Original Article

A Cross-Sectional study of Referral Pattern and Utilization of Consultation Liaison Psychiatry Services in General Hospital Setting

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ABSTRACT

Background: Utilization of Consultation Liaison Psychiatry services is a key to identify psychiatric problems in patients presenting to other departments. It is very common, owing to the lack of awareness and stigma, most patients with psychiatric problems present to medical and surgical departments.

Aims and Objectives: To study the referral pattern to General Hospital Psychiatry Unit and to identify the nature, source of referrals and correlations among the same.

Materials and Methods: All successive referrals to the Department of Psychiatry for a period of eighteen months were included in the study. Socio demographic characteristics of the patients were analyzed, they were classified according to the referring department, the reason for referral and current psychiatric diagnosis.

Results: Our study resulted in a gross referral rate of 1.25% of all admissions. The most common reason for referral was Medically Unexplainable symptoms (12.77%), followed by Altered Sensorium (11.46%), Abnormal Behaviour (10.31%). Most of the referrals were from Medical Specialties (54%) and the most common diagnoses were Alcohol Withdrawal Delirium, Unipolar Depression, Somatoform Disorders and Other Organic Mental Disorders. There is a significant correlation with Age group being 40-60 years constituting highest number with utilization these services.

Conclusion: There is a need to improve Consultation Liaison in Psychiatry Services to provide best and optimal care to the patients, a multi-disciplinary approach should be encouraged of patients who attend general hospitals, in order to facilitate early recognition and management of psychiatry problems.

Keywords: Consultation liaison psychiatry, general hospital psychiatry unit, referral to psychiatry, referral pattern

INTRODUCTION

The approach of psychiatry diagnosis in first half of 20th century to present times has been changed through the advances in psychodynamic psychiatry, social and epidemiological studies combined with biological view of mental illness since 1950's evident through effectiveness of medications treating mental disorders led to establishment of General Hospital Psychiatry Unit-GHPU's integrating in medical institutes.

According to Lipowski, the designation "Consultation-Liaison" reflects two interrelated roles of the consultants.

"Consultation" refers to the provision of expert opinion about the diagnosis and advice on management regarding a patient's mental state and behavior at the request of another health professional. The term "Liaison" refers to linking up of groups for the purpose of effective collaboration.

In the context of current C-L Psychiatry, liaison involves interpretation and mediation i.e., the consultant psychiatrist mediates between patients and members of the clinical team and between mental health and other health professionals, respectively.[1-4] In India, the consultation model is followed, wherein a psychiatrist evaluates and manages the patient who is referred from a physician/surgeon.[5]

Consultation-liaison (C-L) psychiatry as a subspecialty defined as the area of clinical psychiatry that encompasses clinical, teaching and research activities of psychiatrists and allied mental health professionals in the non-psychiatric divisions of a general hospital. This field of psychiatry combines consultants' practice and the type of training, skills and professional attitudes that their work requires to represent a model that is likely to prevail in psychiatry in the coming years".[1]

The development of psychiatry on basis of neurobiological model and bio-psychosocio model integrates psychiatry as a branch into other branches of modern medicine building up a medical model of approach and with rapid establishment of General Hospital Psychiatry Units (GHPU) all over the world, this Consultation-liaison psychiatry (C-LP) subspecialty of psychiatry is getting more significance. C-L psychiatry branch is also considered to be applied form of psychosomatic medicine.

The present study gives the pattern of psychiatry disorders from other Non- psychiatry branches of medical and surgical departments, significances the need of multi-disciplinary approach for optimal care of patient. The magnitude of awareness of psychiatry component of patient and related family concerns, like family education on psychiatry disorders can be improved which can help in reducing patient's symptoms and also helps in reducing care giver burden.

Aim

The aim of the study was to assess patterns of referral for CLP among inpatients admitted at a tertiary care hospital.

The objectives of the study were

1. To assess distinct patterns of referral in terms of demographic factors, psychiatric and medical comorbidity, psychiatric intervention.
2. To assess communication regarding referral
3. To explore correlations among the same.

MATERIALS AND METHODS

This is a cross sectional observational study carried out at a tertiary care teaching hospital. All the consecutive patients who were referred from all medical and surgical departments for Consultation-liaison services between January 2018 to June 2019 were included in the study.

A total of 611 patients who were referred to Department of Psychiatry were included in the study. They were evaluated and diagnosed for psychiatry morbidity according to ICD-10.

Patients with cognitive and intellectual impairment,

paediatric patients were presumed of not capable of giving consent. Because of non-invasive nature of the study, ethics committee approval was given to augment patient assent with proxy consent from next of kin (wherever possible) or a responsible care giver, in accordance with the Helisinki Guidelines for Medical Research involving human subjects.

Social demographic variables and other medical information were collected by use of semi-structured proforma. Assessments were based on all available information obtained from patients, caregivers, medical staff and medical records.

Inclusion Criteria

• All consecutive referrals to the department of psychiatry were included in the study.
• Both in patients and Outpatients were included.
• Male and female patients
• Patients aged, 4-90 years old.

Exclusion Criteria:

• No patient referred was excluded from the study

RESULTS

Table 1: The age (in years) distribution of patients

Age (in years)	No. of patients	% of patients
1 to 10	31	5.07
11 to 20	66	10.80
21 to 30	57	9.32
31 to 40	76	12.40
41 to 50	117	19.15
51 to 60	112	18.35
61 to 70	96	15.71
71 to 80	51	8.35
81 to 90	5	0.82
Total	611	100.00

In present study a total number 611 patients were referred to psychiatry consultation.

The age of patients ranged from 4-90 years. The most common age group affected is 41-50 years in 111 patients (18.17%). The number of patients in 1-10 years is around 31 (5.07), in 11-20 years age group is 76 (12.44%), in 21-30years age group is 58 (9.49%), 31 to 40 years is 77 (12.60%), in 41-50 years is 111 (18.17%), in 51-60 years is 106 (17.35%, in 61-70 years is 96 (15.17%), in 71-80 years is 51(8.35%), in 81-90 years is 5 patients(0.82%).

The mean age of presentation is 44.7 years and SD Standard deviation of age (in years) is 20.4.

Table 2: The sex distribution of patients

Sex	No. of patients	% of patients
Female	265	43.37
Male	346	56.63
Total	611	100.00

Table 3: Domicile Distribution of the study sample

Domicile	No. of patients	% of patients
Rural	509	83.3
Urban	102	16.7
Total	611	100

Out of 611 patients, 509 (83.3%) are from rural area and 102 (16.7%) are from urban area.

Table 4: The socio economic status distribution of patients

Socio economic status	No. of patients	% of patients
Lower	174	28.48
Lower Middle	136	22.26
Upper	42	6.87
Upper Lower	136	22.26
Upper Middle	123	20.13
Total	611	100.00

Socio Economic Status

According to Kuppuswamys classification the lower socio economic status is identified in 174 patients(28.48%), lower middle class and upper lower class in 136 each group(22.26%) each group respectively upper middle found to be in 123(20.13%) and upper in 42 patients(6.87) only.

The major source of referrals were from general medical department of 116 patients (18.99%) followed by Neurology of 86(14.08%), Pediatrics of 81 patients (13.26%), Orthopaedics of 60 patients(9.82%), General Surgery of 44 patients (7.20%), Cardiology of 41 patients(6.71%), Oncology of 40 patients (6.55%), Pulmonology department of 38 patients(6.22%), Urology department of 21 patients(3.44%).

The referral rates of other departments of Obstetrics and Gynaecology of 18 patients (2.95%), Dermatology 15 patients(2.45%), E.N.T constitute of 15 patients(2.45%), Neurosurgery of 14 patients(2.29%) and Nephrology of 11 patients (1.80%).

Reasons for Referrals

The reason for referrals in the present study was mostly

Table 5: Distribution of patients according to the Department of Referral

Department	No. of patients	% of patients
Cardiology	41	6.71
Dermatology	15	2.45
ENT	15	2.45
General medicine	116	18.99
General surgery	44	7.20
Nephrology	11	1.80
Neurology	86	14.08
Neurosurgery	14	2.29
OBG	18	2.95
Oncology	40	6.55
Ophthalmology	11	1.80
Orthopeadics	60	9.82
Paediatrics	81	13.26
Pulmonlogy	38	6.22
Urology/ Nephrology	21	3.44
Total	611	100.00

Table 6: Distribution of sample according to the reason for referral

Reason for referral	No. of patients	% of patients
Abnormal behaviour	63	10.31
Altered sensorium	70	11.46
Anxiety	46	7.53
Deaddiction	57	9.33
Delay in milestones	6	0.98
Disturbed sleep	38	6.22
ED/PME	08	1.30
Forgetfulness	50	8.18
Hyperactivity	4	0.65
Involuntary movements	21	3.44
Irritability	44	7.21
Low mood	53	8.67
On psychotropics	12	1.96
Poor academic performance	13	2.13
Previous psy. history	23	3.76
School refusal	5	0.82
Self harm	20	3.27
Unexplained physical /somatic symptoms	78	12.77
Total	611	100.00

of unexplained physical/somatic complaints in 78 patients which accounts for 12.77%, followed by second most common reason is for altered sensorium in 70

patients,11.46% and third most common reason is due to abnormal behavior in 63 patients accounting,10.31%.

The patients for various substance use were referred for deaddiction in 57 patients constituting 9.33%, for the complaints of forgetfulness in 50 patients which is around 8.28%, presentation of low mood patients identified in 48 patients giving a referral rate of 7.86%, for the complaints of anxiety in 46 patients about 7.53%, reason for being irritability in 41 patients constituting around 6.71%, for disturbed sleep in 38 patients 6.22%, patients with previous history of psychiatry illness in 23 patients around 3.72% .

The reasons for referral for involuntary movements and self harm in 21 patients about 3.44% in each group, for the sexual complaints like erectile dysfunction or premature ejaculation in 15 patients constitutes around 2.45%, for poor academic performance in 13 patients about, 2.13 %, patients on psychotropics were referred about 12 patients 1.96%, delay in mile stones in 6 patients about 0.98% patients, school refusal in 5 patients around 0.82% and hyperactivity in 4 patients which is about 0.65% patients.

Present Psychiatry Diagnosis

The present study diagnosed by ICD-10 Classification, Is found to have most common diagnosis of organic mental disorders in 114 patients(18.66%), followed by alcohol dependence syndrome and withdrawal disorders in 88patients(14.4%), Major depressive disorder of 87 patients (14.24%), neurotic, stress related disorders (which include generalized anxiety disorder, panic disorder, phobia, adjustment disorder, obsessive compulsive disorder) found in 62 patients (10.15%) and somatoform disorders in 70 patients (11.45%).

The diagnosis of sleep disorders in 14 patients(2.27%) , dissociative disorders 26 patients (4.24%), other substances in 24 patients(3.93%), Bipolar depression in 19 patients (3.11%), mental retardation in 18 patients(2.94%), Extrapyramidal symptoms in 10 patients(1.64%), schizophrenia in 9 patients (1.47), sexual disorders in 8 patients(1.31%), and premenstrual dysphoric syndrome(0.82%) in 5 patients each.

The diagnosis of Attention Deficit Hyperactive Disorder, autism, was found be 4 patients in each group i.e,(0.65%) each group respectively. There were 2 patients in each of drug induced psychosis(0.33%) and postpartum psychosis was found in 14 patients (2.29%).

SUD- Substance Use Disorders , NSD- Neurotic, Stress related disorder, UPD- Unipolar Depression, DOND- Dementia and Other Neuropsychaitric disorders, SFD: Somatoform disorders

Table-7: Distribution of study sample according the current diagnosis.

Present psychiatric diagnosis	No. of patients	% of patients
ADHD	4	0.65
Alcohol dependence syndrome and withdrawal	88	14.40
Generalised Anxiety, Panic Disorders	62	10.15
Autistic Spectrum Disorder	4	0.65
Bipolar Affective Disorder	19	3.11
Dissociative disorder	26	4.25
Drug induced psychosis	2	0.33
Extra pyramidal symptoms	10	1.64
Mental retardation	18	2.94
Depressive Disorder	87	14.24
Delusional Disorder	22	3.6
Dementia and other Organic mental disorder	88	14.40
Psychiatric Disorders due to Poly Substance Use	24	3.93
Obsessive compulsive disorders	20	3.27
Postpartum psychosis	14	2.29
Premenstrual dysphoric syndrome	5	0.82
Schizophrenia	9	1.47
Sexual disorder	8	1.31
Sleep disorder	14	2.29
Mood Disorder due to General Medical Condition	16	2.61
Gender Dysphoric Disorder	1	0.16
Somatoform disorder	70	11.45
Total	611	100

Differences in distribution across age groups for psychiatry diagnosis is found be significant P value = 0.001. Chi square is used as test of significance. Categorical values is represented number and percentages. Chi square value is 304.022.

DISCUSSION

Over all Referrals percentage

In present study a total number 611 in patients were referred to psychiatry consultation. Out of 50, 916 patients, the referrals were found to be around 1.2 percent.

Our study of 1.2% referrals showed higher referral values Chi square = 304.022, P value = 0.001 (S) 0.5% to 2.8%.[7] Similar results of 1.8% is seen in another study. [8] from

Table-8: Association of Present Psychiatry Diagnosis with Different Age Groups

Age group		SUD	NSD	UPD	SFD	DOND	OTHERS	Total
				DIAGNOSIS				
1 to 10	N	0	3	3	9	2	14	31
	%	0.0%	4.8%	3.9%	18.0%	1.8%	6.3%	5.1%
11 to 20	N	0	12	12	11	2	29	66
	%	0.0%	19.4%	15.8%	22.0%	1.8%	15.26%	12.4%
21 to 30	N	4	9	10	3	1	30	57
	%	4.5%	14.5%	13.2%	6.0%	0.9%	15.79%	9.5%
31 to 40	N	13	13	11	8	1	30	76
	%	14.8%	21.0%	15.8%	16.0%	0.9%	13.6%	12.46%
41 to 50	N	24	13	18	17	5	40	117
	%	27.3%	21.0%	20.45	24.28%	4.4%	21.06%	18.2%
51 to 60	N	25	8	17	19	13	30	112
	%	28.4%	12.9%	18.31%	27.40%	11.4%	15.71%	17.3%
61 to 70	N	13	3	9	2	54	15	96
	%	14.8%	4.8%	11.8%	4.0%	47.4%	6.8%	15.7%
71 to 80	N	8	1	7	1	32	2	51
	%	9.1%	1.6%	9.2%	2.0%	28.1%	0.9%	8.3%
81 to 90	N	1	0	0	0	4	0	5
	%	1.1%	0.0%	0.0%	0.0%	3.5%	0.0%	0.8%
Total	N	88	62	87	70	114	190	611
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

0.95% Pavan kumar et al[6] and is consistent with Grover et al in India which ranges from 0.06% to 3.6%[5]. This study is comparable to British samples varying from

Age, Sex and Domicile

The most common age group presentation is 41-50 years in 18.17% which is in contrast to other studies [9] which is about of 21-30 years. The mean age of presentation is 44.7 years.

Out of 611 patients, 346(56.63%) were males and 265(43.37%) were females which is comparable with 60.1% males and 39.9% females [6] with male to female ratio of 1.3:1, which is similar to previous studies 1.03:1[9,10] males out numbering females.

The majority of study population in current study belonged to rural domicile 83.3% and in urban it is found to be 16.7%

Source of Referrals/Departments

The current study describes the source of referrals, being the most of the referrals from the department of general medicine i.e, 116 patients (18.99%) similarly, the highest

referral rates were found from the department of general medicine in the other studies as well i.e, 76%, 18.4% and 58.5% respectively found in other studies. [6,10 11]

The second most referrals were identified from the department of Neurology i.e, 14.08% which is similar to a study (14.8%) [11], (14.09%) [12] and increased percent is noted compared to another study (6.48%).[13]

The orthopedics department referred 60 patients(9.82%) which is less when compared to Pavan kumar et al which reported 15.8% though the number of patients increased because of increased referral rate from other departments at same institute.

The present study general surgery gives 7.2% which is less compared to other studies. [6, 9, 10] The surgery and allied specialities were in another study [11] is 14.8% whereas there is increased referral rate from both orthopaedics& surgery of 17.02% at present study.

The referral rate from cardiology department is 6.71% similar results were found in other studies [6, 9].

The present study referral rate from Obstetrics and Gynecology is found to be 2.9% which is decreased when

compared to 3.5% in other studies. [6] In the present study the referral rate from oncology department is 6.55% which gives increased referral rate when compared to Pavan kumar et al studies which was 2.6%.

The present study gives referral rates of ENT department is 2.45% which is gives increased referral rate when compared to 0.46% and from urology department constitute to be 3.44% in present study.

The referral rates in present study from other departments constitute dermatology 2.45%, patients from neurosurgery are 14 (2.29%) and nephrology are 1.80%. There are no existing studies found on these departments.

Reasons for Referrals

The reason for referrals in the present study was mostly of unexplained physical/somatic complaints 12.77% which is gives increased referral rate when compared to 11.2% [14] and 4.2% in other studies. [9]

The present referral rate is decreased when compared to 21%, [6] a decreased referral rate when compared another study 19.3%. [11]

The second most common referral is followed by altered sensorium of 11.46% in present study which decreased referral rate of 24.5% when compared studies. [6, 9]

The self harm being reason for referral is 3.27% while school refusal in present study is around 0.82%. which is much lower (17.5%) self-harm and school refusals being (7.8%) when compared to other studies. The current study gives decreased referral rate when compared to 30.3% self harm in a study and in Bheemsain et al studies, rate is noted 30.3%.

The abnormal behavior is around 10.31% in present study it is less when when compared to 60.2% in a study. [5]

The present study for patients with previous history of history(3.76%) and patients on psychotropics(1.96%) together of 5.68% and is decreased when compared 13.1% Pavan kumar et al studies [6], 14.4% rate in another study[8], 9.1% Bheemsain et al studies increased referral rate of 5.3% in MakhalManabendra studies. [9]

The reason for referral for deaddiction is around 9.33% in present study, similar results of 9.8% were noted in studies and decreased rate when compared to 11.3% is found in another study [10] and a rate of 70% is found in onestudy [14] But an increased rate is observed when compared to 8.1% in Bheemsain T et al studies. [11]

The presentation of low mood patients 8.67%, anxiety 7.53%, in present study which is comparatively less as in Narayana keerthish et al studies anxiety of 13.6%, low mood 15.02%. [10]

Present psychiatry diagnosis

The present study found to have most common diagnosis of organic mental disorders constituting about 18.66% which is similar to the studies of [14,15] the current study has decreased referral rate when compared to Bheemsain et al studies rate is noted 19%. According to study across various Institutes in India 87.8% institutes had delirium which is organic mental disorder as fist most common diagnosis [14] and our study has increased referral rate when compared to Narayana keerthish et al studies which was 7.51%.

The present study observed the second most common diagnosis of substance use disorders compromising alcohol dependence syndrome and withdrawal disorders in 14.4%, which is decreased rate as compared to 21% to 25%in other studies. [6, 10]

Similar reports of substance use disorders as second common psychiatry disorders of 70% is found in a study across various Medical Institutes in India and similar rate of 15.5% in Makhal Manabendra studies.

The referral rate for use of other substances than alcohol is around 3.93% which has increased rate when compared to 2.6% in a study.

The current study diagnosis of unipolar depression of 14.24% is comparable and consistent with Pavan Kumar et al study but another study [9] showed 20.8%. In a study across various Medical Institutes in India depression is reported to be around 38.9%.

The present study diagnosed Neurotic, stress related disorders (which include generalized anxiety disorder, panic disorder, phobia, adjustment disorder, obsessive compulsive disorder) in 10.15% referrals and somatoform disorders in 11.45% referrals which is decreased when compared to studies which gives 13.1% referral rate of Neurotic, stress related disorders and 13.1% somatoform disorders.

The present study diagnosis mental retardation is 2.94% which is lower than previous study, 4.3%.

Association of present psychiatry diagnosis with different age groups

Most of patients of organic mental disorders are significantly higher in the age group of 61-70 years (47.4%) when compared to age group of 21-40(1.8%). Alcohol dependence syndrome withdrawal is present most (28.4%) in age group of 51-60 years. In the age group of 21-40 years it is 19.3%. Neurotic, stress related disorders found significantly high in age group 31-50 years were (42%) than in age group 61-90 years (6.4%). Unipolar depression found significantly high in age group 1-50

years were (64.5%) and than in age group 51-90 years (35.5%).

CONC_{LUSION}

Our study aimed at identifying the patterns of usage of Consultation Liaison Psychiatry Services in a General Hospital setting showed a referral rate of overall 1.25%. It's not uncommon that many patients with Psychiatric problems present to different departments owing to their unawareness and stigma. If general hospital is the fertile land for Psychiatry, then CLP services are the seeds that are to be sowed. Sensitization of various arms of a health organization is the key factor to improve referral rate which would decrease the hospital service utilization and there by health care cost.

CONFLICT OF INTEREST:

The authors declared no conflict of interest.

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