

The Psychological Impact of COVID-19 Epidemic on Faculty Members, Postgraduate Students, Interns and Undergraduates of a Dental College in Kerala, India

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ABSTRACT

Introduction: The novel coronavirus disease-2019 (COVID-19) has spread rapidly all over the world. This large-scale infectious public health event has imposed enormous pressure on Governments, medical and healthcare providers, and the general public. There have been reports on the psychological impact of the COVID-19 pandemic on the general public, patients, medical staff, children, and older adults. However, no detailed study on the mental health status of Dental College teaching faculty, postgraduate students, interns, and undergraduates in Kerala, India, has been undertaken.

Aim: This study assessed the anxiety level of faculty members, postgraduates, interns, and undergraduates during an epidemic and explored factors influencing their anxiety, and also compared the anxiety level between faculty members, postgraduates, interns, and undergraduates.

Materials and methods: Assessment of the mental health of the participants during the COVID-19 outbreak was done by using structured questionnaire, and the participants also responded to a 7-item Generalized Anxiety Disorder Scale (GAD-7). Data analysis was done with SPSS Version 21.0, and the Statistical test used was the Chi-square test.

Result: We found that faculty members experienced a high level of moderate anxiety compared with other participants, which was statistically significant ($p < 0.05$). Participants who had children had moderate anxiety which was statistically significant compared to participants with no children. Most (64.1%) of the participants are worried about the current COVID situation. More than 90% of the participants feel that the dental training will be compromised.

Conclusion: The COVID-19 scenario has caused mental and emotional stress among the dental professionals as is with any other field of health. The mental health of dental professionals in colleges is significantly affected when faced with public health emergencies, and they require the attention, help, and support of the society, families, and colleges. It is suggested that the government and colleges should collaborate to resolve this problem in order to provide high-quality, timely crisis-oriented psychological services to the vulnerable candidates.

Keywords: Anxiety, Coronavirus disease, Dental professionals, Generalized anxiety disorder scale.

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INTRODUCTION

The novel COVID-19 has disseminated rapidly all over the world. World Health Organization official estimates around 185,291,530 confirmed cases of COVID-19, and a death toll of 4,010,834 as of 5:29 pm CEST, 9 July 2021. In India, there are 30,752,950 confirmed cases with 405,939 deaths as of 5:29 pm CEST, 9 July 2021.

This scenario has led to the situation where enormous pressure is being imposed on governments, medical and healthcare providers, and the general public. As this epidemic bought the risk of death from viral infections among common people as well as healthcare providers, people around the world are exposed to unbearable psychological pressure also. The continuous spread of the epidemic, strict and severe isolation measures, and college closure are expected to influence the mental health of college students.¹

As far as COVID-19 infection possibility is considered, the profession that has been rated the most dangerous is dentistry.² In addition to this, many Dental College faculty members, as well as postgraduate students, are young parents who often have young children and aged parents, increasing their stress. Suspension of regular classes, the pressure of online classes, stressful work environment, and uncertainties regarding examinations and course schedule, absence of social gathering opportunities, etc., intensifies their stress manifold.³

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Various reports have been made on the psychological impact of COVID-19 epidemic on the general public, patients, medical staff, children as well as older adults. However, no detailed study on the mental health status of Dental College teaching faculty, postgraduate students, interns, and undergraduates in Kerala, India, has been undertaken.⁴

In the present study, the psychological impact of the COVID-19 pandemic was assessed using the GAD-7.⁵

Methods of guiding students as well as faculty members to effectively regulate their emotions during public health

emergencies and avoid losses caused by COVID crisis events have become an urgent problem for colleges and universities.⁶ Therefore, we investigated and analyzed the mental health status of faculty members, postgraduate students, interns, and undergraduates of a Dental College during the epidemic for the following purposes: (i) To evaluate the mental situation of faculty members, postgraduate students, interns, and undergraduates during the epidemic; (ii) To provide a theoretical basis for psychological interventions with faculty members, postgraduate students, interns, and undergraduates; and (iii) To provide a basis for the promulgation of national and governmental policies.

Aim

To evaluate the anxiety level of faculty members, postgraduates, interns, and undergraduates during an epidemic and explore factors influencing their anxiety.

To compare the anxiety level between faculty members, postgraduates, interns, and undergraduates.

MATERIALS AND METHODS

Study Population and Sample

The target population comprised of faculty members, postgraduate students, interns, and undergraduates of a Dental College in Kerala, India. The respondents in the target population were sampled by convenience sampling. A structured questionnaire was used to assess the mental health during the COVID-19 outbreak. The questionnaire was anonymous so that the confidentiality and reliability of data is ensured. All the participants who have completed the questionnaire were included in the final analysis.

Rating Instruments

The study has a structured questionnaire packet that comprises the demographic information, including gender, region, and place of residence, among others. Cognitions and preventive behaviors of the participants regarding COVID-19 as well as the availability of social support are also inquired in the questionnaire. The participants also responded to the GAD-7. The GAD-7 scale contains seven core symptoms and the frequency with which participants suffered from these symptoms in the last 2 weeks.⁷ Participants reported their symptoms using a 4-item rating scale ranging from 0 to 3 (not at all—almost every day), such that the total score ranges from 0 to 21.

Data Analysis

Data were analyzed with SPSS Version 21.0. An analysis was conducted to describe the demographic and other selected characteristics of the participants. The frequency for baseline characteristics was then obtained. Mean and standard deviation were found for age and anxiety. The statistical test used was the Chi-square test.

RESULTS

The respondents were from a Dental College in Kerala, India.

The mean age of the participants was 27.48 ± 6.8 , with a minimum age of 21 and maximum age of 52, and the mean anxiety score was 5.45 ± 2.5 .

Among the 192 participants, approximately two-third were women (68.75%), 41 were faculty members, 51 postgraduates, 46

Table 1: Distribution of baseline characteristics

Description	Frequency
Age-group (years)	
<30	153 (79.7)
30–39	23 (12.0)
> = 40	16 (8.3)
Designation	
Faculty	41 (21.4)
Postgraduates	51 (26.6)
Interns	46 (24.0)
Undergraduates	54 (28.1)
Place	
Urban	113 (58.9)
Rural	79 (41.1)
Gender	
Male	60 (31.2)
Female	132 (68.8)
Marital status	
Single	109 (56.8)
Married	83 (43.2)
Children	
Yes	52 (27.1)
No	140 (72.9)

interns, and 54 were undergraduates. In total, 113 lived in urban areas and 79 were from rural. In total, 153 were from the age-group <30, 23 were between 30 and 39, and 16 were above 40 years. In total, 109 were unmarried, and out of 83 married, 52 had children (Table 1).

About 32.3% of the participants had relatives or acquaintances infected with COVID-19. Around 81.2% of the participants worried about academic delays and 41.1% were apprehensive about the online classes. Around 68.2% worried about uncertainties regarding examinations. More than 90% feel that the dental training will be compromised (Fig. 1).

About 41.1% of the participants had moderate fear of being infected with COVID-19, and 40% had moderate fear of relatives becoming infected with COVID-19 (Fig. 2).

Most (64.1%) of the participants worried about the current COVID situation (Table 2).

Faculty members experienced a high level of moderate anxiety compared with the rest participants, which is statistically significant ($p < 0.05$). About 15.6% of the participants who had children had moderate anxiety which is also statistically significant compared to participants with no children (Table 3).

DISCUSSION

Studies have shown that public health emergencies can have many psychological effects on college students, which can be expressed as anxiety, fear, and worry, among others.⁸ The aim of this study was to assess the psychological impact of the COVID-19 pandemic on faculty members, postgraduate students, interns, and undergraduates of a Dental College in Kerala, India. A recent study among dental care providers during the outbreak of COVID-19 has reported that dentists are under enormous pressure and have reported high levels of fear and psychological distress

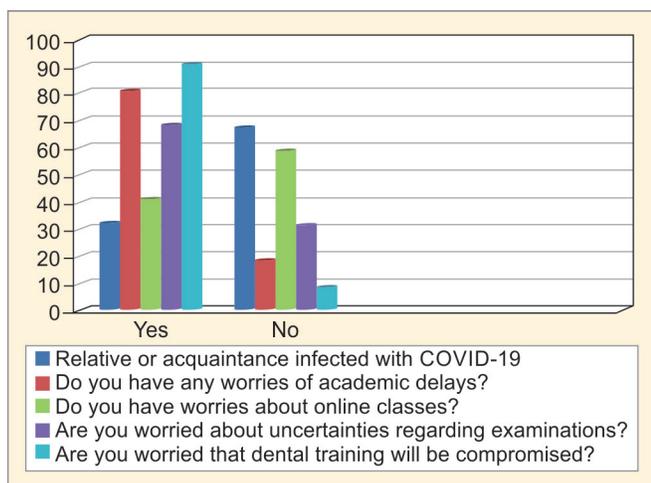


Fig. 1: Distribution of COVID-19-related anxieties

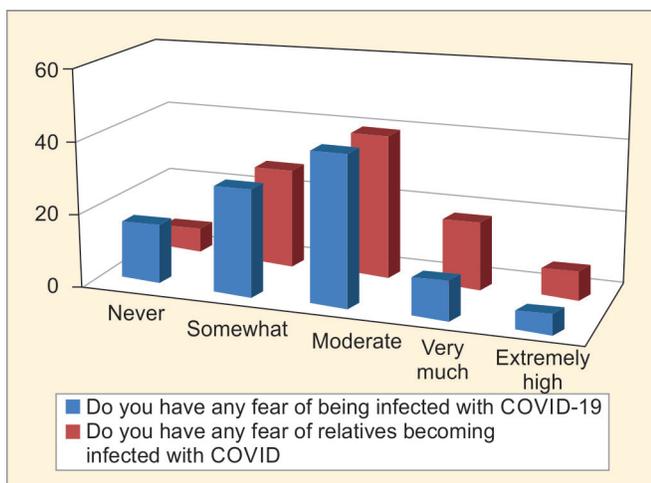


Fig. 2: Distribution of COVID-19-related anxieties

during this outbreak.⁹ Another study also investigated the mental health status of dentists during the COVID-19 outbreak and concluded different levels of fear and anxiety among dentists from 30 countries. These studies concluded that a high proportion of participants experienced depression, anxiety, and stress. This could be due to the fact that the ongoing pandemic is transmissible between humans and is also potentially fatal which could be a reason for this self-reported behavior. Dental care providers are at a very high risk of being exposed to the infectious disease, which might intensify the perception of personal danger.¹⁰

Among the various anxiety disorder scales, one of the most widely used instruments for the detection and screening of anxiety disorders is GAD-7. The GAD-7 has its advantages as it takes less than 2–3 minutes to complete and is easy to score.⁷ The good diagnostic reliability and efficiency have made the GAD-7 scale one of the most widely used measures of anxiety in clinical practice and research. It can be used for screening, diagnosis, and the assessment of the severity of anxiety disorders, as well as for social phobia, post-traumatic stress disorders, and panic disorders.

Table 2: Distribution of COVID-19-related anxieties

Relative or acquaintance infected with COVID-19	
Yes	62 (32.3)
No	130 (67.7)
Do you have any fear of being infected with COVID-19?	
Never	31 (16.1)
Somewhat	56 (29.2)
Moderate	79 (41.1)
Very	19 (9.9)
Extremely	7 (3.6)
Do you have any fear of relatives becoming infected with COVID-19?	
Never	13 (6.8)
Somewhat	54 (28.1)
Moderate	77 (40.1)
Very	35 (8.2)
Extremely	13 (6.8)
What is your thought about COVID-19?	
Afraid	18 (9.4)
Sad	19 (9.9)
Worried	123 (64.1)
Indifferent	32 (16.7)
Do you have any worries of academic delays?	
Yes	156 (81.2)
No	36 (18.8)
Do you have worries about online classes?	
Yes	79 (41.1)
No	113 (58.9)
Are you worried about uncertainties regarding examinations?	
Yes	131 (68.2)
No	61 (31.8)
Are you worried that dental training will be compromised?	
Yes	175 (91.1)
No	17 (8.9)

7-item GAD-7 is one of the most widely used instruments for screening of anxiety disorders (Figs 3 and 4).

No participants had severe anxiety, and the survey indicated that in different age-groups, people with age <30, which comprises mainly of students, 43.1% had minimal anxiety, 51.6% had mild anxiety, and 5.2% had moderate anxiety. About 17.4% of the participants in the age-group 30–39 had moderate anxiety as compared with 12.5% in ≥40 and 5.2% in <30 age-group.

Faculty members experienced high level of moderate anxiety compared with the rest groups which was statistically significant ($p < 0.05$). No significant difference in gender or region was indicated, which is different from previous findings.² This study indicates that males and females experienced similar stresses and negative emotions as a result of the epidemic.

The stability of family income was also a significant factor in students' experienced anxiety during the COVID-19 crisis, which could be explained by increased psychological and economic pressure. About 15.6% of the participants who had children had moderate anxiety, which was statistically significant compared to the participants with no children. When assessing COVID-related

Table 3: Association of baseline characteristics and anxiety according to GAD-7 anxiety scale

Characteristics	Anxiety			p value
	Mild	Minimal	Moderate	
Age				
<30	79 (51.6)	66 (43.1)	8 (5.2)	0.27
30–39	10 (43.5)	9 (39.1)	4 (17.4)	
> = 40	8 (50.0)	6 (37.5)	2 (12.5)	
Designation				
Faculty	16 (39.0)	16 (39.0)	9 (22.0)	0.0001*
Postgraduates	35 (68.6)	14 (27.5)	2 (3.9)	
Interns	23 (42.6)	22 (47.8)	1 (2.2)	
Graduates	23 (42.6)	29 (53.7)	2 (3.7)	
Place				
Urban	59 (52.2)	48 (42.5)	6 (5.3)	0.44
Rural	38 (48.1)	33 (41.8)	8 (10.1)	
Gender				
Male	26 (43.3)	31 (51.7)	3 (5.0)	0.18
Female	71 (52.8)	50 (37.9)	11 (8.3)	
Marital status				
Single	52 (47.7)	51 (46.8)	6 (5.5)	0.25
Married	45 (54.2)	30 (36.1)	8 (9.6)	
Children				
Yes	24 (46.2)	20 (38.5)	9 (15.6)	0.03*
No	73 (52.1)	61 (43.6)	6 (4.3)	
Steady family income				
Yes	91 (50.3)	76 (42.0)	14 (7.7)	0.63
No	6 (54.5)	5 (45.5)	0	
Living with parents				
Yes	67 (50.0)	56 (41.8)	11 (8.2)	0.76
No	30 (5.7)	25 (43.1)	3 (5.2)	

anxiety, most of the participants are moderately afraid of being infected with COVID-19 themselves and their relatives. The results from the survey also indicated that there was significant anxiety regarding the online classes as well as the uncertainties in the examinations among the student participants.¹¹

CONCLUSION

The COVID-19 scenario has caused mental and emotional stress among the dental professionals as with any other field of health. The mental health of dental professionals in colleges is significantly affected when faced with public health emergencies, and they require attention, help, and support from the society, families, and colleges. It is suggested that the government and colleges should collaborate to resolve this problem in order to provide high-quality, timely crisis-oriented psychological services to the vulnerable candidates.

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GAD-7 Anxiety

Over the last two weeks, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to sleep or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid, as if something awful might happen	0	1	2	3

Column totals _____ + _____ + _____ + _____ = _____

0–4: minimal anxiety

5–9: mild anxiety

10–14: moderate anxiety

15–21: severe anxiety

Total score _____

*seven-item scale (GAD-7) has shown reliability, validity, and adequate sensitivity (89%) and specificity (82%)

Fig. 3: GAD-7 anxiety score chart

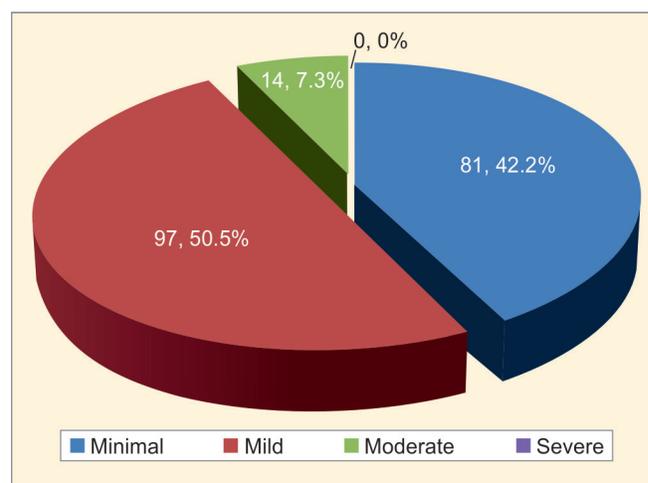


Fig. 4: Frequency of different levels of anxiety according to the GAD scale

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