Screening of depression among patients in Family Medicine in Southeastern Saudi Arabia

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ABSTRACT

الأهداف: تحديد معدل انتشار الاكتئاب، وعلاقته بالخصائص الاجتماعية والديموغرافية للمرضى والأمراض المزمنة.

الطريقة: أُجريت هذه الدراسة المقطعية في قسم طب الأسرة بمستشفى القوات المسلحة، شروره، المملكة العربية السعودية. شملت الدراسة 280 من المراجعين البالغين الذين تم اختيارهم عشوائياً، وقد قمنا بتوزيع قائمة مراجعة الأعراض (PHQ–9) من أجل التحري عن الاكتئاب لدى جميع المشاركين في الدراسة. كما تم جمع البيانات المتعلقة بخصائص المرضى الاجتماعية والديموغرافية والأمراض المزمنة لكافة المشاركين خلال الفترة من ديسمبر 2010م إلى يناير 2011م، وقد انتهت الدراسة في مارس 2011م.

النتائج: لقد وصل عدد الذين أجابوا على الاستبيان إلى 272 من أصل 280 من المشاركين أي أن معدل الإجابة وصل إلى 97%. ولقد كان مجموع الذكور في الدراسة 116 ذكر (42.6%)، و156 أنثى (57.4%). وتم تشخيص الاكتئاب في 12% (العدد: 33) من العينة الممسوحة في الدراسة. وأشارت نتائج الدراسة إلى أن من أصل 33 مشارك كان 7 مشاركين (21%) مصابين بالاكتئاب ضعيف الدرجة، و18 (55%) مصابين بالاكتئاب خفيف الدرجة، و3 (9%) مصابين بالاكتئاب المعتدل، و3 (9%) مصابين بالاكتئاب المعتدل الحدة، و2 (6%) مصابين بالاكتئاب الحاد. أثبتت الدراسة بأن الأفراد الذين يعيشون في الغرف كانوا معرضين للاكتئاب بمعدل 4.8 أكثر من الذين يعيشون في الشقق أو المنازل، وكانت فئة الموظفين معرضة للاكتئاب بمعدل 1.7 مرة أكثر من الأفراد الغير عاملين.

خاتمة: يعد الاكتئاب من المشاكل الصحية الشائعة بين مرضى الرعاية الصحية الأولية، ولذلك ينبغي أن يكون أطباء الرعاية الصحية هم الأساس في اكتشاف حالات الاكتئاب هذه، والبدء في تقديم العلاج المناسب أو التحويل الطبي للمريض.

Objectives: To determine the prevalence rate of depression and its relationship with patients' socio-demographic characteristics and chronic diseases.

Methods: This cross sectional study was performed at the Family Medicine Department, Sharurah Armed Forces Hospital (SAFH), Sharurah, Kingdom of Saudi Arabia. Two hundred and eighty adult subjects were randomly selected. Patient Health Outcomes-9 Symptom Checklist was used for screening of depression in each participant. Also, information on socio-demographic characteristics and chronic diseases was collected. The field work was conducted between December 2010 to January 2011 and the study was completed in March 2011.

Results: Out of the 280 patients, 272 responded to the questionnaires with a response rate of 97%. The total number of males was 116 (42.6%) and females was 156 (57.4%). Depression was diagnosed in 12% (n=33) of screened population. Out of 33 depressed patients, 7 (21%) had minimal depression, 18 (55%) suffered from mild depression, 3 (9%) with moderate depression, 3 (9%) with moderately severe depression, and 2 (6%) with severe depression. The subjects who were living in a room were 4.8 times more likely to suffer from depression than subjects who stayed in a flat or villa. Also, employees were 1.7 times more prone to depression than non-working subjects.

Conclusion: Depression is a common health problem among primary health care patients. Primary health care physicians should be the cornerstone in screening for an underlying depressive disorder and initiating appropriate referral or treatment.

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Depression affects approximately 121 million people worldwide regardless of religion, race, age, or gender.[1] Globally, depressive disorders are the third leading cause of disease burden for all ages and the leading cause for women aged 15-44 years. Major depressive disorder is a common, chronic but episodic, and costly condition for which primary care physicians provide the majority of care.[1-3] Depending on study methodology and diagnostic criteria, lifetime prevalence for major depression appears to be in the range of 8%-16%. Consequently, major depression is the leading worldwide cause of disability as measured by the number of years lived with a disabling condition. Major depression is twice as common in females (approximately 10%-25%) as in males (5-12%), with the highest rates occurring between the ages of 25 and 44 years.[3,4] Major depression is present in 5%-9% of adults visiting primary care practices. In primary care practices, more than 50% of depressed patients go unrecognized and among the half who do receive treatment, it is adequate in approximately 42%, resulting in only 22% of all patients being treated adequately as evaluated by medication use and frequency of follow-up.[4-5] Several studies have demonstrated that early recognition and treatment of depression in the primary care setting can have a positive effect on social, physical, and mental functioning. Increased productivity and decreased absenteeism in the work place could result from timely treatment.[6] Conversely, the failure of primary care physicians (PCPs) to detect depression and its causes can delay potentially life-saving treatment. Therefore, they should improve their knowledge and skills for appropriate diagnosis and management of depression. Barriers to the diagnosis and treatment of depression may include physician knowledge and skill deficits; limited time; lack of availability of physicians and treatments.[7] Persons with depressive symptoms are more likely to seek care from their primary care provider than from specialty mental health providers, giving the primary care setting an important opportunity for identification of depression.[4-7]

One of the most widely used screening instruments is the PHQ-9 or Patient Health Outcomes-9 Symptom Checklist,[8] which is derived from the Patient Health Questionnaire. The usefulness and accuracy of the PHQ-9 is well documented.[8,9] Scoring of the results can be completed in less than 3 minutes.[8] The PHQ-9 eliminates the need for questioning in all areas of depressive symptoms and allows the clinician to focus only on those requiring attention. In a study that was conducted in Saudi Arabia to validate the PHQ-9, the authors concluded that the prevalence of somatization and co-morbid depression in a primary care population in Saudi Arabia is similar to the published rates in the USA and worldwide, and PHQ-9 is a valid screening tool for depression in primary health care.[10] The PHQ-9 questionnaire contains 9 separate questions. These questions focus on experience of pleasure, sleep habits, energy, appetite, concentration, and suicidal ideation,[11] each item is scored zero for no symptoms at all, and then one point for several days, 2 points for more than half of days, and 3 points for each symptom. The patient has nearly every day over the last 2 weeks.[9,12] A meta-analysis of 14 studies found that the PHQ-9 is 80% sensitive (95% CI 0.71-0.87) and 92% specific (95% CI 0.88-0.95) for major depressive disorder in the primary care setting. It compares well with longer or clinician-administered instruments.[8]

Methods. This cross sectional study was performed at the Family Medicine Department, Sharurah Armed Forces Hospital (SAFH), Sharurah, Kingdom of Saudi Arabia. Sharurah governorate is located in Najran region of Saudi Arabia, approximately 200 miles east from the town of Najran. It is located in the Empty Quarter desert near the Yemeni border. The target population consisted of all patients eligible for medical care in SAFH. The SAFH is a 146-bed secondary hospital that provides health care for military personnel and their families (approximately 60000). A sample size of ≥246 was calculated from the target population with an estimated prevalence of depression to be 20% (from a previous study),[10] 95% confidence coefficient and 10% confidence interval.[13] The sample size was increased to 280 subjects to compensate for the expected non-response. Systematic random sampling method was used in which every 10th patient, according to their order of attendance at the reception desk, presenting to the PHC clinics for care was included in the study. The inclusion criteria include: 1) age ≥18 years, 2) the patient was eligible for medical care in SAFH, and 3) informed consent to participate in the study. Those for whom the study procedures were not feasible due to severe dementia, history suggestive of mental retardation, or unstable medical condition were excluded. The field work was conducted, after we obtained the ethical approval from the hospital Research and Ethics committee of SAFH, from December 2010 to January 2011 and the study was completed in March 2011. Verbal and written consents were obtained from the participants who completed the questionnaires, supervised by an experienced PHC physician and nurse to assist the patients. The PHQ-9 was administered to each participant by an experienced PHC physician and nurse, to assist the patients. Information on patients' characteristics (age, gender, nationality, marital status, number of children if any, housing, income, occupation, education level and family size) and chronic conditions such as hypertension, heart disease, diabetes, liver disease, renal disease or

pulmonary disease was obtained from a questionnaire completed by the participant at the time of enrollment. The PHQ-9 questionnaire contains 9 separate questions in which the patient circles the appropriate response for duration of the described feeling.[14] Each item is scored zero for no symptoms at all, and then 1 point for several days, 2 points for more than half of days, and 3 points for each symptom the patient has nearly every day over the last 2 weeks.[9,12] Scores are categorized as minimal (1-4), mild (5-9), moderate (10-14), moderately severe (15-19) and severe depression (20-27).[12] The following ethical points were taken in consideration according to the Helsinki Declaration:[15] 1) Confidentiality: the information was treated in confidence and the names of the patients could not be identified. 2) The activities of the research did not lead the patients and physicians to commit acts, which diminish their self-respect. 3) Approval of SAFH research and ethics committee to conduct the study. 4) Written consent of the participant was taken. 5) Appropriate management of diagnosed cases with significant depression either by treatment in PHC or referral.

All statistical analyses were performed using the SPSS software package-version 10. Descriptive statistics and measures of central tendency and dispersion, as well as, appropriate significance tests were applied according to the types of variables. Multiple logistic regression analysis was conducted to determine which factors were independent predictors of depression. Logistic regression coefficients and estimated odds ratios for each of the independent variables in the model were determined. The $p<0.05$ was considered the significance cut-off point.

Results. The total number of patients who were screened for depression was 280. Out of the 280 patients, 272 responded to the questionnaires with a response rate of 97%. The total number of males was 116 (42.6%) and females 156 (57.4%). Their ages ranged from 18-60 with a mean of 29.9±7.1 years. Most of the patients were married (n=247, 90.8%) and Saudi Nationality (n=269, 99%). Chronic diseases were detected in 29 (10.7%) of participants [bronchial asthma (n=8, 2.8%), diabetes mellitus (n=5, 1.8%), hypertension (n=2, 0.7%), and chronic gastritis (n=3, 1.15%). Regarding the educational status, only one patient was illiterate, the majority of patients had primary school certificate (31%) and preparatory ± secondary school certificate education (30.9%). Out of 272 screened people, 126 (46%) were employees (military persons) and 146 (54%) were non-employees. Approximately 10% of the study group was living in rooms while 90% had flat or villa (**Table 1**). Depression was diagnosed in 12% (n=33) of screened population by using the PHQ9. Based on the interpretation of PHQ-9 scores, it was found that out of 33 (24 males and 9 females) depressed patients 7 (21%) had minimal depression, 18 (55%) suffered from mild depression, 3 (9%) with moderate depression, 3 (9%) with moderately severe depression, and 2 (6%) with severe depression. Thus, most of the depressed patients (76%) were affected with minimal, (n=7, 21%) and mild depression (n=18, 55%). On the other hand, other types of depression were found to affect 24% of depressed patients (moderate: n= 3, 9%), moderately severe: n=3, 9%, and severe depression: n=2, 6%). The following independent variables were subjected to the multiple logistic regression analysis with depression as dependent variable: gender, chronic diseases, occupational status, house, marital status, and education. **Table 2** illustrates that the type of the house (room versus flat or villa) and occupational status were the only significant independent predictors of depression in the present study.

Discussion. The prevalence of depression in the present study was 12% by using the PHQ9 as a screening tool. By reviewing the literature, it was found that the most widely used and best-validated instrument in the primary care setting is the PHQ-9.[16,17] The overall prevalence rate of depression observed in this study was lower compared to other group of studies. For example in Riyadh, Saudi Arabia, the prevalence of depression was 20% among primary health care patients.[10] In elderly patients (>60 years), depression is more prevalent (39%) as detected in a study conducted in KSA and included representative samples from each of the 5 administrative regions of the Kingdom (North, West, East, South and Central).[18] Also, depression was highly prevalent among high school students (16-20 years) in Taif city, where moderate was found to affect 22%, severe 7% and very severe depression 4%, by using Arabic Beck's Depression Inventory (BDI).[19] In

Table 1 - Socioeconomic characteristics of the study group.

Characteristics	N	(%)
Education		
Read and write	55	(20.2)
Primary education	85	(31.3)
Preparatory and secondary education	84	(30.9)
University and above	48	(17.6)
Occupation		
Employee	126	(46.3)
Non employee	146	(53.7)
Number of children		
≤3	185	(68.0)
4-7	71	(26.1)
>7	16	(5.9)
The house		
Room	26	(9.6)
Flat or villa	246	(90.4)

Table 2 - Multiple logistic regression analysis. The independent predictors of depression in the study groups.

Variables	Depression N (%)	B-coefficient	*P*-value	Odds ratio	95% confidence interval
Gender					
Male	24 (20.7)	1.65	0.19	0.22	0.02-2.22
Female	9 (5.8)				
Chronic diseases					
Present	7 (24.1)	-0.67	0.20	0.50	0.17-1.45
Absent	26 (10.7)				
Occupational status					
Employee	24 (19.0)	1.50	0.03	1.65	1.14-20.30
Non employee	9 (6.2)				
The house					
Room	9 (34.6)	-1.57	0.02	4.82	1.28-18.09
Flat or villa	24 (9.8)				
Marital status					
Single	6 (24.0)	-0.41	0.58	0.67	0.16-2.78
Married	27 (10.9)				
Educational status					
Read and write ± 1ry education	18 (13.6)	-0.45	0.20	0.64	0.26-1.53
≥ preparatory education	15 (10.7)				

the present study, there is no specific explanation to the low rate of depression (12%), but it may be attributed to fact that the study group included only military personnel and their family members who were clients of SAFH medical services and might have different patterns of morbidity from other sectors of population. However, the referral rate from family medicine department to psychiatry was found to be very low (2%) compared with other study that was conducted by the same authors.[20] The prevalence of psychiatric disorders in Primary Health Care (PHC) settings is more than 60% and the rate of psychiatric referral ranges from 5-50% in general practice.[21] These figures illustrate under-diagnosis of psychiatric disorders in family medicine that may be attributed to low competency of physicians in diagnosis of psychiatric disorders in general and depression in specific. Multiple logistic regression analysis revealed that the type of the house (room versus flat or villa) and occupational status were the, only, significant independent predictors of depression in the present study. The subjects who were living in a room were 4.8 times more likely to suffer from depression than subjects who had flat or villa (OR = 4.8 [95% CI =1.3-18.1]). The feeling of loneliness with no close interpersonal relationships[22,23] and the absence of family support role[24] may explain this finding. It should be noted that all subjects who were living in a room were military males coming from another towns. Moving from one's home town into an unfamiliar community may lead to homesickness and loneliness due to lack of a wider social network and separation distress. The literature reveals that living with a partner predicted the lowest levels of loneliness and depression.[25] Loneliness has been identified as a risk factor for depression in adults and is associated with a constellation of demographic and psychosocial risk factors (hostility, low social support, perceived stress) for depressive symptoms.[22,23,26] Regarding the occupational status, the employees were 1.7 times more prone to depression than non-working subjects. The work stress to which the employees may be exposed may be responsible for this difference. However, other independent variables were not significantly predicting depression in the present study. The finding of non-significant relationship between sex and depression is not consistent with other studies that detected high prevalence of depression in women.[10,18,19] This result may be attributed to different types of study subjects, and the use of different screening tools. Also, there are cultural and gender bias in depression screening tools leading to a high rate of false-positive diagnoses for women.[27] However the Patient Health Questionnaire could provide the foundation for an examination of depression as a syndrome.[16] The presence of chronic diseases such as diabetes mellitus and hypertension had no significant relationship with depression among the study group, a result that is consistent with another study conducted on primary health care patients in Qatar,[28] but inconsistent with some other studies,[29-31] and may be explained by the fact that the majority of our subjects were young or middle aged (29.9±7.1 years) with low prevalence rate of chronic diseases (10.7%). Mostly of the study group subjects were married (n=247, 90.8%), a finding that can explain the absence of a significant relationship with depression in regression analysis. In light of the results of the present study; more research work is needed to assess objectively the loneliness in adults living alone and perceived work stress to determine their role in prediction of depression. Also, a greater attention to subjects living alone may

be important to maximize the likelihood they remain healthy and functional.

In conclusion, depression is a common health problem among PHC patients. Primary care physicians should be the cornerstone in screening for an underlying depressive disorder and initiating appropriate referral or treatment. One of the most widely used screening instruments is the PHQ-9 that should be used in the daily practice of primary health care.

The study has some limitations. Although the study sample was reasonably large, it may suffer from selection bias as it was derived from one practice in a specific region. Also, it was a cross sectional study.

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