kelkar D, Chaturvedi S, Malhotra S. A study of emergency psychiatric referrals in a teaching general hospital. *Indian journal of psychiatry* 1982;24(4):366.
16. Bhatia M, Agrawal P, Khastbir U, Rai S, Bhatia A, Bohra N, et al. A study of emergency psychiatric referrals in a government hospital. *Indian journal of psychiatry* 1988;30(4):363.
17. Abdul GK, Raza UR, Moin A, Zafar H, Musarrat H. Pattern of Psychiatric Emergencies at Tertiary Care Hospital in Karachi. *J Pak Psychiatr Soc* 2011;7(1):37.
18. Brennan JJ, Chan TC, Hsia RY, Wilson MP, Castillo EM. Emergency department utilization among frequent users with psychiatric visits. *Academic Emergency Medicine* 2014;21(9):1015-22.
19. Padilha VM, Schettini CSS, Santos Junior A, Azevedo RCS. Profile of patients attended as psychiatric emergencies at a university general hospital. *Sao Paulo Medical Journal* 2013;131(6):398-404.
20. Sar V, Koyuncu A, Ozturk E, Yargic LI, Kundakci T, Yazici A, et al. Dissociative disorders in the psychiatric emergency ward. *General Hospital Psychiatry* 2007;29(1):45-50.
21. Gast U, Rodewald F, Nickel V, Emrich HM. Prevalence of dissociative disorders among psychiatric inpatients in a German university clinic. *The Journal of nervous and mental disease* 2001;189(4):249-57.
22. Kropp S, Andreis C, te Wildt B, Sieberer M, Ziegenbein M, Huber TJ. Characteristics of psychiatric patients in the accident and emergency department (ED). *Psychiatrische Praxis* 2007;34(2):72-5.
23. Zangeneh M, Veisi F, Ebrahimi B. Frequency of attempted suicide methods and the fetal outcomes in pregnant women in Kermanshah. *Journal of women's health care* 2014;3(3):e164-e.