

Assessment Of Pediatric Dentists On Modifications Of Treatment Protocols Since The Pandemic Covid-19

Research Article

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Abstract

Aim: To assess the modifications in treatment protocols by pediatric dentists since Covid - 19.

Objective: Focus on the modifications while treating children in the current pandemic situation and to assess whether these alterations are being implemented in a day to day practice.

Materials and Methods: The questionnaire was mailed to 200 pediatric dentists out of which 163 responses were obtained. An online survey was conducted in October 2020, using the Google Forms platform to collect the responses. There were a total of 17 questions included in the study. The questions were framed in english and were in the form of multiple choice. The questions that were included in the survey were related to use of protective masks, equipment and difficulties in behaviour management techniques.

Results: On comparing all the responses to the questions based on the professional status, it was observed that clinicians modified their treatment protocols more during the pandemic as compared to academicians and those who practiced both.

Conclusion: A set of protocols can be followed before, during and after the treatment to maintain a safe environment to practice. It is essential that the pediatric dentists are updated with the latest information concerning the pandemic in order to deliver effective treatment to children.

Introduction

The emergence of Covid-19 (SARS-COV-2) has led to a pandemic globally that has led to an emergency [1]. It was initially started in Wuhan that led to an outbreak of pneumonia [2]. The viral infection has led to severe respiratory depression in certain individuals that has created a situation of panic. The symptomatic patients would suffer from febrile body temperature, flu like symptoms, chills, soreness in the throat, myalgia, arthralgia, vomiting, or diarrhea [3]. Along with individuals over 45 years of age and patients with comorbidities, healthcare professionals have been at a high-risk for acquiring the Covid-19 infection.

Dental health care professionals are at a risk mainly due to the equipments that are being used in day to day practice. The infection might get transmitted to the dental professional via aerosol [4]. Hand piece, air-water syringe, scalers produce aerosols that might lead to the transmission of the virus [5, 6]. Not only the equipment but saliva and blood can also lead to transmission of the virus between the dentist and the patient.

It has been concluded that even though Covid-19 infection presents with a wide range of clinical manifestations, the mortality rate in children is considerably lower than that in adults.

As a pediatric dentist has to interact with the children as well as

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their caregivers it is very essential for them to follow protocols while treating children in the current scenario that might cause lesser chances of infection transmission.

The current study focuses on how pediatric dentists have modified their approach for treating children in the current pandemic situation and to assess whether these alterations are being implemented in a day to day practice.

Materials and Methods

The questionnaire was mailed to 200 pediatric dentists out of which 163 responses were obtained. This study included pediatric dentists from all over the country practicing during the pandemic who were either academicians, clinicians or practicing as both. A randomized selection of samples was done through dental groups present on all kinds of social platforms. An online survey was conducted in October 2020, using the Google Forms platform to collect the responses. The responders identity was kept anonymous so that the individual answers honestly hence reducing bias. The questionnaire maintained confidentiality of all the responses obtained.

There were a total of 17 questions included in the study. The questions were framed in english and were in the form of multiple choice. The initial part of the questionnaire asked for willingness to participate. If the participant was not willing to participate they would deny it. The questions were framed in english and were in the form of multiple choice. The second part of the questionnaire included the questions that would assess the change in the practice of pediatric dentistry post Covid - 19 lockdowns in India.

The questions that were included in the survey were related to use of protective masks, equipment and difficulties in behaviour management techniques.

Statistical Analysis

Responses were collected over a period of 2 months. Responses obtained were tabulated in MS Excel and transferred to SPSS inc version 2.0 , Chicago IL USA. Chi square analysis was performed

to compare the profession of the pediatric dentist with all the parameters in the questionnaire. The level of significance was set at 0.05.

Results

The response rate of the questionnaire was 81.5%. 48% of the participants were females and 52% of the participants were males. Majority of the participants were clinicians (50.3%).

According to the survey majority of the participants were not tested positive for the virus since march 2020. The children usually receiving treatment were in the age group of 6-11 years. It was observed that the majority of the parents and their children wear a mask when they visit the operatory for treatment and that most of the participants wore the same mask the entire day (Figure 1).

79.6% of the participants do not use child friendly PPE (Figure 2) where as 67.8% of the participants use face shield on a day to day basis. Out of all the participants only 19.7 % of them were attending only emergency cases, where as the rest of them performed non emergent procedures too. It was observed that clinicians were treating more non emergent cases as compared to academicians as well as those who were practicing as both and the difference between them was statistically significant ($p=0.007$) (Figure 3). It was also observed that 46.7% of the participants are not performing any treatment under general anaesthesia. Most of the participants prefer working without the parents in the operatory (43.4%). Only 5.9% of the participants are asking their patients to take a covid test prior to any treatment. It was observed that majority of the participants indulged in enquiring their patients about travel history as well as assessed their pulse and body temperature. It was observed that PPE was a hurdle for managing the child during the procedure. Covid-19 did change the perception of the majority of the participants.

Discussion

For people worldwide, life has altered in the most possible dramatic manner in the past few months. The pandemic has affected

Figure 1. Bar graph represents the comparison of responses obtained for “How often do you wear masks?” based on professional status.

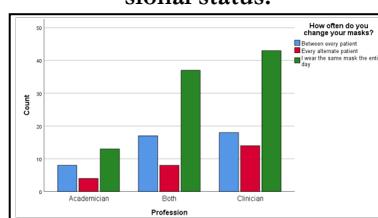


Figure 2. Bar graph represents the comparison of responses obtained for “Do you use a Child friendly PPE?” based on professional status.

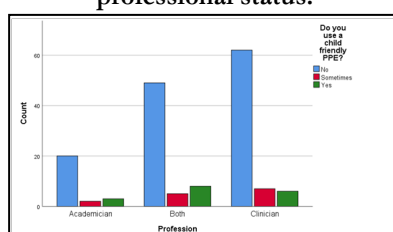
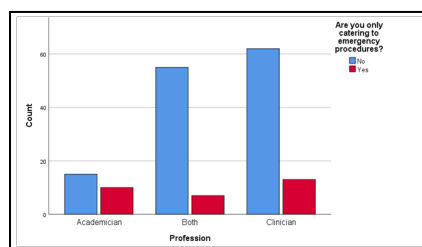


Figure 3. Bar graph represents the comparison of responses obtained for “Are you only catering to emergency procedures?” based on professional status.



every aspect of the life of children as well as adults. Knowledge regarding the SARS-COV 2 is extremely necessary to prevent its further transmission. Spread of the virus via aerosol is one of the most predominant route of transmission of the virus [7]. It is the responsibility of the health care professionals as well as the patients to follow protocols to prevent spread of infection [8].

It was found that children had mild respiratory symptoms and there had been a low incidence of deaths reported too [9]. Pediatric dentists should ensure safety of the children as well as the parents visiting the operatory. Certain protocols need to be followed that might decrease the transmission of virus such as tele-dentistry, where online appointments can be booked as well as online consultations can be opted for [4]. The health care workers should enquire in advance if the child or the care giver has had any symptoms of covid in the past few days. Patients should be screened on arrival for their appointment. Brief medical history can be taken to prevent spread of infection [10]. In the present study it was observed that 75.7% of the pediatric dentists enquire about travel history and assess body temperature as well as pulse prior to the treatment. As per protocol it should be ensured that the children as well as their caregivers wear a face mask to assist in infection control. 68.4% of the children and parents wear face mask according to the questionnaire conducted despite the fact that it is mandatory to wear a face mask. Inside the operatory visual alerts and, signs and posters should be put up in order to remind the children as well as the parents to wear a face mask all the time [11].

The waiting area should be well ventilated [12]. The seating in the waiting area should be spaced out and it should be made sure that all the patients are sanitized before entering the operatory [13]. According to the present study, 82.9% of the pediatric dentists sanitise the children and their parents before they enter the operatory. It has been recommended that before commencing with the treatment mouth should be rinsed with 1% hydrogen peroxide which can be altered with some added flavours when given to children [14, 15]. In the present study 53.9% of the pediatric dentist provided the children with povidine iodine mouth rinse.

Pediatric patients should be approached in a very friendly manner. The pandemic can be explained to them in a motivating or positive manner to reduce their fear and anxiety. Personal Protective Equipment worn by the pediatric dentists can be child friendly with images of cartoons and it can also be colorful so that the children do not fear on seeing the operator covered from head to toe. Only 11.2 % of pediatric dentists wear child friendly PPE and 67.8% of them wear a face shield. It was also noted that 54. 6% of them wore the same mask the entire day. PPE is a challenge for behaviour management of the children as it was responsible

in increasing their anxiety as reported by 67.8% of the pediatric dentists who participated in the survey.

It was seen that the most frequent age group of children visiting the dental clinic during the pandemic was 6-11 years of age. The most common chief complaint of the children was pain and in most cases either a pulp therapy was required or an extraction. Due to the lockdown many caregivers avoided a visit to the dentist due to fear of the pandemic which led to worsening of the tooth pain. Only 19.7% of the pediatric dentists were attending only emergency cases and were prescribing medications in non emergent cases where as the rest of them catered to the chief complaint of the children. 43.4% of the operators were following “no parental presence” policy to prevent spread of infection. The idea behind this policy is to avoid crowding in a small space and also to avoid unnecessary contact.

5.9% of the pediatric dentists requested for a RT PCR prior to the treatment whereas 40.8% of them requested for a COVID test only in special situations like treatment under general anaesthesia, conscious sedation or children with systemic conditions. 32.9% of the pediatric anaesthetists are performing full mouth rehabilitation under general anaesthesia and request for a COVID test at least 48 hours prior to the procedure.

In order to avoid unnecessary physical contact many pediatric dentists have resorted to protective stabilization especially during a painful procedure that has to be done under local anesthesia. In the present study 47.4% of the operators practice the same.

It is essential that universal precautions should be followed for cross infection control [16]. Parents or caregivers should be educated on how caries can be prevented and should be instructed on how to maintain oral hygiene of their children, this will help in reducing the visits to a dental clinic during the pandemic. It is essential that a pediatric dentist is well aware with the current scenario and the protocols that need to be followed while providing treatment to children.

Conclusion

The pandemic necessitates implementations of infection control measures to prevent further transmission. Certain modifications while managing and treating a child should be adapted by pediatric dentists to avoid spread of infection. A set of protocols can be followed before, during and after the treatment to maintain a safe environment to practice. It is essential that the pediatric dentists are updated with the latest information concerning the pandemic in order to deliver effective treatment to children.

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