Background: This is a study of psychiatric presentations to an Accident and Emergency (A & E) Department of a Saudi general teaching hospital.

Patients and Methods: Consecutive series of psychiatric presentations over 6 months to the A & E Department of a general teaching hospital at Al-Khobar, Eastern Saudi Arabia, were prospectively investigated. Diagnoses were made according to ICD-10 Classification of Mental and Behavioral Disorders.

Results: There were 273 visits, accounted for by 182 index subjects and 37 subjects who made 91 repeat visits (33.3%). The age range of the index group was 5 to 82 years, with 75% below 38 years of age. The majority of the index group (78%) was Saudi. Most index subjects (52.7%) were married, but only 40.5% of repeaters were so. Family was the predominant source of referral of both index (57.7%) and repeat visits (60%). Mood disorders were the commonest diagnoses at both index (31.7%) and repeat visits (39.6%). Most index subjects (57.7%) and repeaters (53.8%) were referred by their families. The majority of the diagnoses were mood disorders (31.7% and 39.6%), followed by anxiety disorders (31.7% and 39.6%).

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repeated visits (56%) were managed at the A & E Department and given psychiatric outpatient appointment. Just over one-fifth (22%) of the index subjects and a little over a quarter (25.3%) of repeated visits were admitted to the psychiatric ward, Mood Disorders being predominant among both.

**Conclusion:** Adequate psychiatric training of primary health care physicians and the establishment of crisis intervention community psychiatric services are advocated.

**Key Words:** Accidents and Emergency Department, Psychiatry, Saudi Arabia

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**INTRODUCTION**

A psychiatric emergency has been defined as: "any disturbance in thought, feelings or actions for which immediate therapeutic intervention is necessary."¹

In 1952, the Maudsley Hospital, in UK pioneered the establishment of Emergency Psychiatry Department providing round the clock walk-in service.² Subsequent studies from the UK,³⁻⁵ the USA,⁶ Nigeria⁷ and the Kingdom of Saudi Arabia (KSA)⁸,⁹ described characteristics of attendants, their diagnoses and management. Males were generally over-represented and attendance was more often after official working hours;⁴,⁵ and a proportion varying from 6%³ to 43%² made repeat visits. The diagnoses varied across studies. Some showed a predominance of psychoses while in others, the commonest were neuroses or Deliberate Self-Harm (DSH).⁴

Accordingly, the author carried out a prospective study to investigate sociodemographic, clinical characteristics and management of psychiatric presentations at the A & E Department of a general teaching hospital in Eastern Saudi Arabia and to compare and contrast findings with national, and international studies.

**MATERIAL AND METHODS**

The study took place at King Fahd Hospital of the University (KFHU), which is a tertiary referral hospital with a walk-in A & E Department operating round the clock at Al-Khobar in the Eastern Province of KSA.

A psychiatric Outpatient Department (OPD) has operated since 1981, and an 18-bed inpatient unit functioned at the time of the study. The psychiatric OPD which runs 8 clinics per week was staffed by 5 faculty psychiatrists, a number of postgraduate residents, and 2 experienced service residents together with 4 faculty clinical psychologists. The Kingdom has established regional hospitals for their care of substance abusers. At KFHU, the emergency room physicians, who have little formal psychiatric training, made initial evaluation and more often, referred the patient to the psychiatric resident on-call, who was called from the Psychiatric Department during working hours; i.e., from 8 am – 4 pm or from his residence outside working hours and over weekends. An on-call consultant psychiatrist was also available during working hours, and/or over the phone, outside working hours and at weekends.

The study included a consecutive series of psychiatric presentations to the A & E Department from 1st January to 30th June 1996. Patients were interviewed and initially managed by the psychiatric resident on-call and data was documented in a structured format. This included sociodemographic data, time of presentations, source of and reasons for referral, past psychiatric and drug abuse history, psychiatric assessment by a semi-structured interview, provisional psychiatric diagnosis according to ICD-10 and management.

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Cases were peer reviewed the following day or subsequent Saturday for cases presented at weekends in a morning conference attended by 2 or 3 faculty psychiatrists. Diagnoses were made according to ICD-10.

**Statistical Methods**

Data was analyzed using an IBM Compatible personal computer. Epi INFO-6 program was used for data entry and analysis. P-value of 0.05 or less was considered significant.

**RESULTS**

There were 288 psychiatric presentations out of a total of 68098 A & E visits, giving psychiatric consultations a rate of 0.42% of the total attendance. Data were inadequate for 15 records and were therefore, excluded from further analysis. The remaining 273 visits were accounted for by 182 index subjects and another 37 subjects comprising 27 males and 10 females, who were responsible for a total of 91 repeat visits (33.3%).

**A. Index subjects (N: 182):**

These included 99 males and 83 females; 78% of whom were Saudi. Their age range was 5 to 82 years; their mean age, standard deviation (SD), was 32.78, 11.550 years, with 38% below 38 years of age, the values for males and females were 32.95, 11.59 and 32.578, 11.569 years respectively. The difference between the mean ages of the sexes was statistically insignificant (Kruskall-wallis H test = 0.019, degrees of freedom = 1 and p-value = 0.89).

**Area of residence:**

Of the index group, 73% were from Al-Khobar and Dammam, a town about 25 kilometers away.

**Marital status:**

Of the group, 72 subjects (39.6%) including 56 males and 16 females were single, 96 subjects (52.7%) consisting of 35 males and 61 females were married and 12 subjects (6.6%), made up of 6 males and 6 females were divorced or separated and data were missing for 2 male subjects. The difference between males and females on the marital status was statistically significant. Chi-square test = 28.35, degrees of freedom=2 and p=0.0000007.

**Time of presentation:**

Of the group, 48.35% presented during working hours, i.e., 8 am – 4 pm, and 51.65% out-of-hours i.e., 4 pm – 8 am.

**Sources of referral:**

Of the group, 98 (53.8%) comprising 45 males and 53 females were brought in by their families, 21.45 were self-referral, 9.8% were by the Police and/or Red Crescent, 7.1% a sponsor and 6% were from other sources. Significantly, more females than males were brought by family (53/83 vs. 45/99 respectively); Chi-square Yates corrected = 5.43, p=0.019.

**Reasons for referral:**

Seventy-three percent were on account of psychiatric or suspected psychiatric disorders, 10.4% were due to shortage of psychotropic drugs, 6% on account of DSH; 3.3% who were exclusively males, because of aggressive behavior, and 7.1% for other reasons.

**Drug abuse history:**

Twenty-three subjects (12.6%), all males, had a positive past history of drug abuse.

**Past psychiatric history:**

Of the group, 64.8% had a positive past psychiatric history.
Psychiatric assessment:
Table 1 illustrates the diagnoses of the index group.

Disposal:
Of the group, 105 (57.7%) were managed at the Emergency Room (ER) and given OPD appointment for follow-up. The common diagnoses among them were: mood disorders in 36 (34.2%), schizophrenia in 29 (27.6%), neuroses in 22 (20.9%); representing 12% of total index visits, and other conditions in 17 (16.1%). Besides 4.3% were managed at the ER and sent home, 3.8% were admitted to the main hospital, 22% were admitted to the psychiatric inpatient unit, the commonest diagnoses among whom were: mood disorders in 47.5%, followed by schizophrenic disorders in 30% while neuroses were rather infrequent, encountered in 10%. Other measures were taken on a further 12%.

B. Repeaters
The mean age of the repeaters and SD was 30.7 and 7.9 years respectively, 48.6% of them were single, 40.5% were married and 10.8% were separated or divorced. The majority (97.3%) were Saudi. Ninety-one repeated visits were made. The frequency of their visits was as follows: 25 subjects (67.6%) made 2 visits, 7 subjects (18.9%) made 3 visits and 5 subjects (13.5%) made 4 visits. Most of subjects (81%) were from Al-Khobar and Dammam; 56% of the visits were during working hours and 44% were out-of-hours. The sources of their referral were as follows: 60% were brought by family, 27.4% were self-referral, 11% males by Red Crescent and/or Police and 1% by other sources. With regard to reasons of referral, 69.2% were on account of psychiatric or suspected psychiatric illness, 18.75 were due to shortage of drugs, 6.6% and exclusively males were due to aggression and 5.5% due to other reasons. As ascertained at their first presentations, 73% had a positive past psychiatric illness. Ten male subjects (27%) had abused drugs.

Psychiatric diagnoses:
Table 2 shows the diagnosis per visit.

Disposal:
Of the repeated visits, 56% were managed at the A & E and sent home with a psychiatric OPD appointment for follow-up, 5.5% were managed at the A & E and sent home, 2% were admitted to the main hospital and 23 (25.3%) were admitted to the psychiatric ward. These were accounted for by 12 subjects whose frequency of admissions was as follows: 3 subjects were admitted once, 7 subjects were admitted twice and 2 subjects were admitted thrice. Their diagnoses were as follows: 11 (47.8%) episodes of mood disorders, commonly mania or hypomania, 10 (43%) episodes of schizophrenic disorders and 2 (8.7%) for substance related disorders and finally 11% received other management.

DISCUSSION
In this study, the psychiatric consultation rate of 0.42% of the total A & E visits was low compared with figures of 1.8% in the UK and 3.9% in the USA studies. Besides sample difference, some emergencies might have presented to other psychiatric services in the area. The majority were young and males outnumbered females, concurring with reports from the UK, Nigeria and Saudi Arabia. Subjects were mostly married, which was akin to USA series. At variance with reported preponderance of visits after hours, most visits were during hours, like similar findings in a large series in the UK. The majority, and significantly females were brought by their families in contrast with lower frequency of such referral in a USA study, but was in consonance with a
Table 1: Diagnoses of index visits

| Diagnoses (ICD-10)                                               | Males | Females | Total |
|-----------------------------------------------------------------|-------|---------|-------|
| N (%)                                                           |       |         |       |
| Organic mental disorders (F00-F09)                             | 3     | 0       | 3 (1.6) |
| Mental and behavioral disorders due to psychoactive substance   | 6     | 1       | 7 (3.8) |
| (F10-F19)                                                       |       |         |       |
| Schizophrenia, schizotypal and delusional disorders (F20-F29)  | 32    | 16      | 48 (26.4) |
| Mood disorders (F30-F39)                                        | 30    | 28      | 58 (31.7) |
| Neurotic, stress-related and somatoform disorders (F40-F48)    | 10    | 23*     | 33 (18.1) |
| Disorders of adult personality (F60-F69)                       | 5     | 1       | 6 (3.3) |
| Mental retardation (F70-F79)                                    | 1     | 0       | 1 (0.5) |
| Deliberate Self-Harm                                           | 4     | 7       | 11 (6) |
| Extra-pyramidal symptoms                                       | 4     | 1       | 5 (2.7) |
| Others                                                          | 3     | 3       | 6 (3.3) |
| No psychiatric disorder                                        | 1     | 3       | 4 (2.2) |
| Total                                                           | 99    | 83      | 182 (100) |

*Chi-square test, Yates corrected = 8.28, p=0.004

Table 2: Diagnoses of repeat visits

| Diagnoses (ICD-10)                                               | Males | Females | Total |
|-----------------------------------------------------------------|-------|---------|-------|
| N (%)                                                           |       |         |       |
| Mental and behavioral disorders due to psychoactive substance   | 4     | 0       | 4 (4.4) |
| (F10-F19)                                                       |       |         |       |
| Schizophrenia, schizotypal and delusional disorders (F20-F29)  | 27    | 5       | 32 (35) |
| Mood disorders (F30-F39)                                        | 20    | 16      | 36 (39.6) |
| Neurotic, stress-related and somatoform disorders (F40-F48)    | 0     | 2       | 2 (2.2) |
| Disorders of adult personality (F60-F69)                       | 4     | 0       | 4 (4.4) |
| Mental retardation (F70-F79)                                    | 2     | 0       | 2 (2.2) |
| Extra-pyramidal symptoms                                       | 2     | 1       | 3 (1.7) |
| No psychiatric disorder                                        | 0     | 2       | 2 (2.2) |
| Total                                                           | 65    | 26      | 91 (100) |

similar study in a Saudi culture, cultural factors being the probable explanation as females are often accompanied by a first degree relative or a husband when visiting a hospital. Self-referral was the second most frequent mode of referral, whereas it was the commonest in a UK study. Red Crescent and/or Police referral, more significant among males, was infrequent in this sample which agreed with lower frequency of such referral in the Nigerian and UK studies. The most frequent reasons for referral were understandably psychiatric disorders, similar to findings in UK series. followed by a shortage of drugs. The latter reason was not present in Western reports yet documented in a national study. DSH as a cause of referral is relatively high in western studies, ranging from 5% to 39%. In contrast, it was rather low in this series which was consistent with reported low frequency of DSH in a limited hospital-based study in this culture. Discordant with the high frequency of violence reaching 40% in some Western reports, this study showed comparatively low frequency of aggression. Cultural factors were the probable explanation, social disorganization and fights are infrequent in this culture due to strong moral codes. Furthermore, alcohol, which is one of the commonest causes of violence is prohibited and hence alcoholism and its related

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problems are rather rare. At both index and repeat visits, a proportion of male subjects gave a history of drug abuse which conforms with report showing preponderance of males among drug abusers who also had an increased psychiatric comorbidity. Just over a quarter of index visit subjects, had a negative past psychiatric history and most of them were first episode psychiatric disorders. However, they could have presented to the psychiatric OPD routinely rather than to the A & E for a quick access to psychiatric service to avoid the long waiting lists. Other authors in the UK noted a similar trend.

Using ICD-10 diagnosis, mood disorders were the prevalent diagnosis at index visits similar to UK study. Similarly, they were the commonest disorders among repeat visits, those admitted at both index and repeat visits and those given OPD appointments for follow-up but in contrast with a national study where neurotic conditions were the most prevalent. A probable explanation was that the latter study, which was retrospective, involved a large sample, used a different system of classification and covered several years.

The majority of index and repeat visits, were managed at the A & E Department and often given psychiatric OPD appointment for follow-up or sent home. This concurred with national and international reports.

Western reports show that 10% to 40% of psychiatric patients seen at A & E Department were admitted to the psychiatric unit. In this study, over one-fifth of the index subjects and nearly one-third of repeaters were admitted, a figure which was close to a national study which documented nearly a quarter admissions.

The majority of index subjects and repeaters were managed at the A & E and were given psychiatric OPD for follow-up.

As a majority of neurotic subjects were managed at the A & E Department and minority were hospitalized, it seemed that a proportion of them had misutilised the emergency services. They could have been managed initially by well-trained primary health care physicians and referred to psychiatric OPD if required.

As mood and neurotic disorders were prevalent among index subjects, it is advocated that (a) adequate training be given to primary health care physicians to identify and manage these common disorders, (b) an allowance be made for walk-in services for the renewal of prescriptions at the psychiatric OPD clinics, (c) telephone or home-based crisis intervention services led by a psychiatrist and community psychiatric nurse for management of potential deliberate-harm subjects or other disturbed patients be established to lessen the pressure on and optimize the utilization of A & E psychiatric services at this facility.

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