Prevalence of Depression in Medical Staff in KSA: Cross Sectional Study

Eman AbdulAziz Balbaid [aφ*], Abdulaziz Ateeq Alotaibi [b≡],
Abdullah Hazza Alqahtani [b≡], Nashwa Nasser Alsaeedi [b≡],
Faisal Ali Abutaleb [b≡], Majdi Abdullah Alrabie [b≡],
Rahaf Ghormallah Alghamdi [b≡], Atheer Ahmed Bayahya [b≡],
Basil Abdulaziz Almutairi [c#], Hanin Abdullah Asiri [c#],
Khalid Hazza Alotaibi [c#], Meshal Faihan Aldajani [c#],
Saad Omar Alsaab [c#], Renad Abdullah Alghamdi [c#]
and Mohammed Abdullah Babtain [c#]

[a] Jeddah University Medical Center, Jeddah University, Jeddah, KSA.
[b] Medicine Department, MOH, KSA.
[c] Medical intern, Medicine, MOH, KSA.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Background: According to the international classification system ICD -10 (International Classification of Diseases), doctors speak of a mild depressive episode if at least two main symptoms such as depressed mood and lack of drive and two additional symptoms such as feelings of guilt and sleep disorders occur. In a moderately depressed phase, there are two main symptoms and at least three, but no more than four other symptoms. Major depressive episodes are diagnosed when all three main symptoms and at least four additional symptoms are present. In addition, the complaints must last for at least two weeks. In the American classification system

_____

≡ *General Practitioner*
φ *Consultant Family Medicine;*
Medical Intern;

DSMIV is referred to as "major depression" (corresponds to a severe depressive episode) and "minor depression" in the case of a less severe episode.

Methods: This was an analytical cross-sectional study to spot light on the relationship between different chronic conditions and variables, specifically: age group, gender, medical specialty, years of experience, nationality, Vitamin D deficiency, Diabetes mellitus, and hypertension; and depression symptoms, among Saudi and non-Saudi medical staff in the KSA.

Results and Conclusion: Results of this study concluded that there is a significant relationship found between depressive symptoms and gender, specialty, years of experience, and vitamin D deficiency. Relationship with age group, nationality, diabetes mellitus and hypertension, is not statistically significant. These results are concordant, in most parts of this study, with the previous studies in different times and regions, done for nearly similar purposes.

Keywords: Depression; medical; KSA; prevalence; Vitamin D.

1. INTRODUCTION

Depression is described as a "low mood" state, and loss of interest for activity. Depression has to be differentiated from Major depressive disorder, as the first is a wide-ranged term.

Depression is considered a mental and behavioral disorder, as it has a negative impact on a person's thoughts, motivation, and feelings. The main distinguishing feature of depression is "loss of interest", and feeling "sadness" with loss of joy. Depressive mood can be a part of several psychiatric mood disorders such as major depressive disorder, bipolar disorder, and dysthymic disorder [1]. It can also be a temporary reaction to certain stress or life event. In addition, some drugs can induce such symptoms. [2]

Depressive symptoms can be some times of high risk on one's life, as it can be a cause a feeling of hopelessness, dejection or even worse; suicidal thoughts and eventually attempts.

People typically have multiple episodes of depression during their lives. Symptoms occur most of the time in the day, nearly every day and can include: [3]

- feelings of sadness,
- tearfulness,
- emptiness or hopelessness,
- angry outbursts,
- irritability or frustration, even over small matters,
- loss of interest or pleasure in most or all normal activities, such as sex, hobbies or sports,
- sleep disturbances, including insomnia or sleeping too much tiredness
- lack of energy, so even small tasks take extra effort,

- reduced appetite and weight loss or increased cravings for food and weight gain,
- anxiety,
- agitation or restlessness,
- slowed thinking, speaking or body movements,
- feelings of worthlessness or guilt,
- fixating on past failures or self-blame,
- trouble thinking, concentrating, making decisions and remembering things,
- frequent or recurrent thoughts of death,
- suicidal thoughts,
- suicide attempts or suicide,
- Unexplained physical problems, such as back pain or headaches.

In most of the occasions, symptoms usually are severe enough to affect the patient's daily activities, such as work, school, social activities or relationships with others. Some people may feel generally miserable or unhappy without really knowing why.

Individuals who are experiencing such disorder should take depression as a serious issue. It can affect their lifestyle, personality, and mode of thinking and decision-making. Depression, therefore, is of great importance in research field and in clinical field too.

2. LITERATURE REVIEW

The association between age and depression in the general population. A multivariate examination showed that there is a relationship between age and depression, with individuals' age more than 50 years being having less incidence of depression. [4]

Cognitive emotions: Depression and anxiety in medical students and staff. It was found that of medical students, 28.6% showed depression and

28.7% showed anxiety. Of medical staff, 7.8% showed depression and 2.2% of them showed anxiety. There was a significant correlation between depression and anxiety among medical students (r = 0.6). "Crying" was the most common depressive symptom, and "fear of worst happening" was the most common anxiety manifestation in medical students. [5]

Gender Differences in Depression in Representative National Samples: Meta-Analyses of Diagnoses and Symptoms. With samples with over 1.7 million people each, evidence was found for a 1.95 odds ratio for gender differences in major depression and a Cohen's d of 0.27 for gender differences in depression symptoms. Results provide powerful evidence that the gender difference in major depression diagnoses and depression symptoms peaks in adolescence, with the gender gap in diagnoses emerging earlier than previously thought (OR = 2.37 at age 12). The gender gap then narrows and remains stable in adulthood, a finding that has not been identified previously and has important implications for both theory and preventive interventions.

Physician burnout: Which specialties are least likely to ask for help? More than 15,000 physicians from 29 specialties responded to a survey—conducted by the Medscape news website and called the "National Physician Burnout, Depression & Suicide Report 2019." Of physicians who said they have sought help or would seek help, 27 percent would see a psychiatrist or a therapist. Only 6 percent would participate in a physician health program, while 10 percent would confide in their peers or colleagues.

Relationship of Depression to Diabetes Types 1 and 2: Epidemiology, Biology, and Treatment. Recent studies have demonstrated that depression and its associated symptoms constitute a major risk factor in the development of type 2 diabetes and may accelerate the onset of diabetes complications. Since the mid-1980s, multiple longitudinal and cross-sectional studies have scrutinized the association of diabetes with depressive symptoms and major depression. Short-term treatment of depression in patients with diabetes improves their dysphoria and other signs and symptoms of depression. [6]

Association of vitamin D levels with incident depression among a general cardiovascular population. This study strengthens the hypothesis of the association between vitamin D and depression.

Depression and hypertension. Depression can negatively affect the course of hypertensive illness. Additionally, the use of anti-depressive agents can interfere with blood pressure control of patients with hypertension by inducing changes in blood pressure and orthostatic hypotension.

3. METHODOLOGY

3.1 Study Design

This is an analytical cross-sectional study. Since the aim of this study is to assess the prevalence of depression among health care professionals, this is the most appropriate design.

3.2 Study Setting and Period

This is an analytical cross-sectional study conducted at universities, hospitals, malls (from medical staff), KSA from February 2021until October 2021.

3.3 Study Population and Sampling

Study participants:-

Inclusion criteria: Medical staff.
Exclusion criteria: None.

3.4 Sampling Method and Size

The study was carried out by questionnaire. Sample was selected by non-probability convenient sampling technique. Sample size was 610 medical staff.

Measurements: Explanatory variables

1. Sociodemographic characteristics: medical staff category, age, gender, nationality and marital status.
2. Disease-related information: risk factors, causes and associations with other diseases.

3.5 Outcome Measures

The outcome measure is by counting the ratio of the number of patients suffering from depression and associated risk factors, possible causes, and diseases. This is measured by: determining the

extent of depression, causes, risk factors and complications.

Prevalence study: was carried out to test the questionnaire if easily understood and the response of the participants. Data from the cross-sectional study was used to calculate the sample size.

3.6 Data Management and Analysis Plan

Data is entered and analyzed using SPSS version 25.0. Descriptive statistics are performed and categorical data are displayed as frequencies and percentages, while measures of central tendencies and measures and dispersion are used to summarize continuous variables. Univariate and multivariate analysis are performed to investigate association between depression, and risk factors, and associated diseases. Statistical significance is set at a P value of 0.05 or less.

4. RESULTS

4.1 Descriptive Data

Sample size is 610 cases. Age categories are as follows: 19-30 y/o: 335 (54.9%), 31-45 y/o: 219 (35.9%), 46-60 y/o: 56 (9.2%). Sex distribution is as follows: 326 (53.4%) males, and 284 (46.6%) females.

Nationality distribution is as follows: Saudi nationality: 549 (90%), and non-Saudi nationality: 61 (10%). Years of experience are as follows: less than 2 years: 240 (39.3%), 2-5 years: 190 (31.1%), 6-10 years: 117 (19.2%), and more than 10 years: 63 (10.3%).

4.2 Chronic Diseases

There were 35 cases (5.7%) stated they have Diabetes mellitus, 120 (19.7%) stated that they have vitamin D deficiency, while 39 cases (6.4%) stated that they have chronic hypertension. These are distributed according to Fig. 2.

Association of depressive symptoms with different variables

A score from 0 – 3 was made to assess the presence of each of the depressive symptoms among participants, then means was calculated for different layers of variables in the study. N.B for the whole sample: mean = 0.7 ± 0.65.
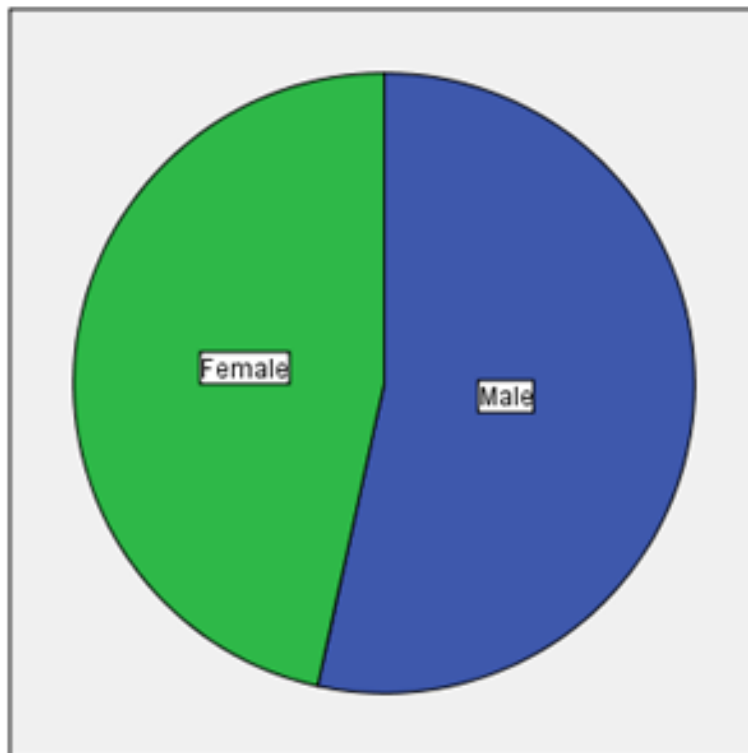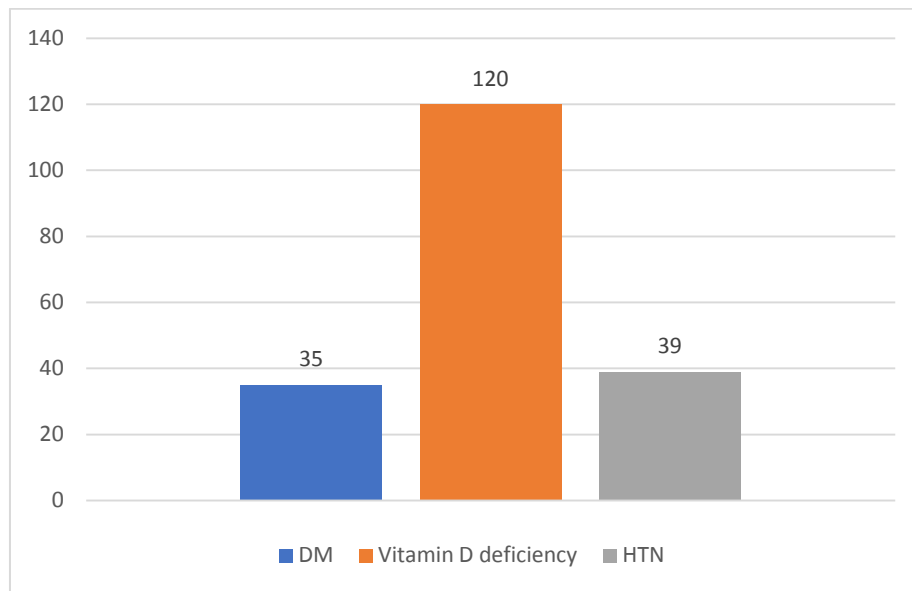

Fig. 1. Gender distribution

Fig. 2. Chronic associated diseases among participants

Table 1. Mean score of depressive symptoms

Variable		Mean score of depressive symptoms	Sig.
Age group	19 – 30	0.71	0.112
	31 – 45	0.67	
	46 – 60	0.87	
Gender	Male	0.61	0.000
	Female	0.82	
Nationality	Saudi	0.71	0.382
	Non-Saudi	0.64	
Specialty[*]	General surgery	1.06	0.006
	General Dentist	0.92	
	Medical Student	0.88	
	Anesthesia and ICU	0.85	
	Emergency doctor	0.83	
	General Practitioner	0.75	
	General Nurse	0.72	
	Internal Medicine	0.71	
Experience	< 2 years	0.76	0.000
	2 – 5 years	0.61	
	5 – 10 years	0.59	
	> 10 years	0.96	
Hospital	Governmental	0.70	0.856
	Private	0.71	
Diabetes	Yes	0.53	0.098
	No	0.72	
Vitamin D deficiency	Yes	0.91	0.000
	No	0.66	
Hypertension	Yes	0.68	0.830
	No	0.71	

Specialties with scores more than 0.7 were included in this table

Association between gender, specialty, years of experience, and vitamin D deficiency is significant, while association with age category, nationality, type of hospital, diabetes mellitus and hyperthyroidism was not significant.

5. DISCUSSION

The results of this study are concordant, in some parts, with the results of previous different studies discussing the same association, between depression and different variables including some chronic diseases and conditions like vitamin D deficiency. In other parts of study, there is insignificant statistical relationship; this could be due to unequal distribution of cases, sampling errors and bias [7.]

In light of previous results, there is a need to raise recommendations for Ministry of Health and psychiatric specialists to study this phenomenon of depression among health care professionals. Furthermore, there is a need to have actual solutions for this phenomenon as this might be reflected on the quality of care provided to the patients.

There was a significant association between gender and depression symptoms among medical staff included in the study. This could be due to general variance of depressive symptoms, which stands more for the side of female gender. This match well with the results of other studies stating that significant variance of depressive symptoms among males and females is found especially in adolescent and early adulthood times [8.]

Also in this study, there is a significant relationship between certain specialties and depressive symptoms, with the means of score of depressive symptoms being high in specialties like surgeons, internal medicine doctors, and dentists. This, in some parts, correlates with the results of another studies and surveys conducted, and states that there are some specialties do not seek psychiatric help very well. Vitamin D deficiency is another part of our study that showed significant relationship with depression. In some studies, vitamin D has nothing to do with depression. In some others, there is a possible relationship in some ways. The exact link between vitamin D deficiency and depression is still under argument. [9.]

6. CONCLUSION

Depression has an obvious relationship with different variables and conditions among Saudi and non-Saudi medical populations, significantly with gender, specialty, years of experience, and the prevalence of vitamin D deficiency. [10.]

This study sheds light on the prevalence of depression among medical professionals. This study arise the thoughts toward the reasons behind the depression among health care professionals. More research is needed to spotlight on the causes of raised levels of depression among health care professionals and to put into considerations solutions for this phenomenon. [11].

ETHICAL CONSIDERATIONS AND CONSENT

Administrative approval is sought from the unit of biomedical ethics research committee. Ethical approval is sought from the ethical committee of the faculty of medicine, King Abdulaziz University. An informed consent is sought from the participants.

ACKNOWLEDGEMENTS

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Stordal E, Mykletun A, Dahl AA. The association between age and depression in the general population: a multivariate examination. Acta Psychiatrica Scandinavica. 2003;107(2):132-41.

2. Depression (major depressive disorder). Mayo Clinic; 2018. Available:https://www.mayoclinic.org/disea ses-conditions/depression/symptoms-causes/syc-20356007 (accessed October 27, 2021).

3. Licková K, Čoček A, Ambruš M, Soumarová R, Vránová J, Klézl P, Mitchell AJ, Raudenská J, Javůrková A. Rapid screening of depression and anxiety in

cancer patients: Interview validation of emotion thermometers. Asian Journal of Psychiatry. 2021;65:102827.

4. World Health Organization. The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines. World Health Organization; 1992.

5. de Zwart PL, Jeronimus BF, de Jonge P. Empirical evidence for definitions of episode, remission, recovery, relapse and recurrence in depression: A systematic review. Epidemiology and psychiatric sciences. 2019;28(5):544-62.

6. American Psychiatric Association A. Diagnostic and statistical manual of mental disorders. Washington, DC: American Psychiatric Association; 1980.

7. Salk RH, Hyde JS, Abramson LY. Gender differences in depression in representative national samples: Meta-analyses of diagnoses and symptoms. Psychological bulletin. 2017;143(8): 783.

8. Ahmed I, Banu H, Al-Fageer R, Al-Suwaidi R. Cognitive emotions: depression and anxiety in medical students and staff. Journal of critical care. 2009 Sep 1;24(3):e1-7.

9. Musselman DL, Betan E, Larsen H, Phillips LS. Relationship of depression to diabetes types 1 and 2: Epidemiology, biology and treatment. Biological psychiatry. 2003;54(3):317-29.

10. May HT, Bair TL, Lappé DL, Anderson JL, Horne BD, Carlquist JF, Muhlestein JB. Association of vitamin D levels with incident depression among a general cardiovascular population. American Heart Journal. 2010;159(6):1037-43.

11. Physician burnout: Which specialties are least likely to ask for help [Internet]. American Medical Association; 2021 [cited 27 October 2021].
Available:https://www.ama-assn.org/practice-management/physician-health/physician-burnout-which-specialties-are-least-likely-ask-help

---

Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/80637