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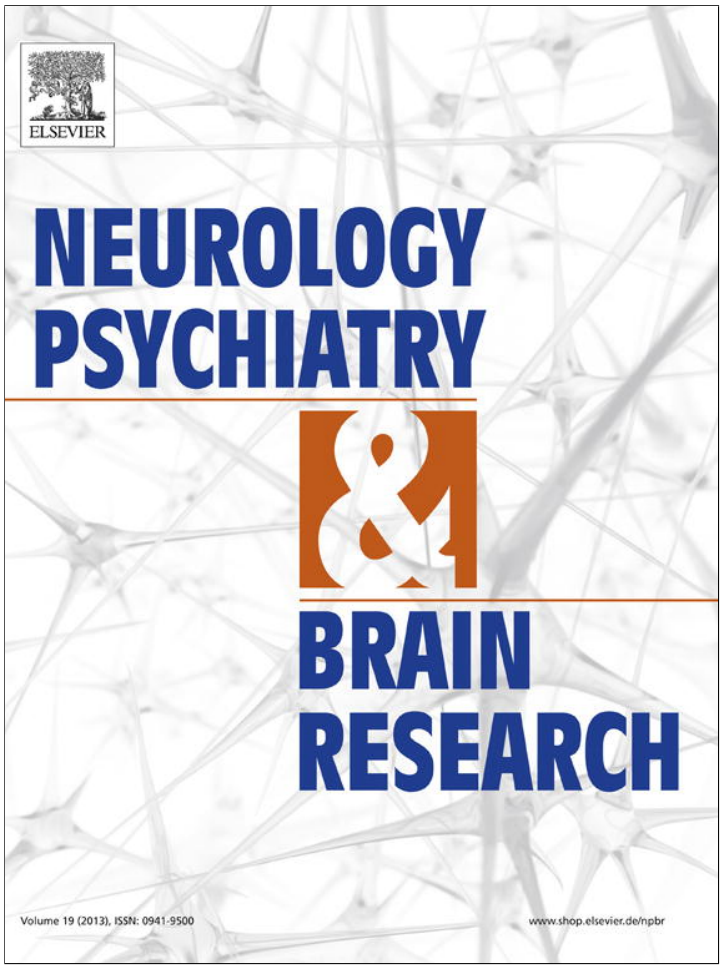

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Common but unexplored psychiatric morbidity among referred indoor patients: A Liaison study in India

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ABSTRACT

The background of this investigation is the global occurrences of the large number of unexplored cases of psychiatric morbidity among referred indoor patients from non-psychiatric clinical domain. Present Consultation-Liaison (C-L) study explore the prevalence of disorders in mental-health and its relation to different psychosocial and demographic factors among referred patients from general medicine, chest medicine and cardiology departments of a Medical College, India. Here, 102 patients (13–75 years) were assessed and diagnosed by clinical interview utilizing Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria, Glasgow Coma Scale, Mini Mental State Examination. After initial assessment of inconsistent behaviors, depression, delirium in referring ward, patients were evaluated in the psychiatric outpatient department by Thematic Apperception Test, Rorschach Ink Blot Test and Raven's Standard Progressive Matrices. The SPSS for Windows statistical software package (SPSS) was used for descriptive statistics. Group comparison and their interrelations were drawn by percentage calculations and Chi-square analysis. The present finding reveals that both sexes are equally affected whereas, age-wise, 16–45 years of either gender and >55 years of male are affected more. The 75% patients of total referrals are urban dwellers. The patients in <16 years group of rural and >55 years of urban are affected more. Marital statuses manifest differential prevalence of this disorder in the participants. The male has higher cognitive whereas the female has a higher mood disorder. Materialistic life, psychosocial maladjustment, inadequate benefits and diagnostic uncertainty strongly correlate with the present findings and highlight the occurrence of psychiatric cases from the non-psychiatric clinical domain.

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1. Introduction

The Consultation-Liaison (C-L) psychiatry has been reported and studied in Europe, South East Asia and several other parts of the world.[1–4] Studies in this field are aimed to assess and manages the acute or emergency presentation of psychiatric morbidity including depression and suicidal incidence in the general medical settings.[5–7] A growing body of evidences indicates that there is an association between physical illness and psychiatric disorder.[5,8,9] Several reports reveal that Consultation-Liaison psychiatry has also been practiced in several parts of the world especially in the western world.[10–12] The demographic and clinical characteristics of referrals to Liaison psychiatry have been studied in different countries and diagnostic services have been provided accordingly.[13] In a consultation practice in general hospital settings; the psychiatrist offers recommendations to patients who are referred to him by other physicians, surgeons, and gynecologists. Reports reveal that the prevalence of mental-illness in chronically physically-ill patient is more than 40 percent, particularly with the criterion of lifetime substance abuse, depression and mood/anxiety related disorders.[14] The importance of the present study has been shown in several investigations in India and other countries.[8,9,15] In spite of a higher prevalence of C-L Psychiatric morbidities in India, the overall referral rate is only 1.48%.[16]

In this background, the present study is undertaken to assess the incidence of mental disorder of psychiatric referrals from general medicine, chest medicine and cardiology departments. In addition, correlations have been drawn between rural and urban incidence taking into account the other possible socio-demographic determinants. Our study is absolutely important to address the high occurrence of psychiatric symptoms from non-psychiatric domain. Furthermore, a brief discussion and critical analysis have been made on several psycho-social risk factors which can influence the psychological makeup of individuals, large group of the masses and as a whole total community.

2. Patients and methods

2.1. Study population and sampling

The present study was conducted at Medical College, 88 College Street, Kolkata-73, which is one of the most ancient medical teaching institution in South East Asia. One hundred and two consecutive cases referred as new cases during 12 months period (1.1.2008–31.12.2008) from general medicine (GM), chest medicine (CHM) and cardiology departments (CAM) was considered as the study population. The inclusion criteria were (1) `new cases' referred for the first time from medicine allied indoors for psychiatric consultation and (2) age range of the subjects were between 13 and 75 years.

2.2. Psychiatric evaluations

A structured clinical interview was employed to study the case history and examine the indoor patients. The Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision [DSM-IV] criteria,[8,17] Glasgow Coma Scale,[14,18–22] Mini Mental State Examination [MMSE][14,23,24] were used for initial diagnosis of mood disorder in their referring ward. Next assessment was done in the psychiatric outpatient department. Interviews and serial clinical observations are the tool for diagnosis by a C-L psychiatrist. Rorschach Ink Blot Test,[14,25,26] Thematic Apperception Test,[14,27] Raven's Standard Progressive Matrices Tests[14,28,29] were employed to corroborate the clinical diagnosis. Thus, the collected data were utilized for statistical evaluations.

2.3. Ethical concerns

All protocols for the present investigation have been approved by a suitably constituted Ethics Committee of the institution within which the work is undertaken. The consent of the subject and clinical diagnosis chart is collected and prepared. Patient's anonymity is preserved in the investigation.

2.4. Statistical analysis

Data processing and statistical analyses were done using the SPSS for Windows statistical software package (SPSS Inc., Chicago, IL, USA, 2001). Descriptive statistics were used for all the variables studied. Percentage calculation, group-wise distribution pattern was evaluated. The Chi-square test was done to assess the level of interaction between two groups and their level of significance

3. Results

3.1. Number of admission in and referral from different departments

A total number of admissions of patients in different departments are presented in Table 1. A large number of referrals are attributed mainly from the general medicine and chest medicine departments.

Table 1 – Number of admission in and referral from different departments.

Referring disciplines of medicine	General medicine (GM)	Cardiology medicine (CAM)	Chest medicine (CHM)	Total
Total number of patients admitted	9732	2275	643	13,050
Total number of patients referred to psychiatry	88	8	6	102
Percentage of referrals	0.90	0.35	0.93	0.78

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Table 2 – Relationship between ages vs sex wise distributions of patients.

Sex	Age in years							Total
	<16	16–25	26–35	36–45	46–55	56–65	66–75	
Male	4 (7.69)	15 (28.85)	12 (23.08)	5 (9.61)	5 (9.61)	4 (7.69)	7 (13.46)	52 (100)
Female	3 (6.0)	18 (36.0)	7 (14.0)	12 (24.0)	5 (10.0)	4 (8.0)	1 (2.0)	50 (100)
Total	7 (6.86)	33 (32.35)	19 (18.63)	17 (16.67)	10 (9.80)	8 (7.84)	8 (7.84)	102 (100)

$\chi^2 = 9.078$, df = 6, $p > 0.05$. Data in parenthesis denote percentage.

Table 3 – Distribution of patients according to sex and place of residence.

Sex	Urban	Rural	Total
Male	41 (78.85)	11 (21.15)	52 (100)
Female	35 (70)	15 (30)	50 (100)
Total	76 (74.51)	26 (25.49)	102 (100)

$\chi^2 = 1.05$, df = 1, $p > 0.05$. Data in parenthesis denote percentage.

Table 5 – Distribution of patients according to marital status.

Marital status	No. of patients	Parentage
Single (unmarried)	34	33.33
Married	62	60.78
Widowed	06	05.89
Total	102	100.00

$\chi^2 = 46.02$, df = 2, $p < 0.01$.

3.2. *Age vs sex wise distributions of patients*

Table 2 shows the distributions of total number of patients (N = 102) into two sex groups that are found to be similar. The age-wise distribution, however, shows that more than two-third (67.65%) belongs to age range (16–45) years. The percentage of the patients in the age group of less than 16 years is only 6.86%, while it is 25.48% of the patients aged above 45 years. The percentage of patients both male and female groups are found to be maximum in the age ranging from 16 to 45 year with 75% and 61.54% male and female, respectively. The sex wise distribution of other age groups more or less similar except the patients aged above 65 years, in which the percentage of male groups are 13.46% as compared to 2.0% for the female group. The obtained χ^2 value of 9.078 with df = 6 is not found to be significant ($p > 0.05$).

3.3. *Residence vs sex wise distributions of patients*

Table 3 shows that the place of residence i.e., the area to which the patients belong, includes both urban and rural areas. It is found that almost three-fourth of the total sample (74.51%) belong to urban areas. The distribution of patients according to place of residence with respect to gender also shows more or less the similar trend of rural urban distribution pattern.

3.4. *Residence vs age wise distributions of patients*

Table 4 shows that the percentage of rural patients of <16 years group are higher and opposite incidence is noticed 26–35 years urban group. Interestingly, there is no rural patient in >55 year groups in the present sample, while more than 20% of the urban patients belong to these groups.

3.5. *Distribution of patients according to marital status*

From Table 5 it is evident that more than 60% of the referrals are married, while 33.33% are unmarried and 5.89% are widowed patient. The frequencies for different marital status of the patients analyzed using chi-square test (χ^2 of 46.02 with df = 2) which is found to be highly significant ($p < 0.01$).

3.6. *Distribution of patients according to reasons for referral*

Table 6 shows the distribution of patients according to reason for referral as stated by different referring departments of medicine. There is no referral from CAM & CHM with suicidal attempt and diagnostic uncertainty. The chi-square (χ^2) value of 11.60 with df = 3 is found to be significant ($p < 0.01$) level. The χ^2 as computed here is based on a 2 × 4 contingency table,

Table 4 – Distribution of patients according to age and place of residence.

Residence	Age in years							Total
	<16	16–25	26–35	36–45	46–55	56–65	66–75	
Urban	2 (2.63)	23 (30.26)	17 (22.37)	12 (15.79)	6 (7.89)	8 (10.53)	8 (10.53)	76 (100)
Rural	5 (19.23)	10 (38.46)	02 (7.69)	05 (19.23)	4 (15.39)	0 (0.00)	0 (0.00)	26 (100)
Total	7 (6.87)	33 (32.35)	19 (18.63)	17 (16.67)	10 (9.80)	8 (7.84)	8 (7.84)	102 (100)

$\chi^2 = 17.14$, df = 6, $p < 0.01$. Data in parenthesis denote percentage.

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Table 6 – Distribution of patients according to reasons for referral by different referring departments.

Referring departments	Reasons for referral				
	Inconsistent behavior	Diagnostic uncertainty	Depression	Attempted suicide	Total
General medicine	34 (38.64)	18 (20.45)	13 (14.77)	23 (26.14)	88
Cardiology medicine	5 (62.5)	0 (0.00)	3 (37.5)	0 (0.00)	8
Chest medicine	6 (100)	0 (0.00)	0 (0.00)	0 (0.00)	6
Total	45 (44.11)	18 (17.65)	16 (15.69)	23 (22.55)	102

$\chi^2 = 11.60$, df = 3, $p < 0.01$. Data in parenthesis denote percentage.

in which 2 referring departments (CAM & CHM) are pooled together. The highly significant χ^2 indicates that GM department differs significantly from CAM and CHM taken together with respect to reason for referral to psychiatry.

3.7. *Distribution of patients into diagnostic categories according to DSM-IV criteria*

Table 7 shows the classification of the total number of referred patients irrespective of referring departments, into 10 different categories of psychiatric disorders based on DSM-IV diagnostic criteria. It is revealed that out of the total number of patients 27.46% are found to suffer from delirium due to general medical condition. Patients in this category constitute the highest percentage of referrals. Then the next category is a mood disorder (23.53%).

3.8. *Sex wise distribution of patients according to psychiatric diagnoses*

Table 8 represents the numbers and percentages of referring patients in each of the diagnostic categories for two sex groups separately. It is shown that the highest percentage of male patients belong to cognitive disorder (32.7%), while for the female patients it is the highest for mood disorder and other category (28%). Interestingly, the patients belonging to the category `mood disorders and others' are distributed among all the age samples except <16 years and highest (34.62%) in 36–45 years group.

Table 7 – Distribution of the total number of referred patients into different diagnostic categories of psychiatric disorders according to DSM-IV criteria.

Diagnostic category	No. of patients	Percentage
Delirium due to general medical condition	28	27.46
Vascular dementia	2	1.96
Substance-related disorders	8	7.84
Schizophrenia	8	7.84
Other psychotic disorders	11	10.78
Mood disorders	24	23.53
Anxiety disorders	1	0.98
Adjustment disorders	1	0.98
Somatoform disorder	10	9.81
Other categories	9	8.82
Total	102	100

4. Discussion

Considering the percentage wise referrals in psychiatry from the total number of admissions in three departments it is found that the general medicine (0.90%) and chest medicine (0.93%) have the higher contribution. This trend is comparable with various studies such as Parekh and Deshmukh,[30] Malhotra[9] and Wig and Shah.[31] The present findings on the sex dependant distribution of patients indicate that two variables viz., age and sex are independent and either sex of adolescent and only male of post adolescent age is predominantly affected.[32,33] The early age-related mental maturation in female is reported.[34] And, promotion of physiological, hormonal changes in the menopausal age and the process of adaptation influence the behavioral pattern of woman resulting in depression and anxiety.[35]

The more patients (68%) as noticed in the present investigation are of <45 years. An average life expectancy is 64.9 in West Bengal state where the investigation has been conducted.[36] Some reports from Western countries reveal that co-morbid patients with psychiatric disorders are older in ages.[37] Few reports refer that younger are also sensitive especially in some socio-demographic settings in South East Asia.[38] In this context it can be mentioned that hospitals in big metropolitan cities are most of the time over-crowded with patients from cities, neighboring semi-urban areas and from rural areas also. In these socioeconomic settings, the average achievable ages for family and professionally secured establishment have been delayed. Serious diseases of this early adulthood period make the situation more unstable. At older ages, the mindset is probably more matured for the realization of the occurrence of the age related diseases like diabetes, cardiac disorder, several metabolic diseases and even malignancies. Diagnostic uncertainty, insufficiencies, serious diseases like cancer or cerebral/cardio-vascular disorder, diabetes and other disabilities in younger ages make the patients psychologically more unfit.

Higher psychiatric morbidity in urban patients (74.51%) has been reported earlier.[39] Patients of both the sex together from urban being ~3 fold and only male from urban being ~3.9 fold higher sensitive than their respective rural counterpart.[40] The urban area is constituted mainly metropolitan cities and those hospitals receive both urban and rural patients but rural hospitals hardly receive urban patients. The present participants are all referred from nonpsychiatry discipline. Here, urban dwellers are found to be more sensitive.[40,41]

The patients in <16 year group of rural are affected more (Table 4) and it may be mentioned that unhygienic life style,

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Table 8 – Sex-wise distribution of total number of referred patients according to psychiatric diagnoses.

Sex	Psychiatric diagnoses						Total
	Cognitive disorder	Substance-related disorder	Schizophrenia and others	Mood disorders and others	Somatoform disorder	Others	
Male	17 (32.7)	7 (13.46)	10 (19.23)	12 (23.07)	2 (3.85)	4 (7.69)	52 (100)
Female	13 (26)	1 (2)	9 (18)	14 (28)	8 (16)	5 (10)	50 (100)
Total	30 (29.42)	8 (7.84)	19 (18.63)	26 (25.49)	10 (9.80)	9 (8.82)	102 (100)

$\chi^2 = 8.92$, df = 5, $p > 0.05$. Data in parenthesis denote percentage.

inadequate nutritious diet and health care beneficiaries could be the possible causes. Different disease conditions like malaria, diarrhea, gastro-enteric diseases, filariasis and several other infections are predominant in these areas of tropical countries. In addition, young girls are affected with bacterial vaginosis, dysmenorrheal symptoms. Low socioeconomic status, lack of health awareness, unhygienic lifestyle and sanitation increase the risk for these diseases mainly in children. Persistence of the disease or frequent relapse makes them susceptible to some psychiatric manifestations. Altogether, the stressful condition has adverse effects on children's physical as well as mental health.[42–45] In addition, possible adverse effects of unplanned urbanization, inadequate exhaust management and pollution affect more to the older urban patients.[46] The important finding is that the older age groups are more affected in urban areas. Though, benefit and facilities are adequate in urban areas but their proper utilization in the sensitive manner may be inadequate.[47] As a result, the society structure changes and stem out the crisis to take the accountability, responsibility and care of the older persons.[48]

In the present investigation, all the patients are referred so they all have at least one nonpsychiatric disease condition. The marital status is an influencing factor to psychiatric condition and it may be due to the psycho-social maladjustment and relationship/family associated crisis. The same trend has also been reported by the researcher.[49] When the reasons for referrals were analyzed, the highest percentage of patients (44.11%) is found to be referred for obvious inconsistent behaviors. Next reasons are 22.55% for `attempted suicides', 17.65% for diagnostic uncertainty and 15.69% for depression. In this regard other report is also available.[13] The reasons for referral vary in various general hospital setups and environmental/occupational stressful conditions.

In the study of Neehall and Beharry,[50] it was noticed that the most common psychiatric diagnosis were; adjustment reaction 41%, depression 23%, alcohol dependence 5%. In general, women have significantly higher rates than men particularly to manifest depression and anxiety disorders.[9] These differences in the findings could be explained on the basis of geographical situation, sample selection, sociocultural background and mainly prevailing and increasing stress factors associated with depression in the modern society.

When the psychiatric diagnosis was analyzed according to sex group, it was found that the cognitive disorders, substance related disorders were considerably common in male patients and the mood disorders and somatoform disorders were common in female. The major depressive disorder is diagnosed above two times as common in women than in men.[51] The reason may be that the women face multiple factors such as childbirth, hormonal disturbances and various psychosocial stresses, both in the low and high socioeconomic groups. Moreover, female dominating mood and somatoform related disorder constitutes ~33% of patients which is more than that of male dominating delirium associated condition. The scanty information is available in developing countries regarding this finding. Based on DSM-IV criteria, delirium and mood disorder are the predominant categories (27.46% and 23.53%, respectively, Table 7). And based on psychiatric diagnostic criterion a similar pattern of patient distribution has been observed also. The portion of cognitive disordered patients was 30%. A report suggests the different proportion of patients of referrals for CL psychiatry diagnosis.[13]

In summary, male has higher cognitive whereas the female has a higher mood disorder. Materialistic life, psychosocial maladjustment, inadequate benefits, diagnostic uncertainty relates to the present findings. Few shortcomings of this study could be that the sample was rather small and the intra-individual variability due to sociodemographic differences is also accountable. This is also contextual to mention that the applicability, reproducibility and intra-interpreter rating/assessment outcome are defined within a certain limit. And these features are present to varying degrees in the application of different rating procedures. The GCS procedure has been utilized in several investigations.[18–22] To evaluate the baseline cognitive impairment, Mini-mental state examination also has present implication.[23,24] Similarly, Rohrschach Ink Blot Test, Thematic Apperception Test are also extensively used in some diagnostic settings.[25–27] Detailed knowledge of these scales' strength and limitations is essential in order to assure its proper use. And a uniform scoring assessment is a prerequisite. Apart from the procedures utilized in the present investigation, the Hamilton Depression Rating Scale, the Beck Depression Inventory (BDI, BDI-II), Montgomery-A³sberg Depression Rating Scale (MADRS), and, in the elderly, the Direct and Indirect Aggression Scales (DIAS) also could have been extra informative. Detail longitudinal investigations are required further to conclude the possible association of different factors. The present study is absolutely important for unveiling the unreported and unexplored possible psychiatric cases from non-psychiatric clinical domain.

Conflict of interests

None.

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