



Psychiatric Disorders Comorbidity in Two General Medical Hospitals in Iran Between 2014 - 2015

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Abstract

Background: Although there is a high prevalence of psychiatric comorbidities in patients in general medical hospitals, they have remained undiagnosed in some cases.

Objectives: This study was conducted to determine the psychiatric disorders comorbidity of patients in two general medical hospitals in Iran.

Methods: This cross-sectional descriptive study was conducted in Imam Khomeini and Bu Ali Sina general university hospitals, in Sari, Northern Iran, and included 1,688 patients from different wards of these hospitals. Data were collected via a demographic questionnaire.

Results: With regard to frequency distribution, according to age group and gender, the most consultations (393; 23.3%) were in the 20 - 29 year's age group and 935 (55.4 %) cases were female. The highest number of consultation cases had been referred from the emergency wards (34%), followed by the neurosurgery (14.2%) and internal medicine wards (14.2%). Psychological assessment was the most common reason for requesting a consultation (26.8 %). In addition, the results indicated that mood disorder (22.3%) was the most prevalent psychiatric diagnosis.

Conclusions: In order to improve the trend of psychiatric diagnosis in general hospitals, psychiatric liaison staff should be trained in multiple consulting roles, and must improve their skills in addressing inpatient and outpatient treatment. Moreover, other non-psychiatric physicians should increase their knowledge of attitude toward and psychosocial aspects of medical disorders.

Keywords: Consultation-Liaison Psychiatry, General Hospital, Psychiatric Consultation, Psychiatric Disorders

1. Background

The high prevalence of psychiatric comorbidities in medical patients in general hospitals is a huge worldwide problem (1, 2). However, a large proportion of these comorbidities remain undetected and underdiagnosed (3, 4). One study suggested that there are two major reasons for this: The situation in which medical staff work and their fears of rejection with regard to enquiries of patient's psychological responses to disease (5). The majority of the studies have shown that a large proportion of patients with somatic diseases simultaneously suffer from psychiatric disorders that slows down the improvement of both diseases (6-9). The pathways that lead to comorbidity of mental and medical disorders are complex and two-way (10). The simultaneous existence of mental and med-

ical conditions leads to increased symptom burden, functional impairment, reduced patient quality of life and increased illness costs, a lack of response to treatment (9, 11), a higher number of medical readmissions, increased hospital length of stay (8, 12, 13), and increased mortality rates (7).

A previous study has reported that a third of patients who had a psychiatric consultation were assessed as having no need for any particular psychiatric services. This indicates that these patients were wrongly referred to psychiatric services because of an incorrect diagnosis by their referring physician (6). Several studies have shown that only a small proportion of inpatients with psychiatric comorbidities are referred to psychiatric services, such as psychiatric consultation or psychiatric wards (5, 14). According to an epidemiological study that used standardized in-

struments for diagnosis, the prevalence of psychiatric disorders in inpatients in a general medical setting ranges from 41.3% to 46.5% (15). Depression was the most common psychiatric disorder in all groups of organic disease in numerous studies, accounting for 23% -37% of all psychiatric diagnoses (4, 16, 17). Anxiety neurosis (18.6%) as well as drug abuse and dependence (13.8%) were the next most frequently observed psychiatric disorders (16, 18). However, other studies observed that mood disorders, adjustment, and cognitive disorders were the major diagnoses that consultants encountered in consultation-liaison services (13). There has been considerable development in general hospitals and medical setting psychiatry, with a steady increase in the use of health services for the treatment of psychiatric disorders (19). The organizational basis for psychiatric consultation in a general setting is the consultation, or liaison, service (13, 20-22).

Over the past two decades, psychiatric research has shown that consultation-liaison psychiatry (CLP) is used as a bio-psychosocial holistic approach (23) to evaluate, treat, and manage a variety of psychiatric disorders in patients who have been admitted to a general hospital (24). The availability of facilities for consultation-liaison services varies significantly from one country to another (17, 24). The role of psychiatrists in the general hospital and general medical setting has attracted increasing attention in the past decade (21). It is apparent that a CLP service has multiple particular functions (2, 22), for example, performing psychiatric consultations at the request of medical physicians (25), holding a patient in the emergency ward, involuntary hospitalization of patients, assessment of patients who have attempted suicide or homicide or who have suicidal or homicidal ideation (21), and identification as well as use of appropriate management of mental conditions (18). The CLP approach results in a variety of benefits (4), such as a reduction in the cost of medical care (26), significantly reduced morbidity and mortality rates, increased case identification, and earlier psychiatric intervention. Finally, it leads to a remarkable decrease in the need to transfer patients to psychiatric facilities (8).

Psychiatric consultation is usually requested for the following reasons: Concern with regard to a patient's diagnosis or patient difficulty in coping with the disorder diagnosed (27), to assist in making a differential diagnosis between organic and psychical pathologies (21), continuation of a patient's complaints or problems, assessment of patients with suicidal or homicidal ideation or a history of previous suicide attempts (28), evaluation of patients with a first diagnosis of a psychiatric disorder, a previous psychiatric history, or who are using psychotropic medications (8), examination of a patient who wishes to die, a patient in an emergency situation (8), evaluation of a patient

with known or suspected substance and drug abuse (2), and in cases involving refusal of operation, medication, or treatment (28). The frequency of psychiatric morbidities in non-psychiatric wards in a general setting remains unconfirmed (29). Although the patterns of psychiatric consultations conducted by CLP in Iran have been studied, studies had limited sample sizes and they assess consultation only for several months rather than for a year (9, 11, 24). Therefore, the present study aimed to determine the psychiatric disorders comorbidity of patients in two general medical hospitals in Sari, Mazandaran, Northern Iran, in 2014 - 2015.

2. Objectives

This study was conducted to determine the psychiatric disorders comorbidity of patients in two general medical hospitals in Iran.

3. Materials and Methods

3.1. Procedures

This cross-sectional, descriptive study was conducted in 2014 - 2015 in Imam Khomeini and Bu Ali Sina general hospitals, which are located in Sari, Northern Iran. The participants were 1,688 patients on different wards (emergency, oncology, gynecology, urology, orthopedics, intensive care unit, internal medicine ward, and neurosurgical) of these hospitals, who had been referred for psychiatric consultation. There were 32,474 admissions to Imam Khomeini and Bu Ali Sina hospitals between April 2014 and March 2015, with the psychiatric consultation rate being 4.06% among all admissions. Consultations were carried out by senior residents, who were either accompanied by their professors or under their supervision. Cases were selected via easy sampling. Inclusion criteria were all patients admitted to the wards of the two general hospitals between April 2014 and March 2015. We excluded the consultation that the diagnosis of illness is not mentioned by psychiatrists or assistants. It was not necessary to calculate the sample size formula as the researchers analyzed the total number of consultations in a psychiatric unit during the study period.

3.2. Measures

Data were collected via a questionnaire, which included questions regarding the demographic characteristics of the patients, such as age, gender, education level, job, and marital status. Variables such as ward of requesting consultation, psychiatric diagnosis, and reason

for referral for psychiatric consultation, treatment interventions, and follow-up rates were also assessed. Psychiatric clinical interviews were conducted according to the fourth revised diagnostic criteria of the diagnostic and statistical manual of mental disorders (DSM-IV-TR). In addition to these interviews, patient's precise medical information was obtained and used in making the final diagnosis. In order to obtain further information regarding patient's medical status, physicians studied their medical records if necessary, the psychiatrist spoke with ward nurses, and, to ensure completeness of information, they discussed each patient's medical history with their family. In some cases, psychiatrists directly spoke with the patient's physician to determine the reasons for referral. After collecting the necessary mental-physical information and conducting a careful mental examination, a physical examination was also carried out if required.

3.3. Statistical Analysis

Data analysis was conducted using statistical package for the social sciences software and descriptive statistics.

4. Results

A total of 1688 consultations were conducted by the Department of Psychosomatics. Approximately 71.3 % (n = 1,204) were conducted in Imam Khomeini Hospital and 26.8% (n = 484) were carried out in Bu Ali Sina Hospital. Of the consultations, 34 % were requested by the emergency ward through a physician, and the remaining consultations were of a non-emergency nature. The data from the two hospitals were analyzed together, and the results are reported below.

4.1. Demographic Characteristics

The demographic characteristics of the participants are shown in Table 1. Frequency distribution, according to age group, showed that most patients (n = 393; 23.3%) referred for psychiatric consultation were aged 20 - 29 years. Gender frequency distribution showed that 935 (55.4%) of the participants were female and 745 (44.1%) were male. In most cases, the level of education and job were not reported and a greater number of those who provided this information had a diploma and higher degree (19.9%) as well as were self-employed. The frequency distribution of marital status indicated that a greater number of married than unmarried individuals were referred for psychiatric consultation.

Table 1. Demographic Characteristics

Subject	No. (%) (Total = 1688)
Age	
Under ten years old	2 (0.1)
10 - 19	146 (8.6)
20 - 29	393 (23.3)
30 - 39	290 (17.2)
40 - 49	246 (14.6)
50 - 59	257 (15.2)
Upper 60	304 (18.00)
Not specified	50 (3.00)
Gender	
Male	745 (44.1)
Female	935 (55.4)
Not specified	8 (0.5)
Education	
Illiterate and primary	313 (18.5)
Three	155 (9.1)
Guidance diploma,	335 (19.9)
Upper diploma	107 (6.3)
Bachelor, MSc, PhD	5 (0.29)
Not specified	773 (46.0)
Job	
Unemployment	91 (5.4)
Worker	37 (2.2)
Free	204 (12.1)
Employee	89 (5.3)
House worker	281 (16.6)
Educate	123 (7.3)
Retired	61 (3.6)
Not specified	802 (47.5)
Marital status	
Single	246 (14.6)
Married	832 (49.3)
Divorced	40 (2.4)
Widow	43 (2.5)
Not specified	527 (31.2)

4.2. Source of Referral

Table 2 shows that the majority of consultation cases were referred from the emergency wards (34%), followed by the neurosurgery (14.2%), and internal medicine (14.2%) wards.

Table 2. Source of Referral

Ward	No. (%) (Total = 1688)	Mount of Hospitalization (Total = 32474)	Consultation Admission
Emergency	568 (34.0)	6202	9.15%
Internal medicine ward ^a	241 (14.2)	4262	5.6%
General surgery	149 (8.8)	3406	4.37%
Neurosurgery	240 (14.2)	1491	16.9%
Oncology	79 (4.6)	2417	3.26%
Gynecology/obstetrics	89 (5.3)	4994	1.78%
Urology	14 (0.8)	2483	0.56%
Orthopedic	121 (7.2)	2440	4.95%
Intensive care unit	58 (3.4)	1763	3.63%
ENT	23 (1.3)	not check	not check
Psychiatry	6 (0.4)	196	3.06%
Not specified	100 (5.9)	Unable to check	Unable to check

^a Internal ward include: Rheumatology, pulmonary, dialysis, digestion department.

4.3. Reason for Consultation

As shown in Table 3, psychological assessment (26.8 %) was mentioned as the most common reason for requesting a psychiatric consultation. Suicide (20.7%), methadone replacement therapy (15.4%), and psychiatric disorder (11.4%) were also common reasons. Crisis intervention (0.8 %) was associated with the lowest rates of referral with specific reasons. In 0.7% of cases, the reason for referral was not specified.

Table 3. Reason of Consulting

Reason of Consulting	No. (%) (n = 1688)
Psychological assessment	453 (26.8)
Suicide	350 (20.7)
Methadone replacement therapy	260 (15.4)
Psychiatric disorders	192 (11.4)
Behavioral changes and aggression	187 (11.1)
Psychotherapy	78 (4.7)
Not justified Physical symptoms	78 (4.7)
Delirium	31 (1.8)
Sleep disorder and insomnia	22 (1.3)
Crisis intervention	14 (0.8)
Reason of consulting not mentioned	12 (0.7)
Lack of cooperation in treatment	11 (0.6)

4.4. Psychiatric Diagnosis

Mood disorder was the most common psychiatric diagnosis (22.3%) made by CLP in psychiatric consultation. This

was followed by substance-related disorder (12.3%), adjustment disorder (9.5%), and anxiety disorder (7.6 %). A total of 165 (9.9 %) patients had no psychiatric disorder, while 22 (3.1%) patients required further diagnostic consultation (Table 4). Frequencies of comorbid diagnoses, based on the DSM-IV-TR, are shown in Table 4. Two comorbid diagnoses of axis I were identified in 8.2% of cases.

4.5. Therapeutic Intervention and Follow-Up

In 985 (58.4%) of the consultation cases, psychiatrists prescribed a pharmacological treatment approach, while 286 patients (16.9%) received psychotherapy and pharmacological treatment, and psychotherapy was prescribed for 251 (14.9%) of patients. There was no treatment intervention in 166 (8.9%) cases. Almost 90% of patients required further visits, which were conducted during hospitalization or continued after discharge (Table 5).

5. Discussion

The current study assessed the frequency of psychiatric diagnoses in consultations conducted by a CLP service in Sari, Northern Iran between 2014 - 2015. The sample used in the present study was 1 688 consultations, which was relatively large compared to the majority of similar previous studies conducted in Iran, for example, studies in which the sample sizes were 503, 600, and 382 cases, respectively (11, 24, 30). The degree of success of CLP intervention depends on several variables, such as how the service is established, the experience of the consultation team members,

Table 4. Psychiatric Single-Diagnosis Consultations

Psychiatric Diagnosis	No. (%) (Total = 1444)
Psychiatric single-diagnosis consultations	
Mood disorder	377 (22.3)
Substance related disorder	207 (12.3)
Without psychiatric disorder	167 (9.9)
Adjustment disorder	160 (9.5)
Anxiety disorder	129 (7.6)
Organic disorder (delirium)	89 (5.3)
Somatoform disorder	80 (4.7)
Personality disorder + suicide	57 (3.4)
Psychotic disorder	53 (3.1)
Relational problem	30 (1.8)
Need to further diagnostic evaluation	22 (1.3)
Consultation grief and crisis	18 (1.2)
Psychotic disorder due to GMC	12 (0.7)
Dementia	9 (0.5)
MR (Mental Retardation)	8 (0.5)
Drug side effects	7 (0.4)
Fibromyalgia or tension headache	6 (0.4)
Tic disorder	4 (0.2)
Impulse control disorder	4 (0.2)
Missing system	3 (0.2)
Reproductive disorder	2 (0.1)
Multiple psychiatric diagnosis in consultation	
Comorbidity of two disorders in axis I	139 (8.2)
A diagnosis of axis I + substance related disorder	46 (2.7)
Axis I+ personality disorder (axis II)	41 (2.4)
Comorbidity of three diagnosis in axis I,II	18 (1.1)

Table 5. Treatment Approach and Follow Up

Treatment Approach and Follow Up	No. (%) (Total = 1688)
Treatment approach	
Pharmacological therapy	985 (58.4)
Psychotherapy	286 (16.9)
Pharmacological therapy + psychotherapy	251 (14.9)
Not treatment intervention	166 (9.8)
Follow up	
Yes	1469 (87.0)
No	212 (12.6)
Not specified	7 (0.4)

uniformity of intervention, and attempts to establish effective pathways of communication with specialists in internal medicine (23).

In the present study, the consultation rate was 4.06%, compared to the 0.9% rate observed in a previous study in Imam Khomeini Hospital (11). This is consistent with the fact that the development of CLP services has been increasing in recent decades (21, 22, 27). The increased rates of consultations in Imam Khomeini Hospital also represented a significant growth in CLP services compared to previous years. This growing trend is due to the positive attitudes and practice of physicians toward CLP in the teaching hospitals of Mazandaran. Successful psychiatric education and psychiatry practice also plays an important role in the formation of a positive attitude (31). Another important consideration, with regard to CLP development in Imam Khomeini Hospital, is that there was previously only one psychiatrist at this institution working part-time. However, now, three science committee psychiatrists are settled, and a psychosomatic ward with the capacity to hospitalize individuals with psychosomatic disorders was launched nearly 18 months ago.

In our study, the rate of requested psychiatric consultations was higher for females than for males. Most of the patients were aged 20 - 29 years, which is similar to the findings of most previous studies (9, 30, 32, 33). The present study showed that the majority of consultations were requested by emergency wards. The fact that it was conducted in a university general hospital located in a city center, that it is a main referral center for traumatic patients, and that patients attempting suicide are often initially taken to this hospital may be convincing explanations of the high rates of psychiatric referrals from the emergency ward. In their study, Ghanbari Jolfaee et al. found the opposite; the emergency ward was associated with the lowest rate of referral for psychiatric consultation, although it appears that this finding cannot be explained (34). The emergency ward is the site of patients' primary contact with the hospital, and the psychiatric consultant must make critical decisions regarding diagnosis and management (3). In contrast, other studies have shown that the internal medicine ward is the most common source of psychiatric referrals (2, 32, 34).

The most common reason for psychiatric referral in our study was for psychological assessment, which is in accordance with the results of most previous studies (11, 34, 35). It has been stated that psychological assessment is not a helpful and accurate reason, due to the fact that physicians with other majors have spent only a brief amount of time in psychiatric education, 1 and 3 months in internship and as externs, respectively; therefore, they are not familiar with psychiatric disorders and issues (36, 37). In some

studies, psychiatric consultations were requested in cases of suicide attempts (3) or when physicians were unable to find a medical cause for a disease (31). In another study, depression was the most prevalent reason given for requesting a psychiatric consultation (2).

The most prevalent psychiatric diagnosis in the present study was mood disorder. Substance-related disorder, adjustment disorder, and anxiety disorder were at the core of CLP action in the two general hospitals assessed, while reproductive disorder was associated with the lowest rate of a psychiatric diagnosis made by CLP. It has been shown that patients in teaching hospitals with a psychiatric ward were more likely to have a psychiatric consultation than patients in other types of hospitals (19). Some studies have declared that mood disorders and organic mental disorders were the group psychiatric diagnoses that were most frequently encountered (2, 13, 24, 27). However, several Iranian studies have shown that delirium was the most common diagnosis in psychiatric consultations (11, 30), which was likely due to the fact that psychiatrists were only monitoring the performance of psychiatry assistants part-time, and the assistants spent only a 3-month rotational period in the hospital evaluated. The delirium diagnosis also showed that it was considered that a greater number of patients in emergency care and agitated patients required a psychiatric consultation (11). The rate of anxiety disorder observed in our study is significantly higher than that discussed in previous reports (2, 17, 24). Our study showed that, despite a high prevalence of psychiatric disorders in the gynecology and dialysis wards (38, 39), few psychiatric consultations were requested by specialists. Several studies have reported that non-psychiatrist physicians often do not recognize psychiatric disorders in their patients, and that this leads to inappropriate psychiatric referrals (6, 31). In addition, it is possible that these physicians pay less attention to the psychosocial aspects of psychiatric disorders, which is due to a lack of knowledge and lack of education in this regard (31, 33). A crucial issue is that of what happens to those patients whose psychiatric illness remains undetected (18), as it has been shown that mood disturbance may hinder recovery from physical illness, and adversely influences mortality rates. Furthermore, in some cases, physicians may diagnose a psychiatric disorder, however, they prefer the patient to remain under treatment and they don't consider treatment in the period of the patients' hospitalization (5).

In over 15% of the psychiatric consultations in the present study, we determined multiple psychiatric disorders, of which two comorbid diagnoses of axis I was in the majority (8.2%). In addition, psychiatrists detected another psychiatric diagnosis, such as axis I along with axis II disor-

ders (personality disorders), in 2.4% of consultations.

The treatment approaches used in patients in the present study was based more on pharmacological interventions than on psychotherapy alone. This was likely due to the prescribing psychopharmacological intervention is simple, and also more patients adhere to such treatments. Psychiatrists considered psychiatric interventions in 16.9% of cases. Although supportive psychotherapy and crisis intervention was carried out, it was not recorded, which may primarily be due to the fact that these interventions are not covered by medical insurance.

Following initial psychiatric consultation, 87% of the patients were assigned to follow-up and to receive continued psychiatric care. The provision of follow-up contact in the case of diagnostic or therapeutic consultation affords the opportunity to check a patient's status (25).

One limitation of the present study is related to the lack of precision in accurate recording of some psychiatric consultation data in the form of counseling. Although we attempted to put a copy of the conducted consultation in each respective file, it may be missed, due to forgetfulness or because the physician is not thorough when examining the file contents. Another important limitation of the current study was that the Imam Khomeini Hospital only has educational wards, however, Bu Ali Hospital has both educational and therapeutic wards, which its educational ward is consisted of neurological and various wards of pediatrics. In Bu Ali Hospital, given that there was no pediatrics specialty in the consultation-liaison psychiatry group, requested psychiatric consultation rate was less than the Imam Khomeini Hospital. We propose that further studies should be performed with regard to how CLP services can improve their capacity for recognition of psychiatric disorders and their treatment in general hospitals.

5.1. Conclusion

Although there is a high prevalence of psychiatric comorbidities in patients in general medical hospitals, the lack of medical specialists and nursing staff may mean that psychological distress goes unrecognized, with a consequent delay in appropriate interventions. The establishment of CLP services in each hospital is an important and useful implementation. In addition, appropriate psychiatric consultation can ensure that the majority of patients with psychiatric disorders can be maintained in the ward to which they have been admitted, and can receive treatment interventions. In order to ensure an effective performance, psychiatric liaison staff should be trained in a multiplicity of consulting roles and should improve their skills in addressing the treatment of inpatients and outpatients. Further, non-psychiatric physicians should increase their knowledge of, and attitude toward, the psychosocial

aspects of medical disorders in order to make appropriate psychiatric referrals if required. In addition, it is proposed that consultation liaison service contains pediatrics and adults psychiatrists.

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Footnotes

Authors' Contribution: Forouzan Elyasi contributed to the conception of the work and definition of intellectual content, analyzed the data, and edited the manuscript literary. Marzieh Azizi Wrote the primary manuscript prepared the manuscript and edited the manuscript literary. Sina Sabourian Joubari and Seyyed Hessam Mirani gathered the data.

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