

Pattern, clinical and demographic profile of inpatient psychiatry referrals in a tertiary care teaching hospital: a descriptive study

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ABSTRACT

Background Consultation liaison psychiatry (CLP) as a subspecialty is defined as the area of clinical psychiatry that encompasses clinical understanding, teaching and research activities of psychiatrists and allied health professionals in the non-psychiatric divisions of a general hospital. Psychiatric comorbidity of inpatients in tertiary care hospitals is huge. However, the amount of research in India in the field of consultation liaison is strikingly low.

Aim To investigate the sociodemographic profile and psychiatric and physical subtypes of illness in patients admitted in other departments and referred to psychiatry department.

Methods The study population comprised all consecutive inpatients referred for psychiatric consultation from other departments of a multispecialty tertiary care teaching hospital over 3 months. In a semistructured proforma, sociodemographic profile, referring departments, reasons for referral, referral rate, psychiatric diagnosis and physical illness diagnosis were recorded and analysed using descriptive statistics.

Results 172 patients were included and assessed after referral from various departments, of which 56.4% were male and 43.6% were female. The mean age was about 33.95 years, with majority of the patients in the 21–30 years age group. The referral rate was 1.1%. The maximum referrals were from the medicine department, with abnormal behaviour (26.2%) being the most common reason for referral, followed by alleged suicide attempt or self-harm (24.4%), anxiety (10.5%), substance use (10%) and disorientation (7.6%). The most common psychiatric disorder among patients was depressive disorder (24.4%), followed by substance use disorder (19.7%), schizophrenia and psychotic disorder (9.3%), and stress and trauma-related disorder (8.1%).

Conclusion There are very few psychiatry referrals and an alarmingly low referral rate, given the psychiatric morbidities in the medical setting. Psychiatry training should have more weightage across different medical specialties and liaison activities between psychiatry and other disciplines should be augmented, which can lead to a better understanding of psychiatric symptomatology, early symptom recognition, swift referral and ensuring follow-up, which, in turn, would be key to improving CLP services.

INTRODUCTION

Consultation liaison psychiatry (CLP) is a field that combines psychiatry and other disciplines and includes clinical service, teaching and research on the cusp of psychiatry and medicine. ‘Consultation-Liaison’ demonstrates the inter-relatedness of psychiatry and clinical teaching and research, facilitating interdepartmental cooperation and effective patient management.¹

The consultation part and liaison are reciprocally complementary. ‘Consultation’ pertains to the expert opinion provided about the diagnosis, followed by advice on management strategies of a patient’s mental state and behaviour at the request of a health professional of another discipline. ‘Liaison’ refers to joining up of groups for effectual collaboration.

Participants in liaison psychiatry quite commonly find that the diagnosis and management of psychiatric disorders in the general hospital are a compound, tiresome and time-consuming process. Liaison psychiatrists need to integrate a broad range of communication skills, as well as clinical, diagnostic, medical, legal and pharmacological skills.²

The most common reasons for referrals are psychological complications of a medical disorder; cognitive impairment associated with a medical disorder; functional symptoms; abnormal behaviour leading to psychiatric complications: deliberate self-harm, substance abuse and eating disorder; and physical and psychiatric disorders occurring at the same time.²

Other frequent emotions, behaviours and symptoms patients exhibit that draw the attention of healthcare professionals and result in a psychiatric consultation request are depression and suicidal behaviour, altered states of consciousness/delirium, anxiety and agitated behaviour, psychotic symptoms, suspected



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psychogenic physical symptoms, addiction and pain problems.

Co-occurrence of mental and general medical disorders is one of the most common and disabling combinations, with approximately 30% of individuals with comorbidity having both a mental and a physical disorder.³

Striking contrast exists between India and other developed nations in the context of research in CLP. CLP is a specialty branch which falls between psychiatry and medicinal discipline, however abjectly not fully accepted by either. In settings of tertiary care centres and specialty hospitals, there is a dearth of literature regarding inpatient psychiatry referrals, especially in the Indian scenario. The purpose of the current research was to throw light on various clinical and demographic profiles of inpatient psychiatry referrals obtained in a tertiary care multispecialty hospital.

MATERIALS AND METHODS

The study was descriptive in nature and included all consecutive referrals from inpatients of other departments to the psychiatry department within the 3-month study duration lasting from January 2018 to March 2018 at Mahatma Gandhi Memorial Medical College, Indore, Madhya Pradesh, India. Eligibility criteria included inpatient admitted to any department of the hospital other than psychiatry department and of either sex. No age limits were set. Patients were recruited from MY (Maharaja Yashwantrao) Hospital, which has a capacity of 1200 beds. About 18720 patients were admitted to MY Hospital between January 2018 and March 2018, of which 207 inpatients belonged to the psychiatry department and were therefore excluded. All consecutive inpatient referrals from other departments were included in the study irrespective of their diagnosis; 205 referrals were received, of which 15 patients absconded or left against medical advice before assessment could be done. During the course of the study, 18 patients refused to participate. Hence, out of a total of 205 referrals, 172 patients were included in the study (figure 1). Outpatient-based referrals and patients admitted to the psychiatry department were excluded. A semistructured proforma was created for the participants with regard to demographic information, department-wise referral, reason for referral, presenting complaints, physical diagnosis, history of psychiatric illness, family history, substance use history and psychiatric diagnosis. After detailed description of the study, written informed consent was taken from the patients. The International Statistical Classification of Diseases and Related Health Problems-10 was used to decide the psychiatric diagnosis of the referred inpatients. Data obtained were analysed using descriptive statistical methods.

RESULTS

Sociodemographic distribution

A total of 205 patients were referred for psychiatric consultation from various departments during the study

Table 1 Demographic details

Variable	Frequency (N=172)	Percentage
Mean age (SD)	33.95 (15.10)	–
Marital status		
Married	118	68.6
Unmarried	48	27.9
N/A	6	3.5
Education		
Uneducated	44	25.5
Primary	55	31.9
High school	40	23.2
Intermediate	22	12.7
Graduate	11	6.4
Occupation		
Unemployed	113	66
Unskilled worker	13	7.5
Semiskilled worker	26	16
Skilled worker	3	1.5
Shop owner/farmer	11	6.5
Professional	6	3.5
Locality		
Urban	126	73.3
Rural	46	26.7
Family		
Joint	136	79.1
Nuclear	36	20.9
Religion		
Hindu	137	79.7
Muslim	26	15.1
Sikh	2	1.2
Christian	1	0.6
N/A	6	3.5

N/A, not available.

period, 172 of which were included in the study. Out of the 172 patients, 97 (56.4%) were male and 75 (43.6%) were female. The mean age of the patients was 33.95 (15.10) years, ranging from 14 to 80 years. The majority of the patients belonged to the 20–40years age group (n=114, 66.27%). The number of patients in the age group below 20 years and above 60 years was 35 (20.3%) and 13 (7.5%), respectively. The rest of the demographic variables are shown in table 1. Few patients were unknown and so demographic details could not be obtained.

Referring department

Table 2 shows the department-wise number of psychiatric referrals. Majority of the referrals were from the medicine department (n=131, 76.2%). Other contributors to psychiatric referrals were the departments of surgery

Table 2 Referring department

Department	Frequency	Percentage
Medicine	131	76.2
Surgery	23	13.4
Obstetrics and gynaecology	11	6.4
Orthopaedic	6	3.5
Ophthalmology	1	0.6
Total	172	100.0
Referral rate	1.1%	

(n=23, 13.4%) and obstetrics and gynaecology (n=11, 6.4%).

Reasons for referral

Table 3 presents the various reasons for which referrals were called for. The most common reason for referral was having an abnormal behaviour (n=45, 26.2%), followed by alleged suicide attempt or self-harm (n=42, 24.4%), anxiety (n=18, 10.5%), substance use (n=17, 10%) and disorientation (n=13, 7.6%).

Psychiatric diagnosis

Table 4 shows the distribution of various psychiatric diagnoses in the sample. The most common psychiatric disorder among the consulted patients was major depressive disorder (MDD) (24.4%), followed by substance use disorder (19.7%), schizophrenia and psychotic disorder (9.3%), and stress and trauma-related disorder (6.9%). About 19.2% of patients had no psychiatric disorder. The sum of the proportions shown is more than 100% since many individual patients had multiple psychiatric disorders.

Physical diagnosis

Table 5 shows the distribution of various physical (medical/surgical) diagnoses in the referred sample. As there were numerous diagnoses, they were grouped as per the organ system involved/aetiology. The most common group belonged to poisoning, injury and burn

Table 3 Reasons for referral

Reason	Frequency	Percentage
Suicide/self-harm	42	24.4
Abnormal behaviour/agitation	45	26.2
Disorientation	13	7.6
Depression	12	7.0
Substance use	17	9.9
Psychiatric history	2	1.2
Anxiety	18	10.5
Others	23	13.4
Total	172	100.0

Table 4 Psychiatric diagnosis

Disorder	Frequency	Percentage
Delirium	7	4
Dementia	6	3.5
Organic psychosis/mood disorder	10	5.8
Substance use disorder	34	19.7
Schizophrenia/psychosis	16	9.3
Depression	42	24.4
Bipolar disorder	5	2.9
Trauma/stress disorders	12	6.9
Somatoform disorders	2	1.1
Anxiety disorders	2	1.1
Personality disorders	2	1.1
Dissociative disorders	11	6.4
Deliberate self-harm	8	4.6
Epilepsy	8	4.6
Puerperium-related	3	1.7
Others	4	2.3
No psychiatric disorder	33	19.2

(n=63, 36.6%), followed by central nervous system disorders (n=18, 10.5%), cardiovascular system disorders (n=15, 8.7%), gastrointestinal system disorders (n=12, 7%) and respiratory system disorders (n=11, 6.4%). The sum of the proportions shown is more than 100% since many individual patients had multiple system disorders.

DISCUSSION

Main findings

The current study was undertaken to evaluate the demographic and clinical variables of inpatient psychiatry

Table 5 Physical diagnosis

System	Frequency (n)	Percentage
Infectious	8	4.6
Endocrine	5	2.9
Metabolic	7	4
Central nervous system	18	10.5
Cardiovascular system	15	8.7
Respiratory	11	6.4
Gastrointestinal	12	7
Connective	4	2.3
Genitourinary	2	1.2
Haematological	3	1.7
Obstetrics/gynaecology	11	6.4
Poison/injury/burn	63	36.6
Others	22	12.8

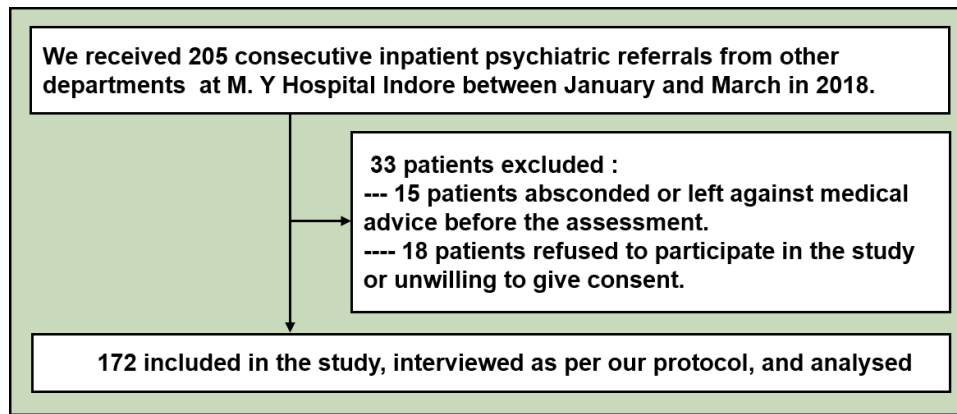


Figure 1 Flow chart of sample selection. The study was conducted between January 2018 and March 2018. All consecutive psychiatric inpatient referrals from other departments were included in the study irrespective of their diagnosis. 205 referrals were received. 33 patients were excluded, of which 15 absconded or left against medical advice before assessment could be done, while 18 refused to participate in the study. Hence out of a total of 205 referrals, 172 patients were included in the study.

referrals from other departments in a tertiary care teaching hospital. The majority of referrals were in the 20–40 years age range (66.2%), with a mean age of 33.95 (15.10) years. This observation is consistent with the findings of Tekkalaki *et al.*,⁴ who reported a mean age of 35.53 years. Similarly about 63.9% of patients in the 16–45 years age range was observed by Avasthi *et al.*,⁵ along with Bhogale *et al.*,⁶ who reported concurring results.

Gender distribution showed male dominance (56.4%), which is similar to the results of Chaudhury *et al.*⁷ and Keertish *et al.*,⁸ who reported a male distribution of 70% and 58%, respectively.

Our study displayed literacy rate of about 75%, with 25.5% of the sample uneducated and the majority with up to high school education. This corresponds to the results of Desai *et al.*⁹ and to the regional distribution of literacy and education in India.

Majority of the patients were married (68.6%). The greater number of married patients in the current study could be secondary to the majority of sample population belonging to the 21–60 years age group. A huge chunk of the patients were Hindu by religion (79.7%), which conforms with Desai *et al.*⁹ and replicates the customary religious demographics in the sampling area under consideration. Most patients belonged to nuclear family (79.1%) and had an urban background (73.3%).

Out of 18513 inpatients (18720 inpatients, 207 psychiatry inpatients excluded), a meagre 205 psychiatric referrals were received, bringing the referral rate to about 1.1%. Various other studies have shown a similar low referral rate: 0.42% in Keertish *et al.*⁸ and 1.01% in Rastogi *et al.*¹⁰ in India; 0.63% in Ji and Ye,¹¹ 1.32% in CY *et al.*,¹² and 1.01% in Cui *et al.*¹³ in China; 3.78% in Risal and Sharma¹⁴ in Nepal; 1.8% in Gangat¹⁵ in South Africa; and 1.19% in Arbabi *et al.*¹⁶ in Iran. This implicates a very pitiful state of consultation liaison considering the alarming comorbidity rate in psychiatry (18.42%–53.7%), as determined by other researchers who have surveyed other disciplines for psychiatric disorders.¹⁷

In our assessment of referring departments, it was observed that the internal medicine department was the leading discipline when it comes to sending referrals. This was in accordance with other previous Indian studies.^{4 5 8 9} Comparing our results with other countries, YW *et al.*,¹⁸ Jiang,¹⁹ Lin *et al.*²⁰ and Yang²¹ in China, Risal and Sharma¹⁴ in Nepal, and Tema²² in South Africa also showed that most referrals were received from internal medicine. The reason for this could be that psychiatry is a medicine specialty where physicians frequently encounter illnesses with psychological component and thus they are more psychiatrically oriented. Moreover, in addition to low awareness among people, social stigma in the context of psychiatric illness and seeing a psychiatrist is very high, and thus physicians are preferred over psychiatrists.

When reasons for referrals were analysed, abnormal behaviour and agitation (26.2%) topped the list, followed by suicide/self-harm (24.2%). This finding is consistent with the study done by Rastogi *et al.*,¹⁰ where it was ascertained that altered level of consciousness and aberrant behaviour, along with psychosis-related behaviour, were the leading reasons for referral, representing 31.9%. Tekkalaki *et al.*⁴ found self-harm to be the second leading cause, while Niranjan and Udey²³ found abnormal behaviour to be the most common cause at 30.9%, similar to our study. A significant amount of psychiatric cases among admitted patients are neither recognised nor referred to psychiatrists by general physicians in general hospitals, and such cases are not evaluated for psychopathology with the same enthusiasm as for medical symptoms. Therefore usually when agitation or an abnormal behaviour of patients gets beyond the threshold of the managing staff, only then psychiatric consultation becomes prudent; however, psychological and affective disturbances which are not very troublesome do not warrant psychiatric referral.^{15 23} The medico-legal implications of suicidal behaviour and self-harm result in a psychiatric referral in almost all cases admitted for the same, which is clearly reflected in the hierarchical

placement of suicidality and self-harm as the second leading reasons for referral.

In the present study, MDD/depression (24.4%) was found to be the most common psychiatric disorder, followed by substance use disorder and schizophrenia and psychotic disorders. Affective disorder made up 27.3% of all diagnoses, and these findings corroborate with Risal and Sharma,¹⁴ Arbabi *et al*,¹⁶ Tema *et al*,²² Shah,²⁴ Singh *et al*,²⁵ Su *et al*²⁶ and Ozkan.²⁷ The category of substance use subsumed intoxication, withdrawal states, dependence syndromes, and mental and behavioural disorders induced by substance. Keertish *et al*,⁸ Risal and Sharma¹⁴ and Bourgeois *et al*²⁸ found results that are in concordance to our findings.

Many studies such as from India^{4 5 10} and a review of CLP in China by Ji and Ye¹¹ suggest organic mental disorders to be the leading factor in psychiatric diagnosis. However, the relative lack of organic mental disorders (5.8%), similar to the findings of Keertish *et al*⁸ and Risal and Sharma,¹⁴ could be attributed to the presence of trained neurology specialists in our tertiary centre who are comfortable in dealing with such conditions, in turn leading to fewer referrals of such cases.

About 19% of the patients we assessed did not have any psychiatric diagnoses, which is similar to Tekkalaki *et al*⁴ and Rastogi *et al*¹⁰ which showed 31% and 28.5% referrals with inconclusive or no psychiatric diagnosis, respectively. This can be attributed to patients with accidental poisoning, accidents, agitation and insomnia secondary to pain, language barrier misconstrued as irrelevant talk, and so on being considered to have no psychiatric disorder. It also implies a relative lack of understanding of psychiatric symptomatology by other disciplines and a need to sensitise medical fraternity regarding psychiatric comorbidity, as many referrals were done without proper investigations and lack of proper communication with patients, which negatively affect patient management.

On assessment of the physical axis of diagnosis, including medical and surgical conditions, it was observed that the most common condition was attributed to trauma and injury secondary to poisoning, burn and blunt trauma/fracture (30%). The findings of the current study are in accordance with the study by Niranjana and Udey²³ and Christodoulou *et al*,²⁹ who reported that the most common physical illness was of injuries and poisoning, with central nervous system disorders and cardiovascular system involvement the other leading physical disorders.

Limitations

Despite all the efforts and inputs, there are few limitations to our study which should be considered while interpreting the results, such as the use of purposive sampling, the study's limited duration, lack of follow-up, not longitudinal in nature and reliance on patient report without supporting methods like inter departmental liaison, joint rounds, case conferences. Hence the results cannot be generalised to all settings.

Implications

Consultation liaison is a developing branch in India and needs more attention. In accordance with earlier studies, it has been demonstrated that there are very few psychiatry referrals and an alarmingly low referral rate, in proportion to the psychiatric morbidities in medical setting. We suggest that psychiatry training should be given more weightage in the undergraduate medical curriculum, and that more liaison activities such as regular interdepartmental meets, case conferences and seminars should be organised between psychiatry and other disciplines, so that a better understanding of psychiatric symptomatology, early symptom recognition, swift referral and follow-up can be ensured, which would be key to improving CLP services. There is an urgent need to improve CLP services and training to provide the best and optimal care to patients and to cater the best education to the medical staff.

We found that a significant proportion of the young productive age group were referred. Patients suffering from almost all types of medical or surgical illnesses were also referred for some or other behavioural complaints. Most of the existing literature published in relation to CLP services has been inexplicit with regard to functional aspect and ways of improving services.

Further research is warranted, especially longitudinal studies on outcome variables with respect to various clinical processes, such as interviews, length of visits and follow-up activities. In addition, future studies need to assess the knowledge and attitudes of patients, families and healthcare providers regarding mental illness, C-L(-Consultation- Liaison) service, barriers and so on. The findings from such assessments will help with cultural and organisational changes to better integrate C-L service into a general hospital.

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Patient consent for publication Not required.

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Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study will be provided upon reasonable request. The data contain all participant details collected during the research after deidentification. Data can be used immediately after publication by anyone who wishes to use the data to achieve the aims as per the current study.

Proposal for data request can be sent up to 5 years after publication by email (varchasvimudgal04@gmail.com).

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