



## NATURE AND REASONS FOR PSYCHIATRIC REFERRALS IN IN-PATIENT SETTINGS IN SAUDI ARABIA

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### ABSTRACT

**Background:** Inpatients with psychiatric comorbidity may suffer from functional impairment in addition to poor quality of life. Psychiatric illness can even complicate their medical conditions and worsen their clinical outcomes.

No enough data is available on psychiatric consultation activities in Saudi Arabia. This study aims at identifying the nature and reasons for psychiatric referral in an inpatient's setting in Saudi Arabia.

**Design and Setting:** This retrospective study was done in patients who were referred from either surgical or medical care units in King Faisal hospital and King Abdulaziz specialist hospital in Taif, Saudi Arabia over a period of three years including 2015, 2016 and 2017.

**Statistical analysis:** Data was collected in an excel sheet and analyzed using IBM SPSS (Statistical Package for the Social Science; IBM Corp, Armonk, NY, USA), version 21 for Microsoft Windows. Descriptive data was analyzed in the form of counts and percent. Chi square test was used to compare variables over the two units.

**Results:** Non urgent referrals were significantly ( $p=0.004$ ) more prevalent in medical units (64.7%) compared to surgical units (54.7%). The most common reason for referral was "referral for evaluation" which was significantly ( $p<0.001$ ) more common in the surgical unit (44.4%) compared to the medical unit (50.8%). The major cause of admission to both departments was overdosing, which was significantly ( $p=0.015$ ) higher in medical unit (21%) compared to surgical unit (5.8%).

**Conclusion:** The Knowledge of the referring physicians should be increased regarding the details to be shared with the psychiatrist. Further prospective studies are needed to investigate the impact of psychiatric referrals on healthcare costs and patients' outcomes in Saudi Arabia.

### KEYWORDS :

#### Introduction

Consultation-Liaison Psychiatry was historically used to describe Psychosomatic Medicine. It included the care provided by psychiatrists to patients who have a psychiatric comorbidity with another medical condition who were mainly treated in a medical care facility [1]. The word Psychosomatic is a Greek word, where Psyche means (Soul) and Soma means (Body). This term describes how our mind can have a great influence on our bodies [2].

In a multidisciplinary hospital, Psychiatry department can have multiple tasks comprising providing care to inpatients, constantly communicating with community psychiatric facilities in addition to their specialist services in the wards of healthcare facility [3]. This could be achieved through the multidisciplinary patient management approach or through providing specialist care to hospitalized patients in medical units when they are transferred psychiatry department [4].

Multiple studies on both Adults and pediatrics showed that psychiatric manifestations in either medical or surgical units can prolong length of hospital stay [5]. Moreover, psychiatric comorbidity with an existing medical condition is linked to elevated healthcare costs, increased number of investigations and procedures, in addition to increased rates of re-hospitalization [6].

In inpatient settings, there are many psychological influences that can exacerbate physical-associated manifestations [7]. Additionally, emotional and somatic symptoms might be falsely related to medical conditions or misdiagnosed as a medical complication rather than being truly diagnosed as a psychiatric illness, hence increasing the healthcare costs and consumption of resources [8].

It is reported in medical literature that psychiatric services in both medical and surgical units are effective in reducing psychic manifestations, and that they are highly accepted by patients and referring medical staff [9]. This is mainly dependent on the level of awareness of the medical team of the importance of managing psychiatric illness in the acute care units as well as patients [10].

Nowadays, healthcare facilities globally are mainly focusing on cost

saving and wise utilization of available resources [11]. Consequently, it is highly encouraged to spot the advantages of psychiatric units' services to insurance institutes as well as hospitals [12]. Furthermore, examining psychiatric referrals in hospitals is a critical research area to give us descriptions for the ideal use of consultation liaison services that will aid in developing better management strategies [13].

Therefore, The aim of the present work to examine the factors affecting psychiatric conditions in a multidisciplinary healthcare facilities in Taif, Saudi Arabia, over two major inpatient units including medical and surgical care units to highlight the figures of psychiatric comorbidity in this patient population and find the differences between the mentioned two units.

#### Materials and Methods

##### Study design:

This retrospective study was performed on patients referred from either surgical or medical care units to the psychiatry department for assessment using a referral form. The study was done in King Faisal hospital and King Abdulaziz specialist hospital in Taif, Saudi Arabia over three years including 2015, 2016 and 2017.

Patients with a positive history of psychiatric disorders and those with abnormal neurological examination were excluded from the study.

##### Data collection:

Data was extracted from patients' medical records (including the referral forms) and was arranged in a pre-designed and approved excel sheet. Referral form of every patient was examined thoroughly. Collected data included patients' demographics, medical and psychiatric diagnosis, reason for patient referral, time of referral in addition to the urgency of referral.

##### Statistical analyses:

All statistical analysis was done using IBM SPSS (Statistical Package for the Social Science; IBM Corp, Armonk, NY, USA), version 21 for Microsoft Windows. Descriptive analysis was performed in the form of counts and percent. Chi-square test was used to compare variables between the two units in relation to the psychiatric

diagnosis. P values less than 0.05 were considered to be statistically significant.

**Ethical considerations:**

The study procedures were started after being approved by the Ethics Committee of King Abdulaziz specialist hospital and King Faisal hospital in Taif, Saudi Arabia. No consent form was required due to the retrospective nature of the study.

**Results**

Data of 825 (100%) patients were included, of which, 329 (39.9%) patients were admitted to surgical unit while 496 (60.1%) patients were admitted to medical unit. Descriptive data for patients' demographics, psychiatric and medical condition was analyzed as shown below.

**Data upon admission**

The study included 416 (50.4%) male patients, with 228 (27.6%) patients in medical unit and 188 (22.8%) patients in surgical unit. On the other hand, 409 (49.6%) female patients were included in the study of which, 268 (32.5%) were admitted to the medical unit and 141 (17.1%) patients were admitted to the surgical unit. Turning to patients' age, it was categorized into four subgroups including; pediatrics till 12 years old, followed by the group of age between 12 to 40 years, then 40 years to 65 years and finally the elderly who are 65 years or above. The predominant age group in both units was the group from 12 to 40 years old with constituting 56.7% of patients in the medical unit and 47.1% of patients in the surgical unit.

Furthermore, referrals were subcategorized into two groups either urgent or non-urgent. Most of the patients were referred for non-urgent reasons with 64.7% and 54.7 non-urgent referrals from medical and surgical units respectively. It is important to note that the number of non-urgent referrals from medical unit was significantly higher compared to surgical unit (p value = 0.004). Additionally, most of the referrals were during the morning shifts in both units. Further details are explained in Table 1.

**Table 1. Data upon admission and referral information in terms of frequencies (percent) compared over the two units**

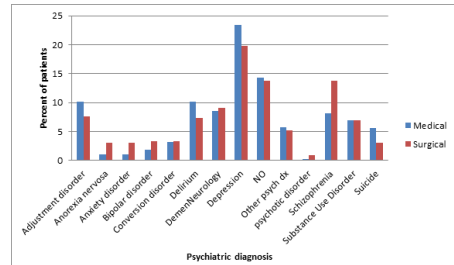
	Medical	Surgical	P value*
<b>Gender</b>			
Male	228 (46)	188 (57.1)	0.002*
Female	268 (54)	141 (42.9)	
<b>Age</b>			
0 to 12	1 (2)	3 (0.9)	0.021*
12 to 40	281 (56.7)	155 (47.1)	
40 to 65	103 (20.8)	91 (27.7)	
65 and above	111 (22.4)	80 (24.3)	
<b>Referrals</b>			
Non urgent	321 (64.7)	180 (54.7)	0.004*
Urgent	175 (35.3)	149 (45.3)	
<b>Time of referral</b>			
morning shift 8.00 to 4.00	332 (66.9)	212 (64.4)	0.748
evening shift 4.00 to 12.00	45 (9.1)	31 (9.4)	
night shift 12.00 to 8.00	119 (24)	86 (26.1)	

\*Level of significance at P value ≤0.05

**Psychiatric diagnosis**

After being referred to psychiatry department, psychiatric diagnosis was recorded, analyzed and compared between the two units. It was observed that depression was the most common diagnosis in both units with a prevalence of 23.4% of referred patients from medical unit and 19.8% of referred patients from surgical unit. Additionally, suicidal attempts came in the second rank in the medical unit with 19.8%, though it was the least diagnosis in surgical unit with only 0.3% of patients. It is worth mentioning that the difference between the two units was statistically significant (p=0.015). Figure 1 shows

the percentages of patients with each psychiatric diagnosis in both units. Table 2 describes the comparison between the two units regarding psychiatric diagnosis.



**Figure 1. Psychiatric diagnosis of patients referred from the medical and surgical units**

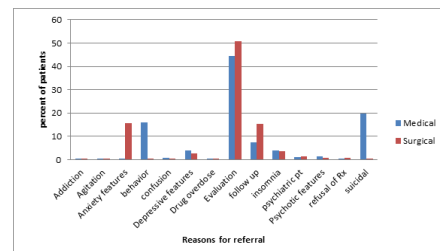
**Table 2: Psychiatric diagnosis of patients referred from the medical and surgical units**

Psychiatric diagnosis	Medical	Surgical	P value
Adjustment disorder	50 (10.1)	25 (7.6)	0.015*
Anorexia nervosa	5 (1)	10 (3)	
Anxiety disorder	5 (1)	10 (3)	
Bipolar disorder	9 (1.8)	11 (3.3)	
Conversion disorder	16 (3.2)	11 (3.3)	
Delirium	50 (10.1)	24 (7.3)	
Dementia	42 (8.5)	30 (9.1)	
Depression	116 (23.4)	65 (19.8)	
No diagnosis	71 (14.3)	45 (13.7)	
Other psych dx	29 (5.8)	17 (5.2)	
psychotic disorder	1 (0.2)	3 (0.9)	
Schizophrenia	40 (8.1)	45 (13.7)	
Substance Use Disorder	34 (6.9)	23 (7)	
Suicide	28 (5.6)	10 (3)	

\*Level of significance at P value ≤0.05

**Reasons for referral**

Reason for referral was collected from patients' records and analyzed in both medical and surgical care units. The most common reason for referral in both units was the "referral for evaluation" with 220 (44.4%) patients in medical unit and 167 (50.8%) patients in surgical unit, the difference in number of patients referred for evaluation between the two units was statistically significant (p <0.001). Reasons for referral are further detailed in figure 2 while the comparison between the two units is shown in table 3.



**Figure 2 Reasons for psychiatric referral from the medical and surgical units**

**Table 3: Reasons for psychiatric referral from the medical and surgical units**

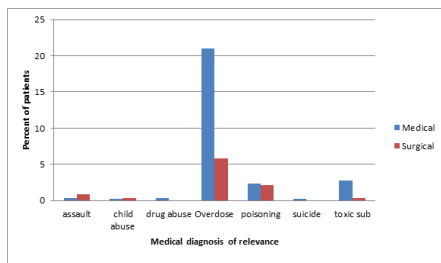
Reason for referral	Medical	Surgical	P value
Addiction	2 (0.4)	1 (0.3)	<0.001*
Agitation	2 (0.4)	2 (0.6)	
Anxiety features	1 (0.2)	0	
behavior	80 (16.1)	51 (0.3)	
confusion	4(0.8)	2 (0.6)	
Depressive features	19 (3.8)	9 (2.7)	
Evaluation	220 (44.4)	167 (50.8)	

<b>Drug overdose</b>	2 (0.4)	1 (0.3)
<b>Evaluation</b>	220 (44.4)	167 (50.8)
<b>Follow up</b>	36 (7.3)	50 (15.2)
<b>Insomnia</b>	19 (3.8)	12 (3.6)
<b>No diagnosis</b>	0	5 (1.5)
<b>Psychiatric patient</b>	5 (1)	3 (0.9)
<b>Psychotic features</b>	7 (1.4)	3 (0.9)
<b>Refusal of treatment</b>	1(0.2)	1 (0.3)
<b>Suicidal attempt</b>	98 (19.8)	21 (6.4)

\*Level of significance at P value ≤0.05

**Medical diagnosis**

Medical diagnosis was also collected from patients' records. Medical diagnosis indicative of psychiatric problem was analyzed in both medical and surgical units. Higher number of patients in medical unit had these indications compared to surgical unit. It was observed that admission due to overdose had the highest incidence of both units were overdosed patients in medical unit represented 21% and those in surgical unit represented 5.8% only 1 patient in medical unit was admitted for suicidal attempt while there were no patients with the same indication in surgical unit. Figure 3 shows an analysis for percent of patients for each indication over both units



**Figure 3 Medical diagnosis of patents referred from medical and surgical units**

**Discussion**

Psychiatric referrals for inpatients can play a vital role in their therapeutic plan. The present study discusses the varying psychiatric comorbidities in patients admitted to either medical or surgical care unit in two leading hospitals in Taif, Saudi Arabia. It is revealed that non urgent referrals were more prevalent in both units mainly in the morning shifts between 8.00 am and 4.00 pm.

Additionally, the most common reason for referral was for evaluation which was more common in surgical unit compared to medical unit. On the other hand, the major cause of admission to both departments was overdosing, though it was much higher in medical unit patients compared to their peers in surgical unit.

Consultation-Liaison Psychiatry and occurrence of psychiatric comorbidities have been studied previously in different settings. Mathur *et al* [14] examined the use of consultation liaison psychiatry services in a retrospective study in different departments of a tertiary care teaching hospital. The study observed that highest number of referrals was from general medicine unit, also deliberate self-harm was the most common reason for referral [14].

In the present work, only medical and surgical units were chosen as they had the highest referral rates. Furthermore, most of the patients were referred for evaluation while depression was the most common psychiatric diagnosis. This finding was compliant with the results recorded in Akhtar *et al* [15] which investigated the psychiatric referral patterns in a multidisciplinary hospital, the study also recorded that highest referral rates were from medical unit (about two third of the referrals) which is also consistent with our findings.

Although both our study and Mathur *et al* are retrospective, our

study is a multicenter study that included 2 leading hospital in Saudi Arabia. Finally, the three studies encouraged increasing the awareness of other physicians towards the vital role of psychiatric referrals [14,15].

Other studies focused on the timing of psychiatric referrals and its influence on hospital stay and healthcare costs. Bujoreanu *et al* [16] investigated the importance of timing of referral in pediatrics unit including 279 children in this study. The research team concluded that early referrals were correlated to shorter hospital stay and lower hospitalization costs. Though, the study didn't include the reasons for referral or the psychiatric diagnosis of the patients [16].

Our study included both adults and pediatrics; sub categorized in 4 age groups, the most prevalent age group was between 12 years old and 40 years old. Also our study included patients from two different units of two large hospitals. Although the present work didn't discuss length of hospital stay, the study focused on psychiatric diagnosis and reasons for referral. Reduction of healthcare costs are recommended to be investigated in future studies.

Furthermore, the present work revealed that the most common reason for referral was "referral for evaluation". This can show a defective knowledge of medical staff regarding the requirement of referrals to psychiatric departments, where exact symptoms and psychiatric manifestations should be mentioned by the referring physician in the referral form. That's why it's very important to increase the awareness of medical staff, particularly physicians, on the proper way of referring patients to psychiatry department and how they can properly observe the psychiatric symptoms on their patients rather than just referring patients for evaluation.

To our knowledge, this is the first study to investigate the evaluation of psychiatric comorbidity compared between medical and surgical units in Saudi Arabia, particularly in Taif. This study can be a base for establishing strategies and protocols for psychiatric referrals for inpatients. The study is limited by its retrospective nature that should be considered in further studies. Additionally, the reasons behind the differences in referrals between surgical and medical units should be further investigated.

**Conclusion**

The Knowledge of physicians towards the importance of mentioning psychiatric manifestations in psychiatric referrals in addition to the hazards of psychiatric comorbidities in inpatients should be increased. Further prospective studies in Saudi Arabia are essential to figure out the descriptions for psychiatric comorbidities in hospital setting in the region. Furthermore, the impact of psychiatric referrals on healthcare costs and patients' outcomes should be considered in future trials.

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