

## **Prevalence of mental disorders in adult population attending primary health care setting in Qatari population**

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### **Abstract**

**Objective:** To determine the prevalence of common mental disorders in Qatari population attending primary health care settings and identify the people at high risk.

**Methods:** A prospective cross sectional study was conducted from July 2009 to December 2009 at the primary health care centers of the Supreme Council of Health, State of Qatar. A total of 2080 Qatari subjects aged 18 to 65 years were approached and 1660 (79.8%) patients participated in this study.

The study was based on a face to face interview with a designed diagnostic screening questionnaire which contained 79 questions on symptoms and signs of various common mental disorders such as Anxiety disorder, Depression, Obsessive-compulsive disorder, Phobia, personality disorder, Bipolar disorder, Dementia, Schizophrenia, Alcohol abuse and other drug abuse. A standard forward-backward procedure was applied to translate the English version of the questionnaire to Arabic. Also, Socio-demographic characteristics and medical history of patients were collected. The Diagnostic screening questionnaire was reviewed and the final score, calculated which determined a provisional diagnosis. Physicians determined the definitive diagnosis by further checking and screening the symptoms.

**Results:** Of the studied Qatari subjects, 46.2% were males and 53.8% were females. The overall prevalence of mental disorders was 36.6%. Depression (13.5%) was the most common mental disorder, followed by anxiety disorders (10.3%). Qatari women (55.6%,  $p=0.005$ ) were significantly at higher risk for common mental disorders compared to men (44.4%). Regarding their relationships with age, Depression (42.9%), anxiety disorder (43.3%), obsessive compulsive disorder (56.9%), phobia (62%), personality disorder (51.6%) and bipolar disorder (47.9%) were found to be most common in the young population aged 18 - 34 years. The highest prevalence of Dementia was seen in the population above 50 years (52.6%), but schizophrenia was prevalent in the age group 35 - 49 years (52.5%).

**Conclusion:** The study findings revealed that the almost one-quarter of all Qatari adults who attended the primary health care setting presented with at least one type of mental disorder. The high risk groups were females, younger age and education. The highest prevalence of common mental disorders in Qatari population was depression and anxiety disorder.

**Keywords:** Common mental disorders, Qatari population, Anxiety, Depression, OCD (JPMA 61:216; 2011).

### **Introduction**

Mental disorders are widely recognized as a major contributor (14%) to the global burden of disease worldwide.<sup>1</sup> Neuropsychiatric disorders which include unipolar depressive disorder, bipolar disorder, schizophrenia, epilepsy, alcohol and drug use disorders, dementias, anxiety disorders, mental retardation and selected neurological disorders, the leading causes of disability worldwide, are responsible for 37% of all healthy life years lost through disease.<sup>2</sup> Four of the 10 leading causes of disability in the developed countries are mental disorders. Also, they are the most disabling disorders even in low-income and middle-income countries (LAMIC), which can be least able to bear such burdens. Mental

disorders are common in all countries, with a considerable variation in their prevalence. Over one third of people in most countries fulfill sufficient criteria for the diagnosis of a mental disorder at some point in their life.<sup>3</sup> Many people suffer from more than one mental disorder at a given time.

The World Health Organization<sup>4</sup> reported in 2001 that 450 million people worldwide suffer from some form of mental disorders. In the U.S.,<sup>5</sup> an estimate of 22.1% of Americans aged 18 years and older - about 1 in 5 adults suffer from a diagnosable mental disorder in a given year. In the U.K, about a quarter, and in the U.S, almost half of people have mental illness at some time during their life. It was reported that prevalence of mental disorders was generally higher than any other class of chronic illness.<sup>6</sup>

The high prevalence estimates worldwide raised the concerns that even the richest countries could not afford to treat these people.

Mental disorders, though difficult to conceptualize and measure, tend to contribute significantly to disability and mortality as well as an exacerbation of other medical conditions and viceversa.<sup>1</sup> Little is known about the extent of severity of untreated mental disorders, especially in less-developed countries. The early detection and treatment of mental disorders, which in most cases is the responsibility of non-psychiatric medical personnel, is essential, especially since symptoms of mental disorders are frequently not recognized. The WHO world mental health survey<sup>7</sup> initiative was launched in 2000 to obtain mental health data in large-scale psychiatric epidemiological surveys. The World Mental Health Surveys are generating a wealth of new data on the prevalence of mental disorders and help seeking behaviour in low and middle income countries.

In Qatar, no previous study has been done to examine the prevalence of mental disorders in general population. The Annual Health Report<sup>8</sup> of the Hamad Medical Corporation documented that outpatient visits of the Psychiatry hospital have increased considerably (32%) during the last ten years. Also, it is reported generally that there is a high prevalence of psychiatric morbidity in primary health care setting, but this is largely undiagnosed and therefore unmanaged. Hence, this study was conducted in the primary health care centers to determine the prevalence of common mental disorders and identify the high risk groups in Qatari population.

## Subjects and Methods

This is a prospective cross sectional study which included Qatari patients aged 18 to 65 years who attended primary health care centers throughout Qatar. Primary health care centers are frequented by all levels of the general population as a gateway to specialist care. The study was conducted among patients, who were visiting 12 health centers; 9 centers from urban area and 3 centers from semi-urban area as a representative sample of the community. IRB approval was obtained from the Hamad Medical Corporation for conducting this research in Qatar.

Data collection took place from July to December, 2009. Qualified nurses who have previous experience in mental health research projects were trained to interview the patients and complete the questionnaires. A total of 2080 Qatari patients were approached and 1660 patients agreed to participate in the study with a response rate of 79.8%. The survey instrument was tested on 100 patients who visited the health centers for validation of the questionnaire. The

study excluded patients below 18 years and above 65 years, patients with any cognitive or physical impairment and who refused to give consent to participate in the study.

The data was collected through a validated self-administered questionnaire with the help of qualified nurses. Recruited nurses were Arab nationals who were well versed with the English and Arabic languages. The nurses were aware of the Arabic culture and thus were able to engage and gain the confidence of the study participants if they were not willing to discuss their problems and answer the questions. The questionnaire had three sections. The first part included the socio-demographic details of the patients, the second part with the medical and family history of the patients, and the third part was the diagnostic screening questionnaire which contained 79 questions about symptoms and signs of various common mental disorders such as Anxiety disorder, Depression, Obsessive-compulsive disorder, Phobia, Personality disorder, Bipolar disorder, Dementia, Schizophrenia, Alcohol abuse and other drug abuse. Patients were asked to answer the questions by grading them from 0 to 4; with 0 for "not at all" 1 for "a little", 2 for "moderately", 3 for "quite a bit", and 4 for "extremely".

For some participants who were illiterate, nurses read out the questions for completing them. Following completion of self-administered questionnaire by the patient, the provisional diagnosis score was calculated from the responses, which then was confirmed by psychiatrists through a clinical questioning using DSM-IV criteria. The general diagnostic screening questionnaire was not designed to make definitive diagnosis but rather to identify people at high risk. The main outcome measures of this study were the confirmed diagnoses; 608 mental illness patients.

Student-t test was used to ascertain the significance of differences between mean values of two continuous variables and confirmed by non-parametric Mann-Whitney test. Chi-square and Fisher exact tests were performed to test for differences in proportions of categorical variables between two or more groups. The level  $p < 0.05$  was considered as the cut-off value for significance.

## Results

Table-1 shows the socio-demographic characteristics of the studied subjects according to gender. Of all the subjects, 46.2% were males and 53.8% were females. Most of the respondents were in the age group 18-34 years (42.6%) and majority of them were married (76.5%) and educated to secondary (35.6%) and university (36.3%) levels. There was a significant association observed between men and women in terms of age group, marital status, educational level, occupation and monthly household income ( $p < 0.001$ )

**Table-1: Socio-demographic characteristics of the studied Qatari subjects by gender (N=1660).**

<b>Variables</b>	<b>Total n=1660 n (%)</b>	<b>Male n=767 n (%)</b>	<b>Female n=893 n (%)</b>	<b>P value</b>
Age in yrs (mean ± sd)	38.0 ± 12.1	40.6 ± 12.8	35.8± 11.0	0.000
<b>Age Group</b>				
18-34 Years	707 (42.6)	276 (36.0)	431 (48.3)	
35-49 Years	656 (39.5)	301 (39.2)	355 (39.8)	<0.001
50-64 Years	245 (14.8)	152 (19.8)	93 (10.4)	
65+ Years	52 (3.1)	38 (5.0)	14 (1.6)	
<b>Marital status</b>				
Single	298 (18.0)	171 (22.3)	127 (14.2)	
Married	1270 (76.5)	549 (71.6)	721 (80.7)	<0.001
Divorced	69 (4.2)	38 (5.0)	31 (3.5)	
Widow	23 (1.4)	9 (1.2)	14 (1.6)	
<b>Educational level</b>				
Illiterate	111 (6.7)	41 (5.3)	70 (7.8)	
Primary	141 (8.5)	81 (10.6)	60 (6.7)	
Intermediate	214 (12.9)	122 (15.9)	92 (10.3)	<0.001
Secondary	591 (35.6)	283 (36.9)	308 (34.5)	
University	603 (36.3)	240 (31.3)	363 (40.6)	
<b>Occupation</b>				
Not working	535 (32.2)	81 (10.6)	454 (50.8)	
Sedentary/Professional	717 (43.2)	360 (46.9)	356 (40.0)	
Manual	175 (10.5)	138 (18.0)	37 (4.1)	<0.001
Business man	92 (5.5)	73 (9.5)	19 (2.1)	
Army/Police	141 (8.5)	115 (15.0)	26 (2.9)	
<b>Household income per month (QR)</b>				
<5,000	113 (6.8)	41 (5.3)	72 (8.1)	
5,000-9,999	537 (32.3)	309 (40.3)	228 (25.5)	
10,000-14,999	455 (27.4)	223 (29.1)	232 (26.0)	<0.001
>15,000	555 (33.4)	194 (25.3)	361 (40.4)	
Number of bedrooms (mean±sd)	4.7 ± 2.0	4.4 ± 1.9	5.0 ± 2	<0.001
Number of people living in house(mean ± sd)	6.2 ± 3.0	6.2 ± 2.7	6.2 ± 3.3	0.716
<b>Consanguinity</b>				
Yes	620 (37.3)	306 (39.9)	314 (35.2)	0.047
No	1040 (62.7)	461 (60.1)	579 (64.8)	

Table-2 shows the socio-demographic characteristics of the studied Qatari subjects with mental illness. The overall prevalence of mental disorders in the Qatari general population was 36.6%. Qatari women (55.6%) were at higher risk for common mental disorders: a female to male sex ratio of 1.3:1. About one-fourth of the study sample (25.5%) met the criteria for atleast one of the mental disorders, with 8.7% having 2 mental disorders and 2.5% more than 3 disorders. Number of disorders varied across the different age groups, consistently being more common in younger age groups 18 - 34 years (44.2%). Prevalence of mental disorders was significantly higher in women (55.6%;p=0.005). The prevalence of mental disorders increased significantly with the level of education (p=0.032); with higher frequency among patients with secondary (36.8%) and university

qualification (36.3%).

Table-3 reveals the prevalence of mental disorders among studied Qatari subjects according to gender. The most prevalent mental disorder in Qatari population was depression (13.5%), followed by anxiety disorders (10.3%), then personality disorders (7.5%) and Phobia (7.3%). Depression was the most common mental disorder in men (13.7%) and women (13.3%). Also, women reported higher frequency of phobia (12.7%) and anxiety disorder (10.9%), whereas men reported anxiety disorder (9.6%) and personality disorder (8.5%). Phobia (p<0.001), bipolar disorder (p=0.032), obsessive compulsive disorder (p=0.018) were significantly more prevalent in women, but schizophrenia (p=0.004), and dementia (p=0.016) were significantly higher in men.

**Table-2: Socio-demographic characteristics of Qatari subjects with mental illness (N=608).**

Variables	No. Of definitive Mental disorders			Total n=608 n(%)	P-Value
	1 n=423 n(%)	2 n=144 n(%)	3+ n=41 n(%)		
Age in yrs (mean ± sd)	37.3±11.1	35.9±10.6	36.7±12.2	36.9±11.1	0.400
<b>Educational level</b>					
18-34 Years	187(44.2)	67(46.5)	23(56.1)	277(45.6)	0.155
35-49 Years	174(41.1)	59(41.0)	9(22.0)	242(39.8)	
50+	62(14.7)	18(12.5)	9(22.0)	89(14.6)	
<b>Gender</b>					
Male	205(48.5)	54(37.5)	11(26.8)	270(44.4)	0.005
Female	218(51.5)	90(62.5)	30(73.2)	338(55.6)	
<b>Marital status</b>					
Single	64(15.1)	31(21.5)	7(17.1)	102(16.8)	0.207
Married	359(84.9)	113(78.5)	34(82.9)	506(83.2)	
<b>Educational level</b>					
Illiterate	21(5.0)	9(6.3)	3(7.3)	33(5.4)	0.032
Primary	39(9.2)	8(5.6)	6(14.6)	53(8.7)	
Intermediate	52(12.3)	23(16.0)	2(4.9)	77(12.7)	
Secondary	142(33.6)	62(43.1)	20(48.8)	224(36.8)	
University	169(40.0)	42(29.2)	10(24.4)	221(36.3)	
<b>Occupation</b>					
Not working	114(27.0)	38(26.4)	19(46.3)	171(28.1)	0.237
Sedentary/Professional	202(47.8)	73(50.7)	14(34.1)	289(47.5)	
Manual	49(11.6)	12(8.3)	5(12.2)	66(10.9)	
Business man	19(4.5)	8(5.6)	2(4.9)	29(4.8)	
Army/Police	39(9.2)	13(9.0)	1(2.4)	53(8.7)	
<b>Household income per month (QR)</b>					
<5,000	24(5.7)	5(3.5)	4(9.8)	33(5.4)	0.123
5,000-9,999	146(34.5)	53(36.8)	15(36.6)	214(35.2)	
10,000-14,999	133(31.4)	31(21.5)	10(24.4)	174(28.6)	
>15,000	120(28.4)	55(38.2)	12(29.3)	187(30.8)	
<b>Consanguinity</b>					
Yes	164(38.8)	59(41.0)	8(19.5)	231(38.0)	0.037
No	259(61.2)	85(59.0)	33(80.5)	377(62.0)	

**Table-3: Prevalence of Mental Disorders among studied Qatari subjects according to gender (N=1660).**

Variables	Total n=1660 n (%)	Male n=767 n (%)	Female n=893 n (%)	P value
Depression	224(13.5)	105(13.7)	119(13.3)	0.829
Anxiety disorder	171(10.3)	74(9.6)	97(10.9)	0.417
Personality disorder	124(7.5)	65(8.5)	59(6.6)	0.149
Phobia	121(7.3)	8(1.0)	113(12.7)	<0.001
Bipolar disorder	71(4.3)	24(3.1)	47(5.3)	0.032
Schizophrenia	59(3.6)	38(5.0)	21(2.4)	0.004
Obsessive compulsive disorder	58(3.5)	18(2.3)	40(4.5)	0.018
Dementia	19(1.1)	14(1.8)	5(0.6)	0.016

## Discussion

Mental disorders account for a large proportion of disease burden worldwide. Hence, the plethora of studies of the prevalence of mental disorders around the world. We report the first study of the prevalence of mental disorders in Qatar. The overall prevalence of mental disorders in Qatari patients attending primary care centres was 36.6% which is consistent with other, clinical and epidemiological surveys<sup>9</sup>

which revealed that mental disorders are among the most common mental disorders with a prevalence often close to 50% of the population. Almost one quarter of respondents typically met the criteria for at least one type of mental disorder in Qatari population. According to previous studies conducted in various countries, the prevalence of mental disorders range from 3 to 52%. According to WHO estimates,<sup>10</sup> nearly 25% of individuals develop one or more

mental disorders at some stage in their life, in both developed and developing countries. In the U.S.,<sup>11</sup> mental disorders are common and an estimated 22.1% of Americans aged 18 year and older. It is important to note that the prevalence of mental disorders in Qatari population is far higher than the WHO estimate and at the same time it is comparable to the rates found in other countries. The most plausible explanation for this wide variation is related to social factors as major determinants of mental disorders, and that these appear to vary considerably across societies.

In the present study, women were significantly at a higher risk for common mental disorders (55.6%) with female to male ratio of 1.3:1. Another study<sup>12</sup> reported a similar result that women are more likely than men to be adversely affected by mental disorders. Prince et al<sup>13</sup> reported similar results with a higher female to male ratio of 1.5:1. The prevalence of some of the mental disorders were significantly higher in Qatari women than men, obsessive compulsive disorder ( $p=0.018$ ), phobia ( $p<0.001$ ), bipolar disorder ( $p=0.032$ ), dementia ( $p=0.02$ ) and schizophrenia ( $p=0.004$ ). This suggests that women experience higher level of mental health problems due to social conditions of life that foster health, and greater stress associated with their marital lives. They also react differently from men to the material and psychosocial conditions that foster health. This indicates that women's mental health is a significant public health issue.

The highest prevalence of common mental disorders in Qatari population was depression (13.5%), followed by anxiety disorder (10.3%). Similar results were reported in studies<sup>14,15</sup> conducted in various countries. A lower prevalence of depression was reported by Wright<sup>16</sup> that depression occurs in around 10% of general practice attendees. A Canadian study determined that 12.2% of the Canadian population<sup>17</sup> were affected with anxiety disorders which is higher than the rate in Qatari population. Depression was the most frequent condition found in Qatari men (13.7%) as well as in women (13.3%). A notable result of our study was that Qatari men and women are equally likely to develop depression. On the contrary, it in the U.S. population nearly twice as many women (12%) as men (6.6%) are affected by depression.<sup>11</sup> But, anxiety disorder was more prevalent among Qatari women (10.9%) than in men (9.6%) which is in consistent with other researches<sup>18,19</sup> that females are at higher risk of developing anxiety. The high prevalence of depression and anxiety disorders can lead to increased use of health services and morbidity. Dementia (1.1%), Schizophrenia (3.6%) and Obsessive compulsive disorders (3.5%) were not very common in Qatari population as compared to other disorders.

The study findings showed that young Qatari population in the age group 18 - 34 years were most affected with mental disorders (45.6%). This confirms earlier findings<sup>20</sup> that as many as 7% to 22% of all children and adolescents are

affected and up to 50% of all adults with mental disorders have their onset in adolescence. The most common mental disorders in Qatari population, anxiety and depression, were found more frequent in the age group 18 to 34 years (43.3% & 42.9%), followed by 35-49 years (40.9% & 42.4%). Our finding of a peak age for depression and anxiety disorders in the midlife conforms with other epidemiological findings in the western countries.<sup>21,22</sup> This also suggests that our population has similar problems as in western countries. Another study of Merikangas et al stated that anxiety disorders are the most frequent conditions in children.<sup>23</sup>

Also, other mental disorders such as obsessive compulsive disorder (56.9%), phobia (62%), personality disorder (51.6%) and bipolar disorder (47.9%) were most prevalent in the young Qatari population between the ages of 18 - 34 years. The high prevalence of mental disorders and the early age of onset during the young, formative and productive years creates a considerable national burden. But for Dementia, the peak was steeper in the age group above 50 years (52.6%) and for schizophrenia, it was in the age group 35 - 49 years (52.5%), followed by 18 - 34 years (30.5%). A U.S study<sup>24</sup> documented similar results that US population are affected with schizophrenia in their 20's or early 30's.

The present study places mental disorders among the most commonly occurring health problems in Qatar. This research shed light on the prevalence of mental disorders and the high risk groups for having mental illness in Qatar. Mental disorders place a big burden on society due to a high prevalence and chronicity, early age of onset and eventually serious impairment. The study findings highlight the urgent need for systematic development of community-based mental health services for screening, early identification, and treatment of people suffering from mental disorders.

## Conclusion

The study findings revealed that almost one-fourth of all adults who attended the primary health care setting presented with atleast one type of mental disorder. This study identified people at high risk for having mental illness, which included females, youngsters and educated people. Women's mental health is a significant public health issue. The highest prevalence of common mental disorders in Qatari population was depression and anxiety disorder. The young Qatari population in the age group 18 - 34 years were the most affected with mental disorders.

It is suggested that there is an urgent need to assess not only prevalence, but also determinants, treatment, failure and delays in treatment to obtain evidence for policy making.

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