



KNOWLEDGE, ATTITUDE AND PRACTICE OF PEDIATRIC DENTISTS IN TREATING THE CHILDREN DURING COVID -19

Dental Science

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ABSTRACT

Background: Besides the fact that dentists are more prone to covid-19, pediatric dentists can be considered under further more risk due to their unique characteristic of their working conditions and demands. Upgrading the knowledge and adapting to the new realities has become the high priority and mandatory obligation for pediatric dentists. **Purpose:** To evaluate knowledge, attitude and practice of pediatric dentists in treating the children during COVID -19. **Methods:** This report is based on a questionnaire that was conducted among 100 pediatric dentists. The questionnaire consisting of demographic data and questions aiming to assess the knowledge and change in attitude of pediatric dentists in treating children during this pandemic was prepared and circulated through Google doc among the pediatric dentists. The Results were obtained and the data was tabulated and analysed. **Results:** Out of a total of 100 responses, there were 37 males and 73 females. Qualification distribution revealed 73% as students pursuing post graduation in the department of pediatric dentistry and 27% as practicing pediatric dental specialists (MDS). Majority of pediatric dentists included in the study were following the new COVID norms such as verifying the usage of Arogya sethu app, following social distancing in waiting area, one attendant for one child rule, hand sanitisation temperature check-up and pre procedural mouth rinses. **Conclusion:** Awareness regarding COVID-19 among study participants was good. Pediatric dentists are considering upgrading PPE kits child friendly, restricted play area and updating their knowledge and for proficiency in treating children during this pandemic.

KEYWORDS

Knowledge, Attitude, Pediatric Dentists, Covid-19

INTRODUCTION

The novel corona virus SARS-CoV-2 pandemic has affected the world deeply. COVID-19 infection in children has important public health, social, and economic implications. Even though children may have considerably milder symptoms than adults, those infected seem to have the same levels of circulating virus in their body and may be as infectious as adults.¹ Despite robust infection control efforts, nosocomial COVID-19 infections have been reported. Organizations such as the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) have developed preparedness and prevention checklists regarding the containment of the spread of COVID-19, to be used by public and health care professionals.^{2,3}

Pediatric dentists form one of the highest risk groups in acquiring and transmitting the infections due to their unique characteristic of their working conditions and needs additional infection control considerations. Hence, as a pediatric dentist one should balance many conflicting demands and needs in both personal and professional front, during this era of COVID-19. For an uneventful practice during this pandemic, pediatric dentists should be equipped with the adequate knowledge of infection control and precautions to be taken in a proficient manner. This questionnaire study is conducted to assess the knowledge and change in attitude of pediatric dentists in treating children during this pandemic.

METHODOLOGY

The study protocol was approved by institutional ethical committee at Kamineni institute of dental sciences, Sreepuram, Narketpally, Telangana. A sample of 100 dentists which included both the post-graduate students and practicing pediatric dentists was involved in the study. The questionnaire consists of 20 questions. Questions which were developed bearing in mind the present COVID 19 scenario and challenges faced by the pediatric dentists during COVID -19 times. The Google doc had 2 parts. In the first part, participant had to mention his/her demographic data which include their age, experience, gender and email id, and the second part of the questionnaire includes the questions regarding the study. No personal information was included

in the questionnaire. The link was sent to 150 postgraduate students belonging to various colleges in India and practicing dentists in various parts of the country. The questionnaire was circulated by means of Google docs among the study participants, and the data was collected during a 10 days period. A total of 100 postgraduates and practicing pediatric dentists responded and filled out the questionnaire. All the 100 responses which were obtained were considered in the study. Results were obtained and the data was tabulated and analysed.

RESULTS

The data collected was subjected to Statistical analysis using SPSS software version 19.0. Chi-square analysis was used to analyze statistical significance. Out of a total of 100 responses, there were 37 males and 73 females. Qualification distribution revealed 73% as students pursuing post graduation in the department of pediatric dentistry and 27% as practicing pediatric dental specialists (MDS).

Majority of pediatric dentists included in the study were following the new COVID norms such as verifying the usage of Arogya sethu app, following social distancing in waiting area, one attendant for one child rule, hand sanitization, temperature check and pre procedural mouth rinses.

Out of all participants in the study, 98% of pediatric dentists included in the study had a opinion that PPE had decreased their working efficiency and it also has need to be modified child friendly. About, 61% of sample had denied recalling the patients with space maintainers and orthodontic appliances during this COVID times. Among all the 96% of pediatric dentists are educating the dental assistant, children and parent about COVID 19 precautions. Majority of dentists were unaware of 'two before three after rule' (Table 1). About 44% of clinicians fumigate their clinics on regular basis, 16% every alternate day, 33% only on the days of treatments and 7% once in a week.

DISCUSSION

The corona virus disease pandemic has had a substantial tandem

impact on parents and children. Treating the child patient in absolute aseptic conditions in the pediatric dental clinics, with the additive responsibilities such as prevention of cross infection among the staff, patients and their attendants with newer protocols makes the job of pediatric dentist cumbersome.

The present questionnaire survey is undertaken to assess the knowledge, attitude and practice of pediatric dentists in treating the children and to awaken the thoughtfulness to update the knowledge in aspect of changing protocols in COVID-19 times.

Centre of Disease Control (CDC) has issued interim guidelines besides following the standard precautions which urge dental practitioners to postpone elective procedures, surgeries, non-urgent dental visits, and to contact the patient before the initial visit. The Indian Dental Association (IDA) and Indian Endodontic Society in a joint position statement strongly recommended that a dental practitioner should not treat a patient in his/her dental office unless they can comply with the emergency preparedness checklist.⁴ This checklist includes disinfection and sterilization protocol, personal protective equipment (PPE) including N95 facemasks, face shields, and protective outerwear. This advisory also stated those patients only requiring emergency care should be considered for treatment in a well-equipped dental clinic adopting strict protective measures; rest all patients should be tele-consulted, managed pharmacologically and scheduled for the care later on priority once the regular dental services are restored.^{5,6}

Health apps are crucial in the disease containment and management during pandemics and can support health systems in disease surveillance, risk assessment, case identification, contact tracing, and situation monitoring. One of the global apps for symptom monitoring is the iPhone and web-based COVID-19 Screening Tool app developed by Apple.⁷ Further-more, countries such as Spain, the United Kingdom, Germany, Singapore, and Malaysia have also developed symptom monitoring apps. Generally, these apps pose a series of diagnostic questions that include symptoms like fever, type of cough, body aches, contact with any infected individual, and recent travel, among others, which help identify via a back end algorithm whether the user is suspected to have COVID-19. If the user is suspected to be infected, these apps will generally provide information on what to do in that scenario.^{8,9}

In India, the Arogya Setu is a COVID-19-tracking app which informs the users regarding the risks assessment and provides relevant advisories. According to the present study it had revealed that majority of dentists had asked for self declaration of COVID 19 symptoms and educated the patients about the Arogya Setu app usage.

Majority of pediatric dentists included in the study were following the new COVID norms such as verifying the usage of Arogya sethu app, following social distancing in waiting area, one attendant for one child rule, hand sanitization temperature check-up and pre procedural mouth rinses.

Avoiding close contact (less than 1 meter) with people, especially those with positive tests and or respiratory symptoms, is one of the most important preventive measures to be taken to prevent the spread of the infection. Having in mind the worldwide spread of SARS-CoV-2 from China to all other parts of the world, it is of utmost importance to design feasible preventive strategies in dental settings. The results of the present study reveals that all the participating pediatric dentists had made sure that their patients and attendants are following social distancing in their clinics.

In a study done by Deeksha das et.al, in 2020 revealed that about 90.0% of dentists are aware of hand sanitization steps.¹⁰ In our study about 94% of dentists are aware of hand sanitization protocols and also ensuring that the child and parent are getting hand sanitization done once they arrive the clinic. Microbial contamination, which occurs during dental procedures, has been a potential threat to dental professionals and individuals. There has been a growing concern in pediatric dentists over the role of bio-aerosols in spread of various airborne infections and also to reduce the risk of bio-aerosol contamination.¹¹ Majority of the pediatric dentists responded in our study are considering treatment procedures with less aerosol production and advocated pre-procedural mouth rinses.

In a previously mentioned study by Ahmed and Jouhar et al., 92% of dentists declared that they were afraid of carrying the COVID-19

infection from their dental practice to their families.¹² Additionally, in the study done by Duruck et al., facing COVID-19 contraction threat, 90% of dentists were concerned about their families and about themselves.¹³ On contrary to this our study had revealed that 38% of participating dentists are treating due to the empathy on patients and 62% due to empathy and treatment needs of children.

CONCLUSION

From the study, we concluded that awareness regarding COVID-19 among study participants was good. Pediatric dentists are considering upgrading PPE kits child friendly, restricting play area and updating their knowledge and for proficiency in treating children during this COVID pandemic. Hopefully, Pediatric dental practitioners equipped with recent experience and knowledge of new protocols will be better prepared and adapted to global health care disruptions in the future.

Table1: Percentage of Responses

QUESTION	YES%	NO %
Do you ask for self declarations of covid-19 symptoms or verify the usage of Arogya sethu app for all your patients?	91.0	9.0
Do you ensure that your patients follow social distancing in waiting area?	97.0	3.0
Do you follow one attendant for one child rule in this covid-19 era?	93.0	7.0
Do you ensure that the child and parent are getting hand sanitization done once they arrive the dental clinic?	96.0	4.0
Do you use thermal scanners for checking temperature of the child?	93.0	7.0
Do you use standard PPE kit during examination of patients?	69.0	31.0
In your opinion does dentist in PPE attire influence the child's behavior?	98.0	2.0
Do you think PPE attire should be modified child friendly?	98.0	2.0
Does wearing PPE kit during treatment decrease your working efficiency?	85.0	15.0
Do you recall the patients with space maintainers and orthodontic appliances during this covid times?	39.0	61.0
Do you advise pre-procedural mouth rinse?	96.0	4.0
Are you considering treatment procedures with less aerosol production such as preventive fluoride treatments and others?	88.0	12.0
Does your clinical assistant aware of the precautions to be taken while cleaning the instruments and protocol to be followed during sterilization?	96.0	4.0
Are you aware of 'two before three after rule' of practicing hand hygiene?	44.0	56.0
Do you educate the child and parent about covid-19?	96.0	4.0
Do you follow extra precautions such as no magazine, no toy box, no play area in this COVID 19 times?	96.0	4.0
Do you advise the child patient to get their own toy and/or use their own audiovisual aids(if an)for distraction during dental procedures	77.0	23.0
Do you sanitize the stationary, laptops, phones used in the dental office?	98.0	2.0

REFERENCES

- Jones TC, Muhlemann B, Veith T, Zuchowski M, Hofmann J, Stein A, € et al. An analysis of SARS-CoV-2 viral load by patient age. https://zoones.charite.de/fileadmin/user_upload/microsites/m_c05/virologiecm/dateien_upload/W_eitere_Dateien/analy sis-of-SARS-CoV-2-viralload-by-patient-age.pdf.
- Centers for Disease Control and Prevention (CDC): Healthcare Personnel Preparedness Checklist for 2019-nCoV. Available online: <https://www.cdc.gov/coronavirus/2019-ncov/downloads/hcp-preparednesschecklist.pdf> (accessed on 4 June 2020).
- World Health Organization (WHO): Coronavirus Disease (COVID-2019) Advice for the Public. Available online: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- Endodontic and Dental Practice During COVID-19 Pandemic: Position Statement from Indian Endodontic Society. Available from: <https://www.ies.org.in/images/dental-practice-covid19.pdf>.
- World Health Organization (WHO): Corona virus Disease (COVID-2019) Advice for the Public. Available online: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- European Centre for Disease Prevention and Control. Available online: <https://www.ecdc.europa.eu/en/cases-2019-ncov-euea> (accessed on 22 July 2020).
- COVID-19 Screening Tool. Apple. URL: <https://www.apple.com/covid19>

8. Lunden I. Self-reporting app tracking COVID-19 symptoms in UK sees 750K downloads in 24 hours. Tech Crunch. 2020 Mar 25. URL: [https:// techcrunch.com/2020/03/25/](https://techcrunch.com/2020/03/25/)
9. Spector T. Our free coronavirus symptom-tracking app has been used by two million people – here's what we're learning. The Conversation. 2020 Mar 27.
10. Das D, Kudpi RS, Mukherjee M, Unnikrishnan B, Rungta N. Awareness among under graduate students of Mangalore city regarding novel coronavirus (COVID-19)-A questionnaire study. Disaster Medicine and Public Health Preparedness. 2020. <https://doi.org/10.1017/dmp.2020.204>
11. Narayana, T V et al. "Role of preprocedural rinse and high volume evacuator in reducing bacterial contamination in bioaerosols." *Journal of oral and maxillofacial pathology: JOMFP* 2016;20:59-65. doi:10.4103/0973-029X.1809
12. Ahmed, M.A.; Jouhar, R.; Ahmed, N.; Adnan, S.; Aftab, M.; Zafar, M.S.; Khurshid, Z. Fear and Practice Modifications among Dentists to Combat Novel Coronavirus Disease (COVID-19) Outbreak. *Int. J. Environ. Res. Public. Health*. 2020;17:2821.
13. Duruk, G.; Gümü,şboğaz, Z. ,S.; Çolak, C. Investigation of Turkish Dentists' Clinical Attitudes and Behaviors towards the COVID-19 Pandemic: A Survey Study. *Braz. Oral Res.* 2020; 34: e054.