Original Research

Prevalence of Psychological Distress Among Undergraduate Medical Students During the Covid 19 Pandemic and Their Perception of the Influence of the Pandemic on Their Academics

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ABSTRACT

Background: Undergraduate medical students have been affected by the COVID 19 pandemic and are under psychological distress.

Objective: To assess the prevalence of psychological distress among MBBS students using the K10 questionnaire and to assess the influence of the COVID 19 pandemic on the perception of the students on how it has affected their academic activities and skills

Methods: The study design was a cross-sectional observational study. A two-section questionnaire was sent to MBBS students of all five years studying currently in the institution. The first section: K10 Questionnaire to assess psychological distress and the second: assess the perception of the MBBS students on how the pandemic has influenced their skills and academics. Participation in the study was voluntary.

Results: Among 123 students who participated prevalence of psychological distress was 67.5 % (n=83). The mean K10 score was 24.46±7.91. 33.3 % of the students had severe psychological distress. 82 % of the students had a perception of reduced clinical skills due to the lockdown and 66 % felt that the pandemic would lead to an extension of their courses.

Conclusion: There is a high prevalence of psychological distress among medical undergraduate students during the pandemic. There is an increased perception of reduced clinical skills and possible course extension among undergraduate students.

Key Words: COVID19, K10 score, Psychological distress, Clinical skills, Undergraduate students

INTRODUCTION

In 2019 the novel coronavirus originated in Wuhan China and spread to the rest of the world causing the COVID 19 pandemic. The pandemic continues throughout the world with loss of lives and significant economic losses. Worldwide educational institutions were shut down and classes put on hold to contain the spread of the virus. This has caused enormous tolls on the students and their support systems and way of life has seen a significant shift. Medical schools which rely heavily on student patient interaction have taken a significant impact due to the restrictions placed on their interaction with patients due to the risk of spread of the virus in hostels and among students.

Psychological distress is an emotional condition that involves negative views of the self, others and the environment and is characterized by unpleasant subjective states like being tense, irritable, worried and feeling worthless.[1] Psychological distress may be associated with underlying depression, anxiety or other mental illnesses. The psychological stress generated during the pandemic and its impact on the medical students has not been formally assessed. This study aims to assess the impact of the pandemic on psychological distress by using the K10 score a score which is part of WHO mental health surveys as a population screening tool for screening for psychological distress.[2] Higher scores can be targets for counselling or therapy to assess underlying illness as well as prevent untoward events like deliberate self-harm if early intervention is carried out.

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There have been no formal attempts to understand the influence of the pandemic on the student's academics and in our study, an attempt has been made to understand the perception of the students on the influence of the pandemic on their academics. This may guide medical education directors as well as academicians and administrators on what steps may be needed to be taken to alleviate the student's distress and to ensure an improvement in their medical learning during the lockdown period and the period of new normal that the Covid 19 pandemic has brought.

The purpose of this study was to assess the prevalence of psychological distress among undergraduate medical students and its severity to identify the burden of hidden mental illness among the students due to the COVID 19 pandemic. An attempt was also made to assess the student's perception of how the pandemic has altered their clinical skills and academic activities.

MATERIALS AND METHODS

Study design and setting
The study was a cross-sectional observational study done in a Tertiary Health Care centre Medical college and was conducted from November 2020 to April 2021.

Study population
Based on a study of the prevalence of psychological distress among undergraduate medical students[3] by GM Koochaki et al with the prevalence of 61 % and for a precision of 20 % with 95 % confidence interval required sample size was calculated as 64

Ethical approval
The institutional Ethics committee cleared the study before the study was carried out. Ethical clearance certificate number 'IRB-AIMS-2020-333'.

Sampling
All undergraduate medical students studying in the institute were included and participation was voluntary. Any students who were unwilling to consent or opted not to participate were excluded from the study

Data Collection
Data collection was via an electronic questionnaire created using google forms which were sent to the students. All students who responded to the questionnaire formed part of the study. Revealing of identity was optional and was not compulsory.

Study tool
The primary study tool used was the K10 score for the assessment of psychological distress. The K10 score has been used in WHO mental health surveys to detect the presence of distress and has 10 questions each of which are scored from 1 to 5. At the end of the questionnaire maximum score that can be assigned is 50 and the lowest score of 10. Scores of 30 and more are categorised as having severe psychological distress, scores of 25-29 as moderate distress and less than 20-24 as mild distress. Scores less than 20 are designated as likely to be well. The second part of the questionnaire assesses the perception of the students on the impact of the pandemic on the student's skills and academics

Study variables
Included demographic details including age, Year of MBBS studying at present, and variables related to the K10 score. Variables assessed for assessing the student's perception of the pandemic impact on their academics included questions on the extension, of course, impact on clinical skills, time utilisation at home, activities interfering with studies, as well as their assessment of the online class system.

Data management
- Data were entered in Microsoft excel 2007 and was analysed using IBM SPSS software version 20.0 Students will be divided into various groups depending on the levels of psychological distress obtained on K10 scores. Frequencies of various variables were analysed.
- Chi-square test was used for assessment of any associations of the variables with the severity of psychological distress. Probability values less than 0.05 was taken as significant.
- Independent samples T-test and ANOVA analysis were used for assessing group differences in the mean K 10 scores between males and females and between the various years of study. Probability values less than 0.05 was taken as significant.

RESULTS

A total of 123 students participated of which 102 (82.9%) were female and 21(17.1%) were male. The distribution of students who responded to the questionnaire according to their year of study were First years 22 (17.9 %), Second years 29 (23.6%), Third years 43 (35 %), Final years 28 (22.8 %). Among all 123 students in whom psychological distress was assessed the mean K10 score was 24.46±7.91 with the highest score seen being 41 and the lowest 10. Using the standardised K10 questionnaire psychological distress was estimated at being prevalent in 67.5 % of the students (n=83) among the 123 students who volunteered their response. 32.5

% of the students had K10 scores lower than 20 indicating no psychological distress.

Table 1 shows the distribution of psychological distress among male and female students. Even though a larger number of female students had distressed the difference was not statistically significant.

Table 2 shows the prevalence of psychological distress distributed among the different years of study. First-Year students had a higher prevalence of psychological distress as compared to other year students but this difference was also not statistically significant (**Figure 1).**

Table 3 shows the severity of psychological distress distributed among males and females and **Table 4** shows the severity of psychological distress among the four years of undergraduate study

With regards to the perception of the influence of the pandemic on their academic skills, 65.9 % (n=81) felt that the pandemic might lead to a course extension and another 21.1 % (n=26) felt that pandemic may lead to a course extension. This perception was uniform among both genders as well as among the first, second, third and fourth-year students as evidenced by the non-significant p values in the chi-square analysis. The K10 score psychological distress was not related to the perception of the students of the effect of the pandemic on their academic skills as the mean K10 scores of students answering yes was 24.65±7.91 and answering no was 23.93±6.91.

There was an increased perception among the students that the pandemic would affect their clinical skills and ability to take cases as the colleges had been shut with 82.1 % (n=101) students reporting a perception of reduced clinical skills due to the pandemic and with another 10.6 %(n=13) reporting that the pandemic may have reduced their clinical abilities. The perception that clinical skills had reduced was different among different groups of students with 95.3 % of third-year students and 96.3 % of final-year students felt that their clinical skills had reduced due to the pandemic. In contrast, only 38 % of the first-year students felt a reduction in clinical skills due to the pandemic.

Despite the increased time available for medical students to read medical books the perception of improvement in theory knowledge was not very prevalent with only 24.4 % (n=30) students reporting a perception increase in theory knowledge while 43 % (n=53) felt the lockdown did not help them improve their theoretical knowledge.

DISCUSSION

Our study showed a prevalence of psychological distress of 67.5 % among the medical students during the COVID 19 Pandemic. This prevalence of psychological distress is greater than the prevalence of psychological distress among Iranian Medical students in the study by Koochaki et al. where the prevalence of psychological distress was noted to be around 61.3 %.[3]

The mean K10 score among the medical students studied was 24.46±7.91 with the highest score seen being 41 and the lowest 10. This is higher than the mean K10 score obtained in a study by Lyons et al. among Australian medical students where the mean score was 20.6.[4] This indicated a mean score showing mild-moderate psychological distress among the medical students.

Around 33.3% of students had severe psychological distress with K10 scores of more than 30. This finding is of concern noting that one-third of the students had severe distress. 17.1 % of the students had moderate psychological distress and another 17.1% students had mild psychological distress. Among the various batches of medical students, psychological distress was most severe among the first years and the final year students with 45 % and 46 % of the batches scoring severe psychological distress (K10 score >30). This may be because the final years would have to appear for their final exams eventually but the difference among the batches was not statistically significant.

Another significant finding was that around 66% of the students had the perception that the Pandemic would lead to course extension. This perception can be mitigated by timely intervention and communication from concerned authorities regarding the course and exam timelines so that students aren't unduly worried. The other aspect was the perception of the students on the influence of the pandemic on their clinical skills. Around 82% of students reported that the lockdown had affected their ability to clinically examine patients and their skills. This perception was felt most by the final year students and to the least extent by the first-year students. However, these perceptions did not influence the distress score as the K 10 score were similar among the students who felt their skills had reduced and those that did not.

CONCLUSION

There is significant distress among the medical students because of the Coronavirus Pandemic and a substantial proportion of the students who were distressed suffered from severe psychological distress. There was an increased perception of reduced clinical skills among the medical students and also a worry about course extension because of the lockdowns.

Institute or any external sources.

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Table 1: Prevalence of psychological distress among students based on gender

Gender	Psychological distress present n=83, (percentage)	No Psychological distress n=40, (percentage)	P value
Male	15,(71.42)	6,(28.5)	0.671
Female	68,(66.67)	34,(33.34)	

Table 2: Prevalence of psychological distress among students based on year of study

Year of study	Psychological distress present n=83, (percentage)	No Psychological distress n=40, (percentage)	P value
First Year	18,(81)	4,(18)	0.205
Second Year	15,(51.72)	14,(48.27)	0.205
Third Year	30,(69.76)	13,(30.23)	0.205
Final Year	19,(67.85)	9,(32.14)	0.205

Table 3: Table showing the severity of psychological distress distributed among gender

Gender	Mild N=21,(%)	Moderate N=21,(%)	Severe N=41,(%)	None N=40,(%)	P Value
Male	4 (19)	7(33.34)	4(19)	6 (28.6)	0.130
Female	17 (16.67)	14(13.72)	37 (36.27)	34 (33.33)	0.130

Table 4: Severity of psychological distress distributed among the various years of study

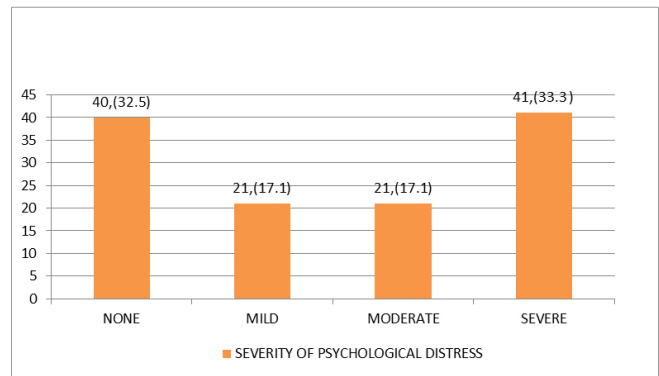| Year of study	MILD N=21 (%)	MODERATE N=21 (%)	SEVERE N=41 (%)	NONE N=40 (%)	P Value
First Year	2 (9)	6 (27)	10(45)	4 (18.18)	0.087
Second Year	5 (17.2)	4 (13.8)	6 (20.7)	14 (48.27)	0.087
Third Year	8 (18.60)	10(23.25)	12 (27.9)	13 (46.43)	0.087
Final Year	5(17.85)	1 (3.58)	13(46.42)	9 (32.14)	0.087

Figure 1: Severity of Psychological distress among the Medical students.