Stress, Anxiety and Depression among University Students during the COVID-19 Pandemic

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ABSTRACT The outbreak of the global COVID-19 pandemic presents a challenging time for everyone around the world. Not only is this pandemic a serious medical concern, but it also brings mixed emotions and psycho-social stressors for everyone, especially for young people. Students are at increased risk for negative emotional responses that can interfere with both their learning and their daily lives. According to this, the main purpose of this research was to investigate the possible relationship between stress, anxiety and depression among university students. The Depression, Anxiety and Stress Scale (DASS-21) was administered to a sample of 245 university students (174 girls and 71 boys). The results indicated that students experienced high level of stress, anxiety and depression during the lockdown. We observed that 62.66% of the students had moderate to extremely severe stress; 81.23% had mild to severe manifest anxiety symptoms, while 43.64% of the students had mild to moderate depression symptoms. In addition, we found that there was a positive and significant relationship between stress and high academic achievement (p=.002), anxiety and high academic achievement (p=.014), depression and high academic achievement (p=.005). In contrast there was a strong negative relationship between stress and low academic achievement (p=.381), depression and low academic achievement (p=.321), but positive relationship between anxiety and low academic achievement (p=.008). Our study demonstrated that during times of crisis such as the COVID-19 pandemic, students are exposed at a greater risk for mental health problems, which can interfere with their studying process and daily lives.

Keywords: COVID-19 pandemic, university students, stress, anxiety, depression.

Introduction

Accounts of mental health and infectious diseases date to antiquity. Scientific appreciation for the many complex relationships between mental health problems and viral diseases has rapidly expanded only in recent decades (Coughlin, 2011; Prince et al., 2007). Viral diseases and mental health conditions are not recognized among the largest categories of disease burden globally.

Since the end of December 2019 the Chinese city of Wuhan reported a novel pneumonia caused by coronavirus 2019 (COVID-19) which is spreading both nationally and internationally (Novel Coronavirus Pneumonia Emergency Response

Epidemiology Team, 2020). COVID-19 rapidly spread from a single city to the entire country. On January 30, the World Health Organization (WHO) declared the novel coronavirus outbreak an international emergency and on March 11, the WHO declared the global COVID-19 pandemic (World Health Organization, 2020).

COVID-19 has affected and is likely to affect people from many countries in many geographical locations. Isolation, contact restrictions and economic shut down impose a complete change to the psychological environment of the affected countries. Many streets in cities around the world are empty. Scientific and business conferences have been cancelled. People have to stay at home. Social relations have been strongly limited to close family members. Many countries have experienced a lockdown of schools or higher education institutions. As part of the decision to close educational institutions, all students living on campus were forced to leave their campuses, and return to their permanent residences. Their life has been changed (UNESCO, 2020). Depression, stress and anxiety are psychological problems that are common among students.

This study contributes to this body of literature by examining the linkage between the coronavirus COVID-19 disease and mental health conditions such as stress, anxiety and depression among students. Being a student in a pandemic is a new experience and we're increasingly acquiring information about this.

Psychological impact of COVID-19 and lockdown among university students

Measures taken to contain the spread of COVID-19 have affected the functioning of higher education worldwide. As most countries began pursing physical distancing, most higher education institutions had to shift to online learning within a very short time and change the way they function and communicate with their staff and students (Murphy, 2020). Online learning has become an integral part of higher education worldwide.

Quarantine at home during COVID-19 and the closure of educational institutions were reported as major reasons for students feeling disconnected from society and their social circles (Kaur et al., 2020; Killian, 2020). Students are also facing social isolation and a loss of social support, because of the COVID-19 pandemic. In some cases, students reported negative experiences while returning home during the pandemic crisis.

According to Cao et al. (2020), 25% of university students experienced anxiety symptoms, which were positively correlated with increased concerns about academic delay, economic effect of the pandemic and impacts on daily life. They experience high level of stress, anxiety and fearfulness, along with a range of the emotional and behavioural issues.

The students' needs for enhanced emotional support during the current pandemic have also been reported worldwide. The findings from numerous studies confirm the importance of the provision of psychological support to students (De Oliveira Araújo et al., 2020).

The impact of stress, anxiety and depression on student life and academic performance

Several studies have pointed out that stress and anxiety are major factors that affect university students' lives and mental health (Fegert et al., 2020). Stress is considered a state of individuals that results from their interaction with the environment that is perceived as too demanding and a threat to their well-being. The stressors are not only physical, but may also involve emotions.

In times of an epidemic, people tend to experience fear of getting infected with the viral disease that results in anxiety, depression and stress. Students all over the world, also experienced distress, because they had been physically disconnected from their professors, peers and key support system. As a result of physical distancing measures implemented as a response to COVID-19, tertiary education institutions have shifted to an emergency online learning format, which would be expected to further exacerbate academic stressors for students. Students may experience reduced motivation toward studies, increased pressures to learn independently and reduced ability to rely on typical coping strategies. Sahu (2020) found that students who were isolated or quarantined during pandemic diseases are more likely to suffer from acute stress disorder, adjustment disorder, and grief.

Wang et al. (2020) investigated the psychological impact on university students in China during the COVID-19 pandemic. Out of 7143 students studied, 0.9% had severe anxiety, 27% had moderate anxiety, and 21.3% had mild anxiety. They experienced a range of physical, psychological, emotional and behavioural symptoms.

Odrizola-Gonzales et al. (2020) studied the psychological well-being of Spanish university students during the COVID-19 pandemic. They identified several stressors as key factors affecting the students' anxiety and psychological well-being, a parent or a friend being infected by COVID-19; educational disruptions; family income stability, reduced social interactions, and increased number of new cases.

Also university students were more anxious and depressed during the initial outbreak of COVID-19 than they were during similar time frames in previous academic years according to a Dartmouth study (Dartmouth College, 2020). The research also found that stress increased dramatically during the onset of the public health crisis. "COVID-19 had an immediate negative impact on the emotional well-being of the university students we studied", said Jeremy Huckins, a lecturer on psychological and brain sciences at Dartmouth. "We observed a large-scale shift in mental health and behaviour compared to the observed baseline established for this group over the previous year". The changes coincided with the end of classes and final exams, already one of the most stressful times for students in any academic term. Lockdown stressors include less independence, doubts about the spread of the virus, lockdown length, monotonous life style, lack of accurate information, monetary loss, and stigma. Therefore, the feelings of depression impair focus and concentration, memory and motor skills.

Stress, anxiety and depression have also been observed to interact with specific learning skills, such as time management, concentration, learning methods, and motivation to study. These factors can affect students' academic performance and can also increase the level of this psychological status in students (Fegert et al., 2020).

Research methods

Study problem
The problem being studied is represented in the question: is there a relationship between stress, anxiety, depression and academic achievement among university students during the COVID-19 outbreak?

Objectives
1. To investigate the prevalence of stress, anxiety and depression among students.

2. To investigate the possible relationship between stress, anxiety, depression and academic achievement among university students.

Participants

The research was conducted in a group of 245 university students aged between 20 to 22 years. The mean age of the students was 19.35 years. Of all participants, 174 were female (71%) and 71 were male students (29%). The study group that was a subject of the research included students who studied psychology and medical sciences at the University of Tetova. The success was calculated by the average success during their studies. The students are selected with inclusion criteria of absence of previous clinically significant anxiety and depression.

Data collection tools

With the scope of study we used the Depression, Anxiety and Stress Scale (DASS-21).

DASS-21

DASS-21 (Antony et al., 1998) is a self-reporting Likert-type survey of 21 items with four answer options ranging from "strongly disagree=0" to "strongly agree=3". This scale presents three factors: depression, anxiety and stress. This categorization of the different dimensions is obtained via the sum of the scores on the answers to the items corresponding to each of the factors. The answers were categorized with the cutoffs adopted by Antony et al. to classify depression, anxiety and stress and thus the level of symptoms (no symptoms, mild, moderate, severe and extremely severe). The scale's reliability was analyzed with Cronbach's alpha coefficient, varying according to the factor: for depression it was 0.76, anxiety0.82, and stress 0.77.

Academic performance

Students were asked to self-report their grades during their studies at the University, because the study group of the research were second-year students who studied only online during the COVID-19 pandemic. The academic success level ranged from 6-10 and we divided students into two groups: 120 students with academic success lower than 7.50 (M=7.14) and 125 students with academic success higher than 7.50 (M=8.23).

Data procedure and Data Analysis

A total of 245 students from the Faculty of Medical Sciences and the Department of Psychology within the University of Tetova participated in this study. Students were invited via email, with information on the purpose of the study and the time it would take to complete the questionnaires. They were also told that their data and information would be treated as confidential, that their participation was voluntary, and they could withdraw at any time. It also contained a web link to the online survey form created by using Google Forms. The form was made accessible to the students from April 16 to June 15, 2021. The data was exported to Microsoft Excel 2018 and was analysed by using SPSS (Statistical Package for Social Sciences) version 20 for Windows.

Results

In our study we found that 17.55% of the young people had mild stress during the lockdown, while 62.66% had moderate to extremely severe stress (Table 1). Figure 1 illustrates the prevalence of stress among the university students.

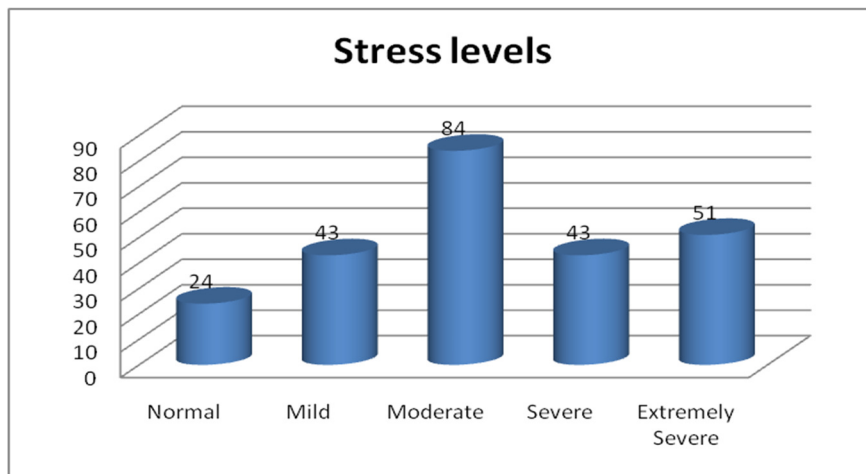| Stress	N	%
0 – 14 (Normal)	24	9.79
15 – 18 (Mild)	43	17.55
19 – 25 (Moderate)	84	34.28
26 – 33 (Severe)	43	17.55
34+ (Extremely severe)	51	20.83
Total	245	100.00

Table 1: Prevalence of stress among students

Figure1: Prevalence of stress among students

At the same time, in our sample of participants, according to the results obtained on the DASS-21 self-reported scale, we came to a conclusion that low level of anxiety experienced only 46 students, while in all 199 other students (81.23%), anxiety is present in all forms, from mild to extremely severe anxiety symptoms (Table 2).

Figure 2 illustrates the prevalence of anxiety among the university students. The anxious feelings begin to interfere with their life and they find it difficult to complete their obligations: time management, concentration, learning methods and motivation to study.

We found that 43.36% of the students had mild to moderate depression symptoms, 13.06% showed severe symptoms and 13.48% exhibited extremely severe symptoms (Table 3).
Depression mood, morning depression, feeling of guilt and weight loss are more pronounced in young persons (Figure 3).

Anxiety	N	%
0 – 7 (Normal)	46	18.77
8 – 9 (Mild)	21	8.57
10 – 14 (Moderate)	74	30.20
15 – 19 (Severe)	65	26.53
20+ (Extremely severe)	39	15.43
Total	245	100.00

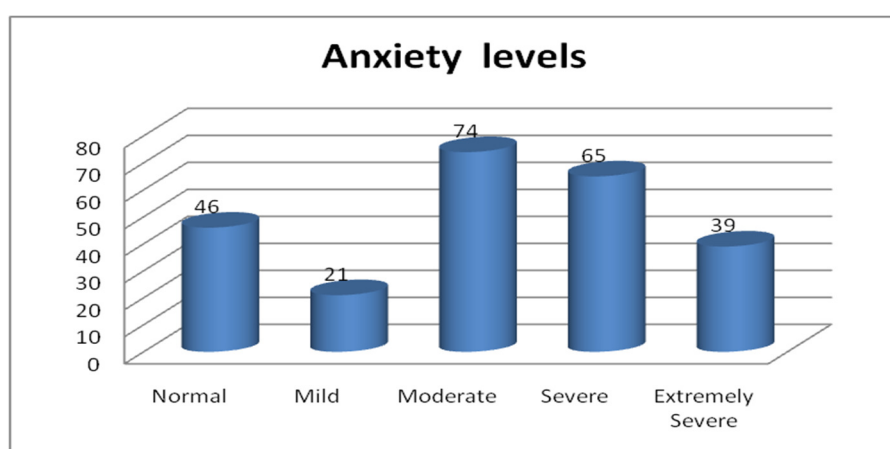**Table 2:** Prevalence of anxiety among students

Figure2: Prevalence of anxiety among students

Also we found that there was a positive and significant relationship between stress and high academic achievement (p=.002), anxiety and high academic achievement (p=.014), depression and high academic achievement (p=.005). In contrast there was a strong negative relationship between stress and low academic achievement (p=.381), depression and low academic achievement (p=.321), but a positive relationship between anxiety and low academic achievement (p=.008).

Depression	N	%
0 – 9 (Normal)	74	30.20
10 – 13 (Mild)	31	12.65
14 – 20 (Moderate)	75	30.61
21 – 27 (Severe)	32	13.06
28+ (Extremely severe)	33	13.48
Total	245	100.00

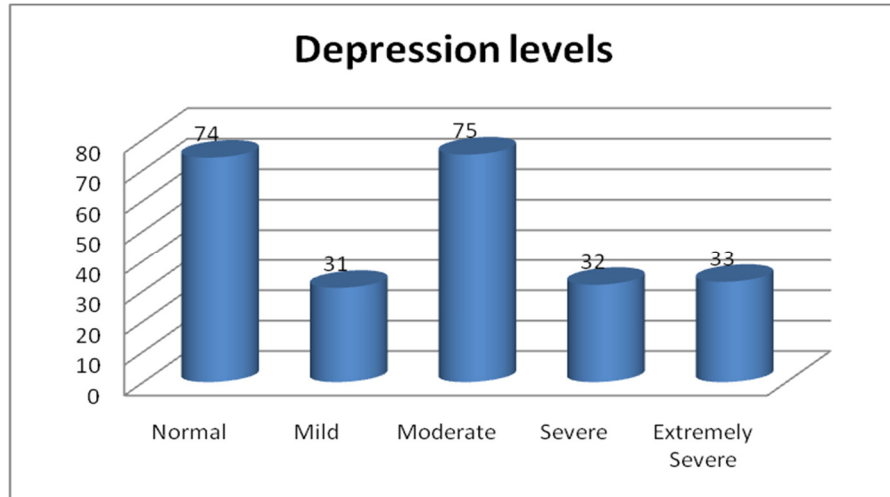**Table 3:** Prevalence of depression among students

Figure3: Prevalence of depression among students

Discussion

It is a frightening time. We are in the midst of a worldwide pandemic, with cities and even entire countries shutting down. Some of us are in areas that have already been affected by the coronavirus. Other are bracing for what may come. The current state of alarm due to the COVID-19 pandemic has led to abrupt changes in the education system of university students-a shift from traditional to online learning. Based on the results of our study, it is clear that students experienced stress, anxiety and depression during the COVID-19 outbreak. Evidently students' mental health was badly affected during this pandemic. According to Huckins et al. (2020) university students experienced anxiety and depression symptoms, feeling of sadness or distress, however over time symptoms become more intense and begin to affect friendships, relationships and everyday life. During lockdown, with the closure of universities and colleges, such physical and social interaction has been restricted resulting in stress. During times of crisis such as the COVID-19 pandemic, students are exposed at a greater risk for mental health problems, such as isolation, loneliness, anxiety, depression or stress, which can interfere with their studying process and their lives (Kluge, 2020).

Also results indicate that stress, anxiety and depression are common causes of poor academic performance during examination among students. Students with better academic achievement had higher level of stress, anxiety and depression. The impact of mental health problems, such stress, depression and anxiety on academic performance has been little explored, and the research has shown contradictory results. An Egyptian study did not find any statistically significant difference in students' academic learning and performance in the shift from face-to-face to online learning due to the COVID-19 pandemic (El Said & Mandl, 2021). A significant positive effect of COVID-19 confinement on students' performance was reported by Gonzalez et al. (2020), who showed that students' learning strategies became more continuous habits, improving their efficiency and autonomous learning performance. The authors attributed this improvement to students facing a new scenario; they were afraid of missing the academic year because of the COVID-19 confinement, and

they worked harder to overcome any difficulty, motivated by their intrinsic responsibility in a perplexing situation. This finding further supports the importance of recognizing and managing psychological problems, so as not to let the problems affect academic performance. Mental health problems can affect students' motivation, concentration and social interaction – crucial factors for students to succeed in higher education (Quacquarelli, 2020).Hence, the provision of emotional and mental health support is one of the most important factors in protecting students during and after a crisis. Students should be made aware of how to take care of their own mental health, and appropriate services should be made available for them.

Conclusion

The current study has produced some important results that have implication for both educational and clinical practice. This study demonstrated that during times like this, students may be feeling afraid, worried, anxious, and overwhelmed by the constantly changing alerts and media coverage regarding the spread of the virus. Therefore it is very important to stay informed, to follow mental health and wellbeing tips and strategies and to continue to look after ourselves and each other during this difficult time.

School counselors, psychologists and academic staff have been trying to help students. In the midst of a pandemic, school counselors did their absolute best to maintain relationships with students and continue to carry out their responsibilities, getting creative in the process. School counselors spent less time offering individual and group counselling for students than they did before the emergence of COVID-19.Psychosocial support can reduce negative mental health effects of a crisis for students. Hence, a sense of hope instead of fear could allow counselors and students to better cooperate with each other which is a vital element in defeating this outbreak. We must work together with a sense of empathy, inform ourselves of the facts, stay connected to people we love and be kind to each other. It can be concluded that in this period of time, counselling is of great importance for the education system. Every educational institution should have counsellors to guide and to help students, to create a good environment, which is motivational for students' growth.

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