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Anxiety among students of Islamic University of Gaza at the time of COVID-19 pandemic

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Abstract:

Background: The COVID-19 pandemic has many impacts on individuals' physical and mental health, including unbearable psychological stress and anxiety.

Aim: to assess the anxiety level among students of Islamic University of Gaza at the time of the COVID-19 pandemic.

Methods and materials: A sample of 1121 students from 11 different colleges at the Islamic University of Gaza completed the online questionnaire which conists of demographic data and the 7-item Generalized Anxiety Disorder Scale (GAD-7).

Results: Most of the participants were females (63.2%), single (84.9%), enrolled as regular students (77.7%), not working (88.8%) and not having a chronic disease (97.4%). Results revealed that 33.4% of participants had mild anxiety, 26.3% had moderate and 20% had severe level of anxiety. Reported levels of anxiety were not impacted by age, sex, marital status or year of stduy.

Conclusion and implication for practice: About half of the participants reported moderate to high levels of anxiety. The new experience of e-learning could be a factor that increased participants' level of anxiety. Thus, faculty members and other university staff as well as the health care system in the Gaza Strip should pay attention to reduce anxiety levels among students and therefore; prevent its negative consequences. This could be reached by providing online training courses or setting channels of one-to-one online or phone counseling for students to alleviate the negative psychological effects of anxiety and to enhance students' mental health of stutus.

Keywords:

anxiety, psychological status, COVID-19, GAD-7, Gaza

Background

The novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) first emerged at the end of 2019 in China, where human-to-human transmission was found in November – December 2019. It soon became one of the most infectious viruses of recent times, with the main routes of transmission via respiratory droplets and aerosols (Huang et al., 2020; Yee et al., 2020). Being in close contact with an infected person in a closed space for at least 15 minutes poses the highest risk for transmission of the virus (Asadi, Bouvier, Wexler, & Ristenpart, 2020; Bourouiba, 2020). Close distance and duration of contact are both reported as factors increasing the risk of transmission (World Health Organization, 2020). On 11th February, the World Health Organization (WHO) declared the associated infection, Coronavirus Disease (COVID-19) as a global pandemic.

Coronavirus Disease (COVID-19) was found to leave around 80% of infected people to be asymptomatic or with mild symptoms, while around 15% suffered from severe infection, requiring oxygen, 5% became critically ill and 1-2% died of the disease (Fraser, 2020). Persons often suffer for prolonged times from symptoms and critically ill patients require prolonged periods in Intensive Care Units (ICU) with respiratory support or mechanical ventilation (Fraser, 2020).

Early on, the WHO advised implementation of and adherence to strict measures to reduce transmission of COVID-19, including physical distancing, staying at home to reduce transmission, stringent hand hygiene, sneezing and coughing etiquette, self-isolation in the presence of symptoms and testing for Coronavirus as well as consequent contact tracing of infected people with isolation and quarantine of suspected or active cases (World Health Organization, 2020). At the first appearance of the positive Coronavirus (COVID-19) in Palestine, an emergency state was declared (Ministy of Health, 2020). This resulted in closing clustering places including schools and universities. As a result, universities and schools started a new experience of e-learning.

With new outbreaks of novel virus infections, especially when there is little knowledge about the characteristics of the virus, its mood of transmission and its severity; this makes a public health concern (European Centre for Disease Prevention and Control, 2020). This outbreak had several impacts on individuals' lives, including unbearable psychological stress and anxiety (Duan & Zhu, 2020; Xiao, 2020).
Several studies were conducted to detect psychological impact of COVID-19 on several groups of the populations such as general population (Duan & Zhu, 2020; Rossi et al., 2020; Serafini et al., 2020; C. Wang et al., 2020), elderly (Meng et al., 2020; Yang et al., 2020), children and adolescents (Li, Wang, Yang, Lei, & Yang, 2020) and university students (Cao et al., 2020; Johansson et al., 2021; Odriozola-González, Planchuelo-Gómez, Irurtia, & de Luis-García, 2020; Z. Wang et al., 2020).

With the multi stressors people in the Gaza Strip already have, the restrictions related to COVID-19 and its consequences may have a great impact on their psychological status. Anxiety has many malicious consequences including somatic symptoms such as fatigue and gastrointestinal manifestations, alcohol disorders and other mental consequences including psychological distress, depression and other psychological disorders (Mo et al., 2020; Shevlin et al., 2020; Teles et al., 2014). In addition, some studies reported that gernalized anxiety disorder had a negative impact on quality of life (Robinson, Sareen, Cox, & Bolton, 2009), especially among young adults (Mendlowicz & Stein, 2000) such as university students. For university students, some studies reported increasing levels of anxiety and depression during COVID-19 (Elmer, Mepham, & Stadtfeld, 2020; Huckins et al., 2020). Furthermore, Van Bavel et al. (2020) added that social distancing measures may eventually increase the students' social isolation and affect their psychological well-being and mental health.

Stress and anxiety could be more prevalent among university students due to the new experience of e-learning and the worry about their future careers. With the new sress related to the COVID-19 pandemic, it is important to assess the level of anxiety among university students to take action to avoid its malicious consequences, especially that the pressure to perform well in academica, by itself, increases the possibility that students will suffer from mental health problems (Mikolajczyk et al., 2008). Therefore, this study aimed to assess the anxiety level among Islamic University of Gaza students at the time of the COVID-19 pandemic.

Methods and Materials

Design, population, setting and sampling

A cross-sectional, descriptive design was used in this study. Students from the Islamic University of Gaza were the target population for this study. Data were collected in period between June and August 2020 after students had finished their final exams to avoid the consequences of exam stress on the result of this study. Inclusion criteria included being a student enrolled at any college at the Islamic University of Gaza. Students from other universities were not included in the study. A convenience sample of 1121 university students from the Islamic University of Gaza completed an electronic version of the questionnaire.

Instrument

The instrument used in this study consisted of two parts; the first part included demographic data about participants such as age, gender, faculty, year of study, marital status and working condition. The other part of the instrument was the 7-item Generalized Anxiety Disorder Scale (GAD-7), which was developed by Toussaint et al. (2020). The GAD-7 consists of seven items based on seven core symptoms and inquires the frequency with which respondents suffered from these symptoms within the last two weeks. GAD-7 measures anxiety symptoms using a 4-point Likert scale ranging from zero (not at all) to three (almost every day). The total score of GAD-7 ranges from 0 to 21; a higher score means a higher level of anxiety. The GAD-7 showed to be valid and reliable (Cao et al., 2020; Spitzer, Kroenke, Williams, & Löwe, 2006). In this study, the instrument demonstrated excellent internal consistency with a Cronbach's α of 0.817.

Data Analysis

The Statistical Package for Social Science (SPSS), version 22, was used to analyze the data. After data cleaning, analysis using descriptive statistics (range, mean, standard deviation and percentage) was run. ANOVA and t-test were used to examine statistical significance between differences of the means of different variables. Correlation test was used to examine if there were any correlation between the total score of GAD-7 and some socio-demographic variables.

Ethical and administrative Considerations

Before conducting the study, the researcher obtained an ethical approval from the Research Ethics Committee at the Islamic University of Gaza. Participants were informed about the purpose of the study at the opening statement and were asked to provide consent to participate in the study. Participants were assured that their participation was voluntary and that each one had the right to refuse completing the questionnaire. Data were collected anonymously from all participants. In the final report, confidentiality and anonymity were maintained and assured.

Results

A total number of 1121 students completed the questionnaire. Characteristics of participants are reported in table 1. Most of the participants were females (63.8%, n =709), single (84.9%, n = 952), enrolled as regular students (77.7%, n = 871), not working (88.8%, n = 996) and not having a chronic disease (97.4%. n = 1092). Students from the 11 colleges at the Islamic University of Gaza participated in the study with the highest percentage coming from the college of nursing (20.9%, n = 234). Students from all undergraduate and post-graduate levels participated in the study with students in the fourth level coming in the first rank (29.4%, n = 330). The age of participants ranged between 18 and 53 years with a mean of

22.01(±4.394). Finally, the number of participants' family members ranged between one and 30 with a mean of 6.61 (±3.072).

Table 1: Socio-demographic characteristics of participants

		Frequency	%
Age	Mean 22.01(±4.394) Range 18-53 year		
Sex	Male	412	36.8
	Female	709	63.2
Marital status	Married	156	13.9
	Single	952	84.9
	divorced	11	1.0
	widow	2	.2
Type of enrolment	Regular students	871	77.7
	Upgrading	136	12.1
	Master	100	8.9
	Doctoral	14	1.2
College	Fundamentals of religions	34	3.0
	Arts	57	5.1
	Economics and managerial sciences	94	8.4
	Education	172	15.3
	Nursing	234	20.9
	Sahrea and Law	69	6.2
	Medicine	171	15.3
	Science	55	4.9
	Health sciences	50	4.5
	Engineering	107	9.5
	Information Technology	78	7.0
Level	First Year	189	16.9
	Second Year	184	16.4
	Third Year	260	23.2
	Fourth Year	330	29.4
	Fifth Year	34	3.0
	Sixth Year	10	.9
	Master	100	8.9
	Doctoral	14	1.2
Working status	Yes	125	11.2
	No	996	88.8
Having a chronic disease	Yes	29	2.6
	No	1092	97.4
Number of family members	Range (1 to 30) mean 6.61 (±3.072)		

Analysis of GAD-7

Descriptive statistics of GAD-7 items are depicted in table 2. The item 'Feeling nervous, anxious, or on edge' received the highest mean (1.64) followed by the item 'Becoming easily annoyed or irritable' with a mean of (1.59). On the other hand, the item "Being so restless that it's hard to sit still" received the lowest mean (0.97).

Table 2: Frequency, percentage, means and standard deviations of GAD-7 items

Item	Not at all sure Freq. (%)	Several days Freq. (%)	Over half the days Freq. (%)	Nearly every day Freq. (%)	Mean	SD	Rank
Feeling nervous, anxious, or	100 (8.9)	467	287	267(23.8)	1.64	0.94	1

on edge		(41.7)	(25.6)				
Not being able to stop or control worrying	305 (27.2)	453(40.4)	212 (18.9)	151(13.5)	1.19	0.98	6
Worrying too much about different things	188(16.8)	401(35.8)	293(26.1)	239 (21.3)	1.52	1.01	3
Trouble relaxing	193(17.2)	475(42.4)	263(23.5)	190(16.9)	1.40	0.96	4
Being so restless that it's hard to sit still	435(38.8)	403(36.0)	169 (15.1)	114(10.2)	0.97	0.97	7
Becoming easily annoyed or irritable	172 (15.3)	383(34.2)	294(26.2)	272(24.3)	1.59	1.02	2
Feeling afraid as if something awful might happen	324(28.9)	375(33.5)	232 (20.7)	190(16.9)	1.26	1.05	5

Levels of anxiety among students

Table 3 shows the different levels of anxiety among participants. According to the scoring system of the GAD-7, scores of 5, 10 and 15 were used as the cut-off points for mild, moderate and severe anxiety, respectively. According to these scoring cut-off points, results revealed that about one-third of participants (33.4%, n = 347) suffer from mild anxiety and one-fifth (20%, n = 224) suffers from severe anxiety.

Table 3: Levels of anxiety among Islamic University of Gaza students

Level of anxiety	**Frequency**	**Percentage**
No Anxiety	228	20.3
Mild Anxiety	374	33.4
Moderate Anxiety	295	26.3
Severe Anxiety	224	20.0

Factors influencing the level of anxiety

Pearson correlation did not show a statistically significant correlation between the total score of GAD-7 and the variables of age and number of family members. In addition, ANOVA and t-test results did not detect any statistically significant differences of the means of the total score of GAD-7 and any of the study variables (p value greater than 0.05) as shown in (table 4). Moreover, the result of regression analysis showed no association between levels of anxiety and other study variables; including age, sex, martical status, colleage, year of study, working status, number of family members and having a chronic disease as the p values exceeded the critical value of 0.05.

Table 4: Impact of study variable on total score of GAD-7

Variable		Mean	SD	P value
Sex	Male	1.32	0.799	0.163
	Female	1.39	0.781	
Marital status	Married	1.36	0.834	0.636
	Single	1.37	0.782	
	Divorced	1.58	0.749	
	Widow	0.86	0.606	

Variable		Mean	SD	P value
College	Education	1.29	0.712	0.568
	Science	1.23	0.766	
	Nursing	1.38	0.813	
	Arts	1.47	0.810	
	Medicine	1.33	0.818	
	Economics and managerial sciences	1.34	0.737	
	Sharea and Law	1.51	0.874	
	Engineering	1.37	0.800	
	Health sciences	1.46	0.863	
	Information technology	1.45	0.753	
	Fundamentals of religions	1.36	0.715	
Level	First Year	1.42	0.791	0.803
	Second Year	1.37	0.753	
	Third Year	1.37	0.788	
	Fourth Year	1.38	0.780	
	Fifth Year	1.22	0.801	
	Sixth Year	1.23	0.916	
	Master	1.29	0.869	
	Doctoral	1.20	0.751	
Working status	Yes	1.33	0.850	0.585
	No	1.37	0.780	
Having a chronic disease	Yes	1.61	0.947	0.177
	No	1.36	0.781	

Discussion

This study aimed to explore the level of anxiety among students of the Islamic University of Gaza during the COVID-19 pandemic. Results revealed that 20% of participants had a high level of anxiety, 26.3% had a moderate level and 33.4% had a low level of anxiety. The rest of the students (20.3%) had no anxiety. These high rates of anxiety among students exceeded global rates in normal situations which ranged between 5 and 25% of the population (Kessler et al., 2009) but less than rates reported among Palestinian adolescents (15-19 years old) which was 94.9% (Elbedour, Onwuegbuzie, Ghannam, Whitcome, & Hein, 2007). Moreover, the study did not reveal any specific variable to impact the level of anxiety among participants.

The literature revealed that there were some studies conducted to assess the level of anxiety among Palestinian university students before the COVID-19 pandemic. Some of these studies measured the level of anxiety among students at specific colleges and the other studies measured the level of anxiety among university students in general. For example, a study conducted by Shawahna, Hattab, Al-Shafei and Tab'ouni (2020) revealed that only 23.4% of the medical students had no anxiety. The rest of the participants reported various levels of anxiety ranging from mild to moderate (29.7%), moderate to severe (25.5%) and severe levels of anxiety (21.3%). In 2015, a study conducted to assess the level of depression and anxiety among Palestinian university students revealed that 24.1% of participants (10.3% were males and 13.8% were females) had anxiety (Joma'a & Thabet, 2015). In the other two studies, results revealed that the mean of anxiety scores was in the higher half of the possible score as it was 46.62 (out of a maximum possible score of 80) in one study (Thabet & Sultan, 2016) and 2.83 (out of a maximum of five) in the second study (Nazzal, Cruz, & Neto, 2017).

The results of this study are congruent with the few studies were conducted to assess levels of anxiety among university students during the COVID-19 pandemic. For example, a study conducted in Bangladesh found that 38.9% of the participants reported a mild level of anxiety, 24.8% reported a moderate level and 18.1% reported a high level of anxiety (Islam, Barna, Raihan, Khan, & Hossain,

2020). A study conducted in France revealed that 60.2% of French students reported that their level of anxiety had increased since the beginning of the time when movement of people was restricted (Husky, Kovess-Masfety, & Swendsen, 2020). Other studies from United Arab Emirates (Saddik et al., 2020), Lebanon (Fawaz & Samaha, 2021), Jordan (Naser et al., 2020), United States (Perz, Lang, & Harrington, 2020), Switzerland (Amendola et al., 2021), Bangladesh (Faisal, Jobe, Ahmed, & Sharker, 2021) and China (Chi et al., 2020; Wang & Zhao, 2020; Zhang, Zhang, Ma, & Di, 2020) reported high prevalence among university students during the COVID-19 pandemic.

People living in the Gaza Strip suffer from several stressors that could contribute to the high level of anxiety reported by participants of this study. People in Gaza live under siege which was imposed by Israel since 2006 with limited movement of people and goods to and from Gaza to the outside world (UN Office for the Coordination of Humanitarian Affairs, 2020). Restricted movement of people and goods became worse after the Israeli offensive against Gaza in 2014 (UN Office for the Coordination of Humanitarian Affairs, 2020). Moreover, the high rates of unemployment and poverty among people living in Gaza are other stressors that could contribute to the high levels of anxiety reported by participants of this study.

Some of the possible factors that could contribute to the high level of anxiety among students of the Islamic University of Gaza could be due to the new experience of e-learning as universities in Palestine turned to using e-learning during the lockdown. This was a new experience for the students and the university teachers. Many students were worry that this will affect their grades which consequently have an impact on their future career. In addition, the inability of senior students to complete their internships and graduation projects and the possible delay in their graduation possibly contributed to the high level of anxiety among participants. This was not unique to Palestinian students as other studies conducted in the United Arab Emirates (Saddik et al., 2020), Lebanon (Fawaz & Samaha, 2021) and China (Jiang, 2021) revealed that e-learning was a contributing factor to increasing levels of anxiety among students and influencing students' academic performance due to the pandemic.

Another factor that possibly increased the level of anxiety among some participants was their inability to pay tuition. With the lockdown, the income of many families was sharply reduced and became unable to cover the tuition of their student family members. This also was evident in the results of Islam et al. (2020) study who found that disruption of income and inability to cover tuition was the most significant stressors contributing to the increased rates of depression and anxiety among university students in Bangladesh. The possibility of not getting a job after graduation is another stressor that could add to the anxiety level among university students. Earlier studies found that (Gore, Holmes, Smith, Southgate, & Albright, 2015; Mokona, Yohannes, & Ayano, 2020; Paul & Moser, 2006) levels of anxiety and depression are higher among those who are unemployed.

Findings of this study did not reveal any association between study variables and level of anxiety among university students which goes with the results of some other studies (Alim et al., 2015; Islam et al., 2020; Shamsuddin et al., 2013; Tayefi et al., 2020; Thabet & Sultan, 2016). However, some studies found that female university students reported a higher level of anxiety than male students (Amendola et al., 2021; Fawaz & Samaha, 2021; Nazzal et al., 2017; Wang & Zhao, 2020; Wolf & Rosenstock, 2017).

The high levels of anxiety reported by participants of this study should alarm the higher education community including faculty members, university administration and policy makers since anxiety can lead to several negative consequences which include some somatic symptoms such as fatigue and some gastrointestinal symptoms. This is besides other mental issues such as psychological distress, depression and other psychological disorders (Allen, Rowan, & Singh, 2020; Mo et al., 2020; Teles et al., 2014). Faculty members and other university staff may help to reduce students' level of anxiety by providing special psychological support to students and professionals in the field can provide an online support and counseling to those who are in need. Such support had shown to have a positive impact on the physical and mental health of recipients (Arnold & Dupré, 2012).

Conclusion and implications for practice

Palestinians, including university students, living in the Gaza Strip already face many stressors. The COVID-19 pandemic along with the new experience of e-learning added to their stressors. The results of this study revealed variant levels of anxiety among students. To reduce levels of anxiety among university students, faculty members and university administration need to implement effective training related to COVID-19 prevention and to provide counseling for stress management. This may help students to tolerate e-learning and COVID-19-associated stress and help to reduce their anxiety; which will help them to overcome the negative consequences of anxiety and to improve their academic performance.

Tailoring special psycho-social support programs such as: providing counseling services in the universities and setting channels of one-to-one online or phone counseling for the students may be effective measures to alleviate the negative psychological effects of the COVID-19 pandemic and its related stress. This also will help to enhance the resilience and coping of the students as well as improving their academic performance.

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