

ORIGINAL RESEARCH

To evaluate the Prevalence of anxiety and depression during COVID-19 pandemic

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ABSTRACT

Aim: To evaluate the Prevalence of anxiety and depression during COVID-19 pandemic.

Methods: This study was conducted during the Coronavirus outbreak. Following development by the research team, the online survey was tested during these study periods. 100 participants were included in this study.

Results: 40% of participants reported feeling tight or wounded up from time to time (sometimes), whereas 23% reported feeling this way all of the time. Many (35%) were worried as if something terrible was going to happen, but 'not too severely,' while 33 percent felt frightened 'a bit' as if something terrible was about to happen, but it did not bother them. Many people (38 percent) had anxious thoughts from time to time, while others (24 percent) had them all the time. Only 41% said they sat at ease and felt calm "generally," while others said they didn't sit at ease and felt relaxed "very frequently" (33 percent). More than half of the students (55%) reported not being afraid or having a 'butterfly' feeling in their stomach, whereas many others (24%) had that scared emotion 'sometimes.' Only 15% of the participants reported being restless and on the move. In terms of experiencing a sudden sense of panic attacks, just a small percentage (9%) reported having had this 'often' or 'very frequently' (20 percent). When asked if they still enjoyed the things they used to appreciate, just 36% said they didn't enjoy them as much anymore. Only half of the students (50%) said they could laugh and see the funny side of things "as much as they always could." A fresh look at the participants' emotions indicated that just 47 percent of them felt joyful'some-times,' while others felt cheery 'not often/not at all' (24 percent , 14 percent respectively).

Conclusion: During the COVID-19 pandemic, participants' anxiety and depression levels were found to be high. Furthermore, more than half of the pupils did not embrace the learning

method throughout the epidemic. Implementing psychological therapies for healthcare students during pandemics is strongly advised in order to improve students' mental health as well as their learning process.

Keywords: COVID-19, psychology, virus.

Introduction

Coronavirus illness 2019 (COVID-19) and the regulations enacted to combat it have become a near-universal exposure for people in the United States in 2020. The COVID-19 pandemic can be called a traumatic event since it can inflict physical, emotional, and psychic suffering.¹ Furthermore, the measures enacted to limit its spread added new life pressures and disturbed daily life for the majority of Americans. As of April 13, 2020, 42 states have stay-at-home warnings or shelter-in-place rules in effect, impacting at least 316 million people, or around 96 percent of the population.² The unemployment rate in the United States was at an all-time high, with more than 20 million individuals claiming for unemployment benefits between the start of COVID-19 and mid-April 2020.

Traumatic events and their social and economic implications have an impact on mental health. Previous research on life disruptions caused by catastrophes, epidemics, or civil unrest suggests that exposure to large-scale traumatic events is related with a higher burden of mental illness in the affected communities.³ After September 11, 2001, for example, 9.6 percent of Manhattan residents reported symptoms consistent with depression, while 7.5 percent reported symptoms associated with posttraumatic stress disorder.⁴ Residents residing near the World Trade Centers were more likely to suffer from mental illness.^{4,5} Similarly, people impacted by storms report a rise in symptoms associated with mental illness following natural disasters.³ Other epidemics, such as the Ebola virus and the SARS outbreak, have also been linked to an increase in mental illness.^{6,7}

Furthermore, social disturbances in day-to-day living during civil upheaval, for example, have been linked to mental illness. Data from Hong Kong suggest that despair, anxiety, and psychological discomfort were higher during the 2019 Hong Kong civil unrest.^{8,9} Notably, the mental health repercussions of large traumatic events are not dispersed uniformly among communities. Lower income and wealth are related with a higher burden of mental disease.¹⁰ Mental illness has been widely documented in the aftermath of previous financial recessions, particularly among unemployed persons and those adversely impacted by social and economic misfortune.¹¹ COVID-19 is linked to mental disorders, according to preliminary data from published research. 50.4 percent of Chinese health-care personnel were exposed to COVID-19 patients reported symptoms of depression.¹²

Material and methods

This study was conducted during the Coronavirus outbreak. Following development by the research team, the online survey was tested during these study periods. 100 participant were included in this study. The first part of the online survey included information regarding the participants' demographic data, university type, nationality, level of study, social status, socio-economic status, smoking status and medication/s use. The second section of the first part verified if a family member was previously diagnosed with anxiety and/or depression, participants' sleeping pattern hours during COVID-19, actual sleeping hours during COVID-19, and changes in participants' sleep pattern during COVID-19.

The second part of the survey was set to evaluate participants' anxiety and depression status, using the validated and previously published Hospital Anxiety and Depression Scale (HADS).¹³ In assessing the anxiety status, the following questions were included in the survey: "I feel tense or wound up; I get a sort of frightened feeling as if something awful is about to happen; Worrying thoughts go through my mind; I can sit at ease and feel relaxed; I

get a sort of frightened feeling like 'butterflies' in the stomach; I feel restless as I have to be on the move and I get sudden feelings of panic".

As for the assessment of depression status, the following questions were asked: "I still enjoy the things I used to enjoy; I can laugh and see the funny side of things; I feel cheerful; I feel as if I am slowed down; I have lost interest in my appearance; I look forward with enjoyment to things; I can enjoy a good book or radio or TV program".

Each item in HADS survey was rated on a four-point scale, giving maximum score of 21. Scores were divided into three categories: normal (0–7), borderline abnormal (8–10), and abnormal (11–21) cases of anxiety and depression.¹⁴

The third part of the online survey assessed students' beliefs regarding their learning process during the COVID-19 pandemic.

Results

Table 1. Demographic profile

Parameter	Number	%
Age, (mean \pm SD)	22.62 \pm 4.9	
Gender, n (%)		
Female	67	67
Male	33	33
Level of study, n (%)		
Post graduate	3	3
Graduate	6	6
School level	91	91
Social Status, n (%)		
Single	94	94
Married	5	5
Divorced	1	1
Children, n (%)		
Yes	5	5
No	95	95
Family Monthly Income, n (%)		
Less than 2000	20	20
2000–5000	58	58
More than 5000	22	22
Living place, n (%)		
Urban	79	79
Rural	21	21
Family member diagnosed with anxiety and/or depression, n (%)		
No	81	81
Yes, from my mother's side	6	6
Yes, from my father's side	8	8
Yes, from both my parent's side	5	5
Changes in sleep pattern during COVID-19, n (%)		
Yes	79	79
No	21	21

Assessment of participants' anxiety

According to Table 2, 40% of participants reported feeling tight or wounded up from time to time (sometimes), whereas 23% reported feeling this way all of the time. Many (35%) were worried as if something terrible was going to happen, but 'not too severely,' while 33 percent felt frightened 'a bit' as if something terrible was about to happen, but it did not bother them. Many people (38 percent) had anxious thoughts from time to time, while others (24 percent) had them all the time. Only 41% said they sat at ease and felt calm "generally," while others said they didn't sit at ease and felt relaxed "very frequently" (33 percent). More than half of the students (55%) reported not being afraid or having a 'butterfly' feeling in their stomach, whereas many others (24%) had that scared emotion 'sometimes.' Only 15% of the participants reported being restless and on the move. In terms of experiencing a sudden sense of panic attacks, just a small percentage (9%) reported having had this 'often' or 'very frequently' (20 percent).

Assessment of participants' depression

When asked if they still enjoyed the things they used to appreciate, just 36% said they didn't enjoy them as much anymore. Only half of the students (50%) said they could laugh and see the funny side of things "as much as they always could." A fresh look at the participants' emotions indicated that just 47 percent of them felt joyful'some-times,' while others felt cheery 'not often/not at all' (24 percent , 14 percent respectively).

In terms of feeling slowed down, 42 percent claimed feeling slowed down'sometimes,' while others reported feeling slowed down'very often/nearly all the time' (27 percent , 18 percent respectively). Despite their youth, 20% of kids lost interest in their beauty during the COVID epidemic. Others stated, 'I may not take as much care as I should' (27%) and 'I may not take as much care as I should' (28 percent). Only 11% said they 'hardly did it at all' during the epidemic, while 21% said they did it "certainly less than they used to" (36 percent). Participants' enjoyment of a good book/radio/TV programme revealed that 38 percent only 'occasionally experienced enjoyment during the pandemic,' while 11 percent 'felt that very rarely. Looking at these results from another angle, the HADS online survey scales' assessment showed that two third of the participants had normal anxiety and depression scores, while 22% of them showed borderline abnormal anxiety scores, while 34% showed borderline abnormal depression scores. Many participants (34%) were classified to have abnormal anxiety, while a smaller proportion (26%) was classified to have abnormal depression.

Associations with anxiety and depression scores

To unveil predictors of the dependent variable anxiety score, multiple linear regression analysis showed that participants' smoking status (being a smoker; $p = 0.021$), having a lower family monthly income ($p = 0.038$), and using medications ($p = 0.031$) were positively associated with higher anxiety scores (worst anxiety levels). Use of medications ($p = 0.030$) was the only variable that showed positive association with the depression scores, being the dependent variable The responses of the students regarding their learning process during the COVID-19 pandemic are represented. (Table 3 and 4)

Table 2. anxiety and depression assessment

	Number	%
I feel tense or wound up		
Most of the time	20	20
A lot of the time	23	23
From time to time, occasionally	40	40

Not at all	17	17
I get a sort of frightened feeling as if something awful is about to happen		
Very definitely and quite badly	13	13
Yes, but not too badly	35	35
A little, but it doesn't worry me	33	33
Not at all	19	19
Worrying thoughts go through my mind		
A great deal of the time	15	15
A lot of the time	24	24
From time to time, but not too often	38	38
Only occasionally	23	23
I can sit at ease and feel relaxed		
Definitely	19	19
Usually	40	40
Not Often	33	33
Not at all	8	8
I get a sort of frightened feeling like 'butterflies' in the stomach		
Not at all	55	55
Occasionally	24	24
Quite Often	16	16
Very Often	5	5
I feel restless as I have to be on the move		
Very much indeed	15	15
Quite a lot	24	24
Not very much	40	40
Not at all	21	21
I get sudden feelings of panic		
Very often indeed	9	9
Quite often	20	20
Not very often	30	30
Not at all	41	41
Depression assessment		
I still enjoy the things I used to enjoy		
Definitely as much	30	30
Not quite so much	37	37
Only a little	23	23
Hardly at all	10	10
I can laugh and see the funny side of things		
As much as I always could	50	50
Not quite so much now	27	27
Definitely not so much now	16	16
Not at all	7	7
I feel cheerful		
Not at all	14	14
Not often	24	24

Sometimes	47	47
Most of the time	15	15
I feel as if I am slowed down		
Nearly all the time	18	18
Very often	27	27
Sometimes	42	42
Not at all	13	13
I have lost interest in my appearance		
Definitely	20	20
I don't take as much care as I should	27	27
I may not take quite as much care	28	28
I take just as much care as ever	25	25
I look forward with enjoyment to things		
As much as I ever did	36	36
Rather less than I used to	33	33
Definitely less than I used to	20	20
Hardly at all	11	11
I can enjoy a good book or radio or TV program		
Often	33	33
Sometimes	38	38
Not often	18	18
Very seldom	11	11

Table 3. Summary of the regression model obtained for the dependent variable, students' anxiety and depression mean scores

Parameter	Anxiety dependent			Depression dependent		
	Parameter			Parameter		
	Model A			Model B		
	Beta	T	p value	Beta	t	p value
Smoking during COVID_19	.117	2.296	.021	.096	1.897	.059
Living place	-.041-	-.847-	.38	-.029-	-.602-	.53
Nationality	.050	1.032	.31	.055	1.140	.24
Age	-.075-	-1.550-	.11	.027	.550	.57
Gender	.029	.584	.55	-.022-	-.434-	.65
Family monthly income level	-.099-	-2.067-	.038	-.134-	-2.795-	.005
Caffeine intake during COVID_19	.063	1.318	.17	.070	1.475	.13
Use of medications	.101	2.147	.031	.102	2.164	.030

Table 4. Participant responses regarding their learning process during the COVID-19 pandemic

Statements	Excellent	Very good	Good	Fair	Not good
How do you rank the online learning with regards to theory courses you received last semester compared to last year	12	16	32	14	26

How do you rank the online learning with regards to practical courses you received last semester compared to last year	8	8	23	14	47
How do you rank the online learning with regards to the assessment and exams you received last semester compared to last year	11	13	34	14	28
How do you rank the learning with regards to your training last semester compared to last year	7	9	29	18	37
How do you rank the online learning with regards to your relationship with your doctors last semester compared to last year's	9	11	32	19	29
How do you rank the online learning with regards to its effect on your last semester Grade Point Average compared to last year's second semester	15	21	31	11	17

Discussion

This was the first research to reveal the amount of anxiety and despair during the COVID-19 pandemic, as well as the influence of the epidemic on their learning process. During the pandemic, students were found to be profoundly affected emotionally, with many displaying borderline excessive anxiety (22%) and despair (34%). The learning process was also shown to be harmed, as claimed by 55% of the pupils. Certain characteristics, such as smoking, poorer family income, and medication usage by students, were found to have a significant connection with greater anxiety levels. Medication usage was also found to have a significant relationship with greater depression ratings. During the present global crisis and earlier worldwide pandemics, psychological and economic pressures intensified, undermining the stability of families and people, which is a crucial element that might affect students' anxiety levels. Students' emotional anguish has been claimed to be caused by a lack of resources, forced social and physical distance, and self-quarantining, in addition to social and financial losses. Social isolation and self-quarantining can make young people, notably students, feel more vulnerable and lonely, leading to an increase in anxious and depressed symptoms.¹⁵ Additionally, as distance learning became the route of education, which is a major change from the norm, it has been reported that the effect of the pandemic on students' studies, as well as their future employment, is related to their anxiety level.^{16,17} All of these factors provoked the increased levels of anxiety and depression among the students, affecting the physiological cortisol levels and the norm biological rhythms.^{18,19} Several studies have been reporting increased levels of stress, anger, anxiety and depression among individuals worldwide due to the COVID-19 pandemic and public quarantine. It was not surprising to identify through this study many medical students reporting anxiety and depression symptoms. Similar to the findings of this study, a recent study assessing the psychological impact of COVID-19 on university students reported that 34% of participants showed moderate to severe anxiety symptoms, while 28% of the students showed moderate to severe depression symptoms.²⁰ Several studies have reported the impact of COVID-19 not only on the anxiety and depression levels, but also on the sleep pattern among individuals.²¹ Emotional distresses can lead to changes in sleep patterns and sleep difficulties, which have been reported among individuals and students who suffer from higher levels of stress, anxiety and depression.²⁰⁻²² This study confirms these results, as many of the participants (78.4%) reported changes in their sleep patterns. Female students were reported to be affected more severely with regards to their sleeping patterns and their psycho-emotional symptoms

compared to males during the COVID-19 pandemic.²³ This study showed no significant differences between females and males in this regard.

The need of understanding the impact of COVID-19 on the psychological aspect of students is crucial as the emerging need of psychological aid and mental healthcare is increasing. Through the multiple linear regression analysis, this study unveiled that the use of medications was the only variable positively associated with higher anxiety and depression scores. Other variables showed a significant association between smoking, lower family income and anxiety higher scores (more severe anxiety symptoms). A similar to a recent study which assessed the impact of the COVID-19 pandemic among college students in China found a similar result Sallam and his colleagues reported similar associations between smoking and lower-income to higher levels of anxiety among the residing-public in Jordan during the recent pandemic.²⁴ Drug-seeking and drug use may become more important among participants who are suffering higher levels of stress and anxiety, as much of the population during the pandemic are trying to manage and alleviate their negative stresses. Shortage and limited access to health care facilities and healthcare professionals are likely to exacerbate the levels of anxiety and stress especially among individuals with depressive symptoms leading to increased increments in the search and use of medications during the COVID-19 pandemic. A study conducted in Jordan looking into the level of psychological distress among university students (n = 381) during the pandemic showed that most of the respondents were regarded as having severe psychological distress (69.5%), with the most common coping strategy among the students involving spending more time on social media (70.6%) or using medications (12.9%).²³

Emotional distress and higher anxiety levels are expected to be significantly associated with smokers compared to non-smokers, as they are reported to be individuals with higher comorbidities and vulnerability to get the virus with the possibility of a worsened prognosis. The higher risk on smokers along with the severe adverse outcomes such as needing mechanical ventilation or admission to ICU, can lead to stress and higher anxiety levels.^{25,26}

The HADS assessment was used in this study revealing students' anxiety and depression levels during this pandemic. The validity, reliability and availability of the HADS questionnaire as published in many countries make it the most suitable tool for bi-dimensional assessment of anxiety and depression symptoms amongst the study participants.¹⁴ In addition, due to the small number of questions it comprises (14 items, seven relate to anxiety symptoms and seven to depression symptoms), the questionnaire is feasible when completed online. Also, as each item on the questionnaire is scored from 0–3, this tool provides a score of anxiety and a score of depression (can vary from 0–21). Through reviewing a large number of literature, the cut-off point of 8/21 for anxiety or depression has been identified.¹⁴

Conclusion

During the COVID-19 pandemic, participants' anxiety and depression levels were found to be high. Furthermore, more than half of the pupils did not embrace the learning method throughout the epidemic. Implementing psychological therapies for healthcare students during pandemics is strongly advised in order to improve students' mental health as well as their learning process.

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