

The Impact of COVID-19 on Anxiety in a Sample of University Students in Egypt

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ABSTRACT

Covid-19 pandemic forced extreme shift in life and educational settings. This study aims at investigating anxiety among students of different universities in three regions in Egypt 1- Cairo (the capital), 2- Tanta (Lower Egypt, in the river Nile delta), 3- Asyut (Upper Egypt, in the river Nile delta). The sample of the study (n= 604) participated 6 weeks after the suspension of on campus classes of the new spring semester during the outbreak of Covid-19. Using The Self Rating Anxiety Scale – SAS (Zung, 1971), the results reveals that the sample showed that the mean SAS score was significantly high 46.55 (SD = 7.67). Though the study results points out that there was no significant difference between students majoring in arts and sciences neither there were differences between the universities from different regions, Significant sex differences were found and male students showed more anxiety than female students

Keywords

Anxiety, COVID-19, university students, Egypt, SAS

Introduction

World Health Organization (2020) has announced COVID-19, the recent corona virus infection announced in Wuhan, china in December, a pandemic. The attempt to contain the pandemic through procedures of physical and social distance and quarantine has forced a different life style which raised concerns of spread anxiety, loneliness, a fear of uncertainty and panic. Reported findings from the Canadian Opinion Research, Angus Reid Institute (2020) show that one-third of the participants (n=1354) were worried about the virus. And at the time where only 4 of the Canadian population in early February, 2020 were reported to be coronavirus confirmed cases, 7% were “very concerned” about being infected. Moreover, the Morning Consult Poll (2020) in the USA show similar findings, 37% of the participants (n=2200) were worried about COVID-19 at the time where the USA reported 5 cases of coronavirus and no fatalities.

Literature Review

Posttraumatic stress symptoms were detected to be a major response to quarantine (Brooks et al., 2019; Bao et al., 2020; Galea et al., 2020), and Loneliness, psychological distress, depression,

and xenophobia were common psychological effects caused by other infectious diseases such as, the 2010 H1N1 influenza pandemic, Ebola, and SARS (Sprang & Silman, 2013; Rith-Najarian et al., 2019). (Xiao et al., 2020) examined individual mental health symptoms during the outbreak of COVID-19 in China, and anxiety was found to be the most common.

Anxiety is common in developing countries (10% - 40%) prevalence (Azad et al. 2017), and in Egypt, the prevalence of anxiety symptoms among high school students was 21% (Al et al., 2013), moreover educational psychology researchers showed that high level of anxiety is one of the most detected factor to affect mental health and lives of university students (Brennan, 2008; Kummer, Cardoso, & Teixeira, 2010).

There are many factors that affect students' level of anxiety. (Reddy et al., 2018) pointed out that personal and social changes that occurs when students starts their university life represent a major source of anxiety, whereas (Deb et al., 2015) showed that other factors such as fear of academic failure, methods of assessment and long school hours, are also evident factors that enhance students' anxiety. Level of anxiety have also been identified to interact with motivation, academic performance and gender (Agolla & Ongori, 2008;

Castle et al., 2006). Furthermore, there is strong supportive evidence in literature that emotional support deprivation and social difficulties play a major role in affecting level of anxiety and academic performance (Thompson, & Trice-Black, 2012 & Weems, et al., 2009).

While many studies examined level of anxiety among students (Cheung et al., 2016; Blanco et al., 2008; Shamsuddin et al., 2004), less is known about gender differences in anxiety among university students, especially in Egypt, and hence the author aims to examine the gender differences among university students in Egypt during COVID-19.

In response to COVID-19 outbreak, the Egyptian government declared the closure of all educational institutions in March 14th, 2020 as an emergency measure to contain the infectious disease, and online learning was implemented as the alternative method of education and learning. The ministry of Education and higher education suggested “suspending classes without suspending learning” and 27 million students were switched to different methods and modes of learning including distant learning using the schools and universities’ portals for online classes. Campus life and school activities enhance and develop the psychological well-being of university students (Bowman, 2010; Yang, 2010; Stanley, & Manthorpe, 2001), and hence the author hypothesize that school close combined with students being forced to use different learning modes all added to the fact of being subjected to home-confined related issues and quarantine could have a negative psychological impact on university students, and that COVID-19 and quarantine would increase their anxiety.

It is noted that previous studies have reported increased stress and anxiety during epidemic (Tam et al., 2004; Wong et al., 2004; Burd, 2003), however the sample of the study were all comparatively small (315-450 participants). The author in the current study aims to use a larger sample ((n= 602) who participated six weeks after the suspension of on campus classes of the new spring semester during the outbreak of COVID-19. Since no research had been found to examine the impact of COVID-19 on the anxiety of university student in any part of Egypt, the author

would investigate anxiety among students of different universities in three regions in Egypt 1- Cairo (the capital).2- Tanta (Lower Egypt, in the river Nile delta). 3- Asyut (Upper Egypt, in the river Nile delta). The current study was conducted in May in Egypt could provide a baseline data and a reference to researchers working on developing coping strategies programs in the future.

Objectives of the Study

This study aims to investigate the anxiety among university students in Egypt six weeks after the suspension of on campus classes of the new spring semester during the outbreak of Covid-19. All participants were undergraduate students and online classes with total suspension of face-to-face learning was a new experience to them. The hypothesis of the current study is that university students would reveal symptoms of anxiety and that anxiety would occur in female students more than male students and would also examine the section (art/science) differences in anxiety.

Method

Participants

2000 undergraduate students, ranging from 19-24, from three universities in three regions in Egypt 1- Cairo (the capital).2- Tanta (Lower Egypt, in the river Nile delta). 3- Asyut (Upper Egypt, in the river Nile delta), received the questionnaire by E-mail from 9 AM May 02 to 9 AM May 07, 2020. A total number of valid questionnaire (604) responses were received, and the size of female was (375) and male was (229). At the time of distributing the questionnaire, all participants were singles, residing in Egypt, and did not have a history of diagnosed psychiatric disorders. They provided their consent to be included in the study (see Table 1). The participating students were classified into two groups according to their majors and degrees: arts and sciences. Philosophy, foreign languages and law represented the Art section, where science included engineering, medicine and dentistry.

Procedures

At the time of the study, all participating students were enrolled in remote online learning for the first time, and after the students agreed to participate, each was given an online questionnaire package to answer and fill in then

email them to the researcher. The components of the questionnaire package were:

- 1- Sociodemographic questionnaire, to provide information about gender, university, age, and major.
- 2- The Self-Rating Anxiety Scale to measure the student anxiety.

Table 1. Demographics of participating students

University	Males	Females	Arts	Sciences	Total
Cairo	75	125	143	57	200
Tanta	65	58	71	52	123
Asyut	89	192	155	126	281
Total	229	375	369	235	604

The Self-Rating Anxiety Scale

The study used The Self-Rating Anxiety Scale – SAS (Zung, 1971) to assess anxiety six weeks after the closure of school closure in Egypt due to COVID-19 outbreak. The 20 item self-report scale cover anxiety symptoms in 4 groups: autonomic, motor, cognitive, and central nervous system symptoms. Each answer is based on 4 point Likert scale to measure symptoms during the previous week prior to taking the test. The question are both positively and negatively worded to overcome the set response, and raw scale scores range (20-80), then it should be converted to an “Anxiety Index” score to apply a clinical interpretation of the participant’s anxiety level. The validity and reliability of the scale was found to be adequate among Arabic sample. The psychometric assessment for the instrument was achieved, internal consistency reliability (Cronbach’s alpha = .82), and there was evidence for concurrent validity ($r = .30$ with the Taylor Manifest Anxiety Scale). According to Arabic norm based on the research on 1158 participants, anxiety level were 25–49 indicates normal range; 50–59 indicates mild anxiety levels; 60–69 is

moderate anxiety levels; 70 and above is severe anxiety levels

Data Analysis

SPSS 21.0 software was used for the data analysis. The sample was divided into different groups according to the SAS scoring criteria. Measurement data were expressed as mean and standard deviation (SD). And t-test was used to examine the study hypotheses concerning gender, major, university, and anxiety.

Results

The mean SAS score was 46.55 (SD = 7.67; see **Table 2**) which indicate that students were anxious during COVID-19 outbreak, even though 6 weeks have passed since the closure of schools. Two sample t-test reveals that there were significant differences in SAS score between males (mean= 47.52) and females (mean= 45.96) and ($p \leq .001$ see **Table 3**). While males proved to be more anxious than females, no significant differences on SAS score were found between the three universities.

Table 2. SAS mean scores of participants and comparisons (n = 604)

N	Mean	SD
604	46.55	7.67

Table 3. Summarized two sample t-test for comparing male and female students' anxiety

Gender	Size	mean (SD)	t	df	p value
Male	229	47.52 (7.88)	2.448	602	0.015
Female	375	45.96 (7.48)			

The mean scores (see **Table 4**) of the three universities from the three different regions (Cairo= 46.06, Tanta= 47.08, and Asyut= 46.66), were further examined and the results showed there were no statistically significant differences between group means as determined by one-way ANOVA ($F = 0.737, p > 0.05$ see **Table 5**)

Table 4. Anxiety means and SD according to university

University	size	mean (SD)
Cairo	200	46.06(7.92)
Tanta	123	47.08(6.47)
Asyut	281	46.66(7.97)
Total	604	46.55 (7.67)

The results included in table 5 shows that students from all three universities located in three different regions were anxious, moreover, the researcher conducted two sample t-test and the results reveals that there were no significant differences in SAS score between Art (mean= 46.65) and Science (mean= 46.40) and($p > 0.05$ see Table 6).

Table 5. One-way ANOVA analysis of anxiety according to university

Variance source	Sum of squares	df	mean square	f	sig.
Between group	86.805	2	43.403	0.737	0.479
Within group	35398.392	601	58.899		
Total	35485.197	603			

Thus the results included in table 6 shows that students from both majors (arts- science) were anxious in a similar degree.

Table 6. Summarized two sample t-test for comparing arts and science sections for students' anxiety

Major	Size	mean (SD)	t	df	p value
Arts	369	46.65 (8.176)	0.384	602	0.701
Science	235	46.40 (6.817)			

Discussion

Psychological negative effects are expected to occur while pandemic outbreak, and mental health is obviously being taken into consideration at different levels, including the general population (Shigemura et al., 2020; wang et al., 2020; Torales et al., 2020; Zandifar & Badrfam, 2020), among healthcare workers(Kang et al., 2020; Chen et al., 2020; Liu et al., 2020) and in vulnerable populations (Yang et al., 2020; Liem et al., 2020; Fakari & Simbar, 2020; & Zhai & Du, 2020). The sample of the current study were students in the Egyptian government universities from different regions and the results showed that they went through anxious feelings during COVID-19 outbreak even though 6 weeks had been passed since the announcement of school closure and that points to the negative psychological impact of COVID-19 on university students, anxiety as a sample. All participating students were using online learning with total avoidance to face-to-face learning communication for the first time. Although it might be predicted that as time goes by students will get used to the new system and

will accommodate to the more flexible assessment modes adopted by the Egyptian Ministry of Education, and hence sources of anxiety would be less feasible, yet all participating groups reveals an anxious state. An investigation of the reasons might refer to the rising of the precautionary procedures adopted by the Egyptian government. In March 14th the school closure was announced, but no curfew was assigned, however, 11 days later, partial curfew was announced, and the Egyptian Ministry of Health and Population has declared that the rate of COVID-19 confirmed cases has also been risen (from 110 in March 14 to 6465 in May 2nd) and rate of fatality cases were (02 in March 14 to 429 in May 2nd). Thus anxiety reported in this study are in accordance with the suggestions that there may be an increase in negative psychological burdens in the later stages of physical distancing and quarantine (Brooks et al., 2020), and the current study results are also consistent with the findings of (Bao et al., 2020) which reported that increasing number of countries affected by the outbreak, have generated public worry about being infected in the outbreak, hence anxiety increased. On the other hand, the increasing distances between people due to the health precautions procedures may also represent another reason for students' anxiety, for anxiety disorders are more likely to occur in absence of interpersonal communication (Xiao, 2020).

Limitations and Future Studies

The current study has limitation. Firstly, though it is the first study, to the best of the author knowledge, to examine anxiety among university student during the outbreak of COVID-19 in Egypt, the sample is still small. Furthermore, only three universities from different regions in Egypt were selected. Future studies could develop the study design by recruiting more students from various universities located in different regions of Egypt.

Conclusion

Though the study results points out that there was no significant difference between students majoring in arts and sciences neither there were differences between the universities from different regions, Significant sex differences were found and male students showed more anxiety than

female students. This contradict with previous researches were females were more likely to suffer from anxiety (Azad et al., 2017), and with the findings of (Cao. W 2020) that shows no significant difference in gender so that male and female students experienced similar anxiety symptoms as a result of the epidemic. This findings can be interpreted in light of living in the Egyptian culture, where men are likely to go out more frequently than women and hence, compared to women, curfew would force them to spend more hours at home than they are used to (Mensch et al., 2003). On the other hand, in the Egyptian culture men are widely depicted as the ones responsible for achieving a financially secured household which might add another source for anxiety to them (Barbara. I 2000).

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Conflict of Interests

The author declares that no conflict of interest exists.

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