



Affect of COVID-19 on mental well-being and quality of life of medical students – A cross sectional study

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ABSTRACT

Corona (COVID-19) has affected the lives of 39.4 million people worldwide (WHO,2020). Post the COVID-19 lockdown imposed on March 25, 2020 in India, colleges and universities shifted to online classes so that students could continue their education without aberrations. Social isolation as a result of the lockdown along with uncertainties about the future added to the mental distress of the students along with a decline in their quality of life. In this study, we wanted to study the effect of COVID-19 on the student's mental health and their quality of life. N=292 students of Government medical college, Amritsar took a survey administered online. The survey comprised of questionnaires adapted from the WHOQOL-BREF, Hamilton Anxiety Rating Scale and Beck Depression Inventory. The results revealed that about 43% males and 48% females experienced a decline in quality of life. 21% males and 27% females experienced anxiety. Approximately, 15% males and 18% females experienced symptoms of depression. COVID-19 caused distress in the lives of these students but a larger sample size is needed to enhance the generalizability of these results. Moreover, extensive psychiatric evaluations could be conducted to understand the extent of the distress on mental health.

Keywords: anxiety, depression, COVID-19, corona virus

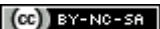
INTRODUCTION

As of October, 2020, 39.4 million people have been affected by Corona Virus (Covid-19) worldwide. Out of which 7.4 million cases have been reported in India (WHO, 2020). India imposed a nationwide

lockdown on March 25th 2020 in order to practice social distancing to control the spread of COVID-19.[1] In addition to the physical symptoms like fever, fatigue, myalgia, dyspnoea, COVID-19 has also caused immense psychological distress to the people at large [2]. On top the COVID scare, there

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was a public hysteria over several lockdown related problems like extended period of home isolation, food insecurity, loss of employment which contributed to mental distresses like anxiety, depression and reduced quality of life for the public. [3]. Adhering to the lockdown protocol, all Universities and medical schools shifted to online teaching. Various studies have documented that anywhere between 25% to 75 % students enrolled in medical programs experienced psychological distress at one point or another during the course of their medical education. [4]

Online education during the Pandemic and a loss of social contact could have contributed to the exaggeration of this distress. [2] Uncertainty about the future, fear of one's own health and the health and safety of one's peers and family could have resulted in excessive worrying, giddiness, insomnia thereby affecting the mental health of these medical students in the form of anxiety and depression. This could eventually contribute to an overall decline in quality of life. [5]

This study aims at identifying various symptoms of anxiety, depression and reduced quality of life in medical students during COVID-19 pandemic. This information can prove to be of tremendous value in formulating interventions and support resources that could help in alleviating psychological distress so that students could cope with such turbulent situations better.

MATERIALS AND METHODS

The subjects for this study were recruited from the undergraduate and postgraduate medical degree programs at Government Medical College, Amritsar. Dental and nursing students were not included in this study. Subjects participated in this study through a link to an electronic survey posted in online groups of various undergraduate and post graduate batches.

A total of (N=292) students completed the survey. The mean age of the sample was 21 years. An online battery comprised of 15 questions from standardized questionnaire was prepared to assess the mental well-being and quality of life of medical students. Questions to identify were adopted from Hamilton Anxiety Rating Scale. [6] Question evaluating symptoms of depression were taken from Beck depression Inventory. [7] and the

standardized WHOQOL-BREF scale was used to formulate questions assessing quality of life or the decline of it during a pandemic. [8]

The online survey was prepared on qualities and each question had five options ranging from strongly disagree strongly agree. (See Appendix A) A new scoring method was developed for this survey. Scores ranged from 0 to 60 points. Total score was computed for all the participants along with separate mean scores for anxiety, depression and quality of life. Some symptoms like insomnia and incessant worrying etc. were common to anxiety and depression. Scores for questions evaluating insomnia, worry, etc. were added separately to account for overlapping symptoms and a mean score was calculated.

RESULTS

The sample included students who were young adults (M=20.8 years, SD =±6.9 years). Males comprised 35 % of the sample (N=103) and 65 % of the samples were females (N=189). Table I summarizes the demographics of the subjects who participated in this survey.

Table 1: Demographic Information

Gender	n	Mean Age (Years)	SD
Males	103	21.03	±6.91
Females	189	20.7	±5.79
Total (N)	292	31.7	± 6.87

Males had average score of 31.15, SD = ±7.56 and females had an average score of 32.05, SD = ±6.47 and the mean score for the whole sample was 31.7, SD = ±6.87 (Table 2)

Table 2: Mean scores on the survey

Gender	Mean Score	SD
Males	31.15	±7.56
Females	32.05	±6.47
Total (N)	31.8	± 6.91

Females had a higher mean score as compared to males.

Table 3 summarizes the separately mean scores and standard deviation calculated for anxiety, depression and common symptoms of anxiety, depression and quality of life.

Table 3: Separate mean scores for Males and Females

	Anxiety		Depression		Anxiety & Depression		QoL	
	M	SD	M	SD	M	SD	M	SD
Males	9.1	±3.89	8.12	±4.52	5.23	±1.78	8.71	±2.34
Females	10.8	±4.02	8.35	±4.39	6.14	±2.26	11.51	±3.41

Note: M= Mean, SD= Standard Deviation, QoL: Quality of Life

Females reported a higher mean score for anxiety ($M = 10.8$, $SD = \pm 4.02$) as compared to males ($M = 9.1$, $SD = \pm 3.89$). The mean score for depression for males ($M = 8.12$, $SD = \pm 4.52$) was less as compared to that of females ($M = 8.35$, $SD = \pm 4.39$).

Females had a higher mean score on questions evaluating the quality of life ($M = 11.51$, $SD = \pm 3.41$) as compared to males ($M = 8.71$), $SD = \pm 2.34$) which is indicative of the fact that females underwent a greater decline in quality of life as compared to that of males.

Table 4: Prevalence Rates

Gender	Prevalence Rates(Percentage)			Decreased Quality of Life
	Anxiety (A)	Depression (D)	Both A&D	
Males	20.8%	14.34%	4.3%	43.2%
Females	26.9%	18.3%	7.6%	48%

About 21 % males and 27 % females experienced anxiety during COVID-19 pandemic. 14 % of the males and 18 % females had symptoms of depression. About 48 % females reported a decline in their quality of life during COVID-19 compared to 43.2 % males who reported the same.

DISCUSSION

The study clearly showed that COVID-19 pandemic impacted the lives of medical students in more than one way. A lot of students strongly agreed to statements about insomnia, lack of initiative and decision making, worry, etc.

The average score of the sample was 31.7, which was more than the half way mark. In addition to the rigorous requirements of medical studies, the Corona pandemic too could have acted as a stressor for students thereby triggering symptoms of anxiety and depression. [9]

Females had a higher mean score ($M = 32.05$, $SD = \pm 6.47$) as compared to that of the males ($M = 31.15$, $SD = \pm 7.16$).

The prevalence rates of both anxiety and depression were higher in females as compared to

males. Females tend to ruminate and worry and rumination acts as a mediator in the effects of other risk factors for anxiety and depression. [10]

48 % females and 43.2 % males experienced a decreased quality of life. The fear of contacting the illness, losing loved ones, uncertainty about the future along with the tepid pace of life as result of lockdown rendered lot of students unable to stick to their usual routines which caused immense dissatisfaction.

CONCLUSION & LIMITATIONS

It is imperative for medical schools and universities to identify such trends in the students so that they can be equipped with better coping mechanisms in future. In order to know more about the prevalence, a large sample size is needed for the study. 136 students did not complete the survey so they could not be included in the study. A larger sample size would enhance the generalizability of results obtained to the general population. Qualitative interviews could also provide a more detailed analysis of the symptoms experienced by the students during the pandemic. This could be done through a comprehensive psychiatric evaluation.

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Appendix A

Q1: I am worried and anxious about the current situation and the future scenario

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q2: I have difficulty falling asleep at night.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q3: I experience broken sleep/unsatisfactory sleep and wake up feeling tired.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q4: I find it difficult to concentrate or retrieve events from memory.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q5: I don't enjoy things as much as I used to.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q6: I am more restless than usual.

- Strongly Disagree
- Disagree Sometimes
- Neutral
- Agree Sometimes
- Strongly Agree

Q7: I feel a lack of initiative in trying out new things.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q8: Making decisions has become harder for me.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q9: I am unable to plan my daily routine. Even if I do, I find it hard to adhere to it.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q10: I am unable to take care of my diet and workout routine.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q11: I experience dry mouth, sweat, giddiness and headaches.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q12: I worry about my health and about the health of people close to me

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q13

I find it hard to keep up with my academic/professional commitments

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q14: I go through periods of experiencing negative feelings like blue mood, despair, anxiety and depression.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q15: I would prefer to live alone in such turbulent times.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree