Prevalence and Associated Factors of Depression among Medical Students of Herat University

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ABSTRACT

Depression is one of the most common mental disorders in the world that causes disabling diseases around the globe. More than one million people live with depression in Afghanistan. The aim of this study was to assess the prevalence and associated factors of depression among medical students of Herat University in west of Afghanistan. A cross-sectional study was conducted on 293 students who were selected by a stratified simple random sampling technique from the Faculty of Medicine at Herat University. Sociodemographic characteristics of participants were collected using a structured questionnaire; data on depression were collected using the Patient Health Questionnaire-9 (PHQ-9). Data were analyzed in IBM SPSS Statistics (version 27). Of the 293 participants, 166 (56.7%) were girls and 127 (43.3%) were boys. The mean age of participants was 21.5 ± 1.6 years. Over two-thirds of participants (69.6%) had depression, of which 6.8% suffered from severe depression. General health status and nutrition were significantly associated with depression, while gender, academic stage, economic status, original and current residence of participants were not significantly associated with depression. This is the first study to assess the prevalence and associated factors of depression among university students in Afghanistan, and adds to the current literature about magnitude and risk factors of depression in low- and middle-income countries. Results obtained in this study can be used as a baseline for more comprehensive studies on the prevalence and risk factors of depression among university students in Afghanistan.

Keywords: Depression; Risk factors; Medical students; PHQ instrument; Herat; Afghanistan

INTRODUCTION

Depression is a mental disorder that can lead to disabling diseases worldwide [1]. According to the World Health Organization (WHO), in 2018, 5% of the world population lived with depression [2]. While more than one million people suffered from depressive disorders in Afghanistan [3].

University students pass from a critical period of life to another which expose them to depressive disorders [4-7]. Global estimates show that 33.6% of university students experience depression each year [8]. In Asian countries, the prevalence of depression among university students varies between 15.0% and 75.0% [4,6,7,9-14], with Pakistan showing the highest prevalence [6]. In 2021, a study among Iranian college students showed that 48.0% of participants experienced depression [12]; While a similar study in India, in 2023, reported the prevalence of depression among medical students as 50.0% [15].

Factors underlying high prevalence of depression among university students are yet to be fully known; however, several factors, including biological, psychological, sociodemographic and academic demands have been previously reported [16-19]. Variation in the prevalence and associated factors of depression among university students in different countries may be due to cultural, environmental, and geographical factors, as well as using different study instruments [7, 20].

Research on the prevalence of depression among university students is lacking in Afghanistan. Previous studies in the country assessed the prevalence of depression among university staff [21] or the public [22-24]. This study aims to assess the prevalence and associated factors of depression among medical students at Herat University, in west of Afghanistan.

METHODOLOGY

Study design

This cross-sectional study was conducted among 1017 students of

the Faculty of Medicine, Herat University, between September and December 2022.

Sample size calculation and sampling technique

Sample size was calculated considering 95% confidence interval, 95% confidence level, and 50% response distribution. Using these parameters, the minimum recommended sample size was calculated as 280; we added 5% additional samples to compensate for possible errors or missing data. Samples were selected by a stratified simple random sampling technique. After data cleaning process, a total of 293 valid questionnaires were completed by participants.

Data collection

Sociodemographic data were collected using a paper-based structured questionnaire. The level of depression was assessed using the Patient Health Questionnaire-9 (PHQ-9). Scoring and categorization of data were performed according to the instrument's guideline [25].

Data analysis

Data were analyzed in IBM SPSS Statistics (version 27). Continuous data with normal distribution were shown as means and Standard Deviations (SD). Non-normally distributed continuous data were shown as median and Inter Quartile Range (IQR). Categorical variables were presented with numbers and percentages. The association between categorical variables was assessed using a Chi-square test. The significance value was set to 0.05 in all statistical analyses.

Ethical approval

The study protocol was approved by the Human Ethics Committee of Herat University (approval number #220421). The confidentiality and privacy of data and participants were strictly maintained during the study.

RESULTS

Participants characteristics

A total of 293 students, including 166 (56.7%) girls and 127 (43.3%) boys, with a mean age of 21.5 ± 1.6 years (range: 18 to 25 years) were included in this study. Sociodemographic characteristics of participants are shown in Table 1.

Prevalence of depression among participants

Table 2 shows the prevalence and severity of depression according to PHQ scale. Over two-thirds (69.6%) of participants had signs of depression, of which 6.8% suffered from severe depression (the highest severity score). The median (IQR) of depression among participants were 7.0 (4.0-12.0) (Table 2).

Association between sociodemographic characteristics and depression

Association between general health status and nutrition status with depression was significant (Table 3). Other sociodemographic characteristics included in this study were not statistically significantly associated with depression.

Table 1: Sociodemographic characteristics

Sociodemographic factors	Responses	No. (%)
Gender	Boys	127(43.3)
	Girls	166(56.7)
Class	1st	62(21.1)
	2nd	75(25.5)
	3rd	60(20.4)
	4th	59(20.1)
	5th	37(12.6)
Economic status	Good	85(29.0)
	Fair	181(61.7)
	Poor	27(9.2)
General health status	Good	196(66.8)
	Fair	82(27.9)
	Poor	15(5.1)
Nutrition status	Good	156(53.2)
	Fair	120(40.9)
	Poor	17(5.8)
Original residence	Herat	186(63.4)
	Herat Districts	31(10.5)
	Other provinces	76(25.9)
Current residence	With family	229(78.1)
	With friends, rented homes	31(10.5)
	Dormitory	33(11.2)

Table 2: The prevalence of depression among participants.

Depression categories	No. (%)
No symptoms	89(30.4)
Mild depression	85(29.0)
Moderate Depression	66(22.5)
Moderately severe depression	33(11.3)
Severe depression	20(6.8)

Table 3: Association between depression and sociodemographic

Variables	Total number	Depressed No. (%)
Gender		
Male	127(43.3)	88(69.3)
Female	166(56.7)	116(69.9)
P		0.914
Class		
1st	62(21.1)	50(80.6)
2nd	75(25.5)	55(73.3)
3rd	60(20.4)	39(65)
4th	59(20.1)	37(62.7)
5th	37(12.6)	23(62.1)
P		0.138
Economic status		
b	85(29.0)	62(72.9)
Fair	181(61.7)	120(66.2)
Poor	27(9.2)	22(81.4)
P		0.204
General Health status		
Good	196(66.8)	123(62.7)
Fair	82(27.9)	66(80.4)
Poor	15(5.1)	15(100)
P		<0.001
Nutrition status		
Good	156(53.2)	95(60.8)
Fair	120(40.9)	92(60.8)
Poor	17(5.8)	17(100)
P		<0.001
Original residence		
Herat	186(63.4)	130(69.8)
Herat Districts	31(10.5)	19(61.2)
Other provinces	76(25.9)	55(72.3)
P		0.52
Current residence		
With family	229(78.1)	157(68.5)
With friends, rented homes	31(10.5)	19(61.2)
Dormitory	33(11.2)	28(84.84)
P		0.093

DISCUSSION

The aim of this study was to assess the prevalence and associated factors of depression among medical students at Herat University. We found that 69.6% of participants lived with depression. Our results are in line with findings of studies from Sudan (67.0%), India (64.0%), and Egypt (60.8%); [26-28] But are higher than results of similar studies from Pakistan (42.6%), Iran (33.0%), China (28.4%), the USA (30.9%), Ethiopia (28.2%), India (37.3%), Uganda (21.5%) and Thailand (21.1%) [4,13,14,29-33]. However, the prevalence of depression in this study was considerably lower than results reported from Egypt (88.8%) and India (79.2%)

[34,35]. Discrepancies in the prevalence of depression in this study and research conducted elsewhere may be attributed to different population characteristics, sampling procedures, environment, living conditions, and instruments used.

Our results showed that participants' gender was not statistically significantly associated with depression. This is similar to findings of studies from Iran [13], Ethiopia [29], and a meta-analysis study involving 43 countries; but is in contradiction with the results reported from China and Brazil [4,20,37,38]. The fact that more studies reported no significant association between gender and depression among university students highlights the fact that both genders are statistically equally prone to depression at universities.

This study revealed an insignificant association between depression and economic status. However, a study from Thailand reported a significant association between depression and insufficient income among university students [32]. We also found that the association between depression and academic stage was not statistically significant. Similar studies from Palestine and Uganda found a significant association between depression and participants academic stage [30,39].

We also found a significant association between depression and health status of study participants. This is in line with the findings of studies from Bangladesh, Thailand, France and Japan [32,40,41], in which the association between general health and depression were found significant among participants.

Results of this study demonstrated a significant association between nutrition status and depression. Similar studies among medical students from Pakistan and India also found significant association between nutrition and dietary habits with depression. This indicates that medical students who are involved in curricular activities for many hours during the day, require to adopt appropriate nutritional habits to stay healthy and away from mental illnesses [41,42].

This is the first study to assess the prevalence and associated factors of depression among medical students in Afghanistan. Results obtained in this study can be used as a baseline for future studies and formulating policies in Herat and the country.

LIMITATION

This study only involved students of the Faculty of Medicine with highly stressful learning environment; therefore, results cannot be generalized to all Herat University students. Moreover, a baseline data on the prevalence of depression among students of the Faculty of Medicine was not available; hence, a comparison could not be made to ascertain a change in trend of depression among participants, over time.

RECOMMENDATION

Because studying at Faculty of Medicine is highly stressful, it is recommended that university authorities pay special attention to the well-being of students, by establishing a counselling center, social activities, and awareness raising sessions about mental health. Further research is required to investigate the magnitude of other mental illnesses among Herat University students.

CONCLUSION

The prevalence of depression among students of the Faculty of Medicine at Herat University is alarmingly high with no gender differences. Our results add to the body of current literature on

the prevalence of depression among medical students in low- and middle-income countries. Public health, higher education and university authorities should design special programs for the prevention, screening and treatment of mental disorders among this young generation.

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ROLE OF FUNDING SOURCE

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