Indian J. Psychiat., 1998, 40 (3), 224-230

PSYCHIATRIC PROFILES IN MEDICAL-SURGICAL POPULATIONS : NEED FOR A FOCUSED APPROACH TO CONSULTATION-LIAISON PSYCHIATRY IN DEVELOPING COUNTRIES

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ABSTRACT

Aim : To study the profile of psychiatric disorders in medical-surgical inpatients so that sub-populations with particular mental health care needs could be identified. Findings : a retrospective analysis of 1245 referrals seen over seven years showed that psychiatric profiles in referrals from different sub-populations divided according to age, gender, source of referral and medical-surgical diagnosis, were quite dissimilar. It was felt that non-recognition of specific needs of these client groups had led to low referral rates (0.65%), and to referral practices wherein the needs of the consultee (referral for disturbed behaviour) and the consultant (management by pharmacologic agents) and certain social biases (low referrals for suicide attempts) had taken precedence over the requirements of optimal management of the cases. Implications : Financial and manpower constraints limit the advocacy for a superspecialist orientation, as a policy in India. It is recommended that while continuing with the provision of general consultation services, psychiatrists should acquire expertise in areas of C-L work, which fit in with their area of interest in general psychiatry.

Key words : Medical surgical, sub-populations, consultation-liaison psychiatry, developing countries

Consultation - Liaison (C-L) psychiatry encompasses a broad spectrum of activities. Consultation initiated by the medical specialist provides a tangible and concrete contribution to the diagnosis and treatment. Liaison interaction, whereby the psychiatrist becomes an integral part of a medical -surgical team, helps in the recognition of psychological morbidity at an early stage and in the comprehensive management of the patients on the site. C-L psychiatry also serves a significant training purpose and encompasses research endeavours in clinical issues and mind-body interactions.

C-L psychiatry has been given subspeciality status in the United States. This has led to higher rates of referrals - 2.2% to 12% (Eilenberg, 1965; Maguire et al., 1974; Hackett, 1978; Popkin et al., 1984) in the US than in centres in Britain and Hong Kong (Leung & Lee, 1991). Rates reported from British samples have varied from 0.5% to 2.8% (Bridges et al., 1966; Kearney, 1966; Mcleod & Walton, 1969; Anstee, 1972). This is despite the recognition of C-L psychiatry as a special interest area in these centres (Malhotra & Malhotra, 1984). The rates reported from India are still lower - 0.15% to 1.54% (Parekh et al., 1968; Prabhakaran, 1968; Wig & Shah, 1973; Chaterjee & Kutty, 1977; Jindal & Hemrajani, 1980; Malhotra, 1984). Active C-L programmes

are an exception in the country.

The establishment of General Hospital Psychiatric Units (GHPU) provided an impetus for Indian studies on psychiatric morbidity in medical-surgical inpatients (Parekh et al., 1968; Prabhakaran, 1968; Wig & Shah, 1973; Malhotra, 1984). The above mentioned studies have treated the entire hospital population as a homogeneous entity. Monnelley et al. (1973) and Popkin et al. (1984) have shown that different sub-populations (paediatric and geriatric respectively) of medical-surgical patients have specific psychiatric profiles. These special characteristics will have to be addressed, in planning improved service delivery to the patients. In the present report we highlight how sub-populations differ in regard to the diagnostic break-up of psychiatric disorders, in order to build a case for a focused approach to C-L psychiatry.

Organizational aspects : Nehru Hospital is the super-speciality service counterpart of PGIMER, Chandigarh, a premier teaching institution in the country. The Department of Psychiatry of the Institute provides systematic exposure to C-L work to all its postgraduate trainees. Each resident (the postgraduate trainee) during his/her M.D. training in psychiatry gets a full-time rotational posting for 3 months in the referral services during which he/she attends to all the inpatient referrals under the supervision of consultants. In addition, there are weekly psychosomatic case conferences, in rotation with the departments of Internal Medicine, Neurology, General Surgery and Paediatrics, which are attended by the trainees and the faculty.

MATERIAL AND METHOD

The referrals from the Nehru Hospital were received at a central station of the Psychiatric Referral Services. Each referral was recorded on a separate record sheet. The information obtained was summarized in a referral register under the following headings- age, sex, source of referral, diagnosis of the physical condition, psychiatric diagnosis and management. Psychiatric diagnosis was made according to the ICD-9 descriptions (WHO, 1977). The sample consisted of 1245 consecutive referrals seen over seven years. The information recorded in the referral register was analysed retrospectively. Statistical analysis of the data was done by a non-parametric test, namely the chi-square test.

RESULTS

Referral characteristics : The 1245 referrals constituted 0.65% of the total admissions made to the Nehru hospital during this period. The age distribution was as follows - 8.6% (107 cases) were in the paediatric age group (0-15 years), 63.9% (796 cases) were in the age range of 16-45 years, 18.9% (235 cases) were between 46-60 years of age and 8.6% (107 cases) were in the geriatric age group (above 60 years). Fifty-eight percent (725 cases) of the referrals were for male inpatients and forty-two percent (520 cases) for female inpatients.

Forty-five percent of the referrals were from the medical specialities (Internal Medicine, Dermatology, Cardiology, Gastroenterology, Hepatology, etc.), 14.9% from neurosciences (Neurology and Neurosurgery), 22.1% from surgical specialities (General Surgery, Ophthalmology, Otorhinolaryngology, Orthopaedics, Cardiovascular Thoracic Surgery etc.), 7.5% from Obstetrics and Gynaecology, 5.1% from paediatric specialities (Paediatrics and Paediatric Surgery) and 5.4% from other departments (e.g. Radiotherapy, ICU, Tetanus Unit etc.).

The distribution of referrals under the medical-surgical diagnosis headings - was systemic disorders (58%), infections (10.8%), injury and poisoning (10.2%), metabolic and endocrine disorders (6%), gynaecologic and obstetric conditions (5.5%), neoplasms (5.4%) and nil medical-surgical (4.1%).

Psychiatric assessment and management : The frequency distribution of psychiatric diagnosis was organic psychosis (25.5%), non-organic psychosis (11.2%), neurosis

TABLE 1

ASSOCIATION BETWEEN DEMOGRAPHIC FEATURES AND PSYCHIATRIC DIAGNOSIS

Psychiatric diagnosis (N=1245)	Organic psychosis (N=318)	Non-organic psychosis (N=127)	Neurosis (N=305)	Others (N=284)	No psychiatric illness (N=211)	Chi-square & Probability
Age group*						
00-15 yrs (107) (%)	16 (15.0)	5 (4.7)	22 (20.6)	33 (30.8)	31 (29.0)	X^2=15.21, d.f.=4, p<0.01
16-45 yrs (796) (%)	185 (23.2)	108 (13.6)	191 (24.0)	179 (22.5)	133 (16.7)	X^2=18.14, d.f.=4, p<0.01
46-60 yrs (235) (%)	69 (29.4)	14 (6.0)	66 (28.1)	53 (22.6)	33 (14.1)	X^2=28.03, d.f.=4, p<0.01
60+ yrs (107) (%)	48 (44.9)	0	26 (24.4)	19 (17.8)	14 (13.1)	X^2=33.73, d.f.=4, p<0.01
Gender**						
Male (725) (%)	179 (24.7)	77 (10.6)	156 (21.5)	194 (26.8)	119 (16.4)	X^2=34.44, d.f.=4, p<0.01
Female' (520) (%)	139 (26.7)	50 (9.6)	149 (28.7)	90 (17.3)	92 (17.7)	X^2=33.73, d.f.=4, p<0.01

* Chi-sqaure =67.91, d.f. =12, p<0.01

** Chi-square =19.19 d.f = 4, p<0.01

(24.8%), 'other disorders' (21.5%) and 'nil psychiatric' (17%). Among neurotic disorders, depressive neurosis was the commonest subcategory (14.8% of all referrals), while substance abuse disorders (6.7%) and adjustment reaction (5.8%) contributed significantly to the 'other disorders'. Most of the organic psychosis were of an acute nature.

Majority of patients were managed at the site of origin of the referral. Only 2.1% needed transfer to psychiatric ward facilities. Most were treated by pharmacological methods, drugs alone in 52.1% and drugs with psychotherapy in another 10.9%. Psychotherapy alone was provided for 9% of the referred cases. In 6.2% a recommendation for further investigations or an expert opinion was made, and in 17.4%, no psychiatric treatment was considered necessary. Details of management recommendations were not available for 2.3% of the cases.

Psychiatric profiles in identified subpopulations : The association between age and psychiatric diagnosis was significant (X^2=67.91, d.f. 12, p<0.01) (Table 1). Organic psychosis was common in the geriatric (>60 years) age group. Non-organic psychosis was uncommon in all groups except in the age range of 16-45 years. Common diagnosis in the paediatric age group (0-15 years) were 'other' (30.8%), 'nil psychiatry' (29%) and hysteria (17.5%). Gender was also significantly associated with psychiatric diagnosis (X^2=19.19, d.f. =4, p <0.01). Neurosis was more common among females and 'other' disorders (including psychoactive substance abuse, personality and conduct disorders, adjustment and emotional disorders etc.) among males.

Source of referral had a significant association with psychiatric diagnosis (X^2=81.94, d.f. 20, p <0.01) (Table 2). Organic psychosis was common in referrals from Obstetrics and Gynaecology and neurosis in referrals from

TABLE 2

ASSOCIATION BETWEEN SOURCE OF REFERRAL AND PSYCHIATRIC DIAGNOSIS

Psychiatric diagnosis (N=1245)	Organic psychosis (N=318)	Non-organic psychosis (N=127)	Neurosis (N=305)	Others (N=284)	Nil psychiatry (N=211)	Chi-square & Probability
Source of referral*						
Medical specialities (562) (%)	141 (25.1)	70 (12.5)	134 (23.8)	133 (23.7)	84 (15.0)	X^2=20.81, d.f.=4, p<0.01
Neuroscience disciplines (185) (%)	51 (27.6)	8 (4.3)	63 (34.1)	32 (17.3)	31 (16.8)	X^2=28.57, d.f.=4, p<0.01
Surgical specialities (275) (%)	73 (26.6)	30 (10.9)	68 (24.7)	58 (21.1)	46 (16.7)	X^2=12.14, d.f.=4, p<0.01
Obstetrics & gynaecology (93) (%)	38 (40.9)	12 (12.9)	19 (20.4)	11 (11.8)	13 (14.0)	X^2=21.16, d.f.=4, p<0.01
Paediatric disciplines (63) (%)	7 (11.1)	0	13 (20.0)	26 (40.0)	17 (27.0)	X^2=19.51, d.f.=4, p<0.01
Others (67) (%)	8 (11.9)	7 (10.5)	8 (11.9)	24 (35.8)	20 (20.9)	X^2=9.04, d.f.=4, N.S.

* Chi-sqaure =81.94, d.f.= 20, p<0.01

TABLE 3

ASSOCIATION BETWEEN MEDICO-SURGICAL DIAGNOSIS AND PSYCHIATRIC DIAGNOSIS

Psychiatric diagnosis	Organic psychosis (N=318)	Non-organic psychosis (N=127)	Neurosis (N=305)	Others (N=284)	No psychiatric illness (N=211)	Chi-square & Probability
Medical- surgical diagnosis*						
Infections (135) (%)	46 (34.1)	18 (13.3)	14 (10.4)	40 (29.6)	17 (12.6)	X^2=15.66, d.f.=4, p<0.01
Neoplasms (67) (%)	11 (16.4)	6 (9.0)	20 (29.9)	19 (28.4)	11 (16.4)	X^2=5.57, d.f.=4, N.S.
Metabolic & endocrine disorders (75) (%)	11 (14.7)	4 (5.3)	32 (42.7)	14 (18.7)	14 (18.7)	X^2=13.20, d.f.=4, p<0.05
Systemic diseases (722) (%)	202 (28.0)	50 (6.9)	196 (27.2)	159 (22.0)	115 (15.9)	X^2=67.28, d.f.=4, p<0.01
Obstetric & gynaecological conditions (68) (%)	27 (39.7)	12 (17.7)	3 (4.4)	14 (20.6)	12 (17.7)	X^2=11.10, d.f.=4, p<0.01
Injuries and poisoning (127) (%)	21 (16.5)	32 (25.2)	22 (17.3)	32 (25.2)	20 (15.8)	X^2=2.62, d.f.=4, N.S.
No medico-surgical diagnosis (51) (%)	0	5 (9.8)	18 (35.2)	6 (11.8)	22 (43.1)	X^2=19.55, d.f.=4, p<0.01

* Chi-sqaure =144.78, d.f.= 24, p<0.01

Neuroscience disciplines. A significant proportion of the 'neurosis' subgroup in referrals from neuro-science was composed of cases with hysteria.

Medical-surgical diagnosis was associated with psychiatric diagnosis (X^2=144.48, d.f. 24, p<0.01) (Table 3). Organic psychosis was frequently diagnosed in those with infective and obstetric and gynaecologic conditions. Neurotic disorders were common among referrals with a primary diagnosis of metabolic and endocrine disorders and in those with no medical-surgical diagnosis. They were infrequently diagnosed in the referrals related to obstetric and gynaecologic problems. Among those not assigned any medical-surgical diagnosis, 43.1% did not receive any psychiatric diagnosis.

DISCUSSION

The rate of referral in the present study was 0.65%, which is in the midrange of referral rates reported from India. It is actually a drop from rates reported in previous studies from this centre - 1.15% (Wig & Shah, 1973) and 1.48% (Malhotra, 1984). The low rates of referral in this study as in other Indian studies is probably due to an exclusive reliance on a consultation centred approach. When medical-surgical inpatients were screened for psychiatric disorders in a hospital in North-western India, the detection rate of psychiatric disorders jumped from 2% to 31% (Sachdeva et al., 1986).

Consultation (in contrast to liaison) centred approach is also reflected in the psychiatric profile of the referred cases. Organic psychosis (25.5% in the present study) continues to be the commonest diagnosis amongst referred inpatients in most Indian studies (Parekh et al., 1968; Prabhakaran, 1968; Wig & Shah, 1973; Chaterjee & Kutty, 1977; Jindal & Hemrajani, 1980; Malhotra, 1984), the rates in India - 19.3% to 41.6% being higher than in the west - 5% to 22.2% (Eilenberg, 1965; Bridges et al., 1966; Kearney, 1966; Anstee, 1972; Popkin et al., 1984). Though organic psychosis were common in referrals with infectious diseases, the rate of referral for infectious illnesses reported in Indian studies- 5.7% to 10.8% (Malhotra, 1984 and in the present report) were similar to those reported in the west - 4.7% and 12.6% (Maguire et al., 1974; Popkin et al., 1984). A possible reason for the lower proportion of organic psychosis in western reports could be that western physicians (who perhaps have a greater liaison exposure) are more comfortable with the management of delirium (Popkin et al., 1984), while disturbed behaviour leads to referral in India (Parekh et al., 1968; Prabhakaran, 1968; Malhotra & Malhotra, 1984).

Similarly, differences in referral practices like routine referral for suicide attempts in the West, has resulted in higher rates of depression and neurosis reported from centres there. Referrals for suicide attempts form a high proportion of referrals in western samples- 43% to 59% (Eilenberg, 1965; Kearney, 1966; Popkin et al., 1984). The proportion in Indian samples has ranged from 2% to 4.5% (Prabhakaran, 1968; Chatterjee & Kutty, 1977). The rate for neurotic disorders in the reports by Bridges et al. (1966) jumped from 20.3% for subjects who had not made a suicide attempt to 34.3% in those who had. It may be mentioned that the rate of 20.3% for neurotic disorders in subjects who had not attempted suicide, is comparable to our figures - 24.5%.

Another cause of our dissatisfaction with the current C-L practices is our exclusive reliance on pharmacotherapy. Even in neurotic and adjustment disorders, half of our subjects were treated by drugs alone. The exclusive usage of this modality is limited in the West. A representative figure was 32.2% (Popkin et al., 1984), as against 52.1% in our sample. Formats for medical psychotherapy as advocated by authors like Green (1993) have not been developed in India.

Need for a focused approach : The geriatric age group is characterized by the high prevalence of organic psychosis (45%) while the paediatric age group had high frequencies of hysteria (17.5%), other disorders (30.8%) and

no psychiatric diagnosis (29%). The profiles are similar to that reported in the geriatric (Popkin et al., 1984) and the paediatric (Monnelley et al., 1973) age groups elsewhere. It appears that specific expertise would be required to handle referrals in these age ranges.

The rates of referral from neurosciences disciplines (14.9%) at our centre are in midway between Indian figures - 6.7% (Jindal & Hemrajani, 1980) and Western figures - 26.2% (Popkin et al., 1984). Referrals from neuroscience disciplines had high rates of neurosis, with hysteria as the commonest diagnosis among the neurotic subgroup in this subpopulation. Recognition of the specific needs of these disciplines has been partially achieved at this centre through liaison interaction in the form of 'Neurology Psychosomatic Conferences'. This may explain the higher rates of referral in comparison to other Indian samples.

A focus on referrals from Obstetrics and Gynaecology would help in the unravelling of the cause behind the high rates of organic psychosis in conditions specific to this speciality. The fact that most cases of organic psychosis occur in the post partum period indicates that practitioners in the third world cannot assume that psychosis in the post partum period would be mostly comprised of affective disorders.

The association between neurosis and endocrinological and metabolic disorders is understandable in the light of their chronicity and the distress and disfigurement they engender. Hormonal and biochemical changes could also directly affect the mood state. A focus on speciality clinics dealing with particular medical-surgical conditions would thus seem warranted in specific situations.

Finally while those with no medical-surgical diagnosis are understandably referred to Psychiatry, not all can be given a psychiatric diagnosis (43.1%). How this specific subgroup with no diagnosis whatsoever, finds admission to a centre where waiting-line for admission is long; is a question that has also intrigued earlier authors (Wig & Shah, 1973; Malhotra & Malhotra, 1984; Malhotra, 1984). In the present structure, however we have not been able to zoom-in into their peculiarities and needs.

Translating a generalist orientation to meet specific needs of sub-populations : The way out could be an integration of the recognition of these specific needs of medical-surgical sub-populations, with the general interest and work of the practising psychiatrists. Most psychiatrists in India while carrying out general duties have areas of special interests like child psychiatry, organic psychiatry and treatment of psychotic disorders, neurotic disorders, drug dependence etc. A person with an interest in organic psychiatry could 'adopt the referrals from the geriatric age group and from Obstetrics and Gynaecology, another with an interest in neurotic disorders could develop specific expertise with referrals from Endocrinology and Oncology clinics. Child psychiatrists would be called upon to meet the needs of the paediatric age group. Additionally, each psychiatrist would continue to see general referrals.

Such an approach also identifies a psychiatrist to be approached by the concerned medical-surgical team, from which we envisage the outgrowth of liaison work-teaching screening and research. In short we are advocating a concept of 'fluid' as against regimented specialization. If an example be permitted, we have borrowed from the concept of 'total football' with fluid shift of positions, as against a 'fixed field' orientation.

REFERENCES

Anstee, H.H. (1972) The pattern of psychiatric referral in a general hospital. *British Journal of Psychiatry*, 120, 631-634.

Bridges, P.K., Koller, K.M. & Wheeler, T.K. (1966) Psychiatric referral in a general hospital. *Acta Psychiatrica Scandinavica*, 42, 171-182.

Chatterjee, S.B. & Kutty, P.R. (1977) A study of psychiatric referrals in Military practice in India. *Indian Journal of Psychiatry*, 19, 32-38.

Ellenberg, M.D. (1965) Survey of inpatients

referrals to an American Psychiatric Department. *British Journal of Psychiatry*, 111, 1211-1214.

Green, S.A. (1993) Principles of medical psychotherapy, In : *Psychiatric Care of the Medical Inpatients*, (Eds.) Stoudemire, A. & Fogel, B.S., pp 3-18, New York : Oxford University Press.

Hackett, T.P. (1978) Beginnings : Liaison Psychiatry in a general hospital, In : *Handbook of General Hospital Psychiatry*, (Eds.) Hackett, T.P., Cassem, pp 1-16., N.H., St. Louis : Mosby.

Jindal, R.C. & Hemrajani, D.K. (1980) A study of psychiatric referrals in a general hospital. *Indian Journal of Psychiatry*, 22, 108-110.

Kearney, T.R. (1966) Psychiatric consultations in a general hospital. *British Journal of Psychiatry*, 112, 1237-1240.

Leung, C.M. & Lee, S. (1991) Consultation - Liaison Psychiatry at The Prince of Wales Hospital-A New Look. *Journal of Hong Kong College of Psychiatrists*, 1, 57-60.

Maguire, G.P., Julier, D.L., Hawton, K.E. & Bancroft, J.H.J. (1974) Psychiatric morbidity and referral on two general medical wards. *British Medical Journal*, 1, 268-270.

Malhotra, S. (1984) Liaison Psychiatry in general hospital. *Indian Journal of Psychiatry*, 26, 264-273.

Malhotra, S. & Malhotra, A. (1984) Liaison Psychiatry in an Indian general hospital. *General Hospital Psychiatry*, 6, 266-270.

McLeod, J.G. & Walton, H.J. (1969) Liaison between physicians and psychiatrists in a teaching hospital. *Lancet*, 2, 789-792.

Monnelley, E.P., Lanzito, B.M. & Stewart, M.A. (1973) Psychiatric consultations in a children's hospital. *American Journal of Psychiatry*, 130, 789-790.

Parekh, H.C., Deshmukh, D.K., Bagadia, V.N. & Vahia, N.A. (1968) Analysis of indoor psychiatric referrals in a general hospital. *Indian Journal of Psychiatry*, 10, 81-83.

Popkin, M.K. Mackenzie, T.B. & Callies, A.L. (1984) Psychiatric consultations to geriatric medically ill inpatients in a university hospital. *Archives of General Psychiatry*, 41, 703-707.

Prabhakaran, N. (1968) Inpatient psychiatric referrals in a general hospital. *Indian Journal of Psychiatry*, 10, 73-77.

Sachdeva, J.S., Shergill, C.S. & Sidhu, B.S. (1986) Prevalence of psychiatric morbidity among medical inpatients. *Indian Journal of Psychiatry*, 28, 293-296.

Wig, N.N. & Shah, D.K. (1973) Psychiatric unit in a general hospital in India : patterns of inpatient referrals. *Journal of Indian Medical Association*, 60, 83-86.

WHO (1977) International Classification of Diseases, Edn. 9, Geneva : WHO.

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