



Prevalence of Anxiety and Depression among Medical Students in Libya During the Covid-19 Pandemic: A Cross Sectional Study.

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Abstract: Medical students have been shown to be more susceptible to stress and depression than the rest of the population. Libyan students specifically have to undergo the challenges of becoming a doctor while living in the stressful outcomes of the Libyan civil war. And the spread of COVID-19 has added to these stressors. This study aimed to determine prevalence of depression and anxiety among Libyan medical students and analyze the causing factors. A cross sectional study was conducted using an online survey. We used the Kessler psychological distress scale to measure the level of distress. A total of 1348 students from 16 Libyan medical schools across the 5 years of study completed the survey. Number of female was 992 (73.6%) and male were 356 (26.4%). The mean age (SD) was 22.09 (2.56). Out of the 1348 participants, 638 (47.3%) scored for severe mental disorder. Moderate mental disorder was presented by 213 (15.8%) and 200 (14.8%) presented with mild. students are likely to be well according to the K-10 scale are 297 (22%). Out of the students who have had their houses displaced from. The war, 66.3% have presented with moderate to severe mental disorder. Students that have reported having suicidal thoughts throughout their time in medical school are 235 (17.4%). In comparison to similar studies done in other countries, Libyan students scored a higher prevalence of depression. The current political state of the country and the COVID-19 pandemic were shown to be contributing factors.

Keywords: Anxiety, COVID-19, depression, Kessler-10, Libya, medical students.

1. Introduction

COVID-19 was declared a pandemic by the world health organization (WHO) in March 11th 2020[1], the first confirmed case in Libya was in March 24, 2020[2]

Since then, the outbreak has caused stress and anxiety among the people worldwide, fear of the virus affecting them and their loved ones as well as the stress of the mandatory lockdown and multiple travel restrictions has affected the mental state of many people [3]. The measures taken during the spread of the virus have also caused multiple job and wage loss which caused financial stress [4]

The global pandemic has especially caused an increased level of psychological distress among healthcare workers [5] many factors such as isolation from family, direct exposure to the virus and the uncertainty surrounding the disease are all contributing factors to the elevated psychological stress during such times.[6]

The political state in Libya has been unstable since the uprising and protests that occurred in 2011 which lead to the overthrowing of the Qaddafi regime[7] which lead to a series of armed conflicts which caused multiple families to undergo internal and external displacement to safer areas. This has led to elevation in psychological stress among the Libyan population.[8]. The spread of COVID-19 in the country has only added to this stress [9]. With an unreliable healthcare system that has been disrupted due to the war therefore proper management of the virus was limited.[10].

Even before the pandemic, medical students have reported higher levels of depression and anxiety than the general population [11]. Medical school comes with multiple stressors including academic demands, higher volume of study material and the pressure of meeting the social expectations of becoming a doctor. Libyan medical students in particular undergo the mentioned stressors in addition to being exposed to the multiple conflicts the country has been going through since 2011. The multiple political conflicts and the internal

displacements and temporary closures of medical schools as well as the constant electricity cut outs for long hours have shown to be negatively affecting the mental state of the students.[12]

The current study aims to further assess the prevalence of psychological distress among medical students in Libya by screening them for mental illness and studying the contributing factors.

METHODS:

Study design:

A cross sectional study design was used for this research studying medical students from 14 medical schools across the region. Using an online survey sent to students via closed groups across multiple social media platforms that were only available to medical students. The data was collected between July 10, 2022 and August 18, 2022. The survey was anonymous and included medical students from 1st year to 5th year of medicine. A consent note was attached at the beginning of the survey.

Study measures:

The questionnaire was divided into three parts. The first contained basic socio demographic questions. The second part contained questions about their satisfaction with online education and their academic performance after the spread of COVID-19 in the form of a 5-point Likert scale ranging from “strongly agree” to “strongly disagree”

The third part contained the Arabic version of the Kessler-10 psychological distress scale which is a 10-item self-administered questionnaire to that measures levels of distress based on depressive and anxiety symptoms.[13] [14]

The total score of the K-10 ranged 10-50. A score under 20 indicates that the participant is most likely to be well, a score of 20-24 indicates a mild mental disorder, a 25-29 score most likely indicates moderate mental disorder and subjects who score 30 and higher are likely to have severe mental disorder.

The questionnaire was piloted to evaluate the quality of the survey and ensure clarity.

Statistical analysis

Statistical analyses were performed using IBM SPSS version 23(Armonk, NY: IBM Corp.). To summarize the data of the student characteristics, descriptive statistics that included means and standard deviation (SD) were used to describe measurement data, percentages and frequencies were used to describe categorical data.

The estimates of strength of association were displayed by the Pearson’s chi-square and T-test with a confidence interval (CI) of 95%. The level of significance was set as a two-tailed $p < 0.05$.

RESULTS:

Demography:

The survey yielded 1383 initial participants from 16 medical schools across Libya. Of these participants, 1348 completed the survey, 992 (73.6%) were female and 356 (26.4%) were male. The mean age (Standard deviation) was 22.09 (2.56).

Participants from first year to fifth filled the survey where 483 (35.8%) were first year students, 255 (18.9%) second year students, 299 (22.2%) third year students, 173 fourth year students, and 138 (10.2%) were fifth year students.

Sixteen Libyan medical colleges from multiple geographical areas were included in study where Tripoli University had the largest number of partakers with 411 participants (30.5%). The majority of the participants were living with their families 1277 (94.7%) and a small fraction were living alone 71 (5.3%). Regarding the living status of these students, 371 (27.5%) of them have displaced their homes due to the Libyan civil war.

Table1. Demographic characteristics

DEMOGRAPHIC CHARACTERSITICS	N. (%)
Participants N.	1348
Gender	
Female	992 (73.6%)
Male	356 (26.4%)
Academic year	
1 st year	483 (35.8%)
2 nd year	255 (18.9)
3 rd year	299 (22.2%)
4 th year	173 (12.8%)
5 th year	138 (10.2%)
Living status	
Living alone	71 (5.3%)
With family	1277 (94.7%)
Taking medication	
Yes	62 (4.6%)
No	1286 (95.4%)
Displaced house due to civil war	
Yes	371 (27.5%)
No	977 (72.5%)

Psychological distress scale results:

The mean K-10 psychological distress score for all the participants was 28.7 with a minimum score of 10 and a maximum of 50. Female students showed a higher level of moderate and severe mental disorder; 51.1% and 16.9% respectively.

As for the male participants, 36.8% screened for severe mental disorder and 12.6% for moderate. There was a significant correlation between gender and psychological distress. (235 (17.4%) of the participants expressed that they have or have had suicidal thoughts during their time in medical school<0.05)

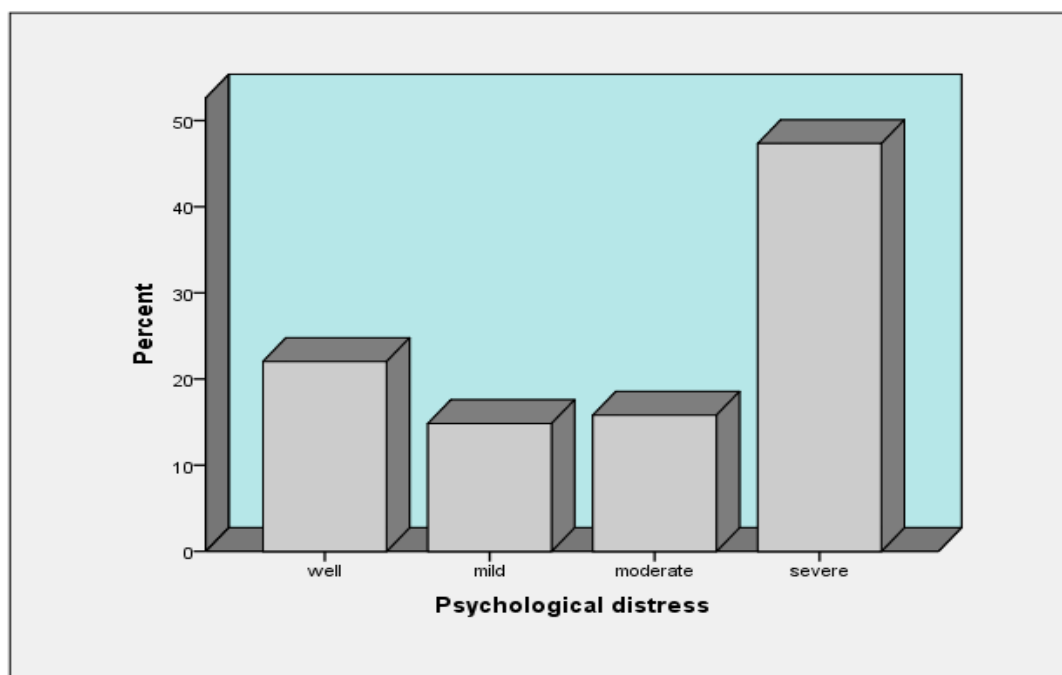


Figure1. This chart shows the distribution of psychological distress score among participants in the form of severity level. Interpreted as the following: under 20 being psychologically well, 20-24 for mild mental disorder, 25-29 for moderate mental disorder and a score over 30 being severe mental disorder.

Out of the 371 participants who had answered “yes” to having their living residencies displaced from the civil war, 303 of them showed various levels of distress, the majority being at the severe level (51.8%). Approximately 18.3% have shown to be psychologically well.

Academic year and living status (independent or with family) showed no significant association with severity of psychological distress. ($P > 0.05$)

A Pearson correlation was run to seek the relationship between age and psychological distress and it was shown to be statistically significant ($r = 0.083$, $N = 1348$, $p = 0.002$).

COVID-19 related results:

Students that expressed their dissatisfaction with online learning are 597 (50.9%) and agreed that it has affected their academic performance. And 685 (44.1%) of the participants believe that the post COVID-19 lockdown has negatively affected their mental health and their learning abilities. Psychological distress was significantly higher among students who were unsatisfied with online learning ($p < 0.001$).

Table2. Association of psychological distress score with demographic characteristics

CHARACTERISTIC	Median K-10 score	P value
Gender		<0.0001
Female	30	
Male	24	
Academic year		.140
1st year	28	
2nd year	29	
3rd year	31	
4th year	28	
5th year	28	
Displaced house due to war		.036
Yes	30	
No	28	
Taking medication		<0.0001
yes	39	
No	28	
Abbreviation: K-10, Kessler 10 item psychological distress scale.		

DISCUSSION:

By conducting this study, we aimed to determine the prevalence of and anxiety depressive characteristics among Libyan medical students during the civil war and the COVID-19 pandemic.

This study showed a high prevalence of psychological stress among medical students in Libya. High stress levels may impair student's ability to perceive information and give proper patient care.

The results showed that 77.9% of all the participants showed various levels of psychological distress. The highest prevalence was at the severe mental illness level (47.3%).

These results have presented higher prevalence of mental illness among medical students in Libya than students in developed countries[15] The Libyan civil war may be a contributing factor. The constant exposure to unsafe situations and multiple deaths, kidnapping and temporary closures of schools as well as financial instability are all products of the war in Libya that could all aid to increase in depression and anxiety. [16]

Unstable living residency may also be a stress inducer as it was shown in this study, 81.8% of participants whose homes were displaced from the war showed various levels of mental illness.

Multiple students (17.4%) also reported having suicidal thoughts through their course of medical school. Incidents of suicide among medical students and doctors have been previously reported.[17]

The Libyan civil war has resulted in a disrupted healthcare system [18] and mental healthcare is not considered a priority and access is very limited[19] our study revealed that only a small number of participants (13%) who have scored mild to severe mental illness take medication for their depression and/or anxiety.

In the era of COVID-19 and the fear and uncertainty that accompanies this pandemic. Levels of anxiety and depression have risen [20] we studied the effect of online learning and post COVID-19 lockdowns. It was revealed that the students who agreed that online learning has negatively affected their academic performance and learning abilities had higher levels of distress.

This study did not show a significant relation between distress and the academic year, in contrary to a previous study done on Libya [3]

Strength:

One of the strengths of this study is the large sample size being distributed across 16 different medical colleges across the country, which provides higher generalization therefore greater confidence in the outcome.

Limitations:

There were multiple limitations in this study such as the Kessler-10 being a self-administrated questionnaire and not an actual clinical diagnosis. As well as the survey being online causes a difficulty of non-response rate tracking and access issues, as well as selection bias.[21]

CONCLUSION:

The high prevalence of emotional distress and depressive symptoms are a cause of concern. Medical students are future doctors and their mental wellbeing is crucial to provide proper care for their patients.

Recommendations:

An intervention in the form of support and access to proper mental health treatment is highly recommended to manage reducing this number and improving the quality of life for these students. A hotline could be planted, not just for students but for whom are living in Libya in general to further support those going through emotional distress or suicidal thoughts. More studies using different qualitative and quantitative research should be done as well.

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