Research Article

Magnitude of depression problem among primary care consumers in Saudi Arabia

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Abstract

Background: Depression is one of the leading causes of disability worldwide. It is estimated that 5–10% of the population at any given time is suffering from identifiable depression needing psychiatric or psychosocial intervention.

Objectives: To determine the prevalence of depression and associated risk factors among adult primary care consumers in Saudi Arabia.

Materials and Methods: A cross-sectional study was conducted in four primary healthcare (PHC) centers in Al Khobar for screening of adult consumers for depression. The data were collected by interviewing a sample of 850 male and female visitors by using the Arabic version of Patient Health Questionnaire 9.

Results: The prevalence of moderate to severe depression among adult PHC consumers was about 16%. Its occurrence was more than double among women than men. The most common manifestations of depression were sleeping and eating problems, while suicidal thoughts were reported by 3.8% of depressed people. The main predictors of depression were female gender, family history of depression or psychiatric diseases, personal history of chronic diseases, especially cardiovascular and skin diseases, and being unemployed or unmarried; the predictors of suicidal ideation were severe depression, female gender, and low level of education.

Conclusion: We conclude from this study that about one-sixth of PHC consumers in Saudi Arabia are suffering from moderate to severe depression and its occurrence was more in women than men, illiterate, and unemployed.

KEY WORDS: depression, primary healthcare centers, predictors

Introduction

Depression is a common global mental disorder that affects all aspects of health: physical, mental, and social. It is characterized by sadness, loss of interest, poor concentration, disturbed sleeping, or eating; worsening the health of people with chronic disease at its worst, depression can lead to suicide. Today, depression is estimated to affect 350 million people; the World Mental Health Survey conducted in 17 countries found that, on average, about 1 in 20 people reported having an episode of depression in the previous year, and it is one of the leading causes of disability worldwide.[1] It is projected that, by 2020, depression will be second only to heart disease in its contribution to the global burden of diseases as measured by Disability-Adjusted Life Years.[2] Worldwide, it is estimated that 5–10% of the population at any given time is suffering from identifiable depression needing psychiatric or psychosocial intervention. The life time risk of developing depression is 10–20% in women and slightly less in men, and the average age of onset of major depression is between 20 and 40 years.[3] AL-Khathami reported in his study in primary care in Saudi Arabia that about one-third of primary healthcare (PHC) patients had mental illness.[4] Geriatric depression is widespread affecting at least one of six patients treated in general medical practice in the United States[5]; however, depression in the elderly remains underdetected and underdiagnosed, particularly in nonmental health settings.[6]

Unfortunately, depression often goes unrecognized in PHC settings. A number of earlier studies have shown that PHC physicians often overlook depressive disorders and lack the needed skills for recognizing, responding, diagnosing, and treating depressive disorders.[7,8] Although depression can be reliably diagnosed and treated in PHC, less than 25% (in some countries, fewer than 10%) have access to effective treatment.[1,3] The study conducted by Becker revealed that Saudi primary care physicians were aware of psychiatric disorders but their diagnostic skills were poor for somatization and depression.[9]

The aim of current study is to determine the prevalence of depression and associated risk factors among adult primary care consumers in Al Khobar city, Saudi Arabia.

Materials and Methods

A cross-sectional study was conducted in four primary health care centers of nine serving Al Khobar city. The centers with the largest population were included in the study. The minimum sample size for estimation of depression prevalence was calculated by Epi-Info for an adult population of 96,000, at an expected frequency of $17 \pm 3\%$[3] and confidence limit of 95%. It was found that the minimum required sample is 599. Accordingly, a proportionate random sample of 850 adult PHC consumers was selected from the different health centers (about half of the sample were women). They were invited to participate in the study after explaining the purpose of the study and assurance about the confidentiality of collected information. The Arabic version of "Patient Health Question-naire 9" for screening of depression was utilized.[10,11] The scale consists of nine questions, for which the answers ranged from "not at all" (given a score of 0) to "nearly every day" (given a score of 3) experiencing the symptom within the last 2 weeks. The total score was calculated and categorized into no depression (0–4), mild depression (5–9), moderate depression

(10–14), and severe depression (15 +). Weight and height were also measured for 836 participants (with a response rate of 98.4%), and body mass index (BMI) was calculated and categorized into underweight (less than 18.5 kg/m^2), normal weight (18.5–24.9), overweight (25–29.9), obesity (30–34.9), and severe obesity (more than 35 kg/m^2). Data were verified and entered to statistical package software SPSS. For qualitative statistical analysis, χ^2 test was used, and for quantitative analysis, *t*-test and one-way ANOVA with LSD were used. Regression analysis was also conducted, and *P* value less than 0.05 was considered significant.

Results

Six hundred and eighty PHC consumers were screened for depression: 430 of them were women and the rest were men. Their mean age was 33.1 ± 11.3 years, and the minimum was 19 years and the maximum 80 years.

Figure 1 illustrates the prevalence of depression among PHC consumers in Al Khobar in 2010. It shows that about 16% had moderate to severe depression, where 11.3% had moderate depression and 4.8% had severe depression.

Table 1 demonstrates the distribution of depressive symptoms experienced nearly every day during the last 2 weeks by gender among depressed PHC consumers.
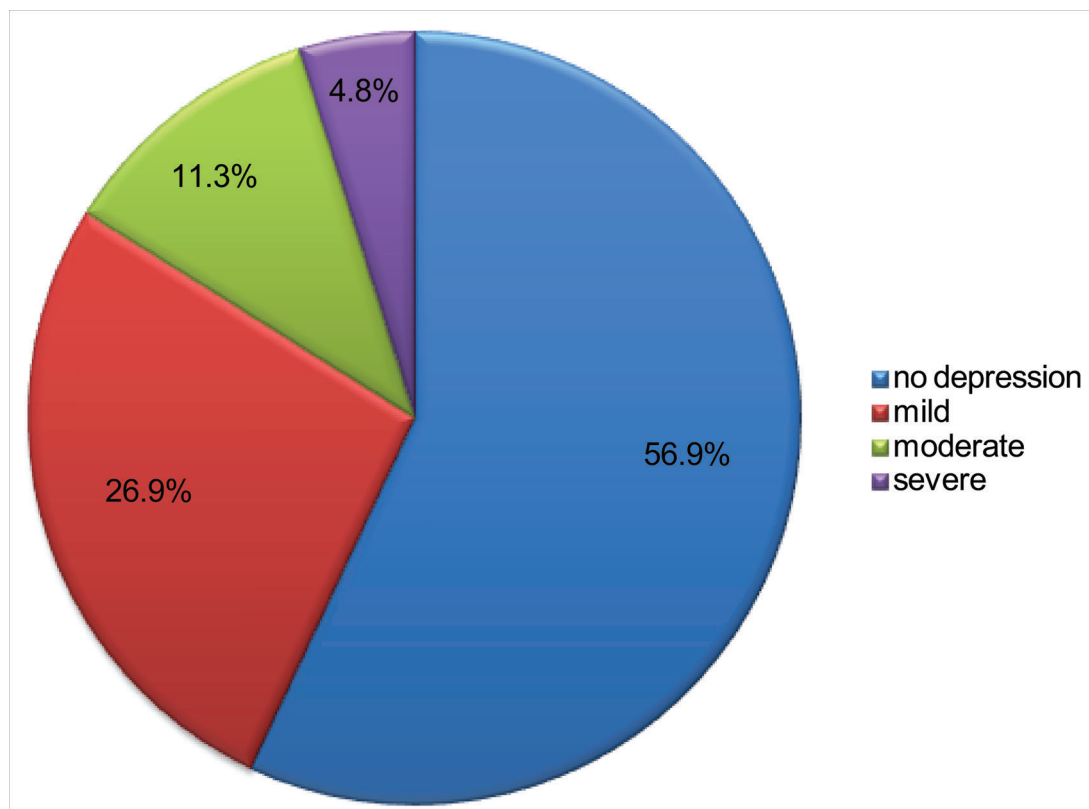

Figure 1: Prevalence of depression among PHC consumers in Al Khobar, 2010.

Table 1: Distribution of depressive symptoms experienced nearly every day during the last 2 weeks by gender among depressed PHC consumers

Symptoms	Males (n = 145)		Females (n = 221)		Total (n = 366)		χ^2
	n	%	n	%	n	%	P value
Little interest	20	13.8	31	14.0	51	13.9	0.43
Hopelessness	20	13.8	42	19.0	62	16.9	0.001
Sleeping problems	41	28.3	63	28.5	104	28.4	0.921
Little energy	21	14.5	45	20.5	66	18.1	0.021
Poor appetite or overeating	31	21.4	53	24.0	84	23.0	0.163
Feeling bad about your self	13	9.0	30	13.6	43	11.7	0.008
Trouble concentrating	11	7.6	33	14.9	44	12.0	0.041
Moving or speaking slowly or fidgety	16	11.0	21	9.5	37	10.1	0.936
Suicidal thoughts	4	2.8	10	4.5	14	3.8	0.01

It was found that the most common symptom was sleeping problems (28.4%), followed by poor appetite or overeating (23%), little energy (18.1%), and hopelessness (16.9%), while suicidal thoughts were reported by 3.8% of the sample. More than half of the symptoms were significantly more common among women than males, namely hopelessness, self-blaming

and guilt feeling, suicidal thoughts, little energy, and poor concentration.

Table 2 shows that the mean depression score of PHC consumers younger than 40 years was significantly higher than that of the older age group. It was also significantly higher among single people than married and among nonworking

Table 2: Mean depression scores of PHC consumers by socioeconomic factors

Socioeconomic factor	Depression score				*t*-test /ANOVA	LSD
	n	%	Mean	SD	P value	
Age group						
Less than 40 yr	603	71.1	5.3	4.8	**0.010**	
40 yr and above	245	28.9	4.1	4.7		
Type of family						
Nuclear	669	79.1	4.8	4.9	0.260	
Extended	177	20.9	5.3	4.5		
Crowding index						
Low	398	47.0	4.9	4.9	0.999	
High	448	53.0	4.9	4.7		
Marital status						
Married	624	73.5	4.4	4.7	**0.000**	
Single	203	23.9	6.1	4.6		**0.000**
Divorced	11	1.3	7	5.3		0.076
Widow	11	1.3	8.3	7.2		**0.008**
Education						
Illiterate/read and write	61	7.2	6.6	6.6	**0.016**	
Elementary/middle school	198	23.3	5.1	5.1		**0.030**
Secondary school	339	39.9	4.9	4.4		
University/postgraduate	252	29.6	4.5	4.5		**0.002**
Employment						
Not working	417	49.1	5.7	5.3	**0.000**	
Working	360	42.4	3.8	3.9		**0.000**
Student	72	8.5	6.2	4.5		0.430
Monthly income						
Low: < 5,000 SR	261	31.0	5.8	5.1	**0.002**	
Middle: 5,000–15,000 SR	453	53.7	4.6	4.7		**0.002**
High: >15,000 SR	129	15.3	4.4	4.6		**0.006**

people compared with working people. About one-third of the sample came from low income families; the mean depression score was significantly higher among those of low income than among those of middle or high income. It was the highest among illiterate or just reading and writing people, and a significant inverse proportional relationship between educational level and depression score was detected.

Table 3 revealed that the mean depression score was significantly higher among chronically ill patients, especially those suffering from CVD or skin diseases. About 8% of the sample gave a positive family history of depression; the mean depression score was significantly higher among those having a positive family history of depression or other psychiatric diseases and among people having family problems, especially marital conflicts. When considering body weight, 4.1% of the sample was underweight; the mean depression score was significantly higher among underweight people compared with overweight or obese people.

All socioeconomic and risk factors were entered in the stepwise logistic regression analysis; it was found that the main predictor of moderate to severe depression among PHC consumers was female gender (OR = 2.683), followed by family history of depression or psychiatric diseases (OR = 1.631),

history of chronic diseases (OR = 1.09), unemployment (OR = 0.698), and marital status (OR= 0.455) (Table 4).

Table 5 shows the stepwise logistic regression analysis of the factors affecting suicidal ideations among depressed PHC consumers. It was found that the strongest predictor was the severity of depression (OR = 2.8), followed by female gender (OR = 1.9) and low educational level (OR = 0.6).

Discussion

According to this study, about 16% of adult PHC consumers had moderate to severe depression. The rate was lower than that reported in Riyadh (18.8%) and Kuwait (20.5%)[12,13] and higher than in Qatar (13.5%, 2010).[14] Similar studies conducted in European countries revealed a prevalence rate ranging from 16.5% to 22.8%,[15–17] indicating that the rates in Gulf Region are comparable with those of Europe.

In this study, it was noticed that depression was more common among young, female, uneducated, unemployed, low income, and unmarried people. These findings might be explained by the higher illiteracy and unemployment rates among women in Saudi Arabia compared with men. The illiteracy rate among adult women in 2013 was 8.6% compared

Table 3: Mean depression scores of PHC consumers by risk factors

Risk factors	Depression score				ANOVA P value	LSD
	n	%	Mean	SD		
Chronic diseases						
No	573	78.7	4.5	4.4	0.000	
Diabetes	68	9.3	3.4	3.7		0.042
CVD	11	1.5	7.5	7.7		0.032
Bronchial asthma	48	6.6	5.4	3.6		0.174
Skin disease	25	3.4	7.4	7.2		0.01
Neurological diseases	3	0.4	8.0	3.0		0.18
Family history of psychiatric disease						
No	737	86.9	4.5	4.6	0.000	
Depression	70	8.3	7.3	5.2		0.000
Others	41	4.8	8.3	5.4	0.000	
Family problems						
No	728	88.2	4.6	4.6	0.000	
Marital conflicts	33	4	7.6	6.5		0.000
Domestic violence	6	0.7	7.2	4.4		0.183
Addiction	1	0.1	0	0		
Mentally disabled family member	8	1	5.1	3.6		0.759
Sensory disabled family member	7	0.8	5.6	4.4		0.590
Physical disabled family member	10	1.2	5.1	4.5		0.745
Multiple wives	32	3.9	5.9	5.1		0.109
BMI						
Underweight: less than 18.5	34	4.1	6.3	3.9	0.045	
Normal weight: 18.5–	301	36	5.4	5.2		0.298
Overweight: 25–	244	29.2	4.4	4.7		0.033
Obesity: 30–	225	26.9	4.6	4.5		0.049
Severe obesity: 35 +	32	3.8	5.2	4.4	0.337	

Table 4: Predictors of moderate to severe depression among PHC consumers in Al Khobar

Variables in the equation	*P*	OR	95% CI	
			Lower	Upper
Gender	0.000	2.683	1.707	4.219
Family history of psychiatric diseases	0.003	1.631	1.186	2.244
History of chronic diseases	0.003	1.090	1.030	1.154
Unemployment	0.038	0.698	0.497	0.981
Marital status	0.000	0.455	0.297	0.697

Table 5: Predictors of suicidal ideation among depressed PHC consumers in Al Khobar

Variables in the equation	*P*	OR	95% CI	
			Lower	Upper
Depression level	0.000	2.801	1.946	4.033
Gender	0.047	1.023	1.009	3.665
Educational level	0.016	0.615	0.414	0.912

with 3.5% among men,[18,19] while the unemployment rate among women was 32.1% compared with 6.1% among men.[20] The Saudi government recently recognized the magnitude of the problem and created job opportunities for women in many public and private facilities. Hence, the female unemployment rate dropped from 2012 to 2013 by 3.6%.

This study showed that about 3.8% of depressed patients had suicidal thoughts, which were more common among women. The Eastern Province is the largest province in Saudi Arabia and Al Khobar is the second largest city with 9 PHC centers serving about 96,000 adult consumers. Accordingly, the estimated number of moderately to severely depressed patients is 15,360, and those having suicidal ideations reached about 580. Deisenhammer et al. reported that it might take only 10 minutes or less between the suicidal thoughts and actual suicidal attempts in about half of the depressed patients.[21]

Patients with moderate depression should be treated with pharmacotherapy or psychotherapy. Combined antidepressants and cognitive behavior therapy may be useful in patients with psychosocial problems, such as marital conflicts, which were found to be associated with depression in our study. In patients with severe depression, pharmacotherapy or combined pharmacotherapy and psychotherapy can be used.[22]

Now, the question is "Are we ready to deal with such a burden of disease?" The Ministry of Health established a National Mental Health Committee in 1990 for integrating mental health in primary care. One of its first activities was training of primary care physicians at two progressive levels of skill development. The first level was 1 month of basic training on mental health issues and diagnosis of common mental disorders, aiming to provide at least one trained physician in each primary care center. The second level of training was more intensive and advanced, enabling physicians to identify and treat people with common and severe mental disorders. Importantly, all antidepressants were exempted from the controlled drug list, so that they could be prescribed by primary care physicians. The initiative also established one community mental health center in Al Khobar in 2006; it is served by a psychiatrist, psychiatry resident, social worker, and part-time psychologist. It provides care for referred patients and offers support and supervision to primary care practitioners in that area.[23] So, we are on the right way, but still we have a long way to go.

Conclusion

We conclude from this study that about one-sixth of PHC consumers in Saudi Arabia are suffering from moderate to severe depression. Its occurrence was more than double among women than men. Suicidal thoughts were reported by 3.8% of the depressed people. The main predictors of depression were female gender, family history of depression or psychiatric diseases, personal history of chronic diseases, especially cardiovascular diseases and skin diseases, and being unemployed or unmarried; the predictors of suicidal ideation were severe depression, female gender, and low level of education.

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