Pattern of Mental Disorders at Psychiatric Hospital: A Retrospective Study of the Outpatient

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Objective: To evaluate the pattern of mental disorders in Bahrain.

Design: A Retrospective Cross-Sectional Study.

Setting: Out-patient Department, Psychiatric Hospital, Ministry of Health, Bahrain.

Method: Three hundred twenty-nine patients were included in the study from March to September 2013. The inclusion criteria were 18-65 years and those who had first contact with the psychiatric hospital. Patients with a known history of substance abuse were excluded.

Result: Eighteen cases were not diagnosed to have any psychiatric illnesses. The majority of the patients suffered from depression 104 (33.4%), anxiety disorders 62 (19.9%), and psychotic disorders 46 (14.8%).

Conclusion: Those at risk of developing mental illness were females, adolescents and those with poor education and income. Future studies should include in-patient admissions as well as other hospitals in Bahrain.

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Mental disorders are major contributors to the global burden of disease worldwide[1]. Mental disorders are common in all countries with a considerable variation in their prevalence. Over one-third of people in most countries fulfills the criteria for the diagnosis of a mental disorder at some point in their life[2]. Many people suffer from more than one disorder at a time.

In the US, the National comorbidity survey (WCS) was conducted between 1990-1992 to assess the prevalence and correlates of mental disorders. Results of the survey indicated that a quarter (26.2%) met the criteria for any mental disorder. The breakdown of disorders includes anxiety disorders (18.1%), mood disorders (9.5%), impulse-control disorders (8.9%) and substance use disorders (3.8%). About 23% met criteria for more than two mental disorders. A total of 22.3% of the participants were classed as serious mental illness[3,4].

Females and younger people of either gender showed more mental disorder[5]. In the analysis of psychopathology among diverse cultures, it is clear that anxiety disorders including obsessive-compulsive disorder is up to three folds more common in Latin-America, Africa, and Europe compared to Asia and Oceania[6].

Schizophrenia appears to be more common in Asia and Oceania and less common in Africa[7]. Bipolar disorder and panic disorder have very similar prevalence worldwide[8,9].

The aim of this study is to assess the pattern of different psychiatric disorders, age distribution, nationality, social and educational level and the sex ratio.

METHOD

All new cases seen in the out-patient department were reviewed by the first researcher and extracted the essential data. The diagnoses were according to the ICD-10 criteria. The exclusion criteria were: cases aged younger than 18 or over 65 and substance abuse cases. Three hundred twenty-nine were included in the study.

The following were recorded: age, sex, nationality, marital status, employment, social and educational level, source of referral and diagnosis.

Data were entered into a Microsoft Excel spreadsheet and were analyzed using descriptive data mainly frequency and percentages. Data collection and data analysis processes lasted six months from March to September 2013.

RESULT

Three hundred twenty-nine patients were included in our study; 164 (49.84%), were 18-35 years. The male to female ratio was 1.00:1.22. Two hundred forty-four (74.16%) were Bahrainis. Among the non-Arab cases, the majority were Indians. Two-thirds were married. The majority were from the lower social class; 140 (42.55%) were class 4 and 99 (30.09%) were class 5. One hundred thirty-seven (41.64%) patients were unemployed. One hundred ninety-one (58.05%) patients were referred from the local health centers, and 84 (25.53%) were referred from the accident and emergency department. One hundred four (31.61%) patients suffered from depression, 62 (19.9%) from anxiety disorders, and 28 (8.5%) from schizophrenia and 46 (14.8%) from psychotic disorders.

Among the individuals with schizophrenia, the male to female ratio was equal, 14 (50%) were unemployed, 20 (71.4%) patients were in the lower social class and 12 (42.86%) were single and 3 (10.71%) were divorced. Twenty-nine (63.04%) patients in the psychosis group (F 20-29) were in the age group (18-35), of which 36 (78.3%) belonged to lower social class, the majority was Bahraini, 20 (43.5%) were single, 11 (23.9%) were divorced and 22 (47.8%) were unemployed.

Regarding depression, the male to female ratio was 0.733:01.00, 27 (25.96%) suffered from depression in 26-35 years and 23 (22.12%) were in the age group of 46-55. Forty seven (45.19%)

patients were in the social class 4 and 32 (30.77%) were in social class 5. Twelve (11.54%) were divorced and 16 (15.38%) were) single, and 39 (37.5%) were unemployed.

Twenty-six (7.9%) patients were diagnosed with Bipolar Affective Disorder. The male to female ratio was (1.16:1.00), 15 (57.69%) patients were in the age group of 18-35, 15 (57.69%) belonged to lower socioeconomic class, 15 (57.69%) were Bahraini, 10 (38.46%) were single and 1 (3.85%) were divorced, and 7 (26.92%) were unemployed.

Generalized Anxiety Disorder male to female ratio was 2:1; 8 (53.33%) patients were in the age group of 18-35, 9 (60%) belonged to lower social class, 13 (86.67%) were Bahraini, 11 (73.33%) were separated and 1 (6.67%) were divorced and 4 (26.67%) were unemployed.

Male to female ratio panic disorders was 0.44:1.00, 18 (69.23%) patients were in the age group of 26-45, 16 (61.53%) belonged to lower social class, 17 (65.38%) were Bahraini, 3 (11.54%) were single and 1 (3.85%) were divorced, 14 (53.84%) were unemployed.

Patients who had obsessive compulsive disorder had a male to female ratio of 0.72:1.00, 10 (52.63%) were in the age group of 18-25 years, 10 (52.63%) were in the lower social class and 12 (63.16%) were Bahraini, 7 (36.84%) were single, none were divorced or separated, and 7 (36.84%) were unemployed.

Table 1 shows that the majority of the participants were between the 18 and 35 years of age.

Table 1: Age of the Participants

Age	Number and Percentage
18-35 Years	164 (49.85%)
36-50 Years	103 (31.31%)
51-65 Years	62 (18.84%)

Table 2 shows that females are slightly higher than males. Female: male ratio is 1.22:1.00

Table 2: Participants' Sex

Sex	Number and Percentage
Female	181 (55.0%)
Male	148 (45.0%)

Table 3 shows that the majority of patients were Bahrainis. Forty-nine patients were Asian, 40 of which were Indians.

Table 3: Nationality of the Participants

Nationality	Number and Percentage
Bahraini	244 (74.16%)
Non Bahraini	85 (25.83%)

Table 4 shows that two-thirds were married and approximately one-third were single.

Table 4: Participants' Marital Status

Marital Status	Number and Percentage
Divorced	23 (7.00%)
Married	205 (62.30%)
Separated	3 (0.90%)
Single	91 (27.70%)
Widow	7 (2.10%)

Table 5 shows the social classes of the study group according to modified Hollingshead and Redlich. Class 3, 4, and 5 were dominant.

Cultural Characteristic and Class Status (Redlich & Hallingshead)[10]:
- **Class 1**: Community business and professional leaders
- **Class 2**: Education beyond high school, occupation as manager-lesser ranking professional
- **Class 3**: High school graduates, administrative and clerical job
- **Class 4**: Education less than high school and more than Primary level working class, semi-skilled and skilled
- **Class 5**: Education-Primary school and less, unskilled workers or unemployed

Table 5: Social Class Status of the Participants

Social Class Status	Number and Percentage
Social Class 1	0 (0.00%)
Social Class 2	6 (1.82%)
Social Class 3	80 (24.31%)
Social Class 4	140 (42.55%)
Social Class 5	99 (30.09%)
Unknown	4 (1.21%)

Table 6 shows that 42% were unemployed and 10% were student, the national statistics of unemployment are 3.7%.

Table 6: Employment Status of the Participants

Employment Status	Number and Percentage
Employed	138 (41.95%)
Retired	18 (5.47%)
Student	34 (10.33%)
Unemployed	137 (41.64%)
Unknown	2 (0.61%)

Table 7 shows the source of referral; the majority 191 (58.05%) came through the health center, followed by 84 (25.53%) from the accident and emergency department and 54 (16.41%) were referred from other sources, which includes private clinics and private hospitals.

Table 7: Source of Referral of the Participants

Source of Referral	Number and Percentage
Self	0
Family	0
Local Health Centre	191 (58.05%)
A/E Department	84 (25.53%)
Police	0
Others	54 (16.41%)

Table 8 shows the diagnoses of the participants in our study. Eighteen cases were not diagnosed to have any psychotic illness. One hundred four (34%) suffered from depression, 62 (19.9%) had anxiety disorders and 46 (14.8%) schizophrenia and psychotic disorders.

Table 8: Diagnosis the Participants

Diagnosis	Number and Percentage		
	Single Diagnosis	Dual Diagnosis	Total
Psychotic Disorders			
Schizophrenia F20	27 (9.8%)	1 (2.9%)	**28 (9.0%)**
Delusional disorders F22	3 (1.1%)	0	**3 (1.0%)**
Acute psychotic and transient disorders F23	13 (4.7%)	0	**13 (4.2%)**
Schizoaffective disorders F35	2 (0.7%)	0	**2 (0.6%)**
Total	45	1	46
BAD F31	7 (2.5%)	0	**7 (2.3%)**
Depressive Disorders			
Depressive disorders F32	96 (34.8%)	6 (17.1%)	**102 (32.8%)**
Recurrent depressive disorders F33	2 (0.7%)	0	**2 (0.6%)**
Total	98	6	104
Anxiety Disorders			
GAD F41.1	11 (4.0%)	4 (11.4%)	**15 (4.8%)**
Panic disorders F41.0	21 (7.6%)	5 (14.3%)	**26 (8.4%)**
OCD F42	11 (4.0%)	8 (22.9%)	**19 (6.1%)**
PTSD F43.1	1 (0.4%)	1 (2.9%)	**2 (0.6%)**
Total	44	18	62
Adjustment disorders F43	23 (8.3%)	1 (2.9%)	**24 (7.7%)**
Dissociative disorders F44	5 (1.8%)	1 (2.9%)	**6 (1.9%)**
Other	38 (13.8%)	7 (20.0%)	**45 (14.5%)**
ID F70-F79	12 (4.3%)	0	**12 (3.9%)**
Somatoform disorders F45	4 (1.4%)	1 (2.9%)	**5 (1.6%)**
Sub Total	276 (100.0%)	35 (100.0%)	**311 (100.0%)**

DISCUSSION

A mental disorder is a growing public concern; Bahrain is no exception[11]. This is the first study to show the pattern of psychiatric disorders in the outpatient department in the country. We attempted to compare the pattern of age distribution, gender differences, social class, marital status and employment status of the patients having these disorders with the patterns worldwide.

Gender differences in schizophrenia and bipolar disorders are negligible. However, for the high prevalence disorders such as depression and anxiety there is a great gender difference. A significant number of the patients were unemployed (42%) compared to the national average of 3.7% in 2012[12].

A comprehensive review of almost all general population studies conducted to date reported that women predominated over men in lifetime prevalence of major depression[13]. In our sample, 6 (17%) patients with dual diagnosis had depression.

A small number of the study group (2.3%) was diagnosed with Bipolar Affective Disorder. Studies have shown that the lifetime prevalence of bipolar disorders is 0.2% to 1.6% and no significant gender differences were reported[13].

The lifetime and 12-month male to female prevalence ratio of generalized anxiety disorder were 1:1.19 and 1:1.2.2, respectively. Females with GAD had significantly higher rates of comorbid mood disorders and anxiety disorders. Disability associated with GAD was greater in females than in males[14]. In our study, the majority of the patients who had a dual diagnosis were in the anxiety neurosis disorders group (F40-48).

In this study, male to female ratio panic disorders was 0.44:1.00. Females are twice likely to develop panic disorder[15]. Patients who had obsessive compulsive disorder had a male to female ratio of 0.72:1.00; OCD occurs equally in both sexes. Most of it occurs in younger age group at about the age of 19[16].

The present study sheds the light on the pattern of mental illness in one of the GCC countries; major depression and anxiety disorders represent the majority of cases[17]. However, there are a number of limitations to this study. There are a number of private clinics, other public or private hospitals and health centers who also treat such cases; therefore, future studies should include other centers. The study did not include in-patients admitted in the year 2012; therefore, acute psychosis or other psychotic disorders are not included.

This study reveals that more females are seen in our hospital than males, although in Bahrain the ratio of males to females is much higher (1.54:1).

CONCLUSION

The majority of the patients suffered from depression, followed by anxiety disorders, and psychotic disorders. A minority of the patients has a dual diagnosis and most of the patients have anxiety disorders. The people at risk of developing mental illness include females, adolescents and people with poor education and income.

Future studies should also include in-patient admissions as well as other hospitals in Bahrain. We suggest studies in the future should assess relapse rate, treatment failure and missed diagnosis.

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REFERENCES

1. Prince M, Patel V, Saxena S, et al. No Health without Mental Health. Lancet 2007; 370(9590):859-77.
2. Cross-National Comparisons of the Prevalence and Correlates of Mental Disorders. WHO International Consortium in Psychiatric Epidemiology. Bull World Health Organ 2000; 78 (4):413-26.
3. Kessler RC, Chiu WT, Demler O, et al. Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication. Arch Gen Psychiatry 2005; 62(6):617-27.
4. US National Institute of Mental Health. The Number count: Mental Disorders in America 2006. Available at: http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index.shtml. Accessed on 1.4.2014.
5. Wittchen Hu, Jacobi F. Size and Burden of Mental Disorders in Europe- A Critical Review and Appraisal of 27 Studies. Eur Neuropsychopharmacol 2005; 15(4):357-76.
6. Ayuso-Mateos JL. Global Burden of Obsessive-Compulsive Disorder in the Year 2000. World Health Organization. Available at: http://www.who.int/healthinfo/statistics/bod_obsessivecompulsive.pdf. Accessed on 1.4.2014.
7. Ayuso-Mateos JL. Global Burden of Schizophrenia in the Year 2000. World Health Organization. Available at: http://www.who.int/healthinfo/statistics/bod_schizophrenia.pdf. Accessed on 1.4.2014.
8. Ayuso-Mateos JL. Global Burden of Bipolar Disorder in the Year 2000. World Health Organization. Available at: http://www.who.int/healthinfo/statistics/bod_bipolar.pdf. Accessed on 1.4.2014.
9. Ayuso-Mateos JL. Global Burden of Panic Disorder in the Year 2000. World Health Organization. Available at: http://www.who.int/healthinfo/statistics/bod_panicdisorder.pdf. Accessed on 1.4.2014.
10. Hollingshead AB, Redlich FC. Social Class and Mental Illness: Community Study. NJ, US: John Wiley & Sons Inc, 1958: 66-136.
11. Murray JL, Lopez AD. The Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries and Risk Factors in 1990 and Projected

to 2020. Boston: Harvard School of Public Health, World Health Organization. 1996: 23-7.

12. Bahrain Central Informatics 2012. Population Data. Available at: http://www.cio.gov.bh/cio_ara/English/Publications/Statistical%20Abstract/ABS2012/Ch 4-2012.xlsx. Accessed on 3.6.2014.

13. Piccinelli M, Homen FG. Gender Differences in the Epidemiology of Affective Disorders and Schizophrenia. Available at: http://sid.usal.es/idocs/F8/FDO7269/01.pdf. Accessed on 1.3.2014.

14. Vesga-López O, Schneier FR, Wang S, et al. Gender Differences in Generalized Anxiety Disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). J Clin Psychiatry 2008; 69(10):1606-16.

15. Panic Disorder: When Fear Overwhelms. National Institute of Mental Health. Available at: http://www.nimh.nih.gov/health/publications/panic-disorder-when-fear-overwhelms/index.shtml. Accessed on 4.6.2014.

16. Obsessive-Compulsive Disorder, OCD. National Institute of Mental Health. Available at: http://www.nimh.nih.gov/health/topics/obsessive-compulsive-disorder-ocd/index.shtml. Accessed on 4.6.2014.

17. Mokdad AH, Jaber S, Aziz MI, et al. The State of Health in the Arab World, 1990-2010: An Analysis of the Burden of Diseases, Injuries, and Risk Factors. Lancet 2014; 383(9914):309-20.