COVID-19 anxiety among undergraduate students of a medical college in Chengalpattu district – A cross-sectional study

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ABSTRACT

Background: COVID-19 is caused by severe acute respiratory syndromes-CoV-2, a virus that affects the physical as well as mental health of people. **Aims and Objectives:** Our study was conducted to estimate the COVID-19 anxiety prevalence and its associated sociodemographic factors in a medical college. **Materials and Methods:** Undergraduate medical students of a medical college in Chengalpattu district were the study participants, with inclusion criteria of students above 18 years of age from 2nd, 3rd, and final year and interns being included for the study. Using simple random sampling, students were selected with a sample size of 197. After obtaining approval from the Institutional Human Ethics Committee and informed consent, data were collected using a structured and pre-tested questionnaire, with anxiety being assessed using coronavirus anxiety scale and data analyzed using SPSS version 21. The statistical tests used were proportions, Chi-square test. $P < 0.05$ was considered to be statistically significant. **Results:** Among the 197 students, males constituted 82 (41.6%) and females 115 (58.4%), of which 60 (73.1%) of males and 88 (76.5%) of females had COVID-19 anxiety. Overall 75.1% had COVID-19 anxiety. Based on the year of study, 43 (22%) 2nd-year students and 38 (19.3%) 3rd-year students, 29 (14.8%) final-year students, and 38 (19.3%) inters had COVID-19 anxiety. Sociodemographic factors such as the type of family, year of study, and staying with parents had a strong association with COVID-19 anxiety. **Conclusion:** In our study, 75.1% experience Coronavirus related anxiety, and thus, there is need for focus on the mental well-being of undergraduate students requiring attention as well as support from college administration, family, and society to cope up with the pandemic situation.

Key words: COVID-19; Anxiety; Education; Medical; Graduate

INTRODUCTION

COVID-19 was first reported in China as a cluster of cases at the end of December 2019 and became a public health emergency from the end of January 2020 which soon changed into a pandemic alert by March 11, 2020.[1,2] COVID-19 is caused by the corona virus severe acute respiratory syndromes (SARS-CoV-2 virus) which affect the respiratory system leading to SARS, where the infections vary as mild, moderate, or severe conditions. With increasing age and people with comorbidities (diabetes/lung diseases, or heart disorders), a higher level of risk and severe complications from COVID-19 is seen. Compared to adults, children are affected with milder symptoms than adults.[3,4]

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COVID-19, apart from causing respiratory diseases, has an impact on the mental health of people. The COVID-19 pandemic has created "fear among people," fear of being infected with the disease or virus, which may lead to life imbalance, stress, anxiety, depression, and sleeplessness.[5] Pandemics such as SARS, Middle East respiratory syndrome and health emergencies like the Ebola outbreak have increased psychological conditions among the affected population.[6,7] Isolation of affected patients or quarantine from their families was seen during COVID-19 pandemic. Another major issue in the affected population is financial management/crisis, in which per se has aggravated the mental health issues such as insomnia, hallucination, and stroke showed adult participants suffer from anxiety, being depressed, and stressed.[8-10]

Among the adult population, students studying in colleges are an essential and integral part of the development of a country that is also facing significantly higher prevalence rates of mental health conditions, which is becoming a growing public health problem worldwide. With COVID-19, lockdown (now and then) affecting the academic curriculum and examinations, students coping with the pandemic has increased levels of irritation, stress, anxiety, and depression among them.[11]

Medical students' mental health was worse than the general population, with anxiety being most commonly observed in one out of three medical students, which is higher than the rest of the population.[12,13] Our study was conducted to estimate the COVID-19 anxiety prevalence and its associated sociodemographic factors in a medical college in Chengalpattu district.

Aims and objectives

The aims of this study were to estimate the COVID-19 anxiety prevalence and its associated sociodemographic factors in a medical college.

MATERIALS AND METHODS

Undergraduate medical students of a medical college in Chengalpattu district were the study participants with inclusion criteria students above 18 years from 2nd, 3rd, and final years and interns were included for the study. Using simple random sampling method, students were selected with a sample size of 197 – calculated based on the study by Islam et al.,[14] with 87.7% prevalence, 95% as confidence interval with allowable error as 5%, the sample size was calculated. MBBS students who were not willing to participate were excluded from the study. After obtaining approval from the Institutional Human Ethics Committee (177/IHEC/November 2020), data were collected using a

structured and pre-tested questionnaire which consisted of sociodemographic factors age, gender, year of study, family type, per capita income, and marital status followed by corona anxiety scale (CAS),[15] which is a five-point scale, from 0 (not at all) to 4 (nearly every day). CAS has a sensitivity of 90% and a specificity of 85%. A CAS total score ≥9 indicates probable dysfunctional coronavirus-related anxiety. Informed consent was obtained from the participants before the study. Data collected were entered in a Microsoft Excel spreadsheet. Collected data were analyzed using IBM-SPSS, v21.0. Comparison between sociodemographic factors and anxiety was done using Chi-square test, Fischer exact test appropriately. $P<0.05$ was considered to be statistically significant.

RESULTS

Among the 197 students who were included in the study, 49 (24.9%) were 2nd year students, 47 (23.9%) 3rd-year students, 51 (25.9%) final year students, and 50 (25.4%) were interns, respectively. The distribution of sociodemographic factors among study participants is given in Table 1. Among the 197 students, males constituted 82 (41.6%) and females 115 (58.4%), with only 4 (2%) had one or more comorbidities. One hundred and eight-two (92.4%) students belonged to the upper socioeconomic class.

The distribution of COVID-19 anxiety levels among the study participants is given in Figure 1, where 75.1% of students had COVID-19 anxiety.

Among 82 males, 22 (27%) had no anxiety, while 60 (73%) students were found to have COVID-19 anxiety. Among females, 27 (23%) did not have anxiety, while 88 (77%) reported COVID-19 anxiety. While taking into account marital status, among 192 unmarried students, 49 (26%) did

Table 1: Distribution of sociodemographic factors among the study participants		
Sociodemographic factors	Frequency	Percent
Male	82	41.6
Female	115	58.4
Married	5	41.6
Unmarried	192	58.4
Joint family	38	19.3
Nuclear family	159	80.7
With comorbidities	193	98.0
Without comorbidities	4	2.0
Upper class	182	92.4
Upper middle class	13	6.6
Middle class	2	1.0
Staying with parents	131	66.5
Staying alone	66	33.5
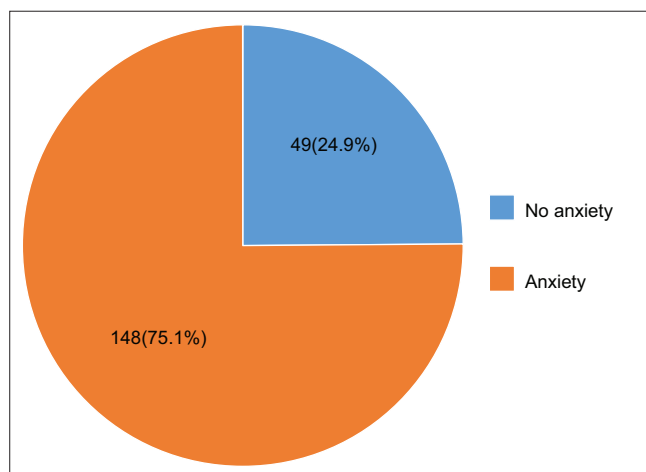
Figure 1: Distribution of COVID-19 anxiety among the study participants

Table 2: Association between sociodemographic variables and anxiety among the study participants

Sociodemographic variables	With anxiety	No anxiety	P-value OR (CI)
Gender			
Female	88	27	0.355
Male	60	22	1.19 (0.61–2.29)
Marital status			
Married	5	0	0.235
Unmarried	143	49	
Type of family			
Nuclear family	124	35	0.048*
Joint family	24	14	2.05 (0.96–4.41)
Year of study			
Second and 3rd year	81	15	0.003*
Final year and interns	67	34	2.72 (1.37–5.45)
Staying with parents			
No	56	10	0.017*
Yes	92	39	2.36 (1.11–5.33)

*Significant (P<0.05)

not have anxiety, while 143 (74%) students had COVID-19 anxiety. Of students who live in a nuclear family, 159, out of which 124 (78%) students, were found to have COVID-19 anxiety compared to 38 students in a Joint family, among which 24 (63%) of them were found to have COVID-19 anxiety. Considering the year of study, 43 (22%) 2nd-year students and 38 (19.3%) 3rd-year students, 29 (14.8%) final-year students, and 38 (19.3%) interns had some form of COVID-19 anxiety.

Table 2 shows the association between sociodemographic factors and COVID-19 anxiety, of which staying with parents, year of study, and type of family had a significant association.

With regard to fear of acquiring COVID-19 when going into public, 60 (30%) students said that they were extremely afraid, while most of them 82 (42%) were afraid, 23 (12%) were less afraid, and 32 (16%) not at all afraid, respectively. Considering the sleep quality, 116 students reported their sleep was not getting affected due to COVID-19. In comparison, 62 students said their sleep was affected only sometimes, and 15 had affected sleep, most often due to thoughts related to COVID-19.

DISCUSSION

COVID-19 pandemic has become a public health crisis causing distress and demanding situations for the population in the existing world. Moreover, it has also increased psychological outcomes in all nations worldwide. COVID-19 has not spared the university students and the change in academic activities has led to a lack of confidence in their academic as well as professional and the students are dealing with constant challenges in mental health due to the pandemic situation.[16,17]

In the past, studies have suggested psychological effects on college or university students, which manifest in anxiety, fear, and worry due to public health emergencies and COVID-19 is no exception.[18,19] In our study for COVID-19 anxiety assessment among 197 undergraduate students, 148 (75.1%) were found to have some form of anxiety. This is found to be higher than a study done to assess anxiety among Indian students during the COVID-19 lockdown, where *55.96% of the students were found to have symptoms of anxiety*.[20] Study by Islam et al., in Bangladesh, 87.7% were experiencing some form of anxiety, respectively, which is relatively at higher levels when compared to our study in India.[14] A study done with undergraduate students of a medical college in China reported that students living with their parents had considerably lesser anxiety levels. Study in India by Iqbal and Khan,[21] most of the students expressed that they tried to keep themselves busy by spending time with family members and use social support-seeking behaviors. This study also shows that anxiety is found to be less in students living in joint families and students staying with their parents, whereas it is found to be more in students in nuclear families and staying alone. This might be due to the fact that a positive family environment strongly generates a sense of comfort, encouragement, and assurance among the individuals, thereby leading to positive mental health and lesser anxiety and depression among the students.[22,23] Our study did not report any significant variations between the male and female students or marital status in relation to anxiety which is contingent on the results of the previous studies.[24]

Limitations of the study
The study was done in a medical college and with a small sample size so results may not be reflective of all medical

students in other colleges which warrant the need for further studies.

CONCLUSION

COVID-19 has impacted all aspects of human life including the mental health. In our study, nearly two-third (75.1%) undergraduate students had experienced coronavirus related anxiety. It was observed in our study that sociodemographic factors such as type of family, year of study, and staying with parents had a strong association with the same. This highlights the fact that there is a need for focusing the mental well-being of undergraduate student's requiring attention as well as support from college administration, family, and society to cope up with the pandemic situation.

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