

Prevalence of Covid-19 Fear Among First Year Dental Students in a Private Dental Institution in Chennai City: Cross Sectional Study

Authors: ¹Mohamed Rifaath, ²Dr. Lalitha Rani Chellappa *

Running Title: Fear of covid-19

Type of article: original article

Mohamed Rifaath

Saveetha Dental college and Hospitals,
Saveetha Institute of Medical and Technical Sciences (SIMATS)
Saveetha University
Chennai - 600077.

Dr. Lalitha Rani Chellappa

Senior lecturer
Department of Public Health Dentistry ,
Saveetha Dental college and Hospitals,
Saveetha Institute of Medical and Technical Sciences (SIMATS)
Saveetha University
Chennai - 600077.
E-mail: lalithac.sdc.saveetha.com
Telephone: 8668052146

Corresponding author

Dr. Lalitha Rani Chellappa

Senior lecturer
Department of Public Health Dentistry ,
Saveetha Dental college and Hospitals,
Saveetha Institute of Medical and Technical Sciences (SIMATS)
Saveetha University
Chennai - 600077.
E-mail: lalithac.sdc.saveetha.com
Telephone: 8668052146

Abstract:

Background: Covid-19 pandemic has affected everyone's life and especially oral healthcare delivery due to lockdown. The objective of this study was to investigate the fear of COVID-19 among first year dental students in chennai city.

Materials and methods: Convenient sampling was employed and all were invited to participate in the survey. The fear of covid-19 infection was found using fear of COVID-19 scale. It is a seven-item questionnaire with responses rated on a five-item scale ranging from strongly disagree to strongly agree and it was circulated using google forms to 1st year dental students in chennai city. The statistical analysis was done by using SPSS software version 23. The significant value was at less than 0.05

Results:

The fear of coronavirus was high among male and females in our study and similar results were found between the age group 18 and 20 years. However, the mean difference in scores between two age groups (18 and 20 years) and between males and females were not significant when analyzed using unpaired or independent student T tests.

Conclusion: Fear of covid-19 among 1st year dental students is significantly low. The present study has some limitations because it is confined to single dental college. The further study on a larger scale of dental students is recommended to know the fear of covid-19.

Keywords: Covid-19, Fear, Dental students, Chennai, FCV scale, Innovative analysis.

Introduction:

Human coronaviruses are a family that causes human diseases starting from cold to severe acute respiratory syndrome (1). In December 2019, an epidemic of a completely unique virus from the beta-coronavirus family was identified in Wuhan, China, causing coronavirus disease 2019 (2). On March 11 2020, the WHO declared the COVID-19 outbreak a worldwide pandemic. COVID-19 has the potential to cause a severe acute tract infection in infected humans (3). It's commonly transmitted from person to person via respiratory droplets, hands, saliva and surface contact. The average time period for COVID-19 ranges between 4 and 14 days after exposure (4). The infected person usually presents with an acute upper tract infection and symptoms, including fever, dry cough, and tiredness (5). The severity of symptoms ranges from very mild to severe. Elderly people and people who have existing chronic medical conditions are the foremost vulnerable groups.

COVID-19 is very contagious, and the speed of case detection has become very high. Many organizational bodies launched web-based systems (dashboard) where the amount of infected people might be tracked in almost real-time. On March 11, 2021, the number of confirmed cases worldwide was 118 million and reported deaths were 2.6 million with 66 million recovered patients. In Tamilnadu, the number of confirmed cases was 11.3 million and reported deaths were 158,000 cases with 10.9 million recovered patients. The primary case of a dentist testing positive for COVID-19 was reported on January 23rd, 2020, within the Dental Hospital of Wuhan University, China (6). This was shortly followed by the identification of the transmission of disease to an extra eight oral healthcare professionals. This has made the healthcare community more distressed as they're subjected to the very best risk of infection. The rapid spread of COVID-19, that's difficult to regulate. Curfews, home isolation measures, social distancing, closure of faculties and universities, and shifts within the existing educational system to E-learning/distance learning systems were implemented. Although these measures play an excellent role in controlling the spread of the epidemic, they're expected to place significant psychological stress on the scholars and negatively affect their learning outcomes and psychological health (7).

Dental services are one among the worst hit during COVID- 19 pandemic as all nonessential services were restricted and most practices were closed thanks to fear of SARS-CoV-2 (8). especially , the character of dental clinical training, the characteristics of dental settings, and therefore the high risk of cross-infection between dental students undergoing their clinical training and patients could all contribute to provoking stress and anxiety among dental students and increase their worries about the longer term of their profession. Dental services are one among the worst hit during COVID- 19 pandemic as all nonessential services were restricted and most practices were closed thanks to fear of SARS-CoV-2(8–16),(17),(18),(19,20),(21),(22),(23–27)

. The aim of this study was to evaluate the fear of covid-19 among 1st year dental students in chennai city.

Materials and methods

Study Design: This cross sectional study was conducted to assess the fear of COVID-19 among first year students in a private dental school in chennai city

Survey Instruments: A validated questionnaire was used to assess the fear of COVID-19 among first year dental students.

Sample size: This cross-sectional study was conducted among 91 first year dental students in a private dental institution in Chennai. The protocol was approved by the institutional ethical committee. Convenient sampling was employed and all were invited to participate in the survey.

Data Collection: Fear of COVID-19 scale questionnaire was used and circulated among 1st year dental students through Google Forms. Demographic details like age and gender were collected. The fear of COVID-19 infection was found using the Fear of COVID-19 scale. It is a seven-item questionnaire with responses rated on a five-item scale ranging from strongly disagree to strongly agree and the score ranges from 7 to 35, higher scores indicating greater fear of COVID-19 (28).

Results

A total of 91 students participated in the survey. The mean age of the students was 19.9 years and 69.2% of the participants of the survey were females, and the rest 30.8% were male. The fear of coronavirus was high among male and females in our study and similar results were found between the age group 18 and 20 years. However, the mean difference in scores between two age groups (18 and 20 years) and between males and females were not significant when analyzed using unpaired or independent student T tests.

Table 1 describes the response of first year dental graduates towards the fear of COVID-19 scale and is presented as numbers and percentages. The response for each variable is presented as strongly disagree, disagree, neutral, agree and strongly agree. Table 2 represents the mean difference in FCV-19 scores among first year dental graduates. The mean value of FCV-19 among 18 and 20 years is 19.34 and 20.60 respectively. The P value is not significant ($P = 0.572$).

Table 3 represents the mean difference in FCV-19 scores among male and females. The mean value of FCV-19 among male and females is 19.22 and 19.50 respectively. The P value is not significant ($P = 0.802$).

Discussion

The COVID-19 pandemic has exposed the global population to a high risk of infection that constitutes a major stress factor. This cross-sectional study was conducted to assess the fear of COVID-19 among 1st year dental students in Chennai city.

COVID-19 has caused difficult challenges towards provision and seeking for routine care because of fear of coronavirus. The first route of transmission of SARS-CoV-2 is through respiratory droplets and saliva and dentists are among the foremost exposed to the COVID-19 infection as almost every medical procedure generates salivary bio-aerosols at close proximity and SARS-CoV-2 is transmitted through aerosols. SARS-CoV-2 survival on surfaces like plastics, cupboards, chrome steel and masks can range from 8 hours to 7 days depending on environmental conditions, and risks the whole dental team. Routine dental and oral surgery procedures generating aerosol are suspended in several countries and Indian government posed restrictions on all dental procedures during COVID-19 lockdown.

Paediatric cases are a unique threat as many children are secondary cases that show no symptoms of COVID-19, but have the capability to transmit the disease (29). WHO and UNICEF have provided recommendations to caregivers regarding lowering of parental stress while handling their children. COVID-19 has disrupted the child's routine by closing playgrounds, preschools and they are unable to meet their friends which can lead to confusion and distress (30).

Previous research also suggests that the university students' involvement in private tuition may be a critical thought about understanding the increased prevalence of depression and anxiety among them. In India, a big number of scholars are involved in part-time jobs, like private tuition, to finance their educational expenses, and sometimes to support their families, and their reliance on private class as a part-time job is increasing (31). However, being unable to supply tuition under the lockdown situation means disruption of normal income and joblessness. The prolonged unemployment, alongside financial insecurity, is the most vital stressors contributing to the increased rates of depression and anxiety among university students in India. A study suggests that unemployment is significantly related to mental and somatic

disorders, which could limit the individuals' chances for feelings of accomplishment, accomplishment, and satisfaction, and eventually cause the impairment of psychological functioning (32). Self-esteem could even be suffering from the loss of labor as studies found that lack of family support during unemployment adversely affects the mental well-being of people (33).

Conclusion:

Fear of covid-19 among 1st year dental students is significantly low. The present study has some limitations because it is confined to a single dental college. The further study on a larger scale of dental students is recommended to know the fear of covid-19.

References:

1. Zaki AM, van Boheemen S, Bestebroer TM, Osterhaus ADME, Fouchier RAM. Isolation of a novel coronavirus from a man with pneumonia in Saudi Arabia. *N Engl J Med*. 2012 Nov 8;367(19):1814–20.
2. Guan W-J, Ni Z-Y, Hu Y, Liang W-H, Ou C-Q, He J-X, et al. Clinical Characteristics of Coronavirus Disease 2019 in China. *N Engl J Med*. 2020 Apr 30;382(18):1708–20.
3. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus–Infected Pneumonia in Wuhan, China [Internet]. Vol. 323, *JAMA*. 2020. p. 1061. Available from: <http://dx.doi.org/10.1001/jama.2020.1585>
4. Khurshid Z, Asiri FYI, Al Wadaani H. Human Saliva: Non-Invasive Fluid for Detecting Novel Coronavirus (2019-nCoV) [Internet]. Vol. 17, *International Journal of Environmental Research and Public Health*. 2020. p. 2225. Available from: <http://dx.doi.org/10.3390/ijerph17072225>
5. Peng X, Xu X, Li Y, Cheng L, Zhou X, Ren B. Transmission routes of 2019-nCoV and controls in dental practice. *Int J Oral Sci*. 2020 Mar 3;12(1):9.
6. Meng L, Hua F, Bian Z. Coronavirus Disease 2019 (COVID-19): Emerging and Future Challenges for Dental and Oral Medicine. *J Dent Res*. 2020 May;99(5):481–7.
7. Gavin B, Hayden JC, Quigley E, Adamis D, McNicholas F. Opportunities for international collaboration in COVID-19 mental health research [Internet]. *European Child & Adolescent Psychiatry*. 2020. Available from: <http://dx.doi.org/10.1007/s00787-020-01577-6>
8. Samuel SR, Kuduruthullah S, Khair AMB, Shayeb MA, Elkaseh A, Varma SR. Dental pain, parental SARS-CoV-2 fear and distress on quality of life of 2 to 6 year-old children during COVID-19. *Int J Paediatr Dent*. 2021 May;31(3):436–41.
9. Mathew MG, Samuel SR, Soni AJ, Roopa KB. Evaluation of adhesion of *Streptococcus mutans*, plaque accumulation on zirconia and stainless steel crowns, and surrounding gingival inflammation in primary molars: randomized controlled trial. *Clin Oral Investig*. 2020 Sep;24(9):3275–80.
10. Samuel SR. Can 5-year-olds sensibly self-report the impact of developmental enamel defects on their quality of life? *Int J Paediatr Dent*. 2021 Mar;31(2):285–6.
11. Samuel SR, Kuduruthullah S, Khair AMB, Al Shayeb M, Elkaseh A, Varma SR, et al. Impact of pain, psychological-distress, SARS-CoV2 fear on adults' OHRQOL during COVID-19 pandemic. *Saudi J Biol Sci*. 2021 Jan;28(1):492–4.
12. Samuel SR, Acharya S, Rao JC. School Interventions-based Prevention of Early-Childhood Caries among 3-5-year-old children from very low socioeconomic status: Two-year randomized trial. *J Public Health Dent*. 2020 Jan;80(1):51–60.
13. Vikneshan M, Saravanakumar R, Mangaiyarkarasi R, Rajeshkumar S, Samuel SR, Suganya M, et al. Algal biomass as a source for novel oral nano-antimicrobial agent. *Saudi J Biol Sci*. 2020 Dec;27(12):3753–8.
14. Chellapa LR, Rajeshkumar S, Arumugham MI, Samuel SR. Biogenic Nanoselenium Synthesis and Evaluation of its antimicrobial, Antioxidant Activity and Toxicity. *Bioinspired Biomim Nanobiomaterials*. 2020 Jul 23;1–6.
15. Samuel SR, Mathew MG, Suresh SG, Varma SR, Elsubeih ES, Arshad F, et al. Pediatric dental emergency management and parental treatment preferences during COVID-19 pandemic as compared to 2019. *Saudi J Biol Sci*. 2021 Apr;28(4):2591–7.

16. Barma MD, Muthupandian I, Samuel SR, Amaechi BT. Inhibition of Streptococcus mutans, antioxidant property and cytotoxicity of novel nano-zinc oxide varnish. Arch Oral Biol. 2021 Jun;126:105132.
17. Muthukrishnan L. Nanotechnology for cleaner leather production: a review. Environ Chem Lett. 2021 Jun 1;19(3):2527–49.
18. Muthukrishnan L. Multidrug resistant tuberculosis - Diagnostic challenges and its conquering by nanotechnology approach - An overview. Chem Biol Interact. 2021 Mar 1;337:109397.
19. Sekar D, Auxzilia PK. Letter to the Editor: H19 Promotes HCC Bone Metastasis by Reducing Osteoprotegerin Expression in a PPP1CA/p38MAPK-Dependent Manner and Sponging miR-200b-3p [Internet]. Hepatology. 2021. Available from: <http://dx.doi.org/10.1002/hep.31719>
20. Gowhari Shabgah A, Amir A, Gardanova ZR, Olegovna Zekiy A, Thangavelu L, Ebrahimi Nik M, et al. Interleukin-25: New perspective and state-of-the-art in cancer prognosis and treatment approaches. Cancer Med. 2021 Aug;10(15):5191–202.
21. Kamala K, Sivaperumal P, Paray BA, Al-Sadoon MK. Author response for “Identification of haloarchaea during fermentation of Sardinella longiceps for being the starter culture to accelerate fish sauce production” [Internet]. Wiley; 2021. Available from: <https://publons.com/publon/47375106>
22. Ezhilarasan D, Lakshmi T, Subha M, Deepak Nallasamy V, Raghunandhakumar S. The ambiguous role of sirtuins in head and neck squamous cell carcinoma. Oral Dis [Internet]. 2021 Feb 11; Available from: <http://dx.doi.org/10.1111/odi.13798>
23. Sridharan G, Ramani P, Patankar S, Vijayaraghavan R. Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma. J Oral Pathol Med. 2019 Apr;48(4):299–306.
24. R H, Hannah R, Ramani P, Ramanathan A, Jancy MR, Gheena S, et al. CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene [Internet]. Vol. 130, Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology. 2020. p. 306–12. Available from: <http://dx.doi.org/10.1016/j.oooo.2020.06.021>
25. J PC, Pradeep CJ, Marimuthu T, Krithika C, Devadoss P, Kumar SM. Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study [Internet]. Vol. 20, Clinical Implant Dentistry and Related Research. 2018. p. 531–4. Available from: <http://dx.doi.org/10.1111/cid.12609>
26. Wahab PUA, Abdul Wahab PU, Madhulaxmi M, Senthilnathan P, Muthusekhar MR, Vohra Y, et al. Scalpel Versus Diathermy in Wound Healing After Mucosal Incisions: A Split-Mouth Study [Internet]. Vol. 76, Journal of Oral and Maxillofacial Surgery. 2018. p. 1160–4. Available from: <http://dx.doi.org/10.1016/j.joms.2017.12.020>
27. Mudigonda SK, Murugan S, Velavan K, Thulasiraman S, Krishna Kumar Raja VB. Non-suturing microvascular anastomosis in maxillofacial reconstruction- a comparative study. Journal of Cranio-Maxillofacial Surgery. 2020 Jun 1;48(6):599–606.
28. Ahorsu DK, Lin C-Y, Imani V, Saffari M, Griffiths MD, Pakpour AH. The Fear of COVID-19 Scale: Development and Initial Validation [Internet]. International Journal of Mental Health and Addiction. 2020. Available from: <http://dx.doi.org/10.1007/s11469-020-00270-8>
29. Balasubramanian S, Rao NM, Goenka A, Roderick M, Ramanan AV. Coronavirus Disease 2019 (COVID-19) in Children - What We Know So Far and What We Do Not [Internet]. Vol. 57, Indian Pediatrics. 2020. p. 435–42. Available from: <http://dx.doi.org/10.1007/s13312-020-1819-5>
30. Wang G, Zhang Y, Zhao J, Zhang J, Jiang F. Mitigate the effects of home confinement on children during the COVID-19 outbreak. Lancet. 2020 Mar 21;395(10228):945–7.
31. Pallegedara A, Mottaleb KA. Patterns and determinants of private tutoring: The case of Bangladesh households [Internet]. Vol. 59, International Journal of Educational Development. 2018. p. 43–50. Available from: <http://dx.doi.org/10.1016/j.ijedudev.2017.10.004>
32. Linn MW, Sandifer R, Stein S. Effects of unemployment on mental and physical health. Am J Public Health. 1985 May;75(5):502–6.
33. Kasl SV, Gore S, Cobb S. The Experience of Losing a Job: Reported Changes in Health, Symptoms and Illness Behavior [Internet]. Vol. 37, Psychosomatic Medicine. 1975. p. 106–22. Available from: <http://dx.doi.org/10.1097/00006842-197503000-00002>

Tables:

Table1. Distribution of the responses for the Fear of COVID-19 (FCV-19) scale among first year dental students in a private institution in chennai city. Responses for each question in the FCV scales is reported for the sample under study.

Fear of COVID-19 items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I am most afraid of corona	6.6%	26.4%	45.1%	19.8%	2.2%
It makes me uncomfortable to think about Corona	14.3%	20.9%	40.7%	19.8%	4.4%
My hand becomes clammy when I think about Corona	14.3%	24.2%	39.6%	12.1%	9.9%
I am afraid of losing my life because of Corona	22%	18.7%	25.3%	17.6%	16.5%
When I watch news and stories about Corona on social media, I become nervous or anxious	7.7%	17.6%	42.9%	22%	9.9%
I cannot sleep because I am worrying about getting Corona	26.4%	24.2%	29.7%	16.5%	3.3%
My heart races or palpitates when I think about getting Corona	20.9%	26.4%	36.3%	8.8%	7.7%

Table 2. The mean difference in FCV-19 scores based on age in our sample. The mean difference in FCV scores among sample less than 18 years and 20 years is compared using independent T test and the difference was not statistically significant.

	Age	N	Mean	SD	P value
FCV	18 years	84	19.3	4.9	0.571
	20 Years	5	20.6	0.54	

P<0.05 is considered significant

Table 3. The mean difference in FCV-19 scores based on gender in our sample. The mean FCV scores among males and females were compared using Independent T test and the difference between them was not statistically significant.

	Gender	N	Mean	SD	P value
FCV	Male	27	19.2	5.8	0.802
	Female	62	19.5	4.2	

P<0.05 is considered significant