Journal of Psychiatry
ISSN: 2378-5756

Sharaheeli et al., J Psychiatry 2015, 18:5
DOI: 2378-5756.1000312

Research Article Open Access

Characteristics of Mental Illnesses among Psychiatric Patients Admitted to the Alamal Complex for Mental Health in Riyadh, Saudi Arabia in 2013

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Abstract

Objectives: This study aimed to assess the characteristics of psychiatric disorders among psychiatric patients admitted to the AlAmal Complex for Mental Health in Riyadh from 15-11-2012 to 3-11-2013 and develop recommendations for addressing those characteristics.

Methodology: This study collected data through a retrospective chart review. Epi-Info was used for data entry and analysis.

Results: We analyzed 1, 777 patients, primarily aged 12-30 years (43.7%) and 31-40 years (29.5%). Males accounted for 92.1% of patients, 54.9% of patients resided in Riyadh, 98.3% of patients were Saudi, and 63.6% were working. Further, 65.3% of patients were single, 31% were married, 3.5% were divorced and 0.2% was widowed. Finally, 36.6% of patients had a secondary level of education, 29.4% had an intermediate level, 20.8% had a primary level, 11.1% had a university level and 2.1% were illiterate. Admission due to substance abuse, schizophrenia and bipolar affective disorders accounted for 83.5%, 6.9% and 48% of admissions, respectively. These diagnoses represented 95.2% of all included patients.

Conclusion: Our results are consistent with the literature. The mental illnesses observed among inpatients are primarily substance abuse, schizophrenia and bipolar affective disorder. These illnesses are more common among young individuals and males, and most inpatients were from outside Riyadh.

Keywords: Mental illnesses; Psychiatric patients; Alamal complex; Saudi Arabia

Introduction

Mental illnesses are a major public health problem in developed and developing countries. The impact of mental illness on the patient, family and community is significant. For example, mental illnesses cause a financial burden that includes the costs of medications and hospital admissions in addition to the cost of being absent from work. The onset of mental illnesses typically occurs in adolescents and young adults, primarily in males [1]. From a finding already reported by Kraepelin, and confirmed by numerous studies: At schizophrenia onset women are several years older than men. Male first episodes are more frequent and more severe in the first half of life, while female ones in the second half [2,3]. Men appear to have an earlier onset of mania and bipolar disorder than women. The association of male gender and childhood antisocial behavior with early-onset bipolar disorder raised the possibility of the existence of an early-onset subgroup [4]. Development from adolescence to young adulthood with a focus on ages 18-25 is very important period. Young men attempt to explore their independence and to experience new experiments. Such transition can prone them to substance abuse which may subsequently result in chronic mental illnesses [5]. The global burden of psychiatric diseases in all age groupsis trending to rise from 10.5% in 1990 to 14.7% in 2020. The highest increase in the burden of psychiatric illnesses has occurred in the Middle East, sub-Saharan Africa and India [6]. Admissions to mental hospitals can occur voluntarily with consent or involuntarily without consent; in addition, admissions can be compulsory by the court. The type of admission depends on the severity of the case. Admission into mental hospitals should be ordered by a physician, particularly but not necessarily a psychiatrist [7]. Involuntary admissions lead to the occupation of more beds in mental hospitals. The annual increase in involuntary admissions in England was 60% between 1988 and 2008 [8]. Admission to all departments of mental hospitals (e.g. forensic department) showed an increased trend. Most of this growth occurred in the use of secure psychiatric beds, both in the urban catchment area services and in 'out of area' services. The secure beds were accessed via the courts, where forensic orders could be made by judges committing a defendant to be detained in a psychiatric hospital [9]. As of 2001, 73 of 90 countries worldwide provided some form of compulsory commitment (acute or rehabilitative) motivated by the intent to protect an otherwise legally capable individual who is in a self-destructive and vulnerable situation because of substance use [10]. The rate of first admission into mental hospitals is high among patients with substance-induced psychoses. Better compliance with treatment markedly improves outcomes and reduces the admission frequency. In the United States, a study of active-duty military personnel showed that from 1990 to 1999, 194, 974

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Received June 11, 2015; **Accepted** July 29, 2015; **Published** August 03, 2015

Citation: Sharaheeli J, Alswaidi F, Mandil A (2015) Characteristics of Mental Illnesses among Psychiatric Patients Admitted to the Alamal Complex for Mental Health in Riyadh, Saudi Arabia in 2013. J Psychiatry 18: 312 doi: 10.4172/2378-5756.1000312

(13%) of all hospitalizations (1, 529, 323) were due to mental illnesses. Among those hospitalized with mental disorders, 109, 451 (56%) were admitted to inpatient psychiatric wards. The rates of hospitalization among military personnel with mental disorders were higher among younger individuals, females, and those with a single marital status. Substance-induced mental disorders represented the cause of the most hospitalizations, followed by schizophrenia and mood disorders [11]. The rate of admission into mental hospitals should be reduced in favor of outpatient treatment, which provides a better opportunity for patients to live their lives in their homes [12]. Despite this advantage, admission and inpatient treatment remain the safest way to treat some patients, particularly those who cannot be treated well using outpatient services [13]. It is well known that there is a seasonal variation in admissionsto mental hospitals. The cyclic pattern of admission is clear for schizophrenia and mood disorders, with a maximum in July and a minimum in January;this pattern reflects the role of temperature in the summer [14]. Long time ago, may be in ancient dates even before researches, there was a believe that, during the fall and winter, when there is less sunlight, which leads to mood instability, the suicide rates increased [15,16]. Climatic changes such as temperature and humidity can affect the human body which is very sensitive to such changes [17]. With the increased studies, it became clear that the period of spring and early summer are periods for the most frequent occurrence of suicide [18,19]. The temperature, humidity, wind, air pressure, insolation, precipitation, positive or negative air ionization, particularly when these factors increase or decrease, have increased the rate of patients admission to mental hospitals [20]. In England, there is a regional variation in admission rates. In addition, more admissions occur among men than women. Depression and anxiety were the main reasons for admission. The average length of stay in the hospital is less than 3 months for approximately 90% of patients, from 3 months to 1 year for approximately 9% of the patients and exceeds 1 yearfor approximately 1% of patients [21]. Over half of psychiatric patients (58%) are married. In addition, 36% of psychiatric patients are employed, 44% are retired, 4% are unemployed, and 16% are disabled [22]. Theserates are not consistent worldwide because many different figures have been reported. As shown among military personnel in the USA, psychiatric disorders are more common among single individuals. In Sudan, mood disorders represent the most frequent cause of admission among psychiatric inpatients (22%), followed by schizophrenia (15%) and substance abuse (10%) (WHO, 2009). In Saudi Arabia, a study conducted at Taif Mental Hospital during the period from January 1999–January 2009 showed that admission is more frequent among males than females and occurs primarily among Saudis. The major illness observed in admitted patients was schizophrenia, followed by substance abuse. Medical comorbidity was present in a substantial number (55.5%) of psychiatric inpatients at Taif Mental Hospital, and psychiatric comorbidity was present in 16% of the general Saudi population [23]. The number of patients admitted to MOH mental hospitals in 2012 was 495, 484. Substance abuse diagnoses represented approximately 28% of those patients (138, 405), schizophrenia represented approximately 14% (70, 051) and psychiatric disorders not otherwise specified represented 25.8% (127, 990). At the AlAmal Complex, 13, 967 patients were admitted from 2008 to 2012.In 2012, 3, 234 (23%) patients were admitted, and the number of beds was 626; thus, the patient: bed ratio was 5.2:1. The total number of inpatients decreased by 6.7% from 2008 to 2012among all MOH mental hospitals [24]. The psychiatric hospital in Riyadh was launched in 1983. The addiction hospital was launched in1987. Both hospitals were connected to form the AlAmal Complex for Mental Health. This complex consists of psychiatric departments, drug departments, emergency departments, clinics, a laboratory, a pharmacy, rehabilitation departments and police departments. The capacity of the complex is 503beds [25].

Objectives

1- This study aimed to assess the characteristics of psychiatric disorders among psychiatric patients admitted to the AlAmal Complex for Mental Health in Riyadh from 15-11-2012 to 3-11-2013.

2- This study aimed to identify possible recommended measures, such as launching AlAmal hospitals in other regions or strengthening substance abuse regulations. Such recommendations will be based on the study results and will address the characteristics revealed by the study. For instance, the most frequent disorders and the most affected groups could be targeted to control admissions to the AlAmal Complex and reduce the burden of hospitalization.

Methodology

Study design

This study included a retrospective chart review of the psychiatric patients admitted to the AlAmal Complex for Mental Health in Riyadh from 15-11-2012 to 3-11-2013. These dates correspond to 1-1-1434 to 29-12-1434H.

Study population

The study included patients who were admitted to the AlAmal Complex for Mental Health in Riyadh from 15-11-2012 to 3-11-2013.

Sample size

All psychiatric patients with complete files who were admitted to the AlAmal Complex for Mental Health in Riyadh from 15-11-2012 to 3-11-2013 were included. Incomplete files with two or more missing variables were excluded. Complete files are the files that contain nearly all of the items in the semi-structured pro forma. A total of 11 files (0.62%) had missing age values.

Data collection

Data were collected from chart reviews to complete the semi-structured pro forma that was designed to include information concerning demographic data, psychiatric diagnosis, psychiatric comorbidity, and medical comorbidity. The proposal was submitted to the Saudi Board for Community Medicine and to the Research and Study General Directorate of the Ministry of Health to obtain permission to proceed with the study. The principal investigator conducted the data collection.

Analysis plan

The Epi-Info 7 software from the CDC (available at: http://wwwn.cdc.gov/epiinfo/) was used for data entry and analysis. The data were analyzed to achieve the objectives of the study. The prevalence of each disorder was estimated. In addition, the prevalence of the disorders was also estimated among different subgroups (e.g., male/female, age groups, month of admission, education, occupational status, residency, nationality, medical comorbidity, and psychiatric comorbidity).

Ethics

Ethical approval was obtained from the Institutional Review Board of the Ministry of Health committee.

Regarding consent

No consent was required from the patients because the data were collected from medical files. The study involved no risk to the subjects. The waiver or alteration of consent did not adversely affect the rights and welfare of the subjects. Whenever appropriate, the subjects will be provided with additional pertinent information after participation.

Regarding confidentiality

The confidentiality of personal data was maintained. The information was gathered and recorded by the principal investigator. No other individuals participated in data collection or had access to the medical files except the supervisor. Names and file numbers did not appear in the study. Thus, the subjects could not be identified. Codes were given to the files (e.g., #10 in the sample or the last 3 digits of the file number).

Results

The study included 1, 777 patients who were admitted to the AlAmal Complex for Mental Health in Riyadh from 15-11-2012 to 3-11-2013. The patients included in the study had files that contained nearly all of the data in the semi-structured pro forma.

Table 1 show that most of the patients belonged to the age groups 12-30 years and 31-40 years, with percentages of 43.7% and 29.5%, respectively. These two age groups included 73.2% of all patients.

The vast majority of the patients were males (92.1%) (Table 2). In addition, 54.9% of the patients resided in Riyadh City (Table 3). Most

Mental disorder	<10	10-20	21-30	31-40	41-50	51-60	>60	Total
Schizophrenia (SCZ)	2 (1.7)	3 (2.5)	50 (41.7)	40 (33.3)	17 (14.2)	7 (5.8)	1 (0.8)	120 (6.8)
Bipolar Affective Disorders (BAD)	0	4 (4.9)	30 (36.6)	26 (31.7)	15 (18.3)	5 (6.1)	2 (2.4)	82 (4.6)
Major Depressive Disorders (MDD)	0	2(9.5)	4(19)	7(33.3)	5(23.8)	1(4.8)	2(9.5)	21(1.2)
Mental Disorders due to General Medical Conditions (MD/GMC)	0	0	2(66.7)	1(33.3)	0	0	0	3(0.2)
Mental Disorders due to Substance (MD/SA)	0	0	3(75)	1(25)	0	0	0	4(0.2)
Personality Disorders (PD)	0	1(16.7)	2(33.3)	1(16.7)	2(33.3)	0	0	6(0.3)
Schizoaffective Disorders (SAD)	0	0	9(32.1)	11(39.3)	5(17.9)	3(10.7)	0	28(1.6)
Others*	0	0	3(30)	5(50)	2(20)	0	0	10(0.6)
Not otherwise specified (NOS)	0	2(25)	3(37.5)	2(25)	0	1(12.5)	0	8(0.5)
Substance	2(0.1)	130(8.8)	666(44.9)	427(28.8)	193(13)	55(3.7)	11(0.7)	1484(84)
Total	4(0.2)	142(8)	772(43.7)	521(29.5)	239(13.5)	72(4.1)	16(0.9)	1766(100)

*Others include adjustment disorders (1), somatization (1), acute psychotic disorders (1), delusional disorders (3), mental retardation (3), mixed anxiety depressive disorders (1) and epilepsy (1).

Table 1: Frequency of mental illnesses among psychiatric inpatients at the AlAmal Complex in Riyadh, Saudi Arabia in 2013 according to age group.

Mental disorder	Male	Female	Total
Schizophrenia (SCZ)	94(76.4)	29(23.6)	123(6.9)
Bipolar Affective Disorders (BAD)	32(37.2)	54(62.8)	86(4.8)
Major Depressive Disorders (MDD)	8(38.1)	13(61.9)	21(1.2)
Mental Disorders due to General Medical Conditions (MD/GMC)	1(33.3)	2(66.7)	3(0.2)
Mental Disorders due to Substance (MD/SA)	3(75)	1(25)	4(0.2)
Personality Disorders (PD)	4(57.1)	3(42.9)	7(0.4)
Schizoaffective Disorders (SAD)	19(63.3)	11(36.7)	30(1.7)
Others*	7(63.6)	4(36.4)	11(0.6)
Not otherwise specified (NOS)	4(50)	4(50)	8(0.5)
Substance	1465(98.7)	19(1.3)	1484(83.5)
Total	1637(92)	140(8)	1777(100)

*Others include adjustment disorders (1), somatization (1), acute psychotic disorders (1), delusional disorders (3), mental retardation (3), mixed anxiety depressive disorders (1) and epilepsy (1).

Table 2: Frequency of mental illnesses among psychiatric inpatients at the AlAmal Complex in Riyadh, Saudi Arabia in 2013 according to gender.

Mental disorder	Outside Riyadh	From Riyadh	Total
Schizophrenia (SCZ)	60(48.8)	63(51.2)	123(6.9)
Bipolar Affective Disorders (BAD)	41(47.7)	45(52.3)	86(4.8)
Major Depressive Disorders (MDD)	11(52.4)	10(47.6)	21(1.2)
Mental Disorders due to General Medical Conditions (MD/GMC)	3(100)	0	3(0.2)
Mental Disorders due to Substance (MD/SA)	1(25)	3(75)	4(0.2)
Personality Disorders (PD)	4(57.1)	3(42.9)	7(0.4)
Schizoaffective Disorders (SAD)	19(63.3)	11(36.7)	30(1.7)
Others*	4(36.4)	7(63.6)	11(0.6)
Not otherwise specified (NOS)	5(62.5)	3(37.5)	8(0.5)
Substance	654(44)	830(56)	1484(83.5)
Total	802(45.1)	975(54.9)	1777(100)

*Others include adjustment disorders (1), somatization (1), acute psychotic disorders (1), delusional disorders (3), mental retardation (3), mixed anxiety depressive disorders (1) and epilepsy (1).

Table 3: Frequency of mental illnesses among psychiatric inpatients at the AlAmal Complex in Riyadh, Saudi Arabia in 2013 according to residency.

of the patients were Saudis (98.3%). A total of 63.6% of the patients were working. With respect to marital status, 65.3% of the patients were single, 31% were married, 3.5% were divorced and 0.2% were widowed (Table 4).

With respect to the educational level of the patients, 36.6% of the patients had a secondary level of education, 29.4% had an intermediate level, 20.8% had a primary level, 11.1% had a university level and 2.1% were illiterate (Table 5). Medical and psychiatric comorbidities were present in a negligible percentage of the included patients (5 (0.3%) and 19 (1%) patients, respectively).

With respect to the date of admission, the lowest rates occurred in the first and last months of the year (0.5% & 1.5%, respectively). The rates of the other months of the year were similar to each other.

The highest rate of admission was due to substance abuse (83.5%), followed by schizophrenia and bipolar affective disorders (6.9% and 4.8%, respectively). These three diagnoses represented 95.2% of all mental illness patients admitted to the AlAmal Complex in 2013 (Table 1). Substance abuse was more common within the age groups 21-30 years (44.9%) and 31-40 years (28.8%). Substance abuse was rare below age of 10 years and over the age of 60 years (0.1% and 0.7%, respectively) (Table 1) and nearly always occurred among males (99%) (Table 2). Approximately 56% of patients with substance abuse were from Riyadh (Table 3). Substance abuse nearly always occurred among Saudis (98%). In addition, 67.3% of substance abusers were working. Among substance abusers, 20% had a primary level of education, 30.1% had an intermediate level, 38.2% had a secondary level and 10.4% had a university level. Only 1% of substance abusers were illiterate (Table 4). In addition, 66.1% of substance abusers were single. The single and married categories represented 97.5% of substance abusers (Table 5). Schizophrenia was more common within the age groups 21-30 years (41.7%) and 31-40 years (33.3%). Schizophrenia was rare below the age of 10 years and over the age of 60 years (1.7% and 0.8%, respectively) (Table 1) and was more common among males (76.6%) (Table 2). A total of 51.2% of patients with schizophrenia were from Riyadh (Table 3). All of the schizophrenia patients were Saudis (100%). In addition, 52.8% of schizophrenia patients were not working. Among patients with schizophrenia, 26.8% had a primary level of education, 22.8% had an intermediate level, 31.7% had a secondary level and 14.6% had a university level. Only 4.1% of schizophrenia patients were illiterate (Table 4). In addition, 74% of schizophrenic patients were single, 17.1% were married and 8.9% were divorced (Table 5). Bipolar affective disorders (BAD) were more common within the age groups 21-30 years (36.6%), 31-40 years (31.7%) and 41-50 years (18.3%). The prevalence of BAD was 0% below the age of 10 years, and BAD was uncommon over the age of 60 years (2.4%) (Table 1). BAD was more common among females (62.8%) (Table 2). A total of 52.3% of patients with BAD were from Riyadh (Table 3). BAD nearly always occurred among Saudis (98.8%). In addition, 58% of patients with BAD were not working. Among patients with BAD, 20.9% had a primary level of education, 31.4% had an intermediate level, 26.7% had a secondary level and 14% had a university level. Only 7% of BAD patients were illiterate (Table 4). In addition, 50% of patients with BAD were single, 41.9% were married and 7% were divorced (Table 5).

Discussion

The analysis of the pattern of distribution of mental illnesses in the current study revealed that most inpatients were in the age group 21-30

Mental disorder	Illiterate	Primary	Intermediate	Secondary	University	Total
Schizophrenia (SCZ)	5(4.1)	33(26.8)	28(22.8)	39(31.7)	18(14.6)	123(6.9)
Bipolar Affective Disorders (BAD)	6(7)	18(20.9)	27(31.4)	23(26.7)	12(14)	86(4.8)
Major Depressive Disorders (MDD)	4(19)	8(38.1)	4(19)	3(14.3)	2(9.5)	21(1.2)
Mental Disorders due to General Medical Conditions (MD/GMC)	1(33.3)	1(33.3)	0	1(33.3)	0	3(0.2)
Mental Disorders due to Substance (MD/SA)	0	1(25)	3(75)	0	0	4(0.2)
Personality Disorders (PD)	0	2(28.6)	2(28.6)	2(28.6)	1(14.2)	7(0.4)
Schizoaffective Disorders (SAD)	3(10)	9(30)	3(10)	8(26.7)	7(23.3)	30(1.7)
Others*	3(27.3)	1(9.1)	0	4(36.3)	3(27.3)	11(0.6)
Not otherwise specified (NOS)	0	1(12.5)	4(50)	3(37.5)	0	8(0.5)
Substance	15(1)	296(20)	452(30.1)	567(38.2)	154(10.4)	1484(83.5)
Total	37(2.1)	370(20.8)	523(29.4)	650(36.6)	197(11.1)	1777(100)

*Others include adjustment disorders (1), somatization (1), acute psychotic disorders (1), delusional disorders (3), mental retardation (3), mixed anxiety depressive disorders (1) and epilepsy (1).

Table 4: Frequency of mental illnesses among psychiatric inpatients at the AlAmal Complex in Riyadh, Saudi Arabia in 2013 according to education.

Mental disorder	Married	Single	Divorce	Widow	Total
Schizophrenia (SCZ)	21(17.1)	91(74)	11(8.9)	0	123(6.9)
Bipolar Affective Disorders (BAD)	36(41.9)	43(50)	6(7)	1(1.1)	86(4.8)
Major Depressive Disorders (MDD)	12(57.1)	5(23.8)	2(9.5)	2(9.5)	21(1.2)
Mental Disorders due to General Medical Conditions (MD/GMC)	1(33.3)	2(66.7)	0	0	3(0.2)
Mental Disorders due to Substance (MD/SA)	1(25)	3(75)	0	0	4(0.2)
Personality Disorders (PD)	0	6(85.7)	1(14.3)	0	7(0.4)
Schizoaffective Disorders (SAD)	11(36.7)	16(53.3)	3(10)	0	30(1.7)
Others*	2(18.2)	8(72.7)	1(9.1)	0	11(0.6)
Not otherwise specified (NOS)	0	6(75)	2(25)	0	8(0.5)
Substance	466(31.4)	981(66.1)	36(2.4)	1(0.1)	1484(83.5)
Total	550(31)	1161(65.3)	62(3.5)	4(0.2)	1777(100)

*Others include adjustment disorders (1), somatization (1), acute psychotic disorders (1), delusional disorders (3), mental retardation (3), mixed anxiety depressive disorders (1) and epilepsy (1).

Table 5: Frequency of mental illnesses among psychiatric inpatients at the AlAmal Complex in Riyadh, Saudi Arabia in 2013 according to marital status.

years (44%), followed by the age group 31-40 years (30%). Thus, the age group 21-40 years included approximately 75% of the inpatients. This finding is consistent with studies conducted in Kathmandu in Nepal in 2011 and among military personnel in the USA in 2002.Most inpatients had intermediate and secondary education levels (66%); this finding is consistent with the young ages of the patients. This study demonstrated that most inpatients with psychiatric illnesses were males, as indicated by many studies. A few exceptions to this finding have been reported, such as studies conducted in Kathmandu in Nepal in 2011, among military personnel in the USA in 2002, in England in 2004 and in Taif in 2013. This result indicates that young age groups and males are more vulnerable to mental illnesses, particularly substance abuse. The reason for this finding this may be that this age represents the transition period during which individuals leave the house and join the community. Therefore, more contact with peers of similar ages can influence indiscrete behaviors. One exception was reported in the United States, where a study among active-duty military personnel from 1990 to 1999 showed that psychiatric disorders were more common among females. Even substance abuse was more common among females. This difference may be due to the effect of occupation, particularly occupations with high stressors, such as military occupations.

The results of the present study support the conclusions of past studies, which reported that the most common mental illnesses among inpatients were substance abuse, schizophrenia, and BAD, with some variations in relative prevalence. The previous studies were conducted in the USA in 2002, in Sudan in 2009 and in Taif in these three disorders represented 95.2% of all mental disorders in this study. Substance abuse had the highest prevalence in this study (83.5%). This high percentage may be attributed to the fact that the AlAmal Complex is a specialized hospital for drug abuse. Thus, other illnesses can be treated in other hospitals that have psychiatric departments to avoid the stigma of AlAmal Hospital. In addition, a large percentage (approximately 45%) of all inpatients, particularly substance abusers, were from outside Riyadh because many regions do not have AlAmal hospitals. Thus, regional variation occurred in this study, as in other studies, such as the study conducted in England in 2004. In contrast to other studies, such as the study conducted in 1978, this study demonstrated no seasonal variation in admissions to mental hospitals. The negligible differences in the rates of admissions in the first and last months of the year (0.5% and 1.5%, respectively) may be due to inaccurate registration of admission dates. Some patients in the preceding year (2012) or the following year (2014) could be included in the year 2013.

In this study, the Saudi nationality predominated other nationalities. This finding is due to regulations related to admission to mental hospitals, such as compulsory admission or strong restrictions on the admission of foreigners into the AlAmal Complex. This finding is consistent with other studies, such as the study conducted in Taif mental hospitals in 2013, the study conducted in Brazil in 2009 and the study conducted in England from 1988 to 2008. Saudi patients can be admitted to the AlAmal complex against the patient or family will if there is a clear danger to the patient, others, or property due to substance abuse. The decision can be made by police, according to psychiatric recommendations. Foreigners cannot be admitted to AlAmal Hospital unless there is a strong and clear order from senior officials. Even in the case of clear danger, foreign patients will be stabilized with medication for a short period, and police will take the patients, according to substance abuse regulations. Other mental illnesses have more flexible policies in AlAmal Hospital. For instance, foreign patients with schizophrenia can be admitted and treated. In the current study, medical and psychiatric comorbidity were negligible (0.3% and 1%, respectively). This finding is opposite to that of the study conducted in Taif in 2013, in which medical and psychiatric comorbidity represented significant figures (55.5% and 16%, respectively). The reason for this difference is not clear because there is a medical team in the hospital that conducts continuous medical evaluations. It is possible that there was lack of documentation or history assessment. This study showed that the highest rate of psychiatric inpatients occurred among single individuals (65.3%). This finding is consistent with some studies but stands in contrast to others, such as the studies conducted in the USA in 2002 and 1999. The result from this study is likely to be valid because the major category affected by mental illnesses is young males, which can delay marriage. In the Saudi culture, marriage is initiated by males.

This study demonstrated that the rate of employment among inpatients was higher than the rate of non-employment (64%). This finding differs from that of the study conducted in the USA in 1999. The reason for this difference may be that many patients had free work that was documented and labeled as employment.

Limitations

The major limitation of this study is the presence of incomplete and inaccurate files.

Conclusion

The results of the current study are mostly consistent with previous studies conducted in other countries. Specifically, the mental illnesses observed among inpatients are primarily substance abuse, schizophrenia and BAD. These illnesses are more common among young individuals and males, and most patients came from outside Riyadh. There are some exceptions, such as medical and psychiatric comorbidity.

Recommendations

1- Beside the psychiatric examination, admitted cases in AlAmal hospital should receive complete medical examinations.

2- Documentation and registration of cases need to be organized in a unified electronic database.

3- Distribution of cases residence showed that there is a real need for similar AlAmal hospitals in the other regions of Saudi Arabia

Acknowledgements

I am grateful for the generous help of the AlAmal Complex and everyone who helped in this mission.

Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper. The project was financially supported by King Saud University, Vice Deanship of Research Chairs, SABIC Psychological Health Applications and Research Chair.

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