

# Referral pattern of physical diseases in psychiatric in-patients

Mohammed A. Al-Sughayir, MBBS, KSUF Psych.

## ABSTRACT

**Objective:** To study the referral pattern of physical diseases in psychiatric in-patients in a university teaching general hospital.

**Methods:** A longitudinal prospective study, over 12 months with a consecutive series of referrals from psychiatric in-patient unit to other specialties, in King Khalid University Hospital, using a predesigned format that included information on age, sex, physical examination on admission, consulted medical specialties and opinion of the consulted physician.

**Results:** Referral rate was 38% of the total psychiatric in-patients. The most common consulted specialties were endocrinology (14.5%), dermatology (12.5%) and cardiology (12%). About three quarters of the patients were below 30 years of age. Physical examination on admission was not carried out for 16% of cases. Forty-

four percent of clinicians responses were within 48 hours of the consultation. There were no responses in 12% of the consultations and no life-threatening physical conditions. About one-third of referred patients were schizophrenics.

**Conclusion:** Physical diseases in psychiatric in-patients are common. Evaluation of psychiatric patients should include a detailed physical examination, thorough medical and psychiatric history, as well as appropriate laboratory testing. Improving psychiatrist trainees' skills in detecting and assessing physical conditions in psychiatric patients is essential.

**Keywords:** Psychiatry, referral pattern.

Neurosciences 2000; Vol. 5 (4): 231-235

Psychiatric patients are at medical risk, leading to increasing rates among this population who have increased prevalence of physical diseases sometimes not previously detected and frequently of etiological importance.<sup>1-5</sup> Several researchers have addressed the nature of the association of psychiatric and physical disorders.<sup>1-3</sup> Medical problems in psychiatric patients are important because they can adversely affect the course of the psychiatric condition and, if detected early, can easily be treated. Rates of undiagnosed physical illness in psychiatric population range from 43% to 58%.<sup>6-7</sup> Relatively recently physical diseases in psychiatric patients started to receive increasing attention in many treatment settings.<sup>8</sup> In the Gulf region, there have been several studies on the psychiatric in-patients,<sup>9-13</sup> but little attention has been

given to physical conditions in psychiatric in-patients. Qureshi et al<sup>12</sup> retrospectively reviewed randomly selected case files of 195 Saudi patients who were admitted to a mental health hospital in Qassim, 38% of patients were found to have physical diseases.

To the best of the author's knowledge there has been no published data on the referral pattern of physical diseases in psychiatric in-patients in general hospitals in Saudi Arabia. Accordingly the present study was carried out in a teaching hospital in Riyadh.

**Methods.** The study was conducted at King Khalid University Hospital (KKUH) which is the

From the Division of Psychiatry, College of Medicine, King Saud University, Riyadh, Kingdom of Saudi Arabia.

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Address correspondence and reprint request to: Dr Mohammed A. Al-Sughayir, Assistant Professor & Consultant Psychiatrist, Division of Psychiatry, College of Medicine, King Saud University, PO Box 21525, Riyadh 11485, Kingdom of Saudi Arabia. Fax: 00 966 1 493 1525.

major hospital of the College of Medicine, King Saud University in Riyadh. It is one of the largest secondary and tertiary care centers in the area with a capacity of 500 beds, caring for a population of more than two million. Patients admitted to this hospital generally represent the various ranges of socioeconomic classes and occupations in the Kingdom of Saudi Arabia. Most medical departments are presented. The Psychiatric Division, which is part of the Medical Department, comprises of 22 psychiatric in-patient beds (11 for each sex) in locked-door wards, and is adequately staffed with medical and nursing personnel along with psychologists and social workers. Approximately 250 patients a year are admitted to the psychiatric in-patient services, with the average length of stay being four weeks. Admission is usually through the Emergency Department, out-patient clinics and rarely from medical wards.

The study began in April 1996, prospectively for 12 months, to include all psychiatric in-patients who are referred for a possible physical disease, regardless whether the disease was known before, discovered during or developed after admission. However, referrals for dental problems were excluded. Data was collected through a predesigned format that included: age and sex, physical examination on admission, consulted medical specialty, opinion and plan of the consulted physician. Data was then analyzed with the Systat Static Package in a microcomputer. Chi-square and Fisher's Exact tests were used to assess the significance of the difference between the groups.

**Results.** During the study period the total psychiatric admissions were 211 patients (96 males, 115 females). Readmissions were excluded. Consultations were requested for 81 patients (42 males, 39 females), giving a consultation rate of 38%. There were more than one consultation for 47 subjects, giving a total of 154 referrals (72 males, 82 females). Females were more likely to have multiple referrals than males. However, the difference was not statistically significant. The age and sex distribution of subjects are shown in Table 1. About three-quarters of the patients were below 30 years of age. Only 7 patients (8.5%) were > 50 years of age. Table 2 shows the number of referrals, sex, and the consulted specialties. The most common consulted specialties were endocrinology (14.5%), dermatology (12.5%) and cardiology (12%). Twelve women (31% of female subjects) were referred to the Obstetric and Gynecology Department. Table 3 shows the results of reported physical examination on admission. It should be noted, however, that physical examination on admission was not done for 13 patients (16%) and in 34 patients (42%) there were no comments in the admission paper on the results of

physical examination on admission. Forty-four percent of clinicians responses were within 48 hours of the consultation. There were no responses in 12% of consultations, most of these were referrals to either ear, nose and throat (ENT) or ophthalmology.

Missing dates were found in about 30% of consultations. No significant statistical differences between the two genders were found regarding time interval between consultation and response. Response patterns of the consulted clinicians included: just observe and re-evaluate (24%), further diagnostic steps (30%) most of these cases were suspected endocrinopathies, treatment measures (27%) the most common were dermatological problems, evaluation in out-patient clinics after discharge (7%) most of these cases were ENT consultations. No life-threatening physical conditions. Males and females showed no significant statistical differences with regard to responses of the consulted clinicians. Twenty-three subjects (28%) were schizophrenics. The provisional diagnosis of organic mental disorder was considered in 11% of cases. Three patients were found to have diabetes mellitus not previously diagnosed, (two males and one female).

**Discussion.** Subspecialization proliferates as medicine advances, however, specialization may impede the development of total patient care of mentally ill patients, where physical condition may be overlooked. Hospital studies, though they have some limitations and disadvantages, are essential to the process of planning comprehensive health services for in-patients. The physical illnesses of people with severe and persistent mental disorders frequently are unrecognized and untreated.<sup>3-5</sup> Thus, poor physical health of the mentally ill merits consideration. Diagnosing and treating medical conditions during psychiatric treatment have several benefits. The presence of causative, exacerbating, or coexisting medical illness is often missed by both psychiatric and non-psychiatric physicians.<sup>14</sup> This study explored some clinical parameters of psychiatric in-patients who were referred to other specialties. Like some previous studies,<sup>12,15</sup> about one-third of psychiatric in-patients were found to have a medical condition that required attention during their hospitalization. Hall et al<sup>16</sup> found that 46% of hospital psychiatric patients had previously unrecognized physical illnesses that were specifically related to their psychiatric symptoms either caused by those symptoms (28%) or substantially exacerbated by them (18%).

Hoffman<sup>17</sup> found that in 34% of patients referred to medical psychiatric in-patient units, the diagnosis was changed from a psychiatric to a physical illness. Several reasons exist behind overlooking a physical disease in a mentally disturbed patient. Firstly, and

**Table 1** - Age and sex distribution of patients.

Age in Years	Male Number (%)	Female Number (%)	Total Number (%)
<20	10 (24)	9 (23)	19 (23.5)
21-30	17 (40.5)	13 (33)	30 (37)
31-40	9 (21)	7 (18)	16 (20)
41-50	4 (9.5)	5 (13)	9 (11)
>50	2 (5)	5 (13)	7 (8.5)
<b>Total</b>	<b>42 (100)</b>	<b>39 (100)</b>	<b>81 (100)</b>

(%) = percentage

**Table 2** - Number of referrals and consulted specialties in each gender.

The Consulted Specialties	Male Referrals Number (%)	Female Referrals Number (%)	Total Number (%)
Endocrinology	10 (14)	12 (14.5)	22 (14.5)
Cardiology	9 (12.5)	9 (11)	18 (12)
Dermatology	13 (18)	6 (7.5)	19 (12.5)
Neurology	7 (10)	6 (7.5)	13 (8.5)
Hematology	7 (10)	3 (3.5)	10 (6.5)
Gastroenterology	4 (5.5)	4 (5)	8 (5)
Pulmonology	3 (4)	3 (3.5)	6 (4)
Nephrology	3 (4)	2 (2.5)	5 (3)
Medical on-call	2 (2.5)	3 (3.5)	5 (3)
Surgery	7 (10)	10 (12)	17 (11)
Ophthalmology	4 (5.5)	7 (8.5)	11 (7)
Otolaryngology	3 (4)	4 (5)	7 (4.5)
Obstetric & Gynecology	0 (0)	12 (14.5)	12 (8)
Anesthesia	0 (0)	1 (1)	1 (0.5)
<b>Total</b>	<b>72 (100)</b>	<b>82 (100)</b>	<b>154 (100)</b>

(%) = percentage

**Table 3** - Reported physical examination on admission.

Examination	Male Number (%)	Female Number (%)	* P-Value
No detectable abnormality	12 (80)	29 (100)	0.0344
Detectable abnormality	3 (20)	0 (0)	
<b>Total</b>	<b>15 (100)</b>	<b>29 (100)</b>	

(%) = percentage; \* = Fisher's exact test

most importantly are psychiatrist-related reasons. Despite their medical training, many psychiatrists are unable or unwilling to deal with physical illness in their patients.<sup>14</sup> Secondly, patient-related factors. A dirty, foul-smelling, or hostile psychiatric patient often discourages a close and careful physical examination, as a result important physical clues will be missed. Thirdly, disease-related reasons. Several physical diseases can masquerade as mental disorders.<sup>18,19</sup> Hence, it is of great importance for the psychiatrist to maintain a high index of suspicion that medical illness is causing given psychiatric symptoms or exacerbating them.

Endocrinology was the most common consulted specialty in our subjects (14.5%) which is in line with a Western study.<sup>16</sup> However, the percentage of endocrine diseases in that study was higher (29%) than ours. Endocrinopathies are common physical diseases and may present initially with pure psychiatric manifestations. Moreover, hormonal disturbances, both excess and deficiency, can adversely affect various functions of the nervous system. Also certain hormonal disturbances may emerge as complications to psychotropic medications such, as hypothyroidism and hyperprolactinemia. Differentiation between predominantly psychiatric and basically endocrine disorders is facilitated by modern laboratory techniques. Eight patients (10%) were found to have diabetes mellitus, three of them (4%) were not previously detected. This is not far from an American study<sup>20</sup> that found among the illnesses reported most frequently by psychiatrists on Axis III diabetes mellitus which affected 6%. Thus, diabetes mellitus in psychiatric in-patients warrants attention and consideration.

Referrals to dermatology constituted 12% of referrals in our study which is slightly lower than that reported by Qureshi<sup>12</sup> in a Saudi psychiatric in-patient (16%). Several factors may contribute to the presence of dermatological problems in psychiatric in-patients including poor hygiene and self neglect in psychotic patients who constitute the majority of psychiatric admissions. Certain psychotropic drugs carry the risk of dermatological side-effects.

Obstetric and gynecological problems were found in 31% of the female patients compared to 25% in a Western study.<sup>20</sup> Gynecological problems may have complex treatment implications. For example, one of the side effects of certain psychotropic drugs may be amenorrhea. Furthermore, women may have special concerns about the use of psychotropic drugs in relation to pregnancy, lactation, and sexual functioning. The possibility of side effects and complications for women of child bearing age is a valid concern that has gone largely unaddressed in the research literature.<sup>21</sup>

The attempt to associate specific psychiatric disorder with particular medical conditions or

referrals was difficult in this study because of the small number of patients in each category and the presence of some confounding factors. Also, this study was a study of referral rather than an evaluation of medical intervention. The vast majority (60.5%) of referred patients were below 30 years of age. However, this finding may not be significant since most of the admitted psychiatric patients are usually in this age group. This is supported in part by the findings of a previous study in this country.<sup>12</sup> Peggy<sup>15</sup> found that among patients age 30 or less 47% had a medical diagnosis. It was not surprising in our study to find that there were no abnormalities detected in physical examinations of all female patients on admission. It is known that some women patients in Islamic cultures are resistant to be examined by a male doctor particularly if they have gynecological problems. Hence, some trainee doctors may not perform physical examination or just write "No abnormality detected (NAD)". This is supported by a previous study<sup>13</sup> in the USA which found that physical examinations are often cursory or not performed at all if a patient appears to be lacking in cooperation.

McIntyre and Romano<sup>22</sup> found that fewer than 35% of practicing psychiatrists ever perform physical examinations of their patients; 32% of psychiatrists admitted that they felt incompetent to perform even a rudimentary physical. This is supported by D'Ercole et al<sup>20</sup> who found that many psychiatrists do not feel adequately prepared to evaluate or treat physical health problems, perhaps, due to the minimal training they received in general medicine after their internship. Studies revealed that simple referral of the psychiatric patient to other physicians for examination of possible physical illness frequently proves insufficient.<sup>13-16</sup>

It is the psychiatrist's responsibility, as a medical specialist, to carefully perform the examination and to be adept at assessing relevant physical findings. Psychiatrists should also communicate clearly with physician colleagues. Physical examination is financially beneficial, very informative and must not be overlooked in psychiatric in-patients. Notably, no serious physical conditions were found in our subjects which is in contrast to other studies.<sup>14,20</sup> This finding is difficult to explain except possibly by the fact that the majority of life-threatening physical illnesses among psychiatric in-patients in Western countries are drug or alcohol related.<sup>14</sup> In Saudi Arabia people with drug or alcohol abuse are usually assessed and treated in special addiction hospitals (Al-Amal Hospitals) also patients with substance abuse are rarely accepted in our teaching hospital.

About one-third of our patients were schizophrenics which is in keeping with previous works.<sup>9,13,20</sup> Schizophrenic patients have high rates of undetected physical illnesses possibly due to their

chronic psychosis and its complications.

This is a hospital-based study with an inherent selection bias. Those who get admitted to the psychiatric unit are usually severely ill and present with severe psychotic conditions. One can never be quite sure how representative the subject population is. This study should not be regarded as a complete survey, as it only represents one hospital experience.

However, preliminary data may serve to consider the following clinical implications; the evaluation of psychiatric patients should include a detailed physical examination, thorough medical and psychiatric history including the use of informants in addition to the patient, and appropriate laboratory testing when needed. Postgraduate psychiatric training should take into consideration improving trainees' skills in detecting and thoroughly assessing physical conditions in psychiatric patients. This will also reduce the chances of inappropriate referrals.

Finally, results can provide baseline statistics for local psychiatrists and mental health planners for future planning of the psychiatric services.

**Acknowledgment.** I would like to thank Dr. R. Al-Namlah for participation in data collection. Dr. Asfina and Mr. Amir Marzouk deserve great thanks for data analysis and finally I thank Mr. Jose Wendell Cuyos for his secretarial assistance.

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