

## **Astronaut era: Does your child patient accept your new look and practicality of using Behaviour Modification Techniques in COVID Times?**

### **Abstract**

#### **BACKGROUND:**

The coronavirus (COVID-19) has challenged health care professionals and dental professionals play a pivotal role in preventing transmission of COVID 19.

#### **AIM:**

This study aimed to evaluate the knowledge, attitude, skills and preparedness of Pediatric dentist in managing a case in their dental operatory in COVID times.

#### **MATERIALS AND METHODOLOGY:**

A cross-sectional survey was carried out in June 2020 on 52 dental specialists who were contacts of invigilator and had done post graduation in Pedodontics and Preventive Dentistry at Delhi NCR or were practicing in Jammu & Kashmir. A 10 question based questionnaire was developed to assess their knowledge, awareness and skills. Data were subjected to appropriate statistical measures and analyzed.

**RESULT:** Amongst 52 Pedodontist who took part in survey 23.08% were pedodontist with experience of three and more years whereas 53.85% were still undergoing postgraduation in the speciality of Pedodontics and Preventive Dentistry. 100% of pediatric dentist thought its pre requisite to screen the temperature of all the children and attendants using infrared thermometer before taking proper history and thought of conducting examination only after a preprocedural mouthrinse of 1% hydrogen peroxide.

#### **CONCLUSION:**

An aware and knowledgeable pedodontist following the latest guidelines can handle children well in situation where behaviour modification techniques are hampered due to use of PPE(Personal Protective Equipment). It is important to educate all the patients about coughing etiquettes and the dental professionals about modification required in a dental clinic set-up for managing cases requiring urgent dental care.

**Keywords:** ,COVID-19 PPE,urgent dental care

#### **INTRODUCTION:**

COVID-19 caused by SARS-CoV-2 was declared as pandemic by World Health Organization (WHO) on March 11 2020 with substantial numbers of infected cases and deaths

reported in many countries and dentist were asked to follow cross-contamination protocols to decide on the treatment of emergency cases in such critical times.<sup>1</sup>

The conditions requiring urgent dental care in such a crisis are presence of swelling compromising swallowing/ breathing or extending eye with pyrexia, traumatic dental injuries of permanent dentition like avulsion, luxation and injuries of primary dentition causing mobility posing airway risk or interfering with occlusion, uncontrolled bleeding and severe pulpitis interfering with sleep and not responding to over the counter analgesics.<sup>2</sup>

PPE (Personal Protective Equipment) is a protective barrier/clothing , helmets, goggles, face shield, mask,gloves,coverall/gowns, headcover ,shoecover to protect wearers body from injury and infection and in case of COVID-19 airborne particulate matter respiratory droplets (>5-10 micrometer) and droplet nuclei (<5 micrometer) which are primary route of transmission.<sup>3</sup>The use of class FFP3 disposable respirators when carrying out clinical procedures which generate aerosols offers a filtration rate of 99% of all particles measuring upto 0.6micrometer.<sup>4</sup>

Tell play do,mobile dental app,audiovisual distraction ,visual reality are the recent behaviour management techniques aimed to nurture pedodontist child relationship to alleviate fear and anxiety however PPE form as a barrier in non verbal communication making treatment difficult during COVID times.<sup>5</sup>This study was done to assess the skills, knowledge, awareness ,difficulties in communication and preparedness of pedodontistin handling dental cases in COVID times.

### **MATERIALS AND METHODOLOGY :**

A cross-sectional study was conducted through a whatsapp based questionnaire on 52 dental specialists who had done their post graduation in Pedodontics and Preventive Dentistry in Delhi-NCR or were practicing in Jammu and Kashmir. The survey was conducted in two phases (survey tool development and data collection) for a period of 3 days to the contacts of the invigilator .

#### **Survey tool development**

A 10 item questionnaire was framed on dental specialist background such as gender and professional years of experience and to check preparedness of managing a pediatric case in COVID times . A 3-point scale was made to analyze the attitude , awareness, knowledge and skills of dental specialists by marking options A ,B and C . In the study to remove any bias the setting of the survey was such that one device could only take the survey once.

#### **Data collection:**

1.What is your gender?	A.MALE	B.FEMALE
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QUESTIONNAIRE	A	B	C
2.How many years of experience	Still undergoing	Less than 2 years of	Three or

post graduation in the speciality of Pedodontics and Preventive Dentistry?	MDS in pedodontics	experience	more than three years of experience
3.Do you think its mandatory to screen the temperature of all the children and attendants using infrared thermometer before taking proper history and conducting examination only after a preprocedural mouthrinse of 1% hydrogen peroxide?	Yes I agree	No I don't agree	Neutral
4.Will you do a preprocedural verbal telecommunication session via a video call with a child patient rather than after wearing a PPE?	Yes I agree as PPE is going to hamper my non verbal communication with the child	No I disagree and I don't think it will help in alleviating anxiety	Neutral
5.Do you advocate using childs favourite color PPE kits with masks and faceshield with cartoons to decrease procedural anxiety due to your look?	Yes I agree	No I disagree	Neutral
6.Do you think rewarding a child with mini PPE kits with cartoon masks and symbolising it with astronaut in the space will influence the cooperation of child during the process of treatment?	Yes I agree	No I disagree	Neutral
7.In the present scenario will behaviour management modification like modelling, tell show do, tell play do,nonverbral gestures like pat ,mobile distraction ,virtual reality and long sessions of verebral communication be hampered?	Yes agree	No I disagree	Neutral
8.Do you believe that prescheduling of patients, separate entry and exit of dental operatory and modification of waiting room with proper ventilation will be need of hour in COVID times?	Yes I agree	No I disagree	Neutral
9.Will procedures like Halls technique, use of silver diamine	Yes I agree	No I don't agree	Neutral

fluoride, atraumatic restorative treatment, lasers and use of remineralizing agents will be preferred over drilling on multiple carious lesions?			
10.Do you agree the child should properly draped in gown with headcap, mask and gloves before entering dental operatory and taught proper coughing etiquettes?	Yes I agree	No I don't agree	Neutral

## STATISTICAL ANALYSIS

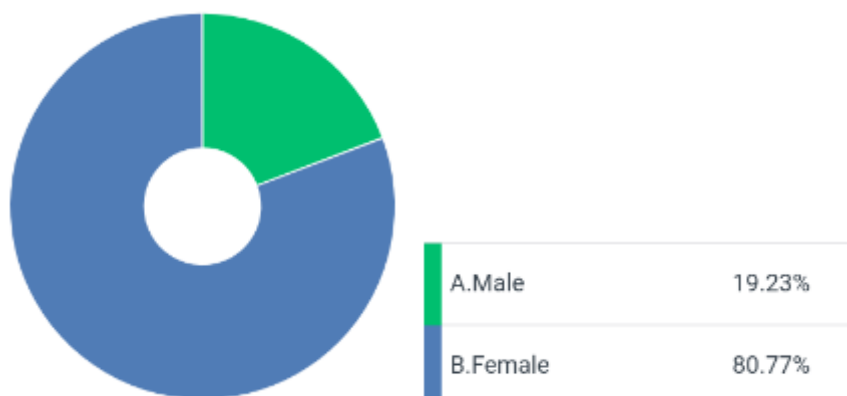
The dental specialists knowledge, awareness about recent guidelines, skill, and attitude on managing a pediatric case in dental operatory in COVID times by 3options for each of the following 10 questions.

### RESULT :

S.NO	A	% age	B	% age	C	% age	SKIPPED
Q1	10	19.23%	42	80.77%	0	0	0
Q2	28	53.85%	12	23.08%	12	23.08%	0
Q3	50	100%	0	0	0	0	2
Q4	44	84.62%	6	11.54%	2	3.85%	0
Q5	42	80.77%	2	3.85%	8	15.38%	0
Q6	42	80.77%	2	3.85%	8	15.38%	0
Q7	38	73.08%	6	11.54%	8	15.38%	0
Q8	50	96.15%	2	3.85%	0	0	0
Q9	48	92.31%	0	0	4	7.69%	0
Q10	48	92.31%	0	0	4	7.69%	0

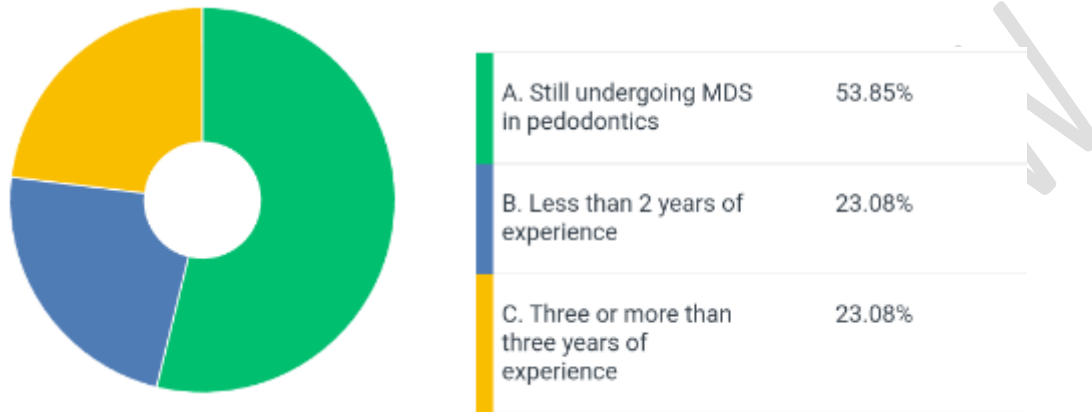
**Table 1 :** The percentage of dentist that choose option A,B and C for particular questions.

Out of n= 52 dental specialists who took part in survey 19.23% (n=10) were male and 80.77% (n=42) were female ( **Figure 1**)(Table1).



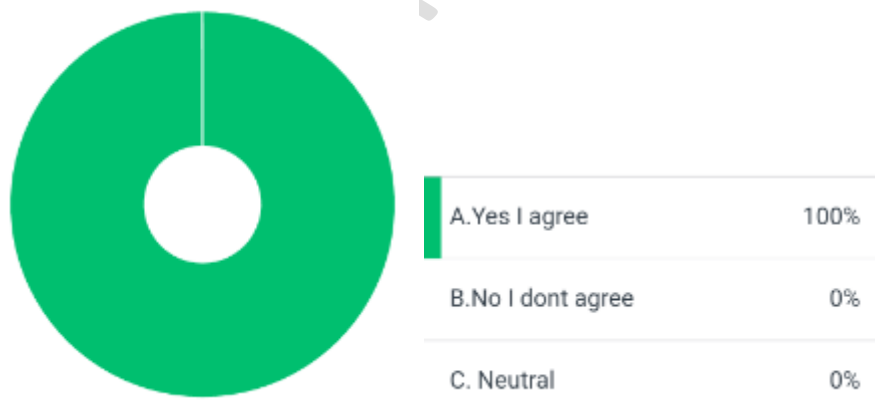
**Figure 1**

23.08% were pedodontist with experience of three and more years and 53.85% were still undergoing postgraduation in the speciality of Pedodontics and Preventive Dentistry (**Figure 2**) (**Table 1**). .



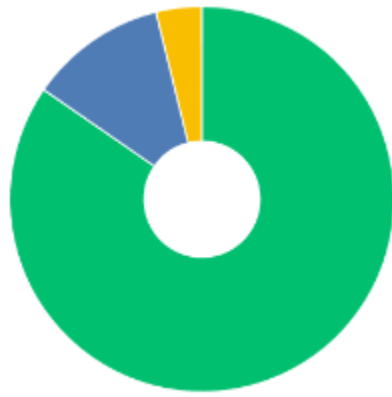
**Figure 2**

100% of pediatric dentist thought its mandatory to screen the temperature of all the children and attendants using infrared thermometer before taking proper history and thought to make preprocedural mouthrinse with 1% hydrogen peroxide or 0.2% povidine a prerequisite before examination.(**Figure 3**) (**Table 1**).



**Figure 3**

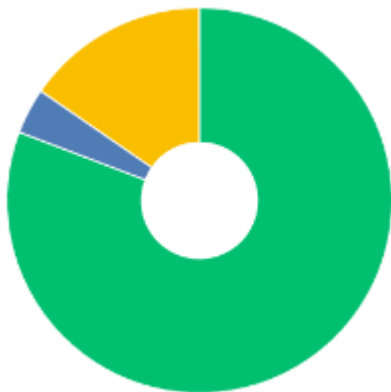
84.62% agreed that a preprocedural verbal telecommunication session via a video call with a child patient rather than after wearing a PPE is better as PPE hampers non verbal communication skills(**Figure 4**).



A. Yes I agree as PPE is going to hamper my non verbal communication with the child	84.62%
B. No I disagree and I dont think it will help in alleviating anxiety	11.54%
C. Neutral	3.85%

**Figure 4**

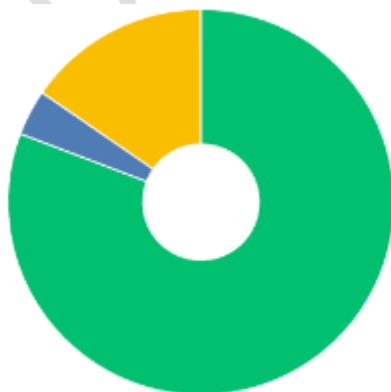
80.77% thought using child's favourite colour PPE kits with masks and face shields with cartoons will be beneficial in decreasing procedural anxiety due to the attire (Figure 5) (Table 1).



A. Yes I agree	80.77%
B. No I disagree	3.85%
C. Neutral	15.38%

**Figure 5**

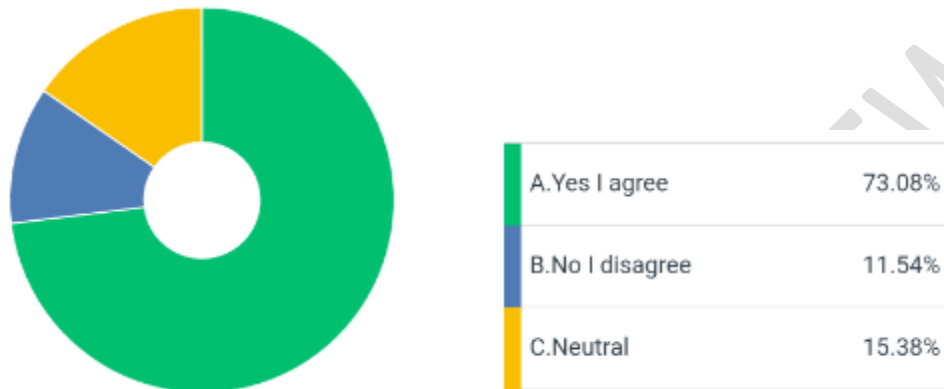
80.77% pediatric dentist thought of rewarding a child with mini PPE kits with cartoon masks and symbolising it with an astronaut in space will influence the cooperation of child during the process of treatment (Figure 6).



A. Yes I agree	80.77%
B. No I disagree	3.85%
C. Neutral	15.38%

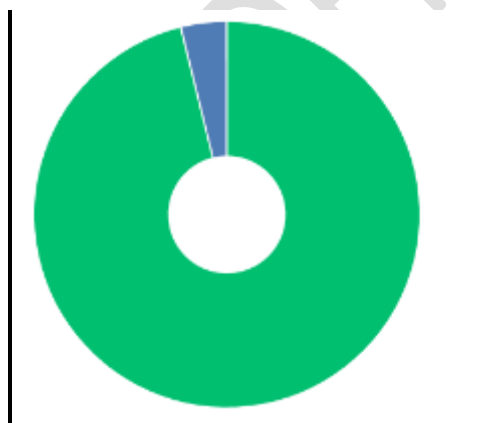
**Figure 6**

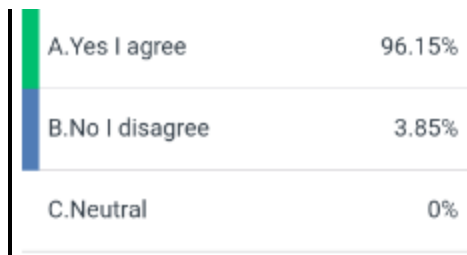
70.83% pedodontist thought behaviour management modification like modelling, tell show do, tell play do, nonverbal gestures like pat, mobile distraction, virtual reality and long sessions of verbal communication will have a less role in modifying a favourable behaviour of child in the dental operator (Figure 7).



**Figure 7**

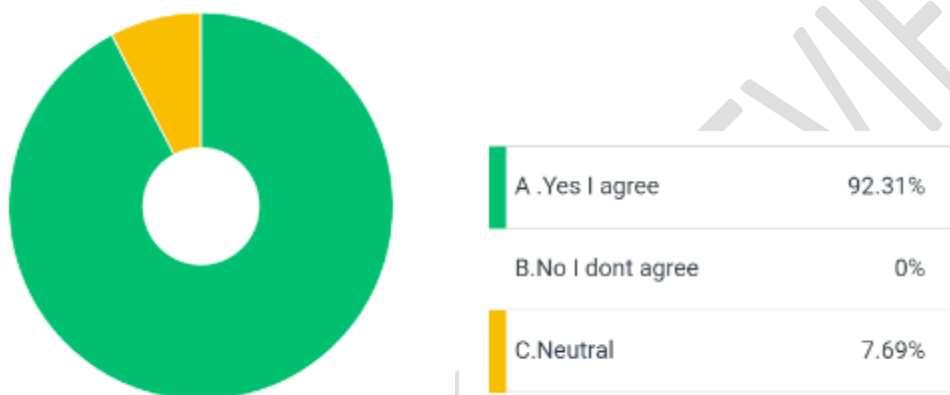
96.15% of the pedodontist thought in the present scenario behaviour management modification like modelling, tell show do, tell play do, nonverbal gestures like pat, mobile distraction, virtual reality and long sessions of verbal communication will be hampered (Figure 8).





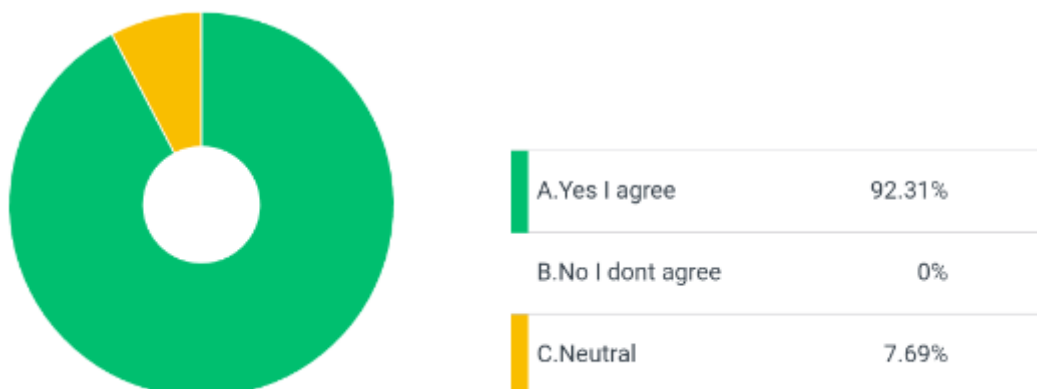
**Figure 8**

92.31% pedodontist agreed that the procedures like Halls technique, use of silver diamine fluoride, atraumatic restorative treatment, lasers and remineralizing agents will be preferred over drilling on multiple carious(**Figure 9**) (**Table 1**).



**Figure 9**

Properly drapping in gown with headcap, mask and gloves before entering dental operatory and following proper coughing etiquettes was suggested by 92.31% of pedodontist as mandatory (**Figure 10**).



**Figure 10**

## **DISCUSSION :**

**Teledentistry** is coming as an option for in office dental care and telephonic triage needs to be done to determine whether the patient needs to be seen in dental setting.<sup>6</sup> The patients and their attendants need to be advised to wear a face mask and need to be screened for fever and symptoms consistent with COVID-19 and dental facilities should post visual alerts showing coughing etiquette, toys and magazines away from waiting area, ABHR (alcohol based hand rub) with 60-95% alcohol at the entrance in dispensars.<sup>7</sup>

The genome of COVID-19 virus has been detected in saliva indicating the potential infection of salivary gland and loss of taste and smell have been recognized with COVID-19.<sup>8</sup>

Using child's favourite colour PPE kits with masks and faceshield with cartoons will decrease procedural anxiety and rewarding a child with mini PPE kits with cartoon masks and symbolising it with astronaut in the space will influence the cooperation of child during the process of treatment.

Dental care settings invariably increase risk of spread of COVID-19 as it involves face to face communication with exposure to saliva, blood, body fluids, handling of sharp instruments.<sup>9</sup> The patient with COVID -19 infection should only be treated in Negative – pressure treatment rooms/airborne infection isolation rooms (AIIRS) and not in a routine dental practice setting.<sup>10</sup>

Children who are at additional risk from COVID-19 should not attend dental clinic environment are long term respiratory conditions, immunocompromised, hemodynamically significant, children with chronic kidney disease stage 4, 5 or on dialysis and their treatment plan should be postponed.<sup>11</sup> Measures like travel restrictions, quarantines and self isolation, social distancing and heightened hygiene were followed to prevent the spread.<sup>8</sup>.

## **CONCLUSION:**

Pedodontist should use N95 respirator or a respirator that offers high level of protection such as disposable filtering facepiece respirator, PAPRs, or elastomeric respirators on patients assumed to be non contagious during aerosol generating procedure. A Pediatric dentist must be fully aware of 2019-nCoV spreading modalities, how to identify children with this infection, self protection consideration, use of pre –procedural mouth wash with oxidative agents in children.

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