

A Cross-sectional Descriptive Study of Prevalence and Nature of Psychiatric Referrals from Intensive Care Units in a Multispecialty Hospital

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ABSTRACT

Context: The prevalence of psychiatric comorbidity in general hospital range from 20% to 60%. Presence of psychiatric morbidity compounds the disability and suffering in medical patients. There is a limited literature on the prevalence of psychiatric morbidity in patients admitted in the intensive care units (ICUs). **Aims:** The aim of the study was to estimate the prevalence and nature of comorbid psychiatric illness in the cases referred from ICUs. **Settings and Design:** Cross-sectional observational study. **Materials and Methods:** This study included all the consecutive patients referred from different ICUs to psychiatry department for consultation during the four-year period from January 1, 2000 to December 31, 2003, assessment was done by psychiatrist and diagnosis was made using ICD-10. **Statistical Analysis:** Descriptive statistics. **Results:** There were 309 (1.97%) referrals from ICUs to psychiatry department during the period of study. Among the referred patients, diagnosis of organic mental disorders was the commonest psychiatric diagnosis present in 104 (33.65%) patients followed by suicidal attempt in 101 (32.69%); anxiety disorders in 40 (12.94%); depressive disorders in 21 (6.8%); Psychotic illness in 10 (3.24%); other psychiatric illnesses in 28 (9.06%); and nil psychiatric illness in 5 (1.62%) patients. **Conclusion:** Prevalence of psychiatric referrals from ICUs was low. This could be due to stigma and lack of awareness among physicians. There is increased need for recognition and treatment of comorbid psychiatric illness by the treating physicians which may help to decrease morbidity and overall cost of the treatment.

Key words: *Intensive care units, psychiatric comorbidity, psychiatric referrals*

INTRODUCTION

General hospital psychiatry is a broad term that implies the existence of psychiatric service as one of the many specialty services available in a general hospital. This psychiatric service may exist in one or more of the several

forms, viz. out-patient, indoor, and referral (including one or both of the two components – consultation and liaison). The psychiatric wing of such a hospital is called the GHPU (General Hospital Psychiatric Unit).^[1] In January 1958, N.N. Wig started the first GHPU at Medical College, Lucknow, with both in-patient and out-patient psychiatric services and a teaching program as a part of the Department of Medicine. Dr. J.S. Neki started a similar unit at Medical College, Amritsar, a few months later.^[1] The spectrum of psychiatric cases seen in general hospital psychiatry units is much wider than seen in mental hospitals. In specified mental hospitals, the clinical material is predominantly psychosis, i.e., major mental disorders. However, in a general hospital psychiatry unit, there is a wide range

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of clinical problems including psychosis, neurosis, personality disorders, drug dependence, organic brain disorders, etc.^[2-4] The overall prevalence of psychiatric comorbidity in general hospital range from 20% to 60% depending on the different methodologies used in those studies.^[5,6] Presence of psychiatric morbidity compounds the disability and suffering in medical patients. Furthermore, it increases the consumption of medical resources,^[7] complicates medical treatment,^[8] and can result in poorer outcome.^[9] Most research on the psychiatric morbidity in the general hospital is related to general medical patients with specific physical disorders.^[10,11] Before 1990s, metro cities in India had hardly any multispecialty hospitals. In the last two decades, multispecialty hospitals started functioning in small cities and very big towns of India. In the last decade, very few teaching hospitals had attached multispecialty hospitals with intensive medical care units. KLEs Dr. Prabhakar Kore Hospital and Medical Research center is one such hospital which is a teaching hospital of J N Medical College Belgaum. There is a limited literature on the prevalence of psychiatric morbidity in patients admitted in the intensive care units (ICUs). Present study was undertaken to determine the prevalence and nature of psychiatric comorbidity in medical ICUs (MICUs).

MATERIALS AND METHODS

Study was done in KLES hospital (KLES Dr. Prabhakar Kore Hospital and Medical Research Center), Belgaum-10, Karnataka, India. It is a teaching hospital attached to J. N. Medical College (J. N. M. C.), Belgaum. J. N. M. C. started functioning in 1964. It has M. C. I. recognized M. B. B. S. course since 1964. Postgraduate courses in Medicine, Surgery, O. B. G., pediatrics, E. N. T., Ophthalmology, and Dermatology are running in J. N. M. C. since 1984. However, Psychiatry postgraduate degree course was started in the year 2006 after M. C. I. approval. This hospital also has super specialty clinics like Neuro-medicine, Neuro-surgery, Cardiology, Cardio-surgery, Gastroenterology, Pediatric surgery, Immunology, Burns care, and Urology. D. M. and MCh courses are run in Neurology, Urology, Cardiology, and Cardio-surgery departments. This hospital has 1 000 inpatient beds, of which 206 beds are from various ICUs. Around 70% to 90% of the beds would be occupied at any given point of time, giving average occupancy rate of above 70%.

This study included all the consecutive patients referred from different ICUs to psychiatry department for consultation, during the four-year period from January 1, 2000 to December 31, 2003. It is a cross-sectional descriptive study which was undertaken to look at the prevalence and nature of psychiatric comorbidity in

ICU patients in a multispecialty hospital. ICD-10 was used to diagnose the referred cases. Informed consent was taken from all the patients and/or relatives and also ethical clearance was obtained from the hospital superintendent.

RESULTS

Total hospital attendance during the study period was 523 329, of which 437 303 (83.56%) were outpatients, 70 367 (13.45%) were inpatients, and 15 659 (2.99%) patients were admitted in ICUs [Table 1]. There were 309 referrals from ICUs to psychiatry department during the period of study, which accounts for 1.97% of the total ICU admissions. Male patients (178, 57.61%) were more than female patients (131, 42.39%) [Table 2].

Of a total of 309 psychiatric referrals, maximum cases, i.e., 244 (78.96%) were from MICU. Among all the referred cases, 215 (69.58%) of the cases were aged between 16 and 45 years [Table 2]. Study also shows that among the patients referred, only 109 (35.28%) had a definite past history of psychiatric illness. Past history of psychiatric illness was absent and not available in 80 (25.89%) and 120 (38.83%) patients, respectively.

Table 1: Hospital statistics

Variable/year	2000	2001	2002	2003	Total (%)
Out patients	105339	106427	109085	116452	437303 (83.56)
In patients	17168	17100	17762	18337	70367 (13.45)
Admissions to ICU	3676	3991	3936	4056	15659 (2.99)
Total	126183	127518	130783	138845	523329

ICU – Intensive care unit

Table 2: Distribution of ICU patients based on their age group and past psychiatric history

Variable	Male (%)	Female (%)
Distribution of patients across ICU's		
MICU	138 (44.66)	106 (34.30)
ICCU	10 (3.24)	7 (2.26)
SICU	30 (9.71)	18 (5.83)
Total (N=309)	178 (57.61)	131 (42.39)
Age distribution		
<15 yrs	7 (2.26)	8 (2.59)
16-30 yrs	60 (19.42)	63 (20.39)
31-45 yrs	57 (18.44)	35 (11.33)
46-60 yrs	32 (10.36)	21 (6.80)
61-75 yrs	15 (4.85)	5 (1.62)
>75 yrs	4 (1.29)	2 (0.65)
Previous psychiatric history		
Present	63 (20.39)	46 (14.89)
Absent	50 (16.18)	30 (9.71)
Not available	65 (21.03)	55 (17.80)

ICU – Intensive care unit; MICU – Medical intensive care unit; ICCU – Intensive cardiac care unit; SICU – Surgical intensive care unit N=309

Among the referred patients, diagnosis of organic mental disorders was the commonest psychiatric diagnosis present in 104 (33.65%) patients. This included organic brain syndrome in 59 (19.09%) patients and alcohol-related disorders in 45 (14.56%) patients. Suicidal attempt was the next common diagnosis present in 101 (32.69%) patients, followed by anxiety disorders in 40 (12.94%), depressive disorders in 21 (6.80%), Psychotic illness in 10 (3.24%), other psychiatric illnesses in 28 (9.06%), and nil psychiatric illness in 5 (1.62%) patients [Table 3].

DISCUSSION

In this modern era, there is increasing trend toward opening multispecialty hospital where many departments work under one roof. KLES Dr. Prabhakar Kore Hospital is one such hospital. During the study period, totally 523 329 patients attended hospital, of which 15 659 (2.99%) patients were admitted in different ICUs for various reasons. Of the above ICU admissions, only 309 (1.97%) patients were referred to the psychiatric consultation. This number is very much less when compared with the prevalence of psychiatric illness in ICUs as reported by Sim *et al.*^[12] It showed the prevalence of psychiatric illness as 36.4% in MICU. In Sim *et al.*'s^[12] study, all the patients admitted in ICU were interviewed by psychiatrist, whereas in our study, only those patients who were referred from the concerned medical staff were assessed. In our study, patients were referred from different ICUs [Table 2]. There was a large majority (244, 78.96%) of patients who were referred from MICU. This is expected as General Medicine, Neuro-medicine, Nephrology, Gastroenterology, and Respiratory Medicine patients from MICU. Surgical ICU (SICU) patients were 48 (15.54%). SICUs are not expected to have comorbid Psychiatric illness as much as MICU patients. Among 48 SICU patients, 22 (45.83%) were from Burns ICU. Major burn cases are expected to have psychiatric comorbidity.^[13] Surprisingly, Intensive Coronary Care Unit (ICCU) cases were very few. Only 17 (5.50%) referrals were from ICCU. In fact, coronary artery disease is thought to be psychosomatic illness. Many clinicians will agree that many cardiac disease patients have psychiatric comorbidity, mainly anxiety and depressive disorders. There are studies which state that depressive disorder could be an independent risk factor for having coronary artery disease.^[14,15] Our study findings suggest that there is lack of awareness of comorbid psychiatric illness in coronary artery disease patient among the cardio-physician or cardio-surgeon, or else they have not been informed that modern day treatment can definitely reduce morbidity of such patients. In addition, in India, by and large psychiatric referrals would be thought of by treating physician as a last resort. Right from their undergraduate training,

Table 3: ICD-10 psychiatric diagnosis of the referred patients

Variable	N (%)
Organic mental disorders	
Alcohol-related disorders	45 (14.56)
Organic brain syndrome	59 (19.09)
Total	104 (33.65)
Suicidal attempts	101 (32.69)
Anxiety disorders	40 (12.94)
Depressive disorders	21 (6.80)
Psychotic illness	10 (3.24)
Other psychiatric illness	28 (9.06)
Nil psychiatric illness	5 (1.62)
Total	309

ICD – International classification of disorders

our medical colleagues are not exposed to or oriented to psychiatric comorbidity. Reasons could be many including lack of expert psychiatric education, teaching, and learning in many medical colleges apart from almost absence of liaison psychiatry in hospitals. As of now, regular psychiatry OPD and indoor facility are absent in multispecialty hospitals even in metro cities in India. Some of the previous studies done abroad^[16,17] have shown the similar low referral rate of 2% like our study. The reason for the low referral rate in those studies were non-recognition of the extent of psychiatric morbidity among patients, stigma, effect of psychiatric referral on self esteem of patients, and physician being not sure of how rewarding such referral could be.^[18] One previous study by Rothenhäusler *et al.*^[19] has shown increase in psychiatric referrals by increasing involvement of clinical psychologists and specialists in psychosomatic medicine over years. Fortunately, in our hospital, services of clinical psychologist were available during the period of the study. However, our study cannot address the question of increased psychiatric referrals due to availability of clinical psychologist services. Among the study population, past history of psychiatric illness was present in 109 (35.28%) patients and hence it appeared that presence or absence of previous psychiatric illness was not a major contributory factor for psychiatric referral in ICU patients.

In our study, organic mental disorders were present in 104 (33.65%) patients which was commonest psychiatric diagnosis. It included organic brain syndrome in 59 (19.09%) patients and alcohol-related disorders in 45 (14.56%) patients. In a general hospital and attached multispecialty hospital, organic mental disorders as leading psychiatric diagnosis are expected in psychiatric referrals. This could be because commonest psychiatric emergency for a non-psychiatrist would be delirium (acute organic brain syndromes) where management would be difficult without correct use of sedatives, tranquillizers, and other psychotropics, in addition to treatment of patients' primary medical illness.

Suicidal attempt was the next common psychiatric diagnosis present in 101 (32.69%) patients. This finding is not surprising as in a private hospital set up like ours, for legal purpose, almost all attempted suicide cases would be referred to psychiatry. One reason why it is common might be because Belgaum is a small city and the local population is broadly underdeveloped with most of the people belonging to middle/lower class and lower social class patients could be more prone for attempted suicide.^[20]

Pure psychiatric disorders were present in only 71 (22.98%), of which anxiety disorders were present in 40 (12.94%) patients, Depressive disorders in 21 (6.8%) patients, and Psychotic illness in 10 (3.24%) patients. Comorbid anxiety disorders were most common pure psychiatric disorder in the referred cases. Any medical illness produces anxiety and any medical illness causing ICU admission will definitely compound the individual's anxiety. Contrary to the expectation, depressive disorders were found only in 21 (6.8%) patients. Comorbid depression is present in 15% to 20% of coronary disease^[21] patients and also common in stroke patients.^[22] But, this is not evident in our small sample. It could be also due to poor awareness among the primary treating physician due to which they failed to recognize comorbid depressive disorder in their patients and hence poor referral.

It is known that part of psychiatric disorders is caused by organic or toxic causes (metabolic disturbances, electrolyte imbalance, withdrawal syndromes, infection, vascular disorders, and head trauma) and they can also be due to the particular environment of ICU.^[23] The particularities of these ICU units are as follows: A high sound level, the absence of normal day night cycle, a sleep deprivation, a sensory deprivation, pain provoked by medical procedures, and the possibility to witness other patients death.^[23] So, some of the environmental modification can decrease comorbid psychiatric illness. This aspect of ICU psychiatric illness was not the aim of our study and needs to be probed.

CONCLUSION

Multispecialty hospitals with ICUs are taking root in India since last decade. Psychiatry related to multispecialty hospitals is unknown territory. Present study probed the prevalence and nature of psychiatric referrals from various ICUs. There are few studies reported on this topic in the world literature and none is reported from India. The prevalence of psychiatric referral in our study was only 309 (1.97%) of ICU cases over a period of four years. Commonest psychiatric diagnosis was organic mental disorders in 104 (33.65%) patients followed by suicidal attempt in 101 (32.69%).

A clinician will agree that there is far more psychiatric comorbidity among all primarily medically ill patients. However, accompanying psychiatric problem is usually neglected because of urgency of treatment of primary medical condition and rightly so. In addition, there is lot of stigma not only among the patients, but also among the physicians about mental illness/treatment. Present study highlights the need for more studies on this subject. There is urgent need for creating awareness of psychiatric comorbidity in the physicians. Simultaneous treatment of both conditions may help to reduce cost of total treatment, investigations, and possibly prevent complications.

REFERENCES

1. Wig NN, Awasthi A. Origin and growth of general hospital psychiatry. In; Mental Health an Indian Perspective 1946-2003. In: Agarwal SP, Editor. New Delhi: Directorate General of Health Services Ministry of Health and Family Welfare; 2005. p. 101-7.
2. Sethi BB, Gupta SC. An analysis of 2000 private hospital psychiatric patients. *Indian J Psychiatry* 1972;14:197-200.
3. Vahia NS, Doongaji DR, Jeste DV. Twenty five years of psychiatry in a teaching hospital (in India). *Indian J Psychiatry* 1974;13:253-7.
4. Khanna BC, Wig NN, Verma VK. General hospital psychiatry clinic - An epidemiological study. *Indian J Psychiatry* 1974;16:211-5.
5. Maguire GP, Julier DL, Hawton KE, Bancroft JH. Psychiatric morbidity and referral on two medical wards. *Br Med J* 1974;1:268-70.
6. Cavanaugh S, Von A. The prevalence of emotional and cognitive dysfunction in a general medical population: Using the MMSE, GHQ and BDI. *Gen Hosp Psychiatry* 1983;5:15-24.
7. Levenson JL, Hamer RM, Rossiter LF. Relation of psychopathology in general medical inpatients to use and cost of services. *Am J Psychiatry* 1990;147:1498-503.
8. Sharpe M, Mayou RA, Seagroatt V, Surawcy C, Warwick H, Bulstrode C, *et al.* Why do doctors find some patients difficult to help? *Q J Med* 1994;87:187-93.
9. Frasure-Smith N, Lesperance F, Talajic M. Depression and 18-month prognosis after myocardial infarction. *Circulation* 1995;91:999-1005.
10. Feldman E, Mayou RA, Hawton K, Ardern M, Smith ED. Psychiatric disorder in medical inpatients. *Q J Med* 1987;241:405-12.
11. Bhogale GS, Katta RM, Heble SP, Sinha UK, Patil BA. Psychiatric referrals in Multispecialty Hospital. *Indian J Psychiatry* 2000;42:188-94.
12. Sim K, Rajasoorya C, Sin Fai Lam KN, Chew LS, Chan YH. High prevalence of psychiatric morbidity in a medical intensive care unit. *Singapore Med J* 2001;42:522-5.
13. Powers PS, Cruse CW, Boyd F. Psychiatric status, prevention, and outcome in patients with burns: A prospective study. *J Burn Care Rehabil* 2000;21:85-8.
14. Blumenthal JA, Lett HS, Babyak MA, White W, Smith PK, Mark DB, *et al.* Depression as a risk factor for mortality after coronary artery bypass surgery. *Lancet* 2003;362:604-9.
15. Ruo B, Rumsfeld JS, Hlatky MA, Liu H, Browner WS, Whooley MA. Depressive symptoms and health-related quality of life. *The Heart and Soul Study. JAMA* 2003;290:215-21.

16. Popkin MK, MacKenzie TB, Callies AL. Psychiatric consultation to geriatric medically ill inpatients in a university hospital. *Arch Gen Psychiatry* 1984;6:271-9.
17. Brown A, Cooper AF. The impact of a liaison psychiatry service on patterns of referral in a general hospital. *Br J Psychiatry* 1987;150:83-7.
18. Adeyemi JD, Olonade PO, Amira CO. Attitude to psychiatric referral: A study of primary care physicians. *Niger Postgrad Med J* 2002;9:53-8.
19. Rothenhäusler HB, Ehrentraut S, Kapfhammer HP. Changes in patterns of psychiatric referral in a German general hospital: Results of a comparison of two 1-year surveys 8 years apart. *Gen Hosp Psychiatry* 2001;23:205-14.
20. Venkoba Rao A. Suicide in India. In: *The Consolation of psychiatry-selected writings of Dr. A Venkoba Rao*. In: Parvathi Devi S, Editor. Mumbai: 58th ANCIPS; 2006. p. 206-14.
21. Shapiro PA, Lidagoster L, Glassman AH. Depression and heart disease. *Psychiatr Ann* 1997;27:347-52.
22. Andersen G, Vestergaard K, Riis J, Lauritzen L. Incidence of post stroke depression during the first year in a large unselected stroke population determined using a valid standardized rating scale. *Acta Psychiatr Scand* 1994;90: 190-5.
23. Ampelas JF, Pochard F, Consoli SM. Psychiatric disorders in intensive care units. *Encephale* 2002;28:191-9.

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