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CROSS SECTIONAL STUDY **OPEN ACCESS**

Level of Depression among Health Students at Al-Quds University

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Abstract:

Background: Students' physical and psychological well-being, particularly with a focus on depression, is a significant public health concern.

Objective: This study aims to explore the level of depression among health students at Al-Quds University.

Methods: In this assay, a cross-sectional study using a self-reporting questionnaire was conducted. To evaluate the degree of depression among students, the Beck Depression Inventory (BDI-II) was used. The sample comprised 357 students from Al-Quds University in the West Bank.

Results: The results of the study showed that depression impacted 40.3% of the subjects. Of these, 32% experienced moderate to severe depression symptoms, 24% had thoughts or wishes related to suicide, and 6.7% believed that death was the answer to their issues. The findings demonstrated that there were statistically significant variations in depression based on gender, age, study year, study geographical area, place of residence, level of religiosity, and thoughts of death ($p < 0.05$).

Conclusion: To protect their well-being, mental health professionals should advise students to seek assistance and therapy. University administrators should assist students in learning time management and stress-reduction strategies so they can finish their assignments and fulfill other course obligations.

Keywords: Depression symptoms, Health students, Al-Quds University, Beck Depression Inventory, Death thoughts, Psychological well-being.

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1. INTRODUCTION

Depression is a frequent mental health condition characterized by sadness, restlessness, low self-esteem or guilt feelings, abnormal eating or sleeping patterns, fatigue, and difficulty concentrating [1]. People with depression are unable to function normally at work, in social situations, or in their families [2]. University students' mental health issues are a significant and expanding public health concern for health promotion initiatives [3].

Depression is a major global issue that affects a great number of university students in many nations [4]. By contrast, 14% of university students had generalized anxiety disorder, 54% had depression, 40% had stress symptoms, and 4% had panic attacks [5]. Psychological stress was present in 49% of students [6]. Western university students' rates of depression and anxiety were found to vary between 14–33% and 30–49%, respectively. The determinants of these rates weregender, sibling order, mental illness, relative loss experiences, and family history of chronic conditions [7].

During their special years at university, students make numerous significant life decisions as they go from adolescence to adulthood. Students at universities are currently under a lot of strain due to their financial difficulties, interpersonal relationships, and academic responsibilities [8, 9]. Education for health professionals is quite expensive and difficult. Some students may find it to be a stressful experience, which could have a poor impact on their emotional health and academic achievement [10].

A common characteristic of health students is their impressive academic backgrounds prior to enrolling in a university to study the health sciences. Consequently, they experience a great deal of emotional stress when they first start dealing with patients as part of their clinical training [11].

Teo and Say's results showed that studying the health sciences was associated with a higher frequency of depression, 30%, than studying the general sciences and engineering, 18%, while the arts and social sciences had the lowest frequency, 15% [12].

The percentage of Tehran University nursing students who reported they had moderate to severe depression was 38.7% [13]. The prevalence of depression in the USA varied from 8% to 15% [14]. According to a Brazilian survey, 38% of students specializing in health sciences experienced depression [15]. According to estimates, 21% of Nepali students experience depression [16].

To the best of the researchers' knowledge, no published research has looked at the rate of depression among Palestinian health students. This study measured the depression levels of health students and searched for depression predictors. The findings of this assay may serve as a foundation for relevant health promotion initiatives for Palestine's medical students in the future. Furthermore, Palestinian colleges do not have a specific program or structure in place to assist severely depressed students.

2. MATERIALS AND METHODS

2.1. Participants

The aim of this study was to evaluate the degree of depression experienced by Al-Quds University health students. The Al Quds University Ethics Committee, registration number 4/REC/2017, approved this study. Al-Quds University served as the study site, and it used a cross-sectional approach with self-reported questionnaires. Jerusalem is home to campuses of this Palestinian institution. The investigation's entire population consists of 3395 health students, distributed as 27.7% medicine, 22.9% dentistry, 12.7% pharmacy, 10.6% nursing, 8.2% medical technology, 7.3% physiotherapy, 5% midwifery, 3.9% radiology, and nutrition 2.2%.

2.2. Procedures

A proportional technique computer program (PEPI-for Windows) was used to calculate the study sample, and it was found that the sample size was 357 students (www.raosoft.com). Researchers provided the questionnaire as papers, and 357 students completed it using the convenience sample technique. Those who were willing to participate filled out the survey's informed consent page, and then instructed to finish a self-administered questionnaire and a socio-demographic form. The study focused on health students who were 18 years of age or older, and data were gathered between March and May of 2017.

2.3. Study Instruments

Self-administered questionnaires served as the study's data-gathering instrument. A sociodemographic data sheet was created for the study, which asked questions about study year, faculty type, gender, age, place of residence, region of living, and monthly income. It also included depression-related questions such as the presence of psychological problems, religiosity level, and death thoughts. A popular method for assessing depression levels is the Beck Depression Inventory (BDI), which collects data from participants about their mood symptoms, sleeplessness, exhaustion, hunger, weight loss, and self-blame. It contained 21 questions. Each item had a four-point scale from zero to three, depending on the severity of each item; the scores were divided into four categories to determine the degree of depression [17]. Clinical depression symptoms in college students were assessed using a threshold score of greater than 17 [18].

2.4. Validity and Reliability of the Scale

The Cronbach's Alpha for the scale items was 0.812. Three Al-Quds University PhD-holding, public health specialists, engaged on a committee to examine the questionnaire's content validity. Two English language professionals translated the scale into Arabic.

2.5. Statistical Analysis

SPSS version 21 was applied to analyze the data. Four possible responses on the BDI scale werezero, one, two, and three. Based on a threshold value of 17, the answers were analyzed to identify the degree of depression and its association with sociodemographic factors and other relevant variables. Descriptive statistics and parametric tests like ANOVA and T-tests were used to analyze the data at a 95% confidence interval. The Tukey Test was utilized to identify means that differed significantly from one another in conjunction with an ANOVA. The final analysis used a stepwise regression model to estimate the interdependence between variables and find important repressors.

3. RESULTS

3.1. Students' Depression Levels

The average level of depression of the students was 40.3% (n=144) of the participants had depression, while 59.7% (n=213) did not satisfy the cutoff threshold for depression, which is a BDI score of ≥ 17 (Table **1**).

The results show that in terms of depression severity symptoms of those surveyed, 47.9% had the lowest level of depression symptoms, moderate depression at 23.2%, and

mild depression by 19.7% of the participants. However, as Table 2 illustrates, 9.2% of the participants experienced severe depression symptoms, which may call for medication or other therapies.

3.2. Demographic Characteristics

With averages of 1.436 and 1.349 and $P = 0.001$, respectively, It was found that compared to male students, female students had higher levels of depression. Students from rural areas were more likely to experience depression than those from urban areas. According to Table 3, highly religious students were more likely to experience depression than students who were only slightly religious.

Table 1. Findings regarding the rate of depression.

Depression Score	Frequency	Percentages
< 17	213	59.7%
≥ 17	144	40.3%
Total	357	100 %

Table 2. Shows the participants' depressive symptoms in order of severity.

Depression Severity Range	Scores	Frequency	Percentage
Minimal	0 -13	171	47.90%
Mild	14 -19	70	19.70%
Moderate	20 – 28	83	23.20%
Sever	29 – 63	33	9.20%
Total	-	357	100.00%

Table 3. Illustrates the results of the independent T-test for depression-related elements.

Variables		N	Mean	SD	T	Sig.
Gender	Male	132	1.349	0.478	1.620	0.001
	Female	225	1.436	0.497		
Place of residence	Urban	170	1.371	0.484	1.203	0.02
	Rural	187	1.433	0.497		
Religiosity level	Somehow religious	169	1.373	0.485	1.116	0.029
	Committed religious	188	1.431	0.497		
Psychological problems	Present	81	1.046	0.465	6.320	0.0001
	Absence	276	0.624	0.467		

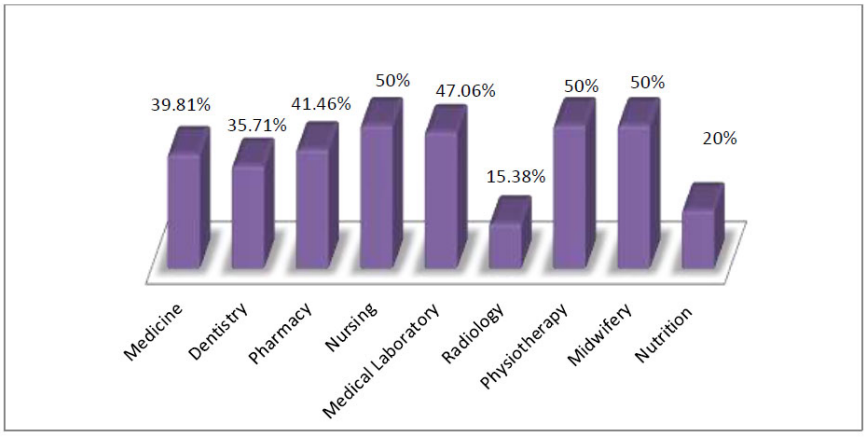

Fig. (1). The rates of depression based on the student's academic field.

Additionally, those from the middle and southern portions of the West Bank showed higher rates of depression in comparison to those from the northern region. Students with psychological issues are more prone to experience depression.

The results of the analysis of variance revealed a significant association between the age groups and depression levels. Tukey test findings indicate that among all participants ages, the individuals who were 22 years of age and above had the highest mean of 1.52. Furthermore, compared to participants from the north section of the West Bank, those from the south and middle regions exhibited higher rates of depression (means of 1.47 and 1.41, respectively).

There were statistically significant differences in the prevalence of depression in study years at a *P*-value of 0.027. The Tukey test showed that the fifth year and above group had the highest mean, 1.567, than other groups. In addition, the findings revealed a significant association between the level of depression and death thoughts; the participants whose responses to (I think that death is the solution to my problems) had the highest mean of 1.958 at *P*. Value 0.0001, as shown in Table **4**.

Descriptive statistics results regarding the specializations of students revealed that the highest rates of depression (50%) were found in physiotherapy, nursing, and midwifery, followed by medical laboratories (47.1%), pharmacies (41.5%), medicine (33.8%), and dentistry (35.7%). The individuals with the lowest rates of depression were those in radiology and public health nutrition, at 15.4% and 20%, respectively, as demonstrated in Fig. (**1**).

3.3. The Influencing Factors of the Depressive Tendency

This study used stepwise regression analysis to examine the factors influencing depressive tendencies. The variables linked to the existence of death thoughts, psychological problems, and place of residence were shown to be significant indicators. The coefficients of prediction (B) for these predictions are positive, suggesting a direct relationship between these factors and depression as shown in Table **5**.

Table 4. Displays the findings of an analysis of variance (ANOVA) for depression-related elements.

Socio- demographic Characteristics		N %	Mean	SD	F	Sig.
Age	18 years	18%	1.349	0.481	-	0.024
	19 years	20%	1.466	0.502	2.86	
	20 years	16%	1.448	0.502		
	21 years	29%	1.294	0.458	-	
	22 years and older	17%	1.525	0.504		
Income	Less than NIS 2500	12 %	1.489	0.506	0.93	0.395
	Between NIS 2500 to 5000	52 %	1.378	0.486		
	More than NIS 5000	36%	1.409	0.494	-	
Region of living	North of the West Bank	17%	1.233	0.427	5.02	0.007
	Middle of the West Bank	40%	1.405	0.493		
	South of the West Bank	43 %	1.466	0.501	-	
Study year	First year study	24 %	1.365	0.484	-	0.027
	Second year	27 %	1.479	0.502		
	Third year	21 %	1.280	0.452	2.77	
	Fourth year	20 %	1.495	0.495		
	Fifth year	8.0 %	1.567	0.504		
Death thought	I think that death is the solution for my problems	7%	1.958	0.205	17.96	0.0001
	I often have thoughts that are related to death	12%	1.750	0.438		
	I don’t think about death	44%	1.395	0.491		
	I sometimes think about death	37%	1.356	0.481		

Table 5. Displays the results of the stepwise regression method.

Variables	Un Standardized Coefficients		Standardized Coefficients	T	Sig.
-	B	Sth. Error	Beta	-	-
Death thoughts	1.138	0.088	0.731	12.4	0.001
Psychological problems	0.354	0.059	0.302	5.89	0.001
Region of living	0.079	0.034	0.117	2.313	0.021

4. DISCUSSION

Based on the results, 40.3% of the students had depression, and 59.7% of those surveyed were not depressed. According to the findings, 40% of the students experienced depression in varying degrees. In terms of depression, 47.9% had mild, 23.2% moderate, and 9.2% severe.

The results of this study are in line with many international studies that discovered depression to be more prevalent among health sciences students. In data gathered from 40 Malaysian colleges and institutions, 21.3% of students had depression symptoms; females had a higher prevalence of depression (26.3%) than males (16.3%). The degree of cognitive distortion and the severity of depression exhibited a robust connection [12]. Based on research conducted in Iran 50%of students specializing in medical sciences experience depression [19]. Furthermore, within King Saud University, the prevalence of depressive symptoms was 47.0% overall, with dental students having the highest frequency (86.1%) and nursing students having the lowest (49.7%) [20].

Nonetheless, compared to other research, such as the study carried out in Egypt that discovered the rate of depression to be 63.3% among medical students, the assay's results showed a lower degree of depression [21]. Additionally, it was discovered that 51.1% and 57.7%, respectively, of Alexandria University's medical and pharmacy students had depression [22].

Additionally, in comparison to male participants, female participants had a mean score of 1.436 and an SD of 0.497, suggesting that they were more depressive. This research outcome is consistent with most other research findings [21, 23-25]. This might be explained by the fact that female students react more firmly than their male peers to social and psychological pressures.

The results indicated that participants who were 22 years of age or older had a greater likelihood of depression when compared to other age groups. The study's findings were supported by other international research, which discovered that training hospital stays rather than age itself was the reason why the age group of 22 and older had a greater prevalence of depression than the other categories [22, 23, 26].

The study's findings indicated that the rate of depression varied significantly depending on where a person lived. Compared to individuals from towns and cities, those from rural areas experienced higher levels of depression. Palestinian society is diverse, with different social levels and significantly different living standards among people who reside in towns, cities, and refugee camps. Consistent with these findings, students from rural areas were more likely to experience depression than those from cities [21]. Nevertheless, additional research revealed no significant correlation between depression ratings and place of residence [27].

The results demonstrated that those with strong religious beliefs experienced higher rates of depression. Half of the participants indicated they felt punished, and 60% said they felt guilty. In the population under study, religious behavior did not appear to be a protective factor against depression. Under one study, there was no connection between religiosity and depression in students [28]. Further research revealed a negative correlation between depression and religiosity [29].

Numerous studies show that the rate of depression varies by specialty and that certain specialties have higher rates of depressive symptoms than others. The prevalence of depression was highest among medical students (35.1%), lowest among nursing students (30%), and medical laboratory students 9.5% [30]. Depression affected 62% of nutrition students [31]. Researchers found that depression harmed 43% of medical students and 51% of pharmacy students [32]. In dentistry, depression affects 70% of students [33].

Finally, the results revealed that 6.7% of those who thought that death was the solution to their problems had the greatest rate of depression. Clinical depression or other related known mental diseases account for 90% of suicide deaths [34]. Within the student body of universities, 29% reported having suicide ideation, and 7% reported attempting suicide [35].

CONCLUSION

The main finding of the study showed that 40.3% of students experienced depression. Therefore, to protect students' well-being, mental health professionals should encourage them to seek advice and counseling. In order for students to complete their assignments and meet other course requirements, university administrators should help them acquire time management and stress-reduction techniques.

LIMITATIONS

There are some limitations in this study. The study employed a cross-sectional design. This type of design may have limitations in the generalization of the results to a larger population since it measures both the prevalence of the outcomes and the determinants in a population in a short time. A self-administered questionnaire was also used to collect data. As a result, the reliability of the findings could be impacted because participants might be reluctant to voice their opinions or might give false descriptions of their feelings, ideas, or actions in an effort to appease the researcher.

AUTHORS' CONTRIBUTION

It is hereby acknowledged that all authors have accepted responsibility for the manuscript's content and consented to its submission. They have meticulously reviewed all results and unanimously approved the final version of the manuscript.

ABBREVIATION

BDI = Beck Depression Inventory

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The ethical approval was obtained from the ethical committee of Al-Quds University (Ref. No.4/REC/2017).

HUMAN AND ANIMAL RIGHTS

All procedures performed in studies involving human participants were in accordance with the ethical standards of institutional and/or research committees and with the 1975 Declaration of Helsinki, as revised in 2013.

CONSENT FOR PUBLICATION

Confidentiality and privacy were assured for all the participants, and they were informed that all information would be kept strictly confidential. Lastly, each participant signed the informed consent form.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The data and supportive information are available within the article.

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CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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