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Psychiatric Consultation to Hospitalized Patients: Current Status and Psychiatric Diagnoses

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Abstract

Background: The benefits of addressing behavioral health issues in inpatients have been well documented. However, these problems are not frequently recognized by physicians during the hospitalization of patients in general hospitals.
Objectives: This study described the current status and medical diagnoses made in psychiatric consultations to inpatients admitted to general hospitals affiliated to Babol University of Medical Sciences, North of Iran.
Methods: This cross-sectional observational research was carried out at Babol University of Medical Sciences from 2019 to 2020. All psychiatric consultations for patients hospitalized in different departments of two general hospitals affiliated to this university for 6 months were included. The mental disorders diagnosed for patients were recorded by a psychiatrist according to the diagnostic and statistical manual of mental disorders (DSM-5) criteria.
Results: A total of 266 patients with a mean age of 51.21 $\pm$ 16.95 years were examined. Most of the consults were requested by the departments of cardiology (39.5%) and neurology (16.2%). According to the psychiatric visits, 32.3%, 51.1%, and 15.4% of the patients had no, one, and two concomitant psychiatric disorders, respectively. Mental disorders were found to have a significant association with gender ($P < 0.001$), admission department ($P < 0.001$), comorbid malignancies ($P = 0.011$), cardiovascular disorders ($P < 0.001$), need for surgical intervention ($P = 0.018$), a history of substance use ($P = 0.001$), and reasons for consult request ($P < 0.001$).
Conclusions: Mental disorders, especially mood and anxiety disorders, were identified in approximately 70% of consultations. Therefore, requesting a timely psychiatric consultation can lead to better managing hospitalized patients.

Keywords: Hospitalization, Mental Health, Referral and Consultation, Comorbidity

1. Background

Mental disorders annually affect more than one billion people worldwide, accounting for 19% of years lived with disability (YLD) and 7% of all global burden of diseases (1). A large number of patients with physical illnesses simultaneously suffer from psychiatric disorders, and 'multi-morbidity' requires strong communication between different health care professionals (2, 3). The pooled prevalence of the comorbidity of mental disorders in patients with chronic physical diseases has been reported as 36.6% (95% CI: 31.4 - 42.1) (4). Nearly one-third of the individuals with a long-term physical condition are expected to have a comorbid psychiatric disorder, such as anxiety or depression (5). The prevalence of mental disorders is high in patients with severe physical illnesses. In addition, the conventional biomedical treatment protocols for somatic disorders have some limitations. As a result, healthcare providers consider collaborative care to manage inpatients, especially those suspected of concurrent physical and mental disorders (6).

Psychiatric consultation for patients admitted to the general hospitals is an ever-growing particular need of inpatients. Almost half of the patients in general hospitals may have a psychiatric issue that necessitates consultation with psychiatric services. However, most of these patients are not recognized during hospital admission (2, 7). Lack of inpatient mental health care can lead to prolonged hospitalization, higher medical costs, disability, and other unwanted consequences in patients. Consequently, timely recognition and management of mental disorders in hospitalized individuals may positively impact the treatment

outcomes and satisfaction of both health service providers and patients (7-10).

The benefits of addressing behavioral health issues in inpatients have been well documented. However, these problems are not frequently recognized by physicians during the hospitalization of patients in general hospitals (11). Current evidence supports an integrated collaboration of different medical facilities and the department of psychiatry to achieve an effective and comprehensive treatment approach for patients with comorbid mental and physical disorders (12).

2. Objectives

The rate of psychiatric consultation in general hospitals is variable in different countries (2, 3). A recent review demonstrated that most psychiatric consult requests in general hospitals were from the internal, surgical, emergency, and maternity departments (2). The present study aimed to describe the current status and medical diagnoses made in psychiatric consultations to inpatients admitted to general hospitals affiliated to Babol University of Medical Sciences, North of Iran.

3. Methods

3.1. Study Design and Setting

This observational cross-sectional study was carried out at Babol University of Medical Sciences from 2019 to 2020. All psychiatric consultations for patients hospitalized during the study period in different departments of two general hospitals affiliated to this university were recorded.

3.2. Participants and Measurements

A psychiatrist examined all inpatients for whom a psychiatric consult was requested through a clinical interview. The data of patients, including gender, age, admission department, concomitant physical problems, a previous history of psychiatric and addictive disorders, and the reason for consult request (e.g., diagnosis, adjustment of prescribed medication, and pre-operative medical visit) were recorded. Afterward, the psychiatrist recorded the diagnoses according to the diagnostic and statistical manual of mental disorders (DSM-5) criteria.

3.3. Sample Size and Statistical Analysis

The minimum sample size was calculated as 200 subjects. No sampling was performed, and all psychiatric requests were included by the census. Data analysis was administered using the chi-square test by SPSS version 17 (IBM, US). Statistical significance was considered when the P value < 0.05.

4. Results

Overall, 266 psychiatric consultations were performed during the study period (100% of requested consultations). We found that 155 (58.3%) patients were female, and 111 (41.7%) were male. In addition, 181 (68%) cases were married, 110 (41.3%) individuals had an education level of diploma or lower, and 62 (23.3%) were illiterate. The mean age of participants was 51.21 $\pm$ 16.95 years, with a range of 14 - 90. Also, 185 (69.5%) participants reported no previous history of psychiatric disorders. Admission departments in which psychiatric consults were requested are presented in Table 1. According to Table 1, most of the consults were requested by the departments of cardiology (n = 105; 39.5%) and neurology (n = 43; 16.2%). Cardiovascular disorders (n = 95; 35.7%) and neurologic symptoms (n = 32; 12%) were the most frequent comorbid physical disorders.

Table 1. Departments Requesting Psychiatric Consultations

Department	No. (%)
Cardiology	105 (39.5)
Hematology	11 (4.1)
Gastrointestinal medicine	20 (7.5)
Endocrine or respiratory medicine	9 (3.4)
Neurology	43 (16.2)
Internal medicine	17 (6.4)
Surgery	3 (1.1)
Others (urology, ENT, and ophthalmology)	58 (21.8)
Total	266 (100)

Psychiatric consult was requested for disease diagnosis (n = 145; 54.5%), pre-operative medical visit (n = 99; 37.2%), and adjusting prescribed medication (n = 22; 8.3%). Following the psychiatric visit, the results showed that 86 (32.3%), 136 (51.1%), 41 (15.4%), and 3 (1.2%) patients had no, one, two, and three or four psychiatric disorders, respectively. The final psychiatric diagnoses of the consulted patients are summarized in Table 2.

The identification of mental disorders in psychiatric consultation was revealed to be significantly correlated with gender ($P < 0.001$), admission department ($P < 0.001$), comorbid malignancies ($P = 0.011$), cardiovascular disorders ($P < 0.001$), need for any surgical intervention ($P = 0.018$), a previous history of substance use ($P = 0.001$), and reasons for consult request ($P < 0.001$). On the other hand, marital status ($P = 0.096$) and comorbid gastrointestinal ($P = 0.667$), respiratory ($P = 1$), thyroid ($P = 1$), ophthalmic ($P = 1$), neurologic ($P = 0.106$), infectious ($P = 0.178$), and renal disorders ($P = 0.308$) showed no significant association with the identification of psychiatric disorders in the per-

Table 2. Psychiatric Diagnosis of the Consulted Patients in the General University Hospitals

Variables	No. (%)
Psychiatric diagnosis	
Mood disorders	59 (22.2)
Bipolar disorders	30 (11.3)
Major depressive disorder	17 (6.4)
Dysthymia	6 (2.3)
Others	6 (2.3)
Anxiety disorders	38 (14.3)
Adjustment disorders	29 (10.9)
Delirium	27 (10.2)
Substance use disorders	19 (7.1)
Personality disorders	8 (3)
Dementia and related cognitive disorders	8 (3)
Obsessive-compulsive disorder	6 (2.3)
Impulse control disorder	5 (1.9)
Psychotic disorders	3 (1.1)
Post-traumatic stress disorder	3 (1.1)

formed consultations. These correlations are presented in Table 3.

5. Discussion

More than 58% of the requested psychiatric consultations were for female inpatients in the general hospitals, and almost 70% of the assessed patients reported no previous psychiatric symptoms before hospitalization. In the same vein, a recent review reported that requested psychiatric consultations were higher for inpatient females than males (2). This gender difference can be attributed to diverse patterns of mental disorders in males and females. For instance, some psychiatric disorders, such as anxiety and depressive disorders, are more frequent in females. Or, substance use or antisocial disorders are more prevalent in males (13, 14). Hospitalization and its related factors can trigger the incidence of distinct mental disorders, particularly anxiety and depressive symptoms (15). Women are expected to need more psychiatric consultation after hospitalization, even if they have no previous psychological symptoms. In addition, some mental disorders, namely depressive symptoms, and personality disorders, as well as the comorbidity of mental disorders and physical illnesses, have been represented as common risk factors associated with higher hospitalization rates in the general population (16).

A significant proportion of psychiatric consultations were requested by the departments of cardiology and neurology. The presence of comorbid cardiovascular disorders and neurologic symptoms among a notable proportion of consulted patients can justify this finding. Contrary to our results, Hosseini et al. reported that the lowest number of psychiatric requests belonged to departments of endocrinology, ENT, cardiology, ICU, and orthopedic departments (2). This difference can be attributed to the characteristics of the study populations and any variability in the departments affiliated to general hospitals.

Stress, depressive symptoms, anxiety, and insomnia are more prevalent in patients with coronary heart diseases than in the general adult population (17). A recent meta-analysis demonstrated a 54% higher risk of cardiovascular disorders in patients with severe mental disorders, such as schizophrenia, bipolar disorder, and major depressive disorder (18). The impact of mental disorders on the pathogenesis of cardiovascular disorders may be due to different factors, such as chronic psychological stress, social isolation, loneliness, lack of support, marital stress, and the effects of prescribed medications (19). Furthermore, the comorbidity of neurological disorders and psychiatric illness has been reported in previous studies (20, 21). Inpatients with comorbid mental disorders are expected to less adhere to the management protocols and suffer from an increased risk of morbidity and mortality (19, 20).

More than half of the requested psychiatric consultations were related to disease diagnosis. Consultation-liaison (CL) psychiatry has been indicated as a valuable strategy for mental care in patients admitted to general hospitals because of somatic reasons (22, 23). Immediate diagnosis and treatment of psychiatric disorders in patients hospitalized due to physical illnesses can improve the treatment of co-occurring somatic disorders, reduce the length of hospital stay, and relieve economic and health complications (7, 10).

Approximately 70% of the conducted psychiatric consultations led to the identification of a mental disorder. Mood and anxiety disorders were the most frequently diagnosed psychiatric problems. An exploratory study on 18,888 referrals to CL psychiatrists during 20 years (2000 - 2019) at a general hospital in Italy reported depression and agitation as the most common reasons for psychiatric consultation (22). A review conducted by Hosseini et al. showed that mood disorders and substance use were the most frequent mental problems identified through psychiatric consultations in general hospitals (2). Another research on 650 hospitalized patients in Turkey noted that 37.5% of the examined inpatients had a psychiatric disorder, 24.2% had anxiety, and 14.4% had a mood disorder (24).

Table 3. Identification of Mental Disorders Diagnosed in Psychiatric Consultation and Their Association with the Examined Characteristics

Patients' Characteristics	Diagnosis of any Mental Disorders in Psychiatric Consultation; No. (%)		P Value
	No (n = 86)	Yes (n = 180)	
Gender			< 0.001
Female	36 (23.2)	119 (76.8)	
Male	50 (45)	61 (55)	
Marital status			0.096
Married	66 (36.5)	115 (63.5)	
Not married	20 (23.5)	65 (76.5)	
Previous history of substance use			0.001
Admission department			< 0.001
Cardiology	73 (69.5)	32 (30.5)	
Hematology	0 (0)	11 (100)	
Gastrointestinal medicine	1 (5)	19 (95)	
Endocrine or respiratory medicine	1 (11.1)	8 (88.9)	
Neurology	4 (9.3)	39 (90.7)	
Internal medicine	1 (5.9)	16 (94.1)	
Surgery	0 (0)	3 (100)	
Others (urology, ENT, and ophthalmology)	6 (10.3)	52 (89.7)	
Comorbid Physical Illnesses			
Cardiovascular disorders			< 0.001
No (n = 171)	21 (12.3)	150 (87.7)	
Yes (n = 95)	65 (68.4)	30 (31.6)	
Gastrointestinal disorders			0.667
No (n = 260)	85 (32.7)	175 (67.3)	
Yes (n = 6)	1 (16.7)	5 (83.3)	
Respiratory disorders			1
No (n = 263)	85 (32.3)	178 (67.7)	
Yes (n = 3)	1 (33.3)	2 (66.7)	
Thyroid disorders			1
No (n = 249)	81 (32.5)	168 (67.5)	
Yes (n = 17)	5 (29.4)	12 (70.6)	
Renal disorders			0.308
No (n = 262)	86 (32.8)	176 (67.2)	
Yes (n = 4)	0 (0)	4 (100)	
Need any surgical intervention			0.018
No (n = 255)	86 (33.7)	169 (66.3)	
Yes (n = 11)	0 (0)	11 (100)	
Malignancies			0.011
No (n = 253)	86 (34)	167 (66)	
Yes (n = 13)	0 (0)	13 (100)	
Neurologic disorders			0.057
No (n = 234)	80 (34.2)	154 (65.8)	
Yes (n = 32)	6 (18.8)	26 (81.3)	
Ophthalmic disorders			1
No (n = 263)	85 (32.3)	178 (67.7)	
Yes (n = 3)	1 (33.3)	2 (66.7)	
Infective disorders			0.178
No (n = 261)	86 (33)	175 (67)	
Yes (n = 5)	0 (0)	5 (100)	
Reason for psychiatric consult request			< 0.001
disease diagnosis (n = 145)	10 (6.9)	135 (93.1)	
adjustment of prescribed medication (n = 22)	0 (0)	22 (100)	
pre-operative medical visit (n = 99)	76 (76.8)	23 (23.2)	

Hospitalized individuals, particularly those with a previous history of mental disorders, may be at a greater risk for the occurrence of psychiatric illness. Being aware of this issue and requesting timely psychiatric consultation can lead to the early diagnosis and treatment of these patients.

The strength of this research was the examination of all hospitalized patients admitted to different departments for whom a psychiatric consultation was requested. More-

over, diverse associated characteristics were assessed, and a final mental diagnosis was provided. Future studies are needed not only to address the limitations of the present study but also to incorporate more participants with a longer follow-up period to better explore psychiatric disorders.

5.1. Conclusions

In almost 70% of consultations, a mental disorder, particularly mood and anxiety disorders, was identified. Therefore, a timely psychiatric consultation can lead to better management of hospitalized patients.

Footnotes

Authors' Contribution: A.R., S.M., N.Y., F.K., R.H., A.H., S.J., and A.B. contributed to the conception and design, acquisition of data, analysis, and interpretation of data. S.M. drafted the article. All authors have read the manuscript, revised it critically for important intellectual content, and approved the final version of the article to be published.

Conflict of Interests: The authors declare that they have no competing interests.

Data Reproducibility: The data presented in this study are openly available for readers upon request.

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Informed Consent: The participants provided an "Informed Consent" when they were being admitted to the hospital.

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