



DENTAL STUDENTS IN THE ERA OF COVID-19 PANDEMIC

| | |
|----------------------|---|
| Prakruthi P* | Student, Bachelor of Dental Surgery (3rd year), Department of Conservative Dentistry and Endodontics, Rajarajeswari Dental College and Hospital, Bengaluru, Karnataka, India. *Corresponding Author |
| Jahnvi G | Student, Bachelor of Dental Surgery (3rd year), Department of Conservative Dentistry and Endodontics, Rajarajeswari Dental College And Hospital, Bengaluru, Karnataka, India. |
| Dr Swetha H B | Professor, Department of Conservative Dentistry and Endodontics, Rajarajeswari Dental College and Hospital, Bengaluru, Karnataka, India. |
| Dr Geetha I B | HOD, Department of Conservative Dentistry and Endodontics, Rajarajeswari Dental College and Hospital, Bengaluru, Karnataka, India. |

ABSTRACT Corona viruses' disease-2019 has metamorphosed itself into a life threatening and crisis has caused considerable disruption to medical education¹. Dental fear and anxiety is a significant issue that affects dental students and creates challenges in oral health management. The COVID-19 pandemic has also affected dental training schools and dental clinics all over the world, with initial restrictions to emergency and urgent dental care. It is not surprising that dental practitioners, due to the peculiarity of dental settings, seem to be exposed to a higher risk of contagion. Dental procedures potentially expose the professionals to contact with saliva, blood, contaminated instruments or surface, and to inhalation of droplets/aerosol from infected patients. **Materials and Methods:** This is the survey conducted in the department of Conservative Dentistry and Endodontics, at Rajarajeswari Dental College and Hospital, Bangalore. **Conclusion:** The present study clearly demonstrates that the dental students have increased dental anxiety during COVID-19 pandemic. Students are greatly affected by the pandemic and this caused anxiety, fear of losing their manual dexterity skills, stress, anxious talking to patients in close proximity, fear of carrying infection from practice back to family, mental stress because of restricted mobility caused by isolation and quarantine, fear of being infected by COVID-19 even after getting vaccinated.

KEYWORDS : 19, Anxiety, Dental fear, pandemic, dental procedure.

INTRODUCTION

Human coronavirus are a family of viruses that can cause human diseases ranging from the common cold to SARS .i.e. Severe Acute Respiratory Syndrome and MERS – CoV (Middle East Respiratory Syndrome). COVID-19 had the potential to cause a severe acute respiratory tract infection in infected humans². It is commonly transmitted from person to person via respiratory droplets, hands, saliva, and surface contact³.

The rapid spread of COVID-19, that is difficult to control, compelled most governments worldwide to take serious measures in an attempt to slow down and control the epidemic. Curfews, home isolation measures, social distancing, closure of schools and universities, and shifts in the existing educational system to E-learning/distance learning systems were all implemented. Although these measures play a great role in controlling the spread of the epidemic, they are expected to put significant psychological stress on the students and may negatively affect their learning outcomes and overall psychological health. In particular, the nature of dental clinical training, the characteristics of dental settings, and 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 future of their profession³.

Anxiety sensitivity refers to the fear of anxiety related symptoms or bodily sensations resulting from the belief that such sensations have harmful somatic, social or psychological consequences. Anxiety sensitivity explains why level of anxiety and fear are increased. The concept of anxiety sensitivity can also be valuable in the context of dentistry. In few studies, the investigators studied to what extent anxiety sensitivity increased the expected and experienced pain before and during dental treatment in patients with different level of fear⁴.

The pandemic affected in-class education, forcing courses and testing to move to an on-line format. The CDC published guidelines for reopening institutions of higher education based on risk levels associated with an educational activity, from "lowest risk" (limited to virtual learning opportunities and events), "more risk" (classes taught in-person and other in-person events in which people have at least a 6-foot spread between them and do not share materials and supplies),

and "highest risk" (individuals are not spread apart and materials and supplies are shared). Dental school educational activities encompass all levels of risk described by the CDC, from low risk activities, such as on-line case studies, to higher risk activities, such as those that might be difficult to space students and those with aerosol generating procedures that can potentially create a virus laden aerosolized environment. Providing a safe and robust learning environment in the simulation clinic is also critical to help students compensate for lost educational time⁵.

AIM

To access the level of anxiety among the under graduate students of a dental college during COVID-19 pandemic.

OBJECTIVE

The coronavirus disease 2019 (COVID-19) pandemic arguably represents the worst public health crisis of the 21st century. An empirical study was conducted that examines the impact of the COVID-19 pandemic on dental education. This study evaluated the impact of COVID-19 on dental education and dental students' experience.

METHODS

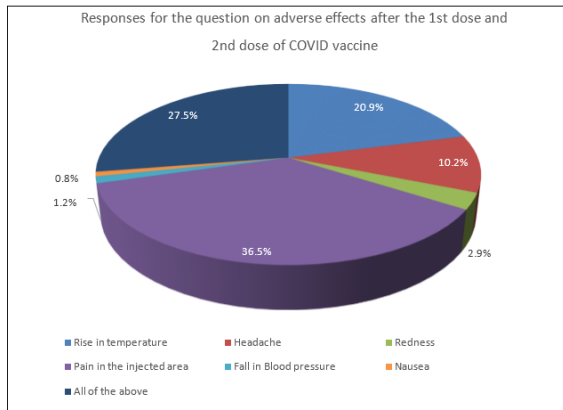
An anonymous online survey was administered to professional dental students that focused on their experiences related to COVID-19. The survey included questions about student demographics, protocols for school reopening and student perceptions of institutional responses, student concerns, and psychological impacts.

RESULTS

The survey included around 400 participants. According to Chart 1, results on responses for the question on adverse effects after the 1st dose and 2nd dose of COVID vaccine revealed maximum respondents of 36.5% as all of the above which includes rise in temperature, headache, redness, pain in the injected area, fall in blood pressure and nausea. On the contrary, minimum respondents of 0.8% feels the adverse effect would be nausea. According to graph 1, results on responses related to post vaccination protocols shows around 64.8% still have the fear of getting infected by COVID even after getting vaccinated. For the question regarding wearing of masks even after the vaccination to be

continued as prophylactic method, results reveal the maximum respondents of 88.9% to be used further. This depicts about the concern towards health and hygiene maintenance as dental students are more affected during this pandemic as they are prone to infections when they come in contact during treatment of the patients.

Chart1



Graph 1

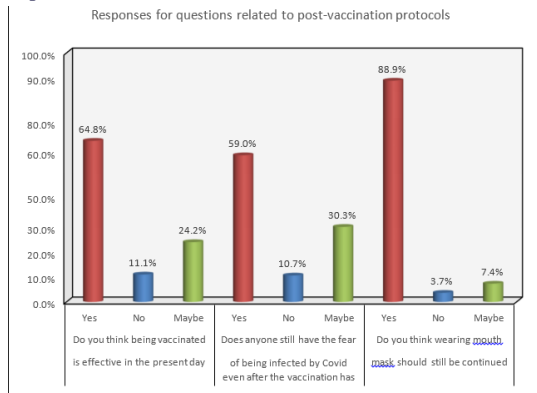


Table 1

Comparison of distribution of responses on questions related to illness problems & mode of COVID-19 spread among study participants using Chi Square Goodness of Fit Test

| Questions | Response | n | % | χ^2 Value | P-Value |
|--|---------------|-----|-------|----------------|---------|
| Do you know the illness problems associated with COVID-19 virus? | No | 4 | 1.6% | 148.418 | <0.001* |
| | Below Average | 9 | 3.7% | | |
| | Average | 61 | 25.0% | | |
| | Above Average | 106 | 43.4% | | |
| | High | 64 | 26.2% | | |
| Do you know the mode of transmission of COVID-19 virus? | Yes | 220 | 90.2% | 356.615 | <0.001* |
| | No | 3 | 1.2% | | |
| | Maybe | 21 | 8.6% | | |

A significant proportion of study participants expressed above average knowledge [43.4%] on the illness problems associated with COVID-19 virus, which was followed by high knowledge [26.2%] & average knowledge [25.0%]. And a vast majority of study participants were aware of the mode of transmission of COVID-19 virus [90.2%]. These findings were statistically significant at P<0.001.

DISCUSSION

The following online survey was conducted to access the level of anxiety among the undergraduate students of a dental college during COVID-19 pandemic.

There's a fine line between stress and anxiety. Both are emotional responses, but stress is typically caused by an external trigger. The trigger can be short-term, such as a work deadline or a fight, such as being unable to work, discrimination, or chronic illness. People under stress experience mental and physical symptoms, such as irritability, anger, fatigue, muscle pain, digestive troubles, and difficulty sleeping.

Anxiety, on the other hand, is defined by persistent, excessive worries that don't go away even in the absence of a stressor. Anxiety leads to a nearly identical set of symptoms as stress: insomnia, difficulty concentrating, fatigue, muscle tension, and irritability⁶.

The COVID-19 has created anxiety, excessive fear, and depressive symptom due to high morbidity and mortality and economic meltdown. The COVID-19 pandemic also affected dental academic activities, dental practices, and dental practitioners including their fear of contamination and close contacts. Many people avoid visiting medical and dental care facilities due to the fear of the novel COVID-19 and its rapid transmission through human-to-human contact and in the form of droplets.

Dental fear is a common barrier to dental attendance and a contributor to poor oral health. Therefore, it is important to know the distribution and severity of dental fear among people during the COVID-19 pandemic⁷.

The notion of “dental anxiety” is usually related to anxiety felt by dental patients. However, it needs to be remembered that people providing health care, such as dental staff, are also overwhelmed with such emotions, especially at an onset of their professional career. The emotions are invariably at their peak when future dentists are preparing for their professions, i.e., during their studies.

Medical education aims are, firstly, to master theory and, secondly, to work with patients practically and perform simple therapeutic procedures. Although this is done under professional supervision of teachers, still certain procedures should be carried out by the undergraduate students themselves. Practical classes in pediatric dentistry clinics pose special difficulties as young patients are special. Moreover, the students need to communicate with their parents or guardians. Students of dentistry are exposed to such difficulties because young patients are often anxious for dental treatment⁸.

Dentists, dentistry students, and other healthcare staff are at risk of contracting infections during daily treatment procedures. Dental clinics are environments where disease transmission can occur easily. Aerosol transmission is also a possible route of transmission when there is an exposure to high concentrations of aerosols in a relatively closed environment. Routine dental procedures generate aerosols, which pose potential risks to the dentist, dental care staff, and patients. Those who are in close contact with patients with symptomatic and asymptomatic COVID-19, such as dentists and dental students in hospitals, are at even higher risk.

Dentistry students are a high risk group for COVID-19 infection due to their inexperience, technical insufficiency, and lack of knowledge. Psychological states of dentistry students may be affected because of the high risk of contamination. We thus believe that the COVID-19 pandemic can cause high levels of anxiety in dentistry students. Dental procedures lead to an increased spread of risk for viruses from dental patients because dental practice involves face-to-face communication with patients and frequent exposure to saliva, blood, and other body fluids. COVID-19 is detected in the saliva of infected patients, thus dental, oral, and other healthcare professionals in particular should be very careful in protecting themselves against the spread of disease. Also, the use of high speed hand pieces or ultrasonic instruments aerosolize patient secretions. The standard protective measures in daily clinical work are not sufficiently effective to prevent the spread of COVID-19⁹.

CONCLUSION

The present study clearly demonstrates that the dental students have increased dental anxiety during COVID-19 pandemic. Students are greatly affected by the pandemic and this caused anxiety, fear of losing their manual dexterity skills, stress, anxious talking to patients in close proximity, fear of carrying infection from practice back to family, mental stress because of restricted mobility caused by isolation and quarantine, fear of being infected by COVID-19 even after getting vaccinated. Hence, infection control management, improving working environment, along with following COVID-19 protocols with patients in purpose to protect everyone are mandatory to relieve student anxiety and stress.

REFERENCES

[1] Sirisha Sampangi Pushpa1, Nimmi Janardhanan2, Shivaprasad Bilichodmath3, Awareness, Prevention and Precaution among Dentists Regarding COVID-19, journal

- of Health Sciences & Research, Volume 11 Issue 1 (January–June 2020)
- [2] [https://www.who.int/news-room/fact-sheets/detail/middle-east-respiratory-syndrome-coronavirus-\(mers-cov\)](https://www.who.int/news-room/fact-sheets/detail/middle-east-respiratory-syndrome-coronavirus-(mers-cov)).as accessed on March 11th 2019
- [3] Hanadi S. Lingawi,1,* and Ibtesam K. Afifi2,3." COVID-19 Associated Stress Among Dental Students", *The Open Dentistry Journal*
- [4] Arjen van Wijk, Jerome Lindeboom,"Anxiety sensitivity as a Predictor of anxiety and pain related to third molar removal", *Journal of oral and maxillofacial surgery: official journal of the American Association of Oral and Maxillofacial Surgeons* • November 2010
- [5] Man Hung, Frank Licari, Evelyn Lauren," In an era of uncertainty: Impact of COVID-19 on dental education", September 2020 *Journal of Dental Education* DOI:10.1002/jdd.1240
- [6] Mary Alvord, PhD, and Raquel Halfond," What's the difference between stress and anxiety?", *apa.org*, September 21, 2020
- [7] Muhammad Nazir,1 Khalid S Almulhim,2, "Dental Fear and Patient Preference for Emergency Dental Treatment Among Adults in COVID-19 Quarantine Centers in Dammam, Saudi Arabia", *dovepress* 30 July 2021 Volume 2021:15 Pages 1707—1715
- [8] Karolina Gerreth ,1 Joanna Chlapowska,1 Katarzyna Lewicka-Panczak," Self-Evaluation of Anxiety in Dental Students", Volume 2019 |Article ID 6436750 | <https://doi.org/10.1155/2019/6436750>
- [9] Tuba Talo YILDIRIM , Osman ATAS," The evaluation of psychological state of dental students during the COVID-19 pandemic", <https://doi.org/10.1590/1807-3107bor-2021.vol35.0069>