

## Pattern of Utilization of Consultation-Liaison Psychiatry Services in A Tertiary Centre in South India

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### ABSTRACT

**Background and Objective:** Consultation-Liaison Psychiatry (C-LP) services, an important aspect of every general hospital has wide variations in their pattern of utilization. Studies in this area are mostly conducted in northern states of India. Our study aims to see the pattern of inpatient referrals to the department of psychiatry in a tertiary hospital in South India.

**Material and Methods:** One hundred and seventeen inpatient referrals to the Department of Psychiatry of a tertiary care hospital in Puducherry over a period of six months were included for the study. Informed consent was taken. Information about sociodemographic profiles was collected. Mini International Neuropsychiatric Interview (MINI-PLUS), a semi-structured diagnostic interview tool was administered for psychiatric diagnosis.

**Results:** The inpatient referral rate was 1.50%. Evaluation of para-suicide was the commonest reason for referral (36.7%), followed by depressive symptoms (12.8%), alcohol related problems (12.8%), and abnormal behaviour (10.3%). Psychiatric diagnosis was found in 86% of cases referred; 41% had multiple psychiatric diagnoses. Deliberate Self-harm (DSH) was present in 28% and depressive disorder in 22% of cases. Gastro-intestinal disorders (12%), infectious disorders (11%) and cardiovascular disorders (9%) were the commonest medical diagnoses in the population. Department of Medicine had the highest referral rate; however referrals from most departments were very low.

**Conclusion:** The study depicts a low referral rate which can be attributed to the lack of knowledge and high rate of stigma of psychiatric disorders. Thus, there is an urgent need to strengthen the existing C-LP services and screen for psychiatric disorders in non-psychiatric inpatients.

### Key-words:

Consultation-Liaison psychiatry, MINI-PLUS, deliberate self-harm

### INTRODUCTION

Consultation-Liaison Psychiatry (C-LP) is essentially the study, practice, and teaching of the relation between medical and psychiatric disorders and serves as a bridge between psychiatry and other specialties.<sup>1</sup> Around 30% to 40% of hospital population suffers from some kind of mental illness, but there exists a very low consultation rate for the treatment of comorbid psychiatric illness.<sup>2-6</sup> The role played by C-LP in various settings such as the management of delirium, effective prevention and management of "ICU psychosis", effective management of panic attacks and depression in cardiac care, bringing back of patients who were opting out of treatment against the medical advice

in surgical and critical care unit had substantiated the significance of C-LP in hospital settings.<sup>4-8</sup>

Several worldwide studies in the field of consultation-liaison psychiatry reveal wide variations in the socio-demographic and clinical patterns depending on the various settings which are unique to each other.<sup>7,8</sup> The Indian scenario reveals inpatient referral rates ranging from as low as 0.15% to as high as 3.6%<sup>7,9,10</sup> and this was low when compared to worldwide studies which ranges from 0.9% to 6%.<sup>11,12</sup> Psychiatric diagnosis also varies according to the place of study when compared between two countries and also when compared in various ethnic

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groups.<sup>12-16</sup> C-LP features tend to vary in the same hospital in different years and the changes are seen in different areas such as number and nature of cases referred by various departments. Also the type of services offered by the hospital over the years influence the pattern of in patient referrals to the Consultation-Liaison Psychiatry services.<sup>17</sup>

The C-LP plays vital role in adherence of the patients for which they are referred and it forms 10% to 25% of all psychiatric consultations.<sup>18,19</sup> The Consultation-Liaison psychiatry has proved itself to be cost effective and the benefits over weigh the cost of running the C-LP in the hospital.<sup>4,20</sup> It also plays an important role in transferring patients to psychiatry from other specialities. The transfer rate has been as high as 5.2% and as low as 2.1% in various studies.<sup>21,22</sup> The C-LP plays a vital role in the post discharge management of referred patients and thus providing quality service to them.<sup>23-25</sup>

Therefore the study was done with the intention of examining the various aspects of Consultation-Liaison Psychiatric services in a General Hospital setting. Such study examining the different aspects of C-LP services has not been done in this part of the country.

The study aims to assess the prevalence and socio demographic variables among the inpatients utilizing consultation-liaison psychiatry services. It also examines the specific aspects of the inpatient pattern of referral such as referral rates, referring departments, distribution of psychiatric and non-psychiatric diagnoses and the reasons for referral.

## MATERIAL AND METHODS

The study was conducted in the Department of Psychiatry, Mahatma Gandhi Medical College and Research Institute, Puducherry, a tertiary care hospital, located in South India. It is a cross-sectional descriptive study. Ethical clearance was obtained from the Institutional human ethical committee.

All consecutive inpatients referred to the Department of Psychiatry from other departments in the hospital over a period of 6 months were included in the study (June to November 2012). Clinical interview was conducted with the patient and reliable informant after obtaining informed consent from both patient and their relatives. Socio-demographic variables and clinical variables were collected using a specially designed structured proforma. For social variables revised

Kuppusamy's Socioeconomic Status Scale was used.<sup>26</sup> A semi structured interview was conducted using MINI-PLUS<sup>27</sup> to determine the psychiatric diagnosis. Diagnosis was also made by clinical interview by treating Consultant. Descriptive statistics was used to describe the data in various aspects along with calculation of the overall referral rate.

## RESULTS

Mean age of the sample was found to be around 36 years which indicates the prevalence of referred psychiatric cases more in the productive adult age group. In relation to sex, the study population comprised of 63 female cases when compared to that of 54 male cases with a male-female ratio of 1:1.2; majority of the female were found to be of the reproductive age group (71%). With respect to older adult and geriatric group the male population was found to be in excess than the female population. Most of the cases were from lower middle socioeconomic status group (86.3%) and from rural population (78.63%). Majority of the study population consisted of married individuals (73.5%). (Table 1)

**Table 1:** Distribution of socio-demographic characteristics of the sample (N=117)

	Mean age of the sample	36 years
Age distribution n (%)	Paediatric and Adolescent (<17years)	9 (7.69)
	Young adult (18-44 years)	69(58.97)
	Older adult (45-49 years)	22(18.8)
	Geriatric (>60 years)	17(14.52)
Sex [n (%)]	Male	54(46.15)
	Female	63(53.84)
Socio-economic status n (%)	Upper	1(0.85)
	Upper Middle	7(5.98)
	Lower middle	101(86.32)
	Lower	8(6.83)
Marital status [n (%)]	Single	30(25.64)
	Married	86(73.5)
	Widowed	1(0.85)
Area of domicile [n (%)]	Rural	92(78.63)
	Urban	25(21.36)

The total number of patients admitted in the entire hospital during the study period was 8550 distributed in the fifteen clinical departments. The number of cases referred to the department of psychiatry was 117, amounting to the referral rate of 1.50%. Most referrals came from the Department of Medicine (58.97%), followed by the Surgical Department accounting for 15.38%. Intra departmental referral rate (which is the ratio of the number of patients referred to the Psychiatry and the total admitted cases during the entire period of the study) is another way of looking at the referral rates from various departments. About 5.5% of inpatients were referred patients from Department of Medicine followed by the 4.9% from Department of Dermatology and Venereal Diseases. Department of Neurology (2.77%), Department of Cardiology (1.72%), Department of Urology (1.31%) and Department of Surgery (1.23%) followed them. No referrals were received from department of Otorhinolaryngology, Ophthalmology, Cardiothoracic Surgery and Paediatric Surgery. (Table 2)

Gastro intestinal disorders (12.34%) and infections (11.11%) are the commonest medical diagnosis in the referred cases, followed by endocrine and cardiovascular disorder (8.64% each); dermatology and renal pathology (7.4% each).

Evaluation & management for Deliberate Self Harm (DSM) was found to be the most common reason for referral accounting for 44 of the 117 cases (36.7%) and this was followed by referrals for depressive symptoms and problematic alcohol use (12.8%). Abnormal behaviour or hyperactivity was found to be the reason for referral in 10.3% of the subjects. Referral for anxiety symptoms was in 8.5% of patients. Acute confusional states (5.1%) and somatic complaints (2.5%) are the reasons for referral mainly from Critical Care Units (CCU) & ICUs (Table 3). The majority of the patients referred were from the non-ICU wards forming 74% of the total referrals compared to 26% of referrals from ICU and CCU wards.

Out of the 117 cases referred, 86% of the cases had some psychiatric diagnosis. Among the subjects referred, 58.9% had single psychiatric diagnosis and 41.1% had multiple psychiatric diagnoses. Amongst the diagnostic categories suicidal risk (28%) and major depressive disorder were found to be the commonest diagnosis according to MINI-PLUS. Adjustment disorder with depressive mood was diagnosed in 30 cases (18.8%) and Alcohol related disorder accounting for 19 cases (11.9%). Psychosis contributed to 3.1% and Organic disorders was found in 4.4% of the referred cases. (Table 4)

**Table 2 : Distribution of inpatient referrals rates from various clinical departments (N=117)**

Department	No. of cases referred n(%)	No. of cases admitted during the study period	Percentage of cases referred among the admitted patients
Medicine	69 (58.97)	1241	5.56
Surgery	18 (15.38)	1463	1.23
Obstetrics and gynaecology	6 (5.13)	1667	0.36
Dermatology and venereology	5 (4.27)	102	4.90
Cardiology	4 (3.42)	232	1.72
Urology	3 (2.56)	229	1.31
Paediatrics	4 (3.42)	1739	0.23
Neurology	3 (2.56)	108	2.77
Orthopaedics	2 (1.71)	714	0.28
Neurosurgery	2 (1.71)	156	1.28
Pulmonary Medicine	1(0.85)	120	0.83
Other departments	0	779	0

Study period is 06 months (June to November)

No referral was sent from Department of Otorhinolaryngology, Ophthalmology, Cardiothoracic Surgery & Paediatric Surgery during the study period

**Table 3: Cause for Consultation Liaison Psychiatry Services (cause for referral) (N=117)**

Psychiatric diagnosis	n	%
Evaluation of Deliberate Self Harm	44	36.7
Presence of Depressive Symptoms	15	12.8
Problematic Alcohol Use	15	12.8
Abnormal Behaviour or hyperactivity	12	10.3
Anxiety	10	8.5
Acute Confusional state	06	5.1
Somatic complaints	03	2.5
Miscellaneous (sleep problem, uncooperative patient, psychosis etc)	12	10.3

**Table 4: Distribution of patients in different Psychiatric Diagnostic Groups using MINI-PLUS structured interview**

Psychiatric diagnosis	n	%
Suicidal Risk	45	28
Depressive disorder	35	22.01
Adjustment disorder	30	18.86
Alcohol disorder	19	11.94
Anxiety disorder	13	8.17
Organic disorder	7	4.40
Manic disorder and Bipolar	5	3.14
Psychosis	5	3.14

\*Several patients had more than one diagnosis

## DISCUSSION

The referral rate of 1.50% reported in our study is found to be similar when compared with Indian studies but much lower than that seen in international studies.<sup>9-11,14</sup> When compared to the disease burden of the psychiatric illness, the inpatient referral rate to the department of psychiatry is alarmingly low, and this could be due to various factors like lack of awareness about mental illness among the public and non-psychiatric medical professionals and their attitude towards the mental illness.<sup>6,28,29</sup>

The distribution of age and sex in our study was similar to various Indian and international studies.<sup>16,18,30</sup> A Karnataka study had predominantly of male population (70%) unlike our study, but their commonest age group was reproductive age group, similar to our study. Regarding socioeconomic status and area of domicile our study was similar to other Indian studies.<sup>6,16</sup> Regarding preponderance of females in our study, we can infer that females are being brought frequently to clinical attention in this society and culture.

The Departments of Medicine accounted for maximum number (58.9%) of the total referral which is found to be the major contributing department while the Surgical departments accounted for 15.4%; this pattern is similar to most of the Indian and International studies.<sup>14,15,21,31,32</sup> The Indian studies by Avasthi et al and Manabendra et al revealed 45% and 46% of referrals from the Department of Medicine along with 14.9% and 14.1% from the department of

neurosciences.<sup>16,30</sup> Bhoagle et al reported a very high (83.2%) referrals from Medicine & allied departments.<sup>6</sup> Thus, our study is in agreement with other studies where Department of Medicine being the chief contributor but low rate of referrals from neurology and neurosurgery indicating lack of liaison with our allied departments (brain sciences) which may be due to both departments having low admission rates. Evaluation and management of para-suicide patients was found to be the commonest reason for referral, followed by depressive symptoms and alcohol related problems. This pattern is in par with several studies,<sup>21,30,31</sup> but differs from other similar studies.<sup>6,10,12,15,17,32</sup> This wide variation could be attributed to the existing contextual variations and the prevalence of various cases in different population. Our study population is mostly from rural part of South India, which has higher incidence of suicide and substance use as reflected in the referred cases.

Majority of patients (86%) in our study had at least one psychiatric diagnosis and this pattern of high percentage of psychiatric diagnosis was noticed in a few studies; though some revealed a slightly higher percentage of cases with no psychiatric diagnosis.<sup>15,16,30</sup> This may be due to the selective referral of only the problem cases from referring departments or a good effort from the Psychiatry department utilizing a good tool viz. MINI PLUS. The high rate of diagnostic hits suggests the likely benefit from more referrals. Also, more the referrals, the more will be the beneficial effect of the medical management. The study revealed gastro intestinal disorders and infections to be

the commonest medical diagnosis which was similar to many studies.<sup>11,15,16</sup> All the patients in our study reported with medical diagnosis thus illustrating the fact that there is a high co-morbidity of psychiatric disorders in medical conditions and thus the possible benefits from seeking psychiatric treatment.

The socio-demographic profile of deliberate self-harm (DSH) patients in our study sample was similar to that of other studies from India.<sup>33</sup> As per our evaluation using MINI PLUS, DSH was high in married people, younger age and more in females. Adjustment disorder, depressive disorder and alcohol use was associated with higher incidence of DSH. The commonest mode of attempt was hanging, organo-phosphorous poisoning and multiple drug poisoning.

Majority of our sample comprised young adults (mean age 25 years) suggesting that they constitute a vulnerable group similar to previous literature from India.<sup>34</sup> There are reports of both male and female predominance in DSH patients, in hospital-based studies<sup>35</sup>, however female population was more in our sample. The gap between male and female suicide rates in India is relatively small and our study also shows similar finding. In Indian studies, it is common to find a higher proportion of attempters being married, as observed in this study. A considerable proportion of attempters had life events related to relationships and marriage. The fact that predominance cases were from rural backgrounds reflects the lack of resources in rural India in terms of employment and jobs and thus increasing the stress leading to DSH.

The commonest method employed to execute self-harm was insecticide poisoning, commonly available, as similar to other Indian studies.<sup>36</sup> So, there is a need to enforce legislative control over the availability of the insecticides. Also, banning the more toxic ones, as well as efforts to decrease the period between the ingestion and initiation of treatment by having poisoning treatment facilities in primary healthcare centres, may be helpful for poisoning prevention or lowering the rate of DSH. Different types and frequency of psychiatric disorders is noted in suicide attempters in India, although adjustment disorders and depressive disorders are common.<sup>37</sup>

It is to be noted that around 90% of our subjects had diagnosable psychiatric illness. This implies that there is an urgent need to promote mental health education in the community so that early detection and treatment can reduce DSH. Stigma reduction programs, training

of physicians and primary health care workers to identify mental disorders, better accessibility of mental healthcare should be promoted. Suicide prevention must form an integral part of community-based mental healthcare activities. Appropriate referral of all cases of attempted suicide is needed to Department of Psychiatry for proper evaluation and counselling to prevent future attempts of suicide.

## CONCLUSION

This low rate of referral found in the study warrants a scope for improving our referral rates through better C-LP services. This illustrates the need for closer collaboration with non-psychiatric professionals to improve mental health awareness. The high prevalence of depression, anxiety, and alcohol related problems in this study also indicates the need for early detection of mental health problems through appropriate screening of the medically ill. A quick screening tool can be used by clinician for screening common psychiatric disorder after a brief training. The high rate of people with deliberate self-harm substantiates the need for preventive efforts to be intensified in the community. The results of this study further confirm the need to incorporate C-LP services as a vital component of every tertiary care facility which is to be utilised effectively.

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## Patients with Type 1 diabetes saw blood sugars improve with liraglutide.

Researchers from the Jacobs School of Medicine and Biomedical Sciences at the University at Buffalo have found that adding liraglutide to insulin treatment for patients with Type 1 diabetes results not only in better blood sugar control but simultaneous improvements in blood pressure, body weight and the amount of insulin patients need to take.

The 52-week, randomized double-blinded, placebo-controlled clinical trial involved 26 men and women who received a daily injection of liraglutide and 20 who received placebo for 26 weeks; after that, the trial was unblinded and those who had had the placebo were switched to the drug, while those on liraglutide continued to receive it. Ages ranged from 30 to 75 years.

Patients taking liraglutide saw 0.57 percent (from 7.9 to 7.45) reduction in their hemoglobin A1c, a measure of sugar in the blood, compared to placebo. Patients taking the drug also needed a significantly lower dose of insulin. There was also a reduction in systolic blood pressure and weight loss averaging about 8 pounds over the duration of the study with liraglutide. Liraglutide induced an improvement in diabetic control, along with a reduction in blood pressure and body weight without causing hypoglycemia.

**Source:** <https://www.healthcanal.com/metabolic-problems/diabetes/245559-patients-with-type-1-diabetes-saw-blood-sugars-improve-with-liraglutide.html>