### **Original Article**

# A Survey into Parent's Outlook to Child's Oral Health Checkup during COVID-19: A Safe Endeavor or a Dangerous Escapade in Crisis Time

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## Abstract

**Objective:** This study aimed to assess the knowledge of and evaluate the attitude regarding coronavirus disease 2019 (COVID-19) among the parents of child dental patients visiting the pedodontics department of dental hospital in West Bengal. **Materials and Methods:** A structured multiple-choice questionnaire containing 16 questions was distributed among the parents of a child (5–14 years) who visited in the department of pedodontics in our hospital. Three hundred and fifteen parents participated in this study and consent was taken from all of them. Chi-squared test for multiple comparisons was used to compare pooled questionnaire responses by age group, education level, and gender. **Results:** 57.14% of the participants were found to be very well aware of this pandemic situation and 54.28% of them talk to their children regarding this very often. 37.14% believed the dental department had a higher risk of virus infection; and 40% said they will take their children to the dental department again if the children have any dental problem. 57.14% said that there is a chance of their children get infected from the armamentarium that is used for treatment; and 41.91% of them said that they had taken well care of the oral health of their child to avoid visiting a dentist. **Conclusion:** More knowledge about this pandemic should be delivered to the parents and more reassuring information regarding the preventive measures at dental set up should be delivered to the parents of this population.

Keywords: COVID-19, dentistry, teledentistry

## INTRODUCTION

In the onset of the year 2020, the world evidenced an emerging global public health concern, the coronavirus disease 2019 (COVID-19) or severe acute respiratory syndrome coronavirus 2 (SARS COV-2). The first case was reported in Wuhan city, Central China, and spread all over the world.<sup>[1]</sup> The World Health Organization declared the COVID-19 outbreak as a public health emergency of international concern on January 31, 2020, and as a pandemic on March 11, 2020.<sup>[2]</sup> It has been confirmed that the causative virus-2019-nCoV exists in saliva, bodily fluids, feces, and other samples and transmits through particulate or respiratory droplets from patients with COVID-19.<sup>[3]</sup> Typical signs and symptoms of COVID-19 are severe acute respiratory infections such as fever, cough, and fatigues which are visible especially in adults whereas, approximately 80.9% of children are found to be asymptomatic or having mild pneumonia.<sup>[4]</sup> The rate of transmission of disease from an infected person to a healthy person is 2.6-4.7

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and children who remain asymptomatic are also found to be superspreader of this infectious disease.<sup>[5]</sup>

The government declared a nationwide shutdown of schools and colleges indefinitely to contain the spread of this transmissible disease and all kinds of public activities were banned.<sup>[6]</sup> Considering the high probability of large-scale transmission through aerosols generating during dental procedures, dentists were instructed to perform only emergency dental procedures. The American Dental Association defines dental emergencies as "potentially life-threatening and requiring immediate treatment to stop ongoing tissue bleeding and alleviate severe pain or

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infection."<sup>[7]</sup> In consideration of this pandemic progress, professional judgment of dentist should determine the patient's emergency care.

Fifty percent of children below 6 years globally suffer from dental caries, a severe public health concern.<sup>[8]</sup> During this shutdown, this growing disease burden faced a severe crisis for dental treatment. Guo *et al.* found that during COVID-19, the fear of visiting dental clinic has created an underestimation of the pain and suffering of children.<sup>[9]</sup> Concerns regarding dentist's and patient's safety pushed to the reduction of routine dental care compromising preventive appointments.<sup>[10]</sup>

For controlling transmission of this infectious disease, the fear in the population toward this should be reduced. The knowledge, attitudes toward these infectious diseases would greatly affect whether people could follow the control measures. People nowadays are receiving lots of information through social media regarding chances of getting contaminated during routine dental procedures in COVID-19 outbreak which can lead them into confusion. It is important to learn about their knowledge and misconceptions so that dental professionals can help improve hospital measures as well as patient education. This study aimed to evaluate the knowledge of and attitudes toward COVID-19 among the parents of child dental patients in West Bengal during this outbreak.

# **MATERIALS AND METHODS**

#### Study design and population

This was a questionnaire-based survey carried out among the parents based on the current COVID-19 interim guidelines. Our study population include parents visiting to the department of pedodontics and preventive dentistry of our institution in West Bengal with their children. Before implementation of this study the questionnaire design, reliability and validity were checked. A pretested close-ended questionnaire was taken from previous studies and then modified which contained 16 questions were used in the study. Questionnaire was written in English first and then translated into Hindi and Bangla using the "forward and backward blind translation" method. Two professional translators, both fluent in English and native speakers of Hindi and Bangla, respectively, translated the questionnaire from English to Bangla and Hindi. The back-translation of the Bangla and Hindi versions of the questionnaire was done by two other professionals. As a result, the blinding process assisted in reducing translation bias.

The back-translated versions were reviewed by the first and second authors. Any discrepancies between the original version and the rear version have been corrected with the help of translators. The face validity of the questionnaire was tested by distributing it among the parents reported to the outpatient department in the department of pedodontics and preventive dentistry at that period. The time required to fill the questionnaire was assessed, and accordingly, modifications in the questionnaire were carried out. The content validation was carried out by distributing the questionnaire among the expert panel that was formed by the faculty members of the department. The patients who satisfied the inclusion and exclusion criteria were selected randomly visiting in the outpatient of the department of pedodontics and preventive dentistry. We included the parents aged more than 18 years and who gave their consent to participate in the survey, we excluded the parents of special children (children with developmental, physical, mental, sensory, medically compromised, emotional and cognitive development, etc.,) and those who did not give their consent. The participants were first explained the purpose of the study, about the confidentiality of the study that individual results will not be displayed to anyone, also the voluntary nature of participation and consent from all the participating patients were obtained. Prior to conducting this study, ethical approval was taken from the institutional ethical committee.

#### **Data collection**

The questionnaire was printed and the printed copies were distributed to the patients visiting in the outpatient of department of pedodontics and preventive dentistry and after they filled the questionnaire, the printed copies were collected from them. The survey was basically multiple-choice questionnaire containing 16 questions. The questionnaire was translated into three languages such as Bengali, English, and Hindi considering the languages of the local population.

#### **Data analysis**

Here, in this experiment, the observed values are analyzed using SPSS and MS Excel software. Data were entered in Microsoft Office Excel 2007 and were analyzed by means of computer software (SPSS for Windows, SPSS Inc., Chicago, IL, USA). Chi-square test for multiple comparisons was used to compare pooled questionnaire responses by age group, education level, and gender. P < 0.05 was taken to be statistically significant. The null hypothesis assumes that there is no significant difference between the observed and the expected values.

## RESULTS

The basic data about the participants and their answers are shown percentage wise in Table 1. Sixty percent participants were female and most of the participants were aged above 40. Mostly, parents who were aged between 30 and 39 and mainly the working fathers were found to be very well aware about the present COVID-19 situation [Table 2]. More than half of the parents said that they follow all the guidelines regarding this pandemic situation all the times. Among the parents, almost all had explained COVID-19 to their child/ children but mostly mothers were found to be communicating with their child. Parents who had 3 or more than 3 children were found to be less communicating with their children about this. Meanwhile, the ratio among parents with high school education who explained it very often was significantly higher [Table 3].

The ratio among parents aged 30–39 years who believed that hospital dental set ups being more prone to infections than other public places was often significantly higher, while the

Table 1: Questions and percentage of answers recorded overall						
Questions	Answers and Percentage [number (ratio)]					
Gender	Male [126 (40%)]					
	Female [189 (60%)]					
Age	20-29 [120 (38.09%)]					
	30-39 [144 (45.71%)]					
	40 and Above [51 (16.19%)]					
Relationship to the chid	Father [109 (34.28%)]					
•	Mother [180 (57.14%)]					
	Others [27 (8.57%)]					
Educational Qualification	Illiterate [6 (1.9%)]					
	Primary School [93 (29.52%)]					
	High School [126 (40%)]					
	Graduate 75 [(23.81%)]					
	Professional Degree [15 (4.76%)]					
Occupational Status	Father Working [246 (78.09%)]					
*	Mother Working [18 (5.71%)]					
	Both Working [51 (16.19%)]					
How many children do you have?	1 Child [126 (40%)]					
	2 Child [141 (44.76%)]					
	3 or more Children [48 (15.24%)]					
Are you aware about the present situation of Covid-19?	Very Well [180 (57.14%)]					
	Little Bit [51 (16.19%)]					
	Only Heard About it [75 (23.81%)]					
	Not at All [9 (2.85%)]					
Do you follow all the guidelines regarding pandemic situation?	All the times [177 (56.19%)]					
	Sometimes [126 (40%)]					
	Not possible [12 (3.81%)]					
Do you talk to your children regarding covid-19 and try	Verv Often [171 (54.28%)]					
explain the present situation?	Occasionally [132 (41.9%)]					
	Never [12 (3.81%)]					
Do you consider dental hospital set up more prone or having	Yes [117 (37.14%)]					
infections than public place?	No [117 (37.14%)]					
	Similar [81 (25.71%)]					
In this current pandemic situation what drives you to bring	Child having pain in teeth [189 (60%)]					
your children to this hospital?	For regular check-up [45 (14.28%)]					
	Accidental Trauma [33 (10.47%)]					
	Visible swelling in oral region [48 (15.23%)]					
Do you think there is more chance of your children getting	Yes [84 (26.66%)]					
infected during dental treatment procedures?	No [105 (33.33%)]					
	Don't Know [126 (40%)]					
In your opinion how your child do might get affected with the	From the armamentarium that are used during Procedure [180 (57.14%)]					
virus in the dental setup?	From the Dentist [123 (39.04%)]					
	From the aerosol [12 (3.81%)]					
Will you consider revisiting the dental hospital for any further	Only if the doctor advices [153 (48.58)]					
consultancy/treatment procedure?	Not considering until its emergency [36 (11.42%)]					
	Yes, if the child suffer from dental problem [126 (40%)]					
Do you take special care of the oral health of your child for	Yes, it's well taken care of [132 (41.91%)]					
avoiding dental treatment procedure in the present situation?	Will follow the dentist's advices [90 (28.57%)]					
- *	No, Never think this way [93 (29.52%)]					
Will you prefer consulting dentist over telephone rather being	No, a face to face communication [228 (72.38%)]					
present physically in dental hospital?	Yes, It sounds helpful [87 (27.62%)]					

ratio among those aged more than 40 years was significantly lower. Female participants found hospital dental set up more prone to infections but most of the working fathers did not find the same. Very few participants found hospital dental set ups to be the same prone to infections as compared to other public places, whereas, equal percentage of parents found it more infectious and not [Table 4]. Most of the parents brought their children to the hospital setup due to children having pain in their teeth whereas very few parents visited the department for regular dental checkup for their child.

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Table 2: Data analysis on awareness among the parents about the present situation of coronavirus disease 2019										
Variable	Very well (%)	Little bit (%)	Only heard about it (%)	Not at all (%)	Р					
Age										
20-29	45 (14.29)	12 (3.81)	45 (14.29)	6 (1.90)	0.0003					
30-39	96 (30.48)	33 (10.48)	24 (7.62)	3 (0.95)						
40 and over	39 (12.38)	6 (1.90)	6 (1.90)	0						
Gender										
Male	63 (20.00)	27 (8.57)	30 (9.52)	6 (1.90)	0.3239					
Female	117 (37.14)	24 (7.62)	45 (14.29)	3 (0.95)						
Educational qualification										
Illiterate	0	3 (0.95)	3 (0.95)	0	0.0239					
Primary school	39 (12.38)	15 (4.76)	36 (11.43)	3 (0.95)						
High school	72 (22.86)	21 (6.67)	27 (8.57)	6 (1.90)						
Graduate	54 (17.14)	12 (3.81)	9 (2.86)	0						
Professional degree	15 (4.76)	0	0	0						
Occupational status										
Father working	138 (43.81)	42 (13.33)	57 (18.10)	9 (2.86)	0.1461					
Mother working	18 (5.71)	0	0	0						
Both working	24 (7.62)	9 (2.86)	18 (5.71)	0						
COVID-19: Coronavirus disea	ase 2019									

Table 3: Data analysis on parents talking to their children regarding coronavirus disease 2019							
Variable	Very often (%)	Occasionally (%)	Never (%)	Р			
Age							
20-29	45 (14.2857)	57 (18.0952)	6 (1.9047)	0.006701			
30-39	90 (28.57)	60 (19.0476)	6 (1.9047)				
40 and over	36 (11.428)	15 (4.762)	0				
Gender							
Male	54 (17.1429)	63 (19.99)	9 (2.857)	0.000724			
Female	117 (37.143)	69 (21.904)	3 (0.952)				
Educational qualification							
Illiterate	0	6 (1.9047)	0	0.001593			
Primary school	42 (13.33)	48 (15.238)	3 (0.952)				
High school	69 (21.9047)	48 (15.238)	9 (2.857)				
Graduate	48 (15.238)	27 (8.57)	0				
Professional degree	12 (3.81)	3 (0.952)	0				
Occupational status							
Father working	135 (42.857)	102 (32.381)	9 (2.857)	0.04156			
Mother working	15 (4.762)	3 (0.952)	0				
Both working	21 (6.66)	27 (8.57)	3 (0.952)				
Number of children							
1 child	66 (20.952)	54 (17.1429)	6 (1.9047)	0.276665			
2 children	84 (26.66)	54 (17.1429)	3 (0.952)				
3 or more children	21 (6.66)	24 (7.619)	3 (0.952)				

Parents who were aged more than 40 years mostly believed that child might get infected during dental treatment. No significant differences were observed by parent gender. Most parents of these participants said that they actually do not know surely if their children could be easily infected with the virus while receiving dental treatment; rest of the participants were almost equally divided in their opinion of a yes or no. The ratio among parents aged above 40 years who thought their children could be easily infected during dental treatment was higher, while the ratio among those aged 20–29 years was relatively lower. Meanwhile, parents of different education levels showed no significant differences [Table 5]. Most of the parents had an opinion that their child might get affected with the virus during routine dental treatment procedures from the armamentarium that are used, few of them think that chances of getting infection from the practicing dentist are there and very less of them were aware about chances of getting infected from the aerosol in the environment.

Most of the parents think they would take their child again in the hospital during the outbreak only if the doctor advises for further visit. Parents who were aged in between 30 and 39 and who were above 40 mostly said that they would visit to the hospital set up only if the doctor advises whereas, parents

places				
Variable	Yes (%)	No (%)	Similiar (%)	Р
Age				
20-29	33 (10.47)	57 (18.0952)	18 (5.7143)	0.0000119454
30-39	66 (20.952)	51 (16.19)	39 (12.38)	
40 and over	18 (5.714)	9 (2.857)	24 (7.619)	
Gender				
Male	42 (13.333)	54 (17.1429)	30 (9.524)	0.000003418
Female	75 (23.81)	63 (19.99)	51 (16.19)	
Educational qualification				
Illiterate	0	3 (0.952)	3 (0.952)	0.0015810984
Primary school	36 (11.429)	42 (13.333)	15 (4.762)	
High school	45 (14.29)	51 (16.19)	30 (9.524)	
Graduate	30 (9.52)	21 (6.66)	24 (7.619)	
Professional degree	6 (1.904)	0	9 (2.857)	
Occupational status				
Father working	84 (26.666)	96 (30.48)	66 (20.952)	0.0010717835
Mother working	15 (4.762)	3 (0.952)	0	
Both working	18 (5.7143)	18 (5.7143)	15 (4.762)	

Table 4: Data analysis o places	n parents beliefs abou	it dental hospital	setups being more	prone to infections th	an other public
-					
	M (0/)		(0/)	<b>0</b> · · · · · · · · · · · · · · · · · · ·	

Table P	5. Data	analysis on	narents he	iofe about	t child not	ting infocted	during (	dental treatment
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	•	5 5	•	
Variable	Yes (%)	No (%)	Don't know (%)	Р
Age				
20-29	15 (4.762)	45 (14.29)	48 (15.238)	0.0000121999
30-39	42 (13.333)	48 (15.238)	66 (20.952)	
40 and over	27 (8.57)	12 (3.81)	12 (3.81)	
Gender				
Male	42 (13.333)	36 (11.428)	48 (15.238)	0.0773415610
Female	42 (13.333)	69 (21.9047)	78 (24.76)	
Educational qualification				
Illiterate	0	3 (0.952)	3 (0.952)	0.0008528681
Primary school	18 (5.7143)	33 (10.476)	42 (13.333)	
High school	30 (9.524)	33 (10.476)	63 (19.99)	
Graduate	30 (9.524)	30 (9.524)	15 (4.762)	
Professional degree	6 (1.90)	6 (1.90)	3 (0.952)	
Occupational status				
Father working	69 (21.9047)	87 (27.62)	90 (28.57)	0.1173658231
Mother working	6 (1.90)	3 (0.952)	9 (2.857)	
Both working	9 (2.857)	15 (4.762)	27 (8.57)	
Number of children				
1 child	30 (9.524)	42 (13.333)	54 (17.14)	0.0418297053
2 children	48 (15.238)	45 (14.29)	48 (15.238)	
3 or more children	6 (1.90)	18 (5.7143)	24 (7.619)	

of in between 20 and 29 years age said mostly that they will bring their children only if the child suffers from any dental problem. Irrespective of other parameters gender, educational qualification, occupational status, and number of children they have, the opinion was equally divided in only to visit when the doctor further advises and only if the child suffers from any dental problem in the participating parents. Only few of the parents said that they will not consider this in this pandemic outbreak until they find it an emergency [Table 6].

Almost half of the parents said that they took special care of oral health of their child during this shutdown to prevent their child from having any dental problem to avoid visiting dentists in this pandemic. Rest of the parents told that they had not think this way that any special oral health care is required than the normal or they will follow the advices given by dentists from here on. More than two-thirds of parents thought that in this pandemic situation also if their child will have any dental problem they will prefer to be present physically in the

Table 6: Data analysis on parents willingness to revisit dental department with children for further consultancy/treatment							
Variable	Only if the doctor advises (%)	Not considering until its emergency (%)	Yes, if the child suffer from dental problem (%)	Р			
Age							
20-29	39 (12.38)	15 (4.762)	54 (17.1429)	0.002109			
30-39	78 (24.76)	18 (5.7143)	60 (19.0476)				
40 and over	36 (11.428)	3 (0.952)	12 (3.81)				
Gender							
Male	72 (22.86)	9 (2.857)	45 (14.29)	0.023333			
Female	81 (25.714)	27 (8.57)	81 (25.714)				
Educational qualification							
Illiterate	3 (0.952)	0	3 (0.952)	0.462017			
Primary school	39 (12.38)	12 (3.81)	42 (13.33)				
High school	60 (19.0476)	15 (4.762)	51 (16.19)				
Graduate	45 (14.29)	6 (1.90)	24 (7.62)				
Professional degree	6 (1.90)	3 (0.952)	6 (1.90)				
Occupational status							
Father working	111 (35.24)	45 (14.29)	111 (35.24)	0.006432			
Mother working	9 (2.857)	3 (0.952)	6 (1.90)				
Both working	33 (10.476)	9 (2.857)	9 (2.857)				
Number of children							
1 child	60 (19.047)	15 (4.762)	51 (16.2)	0.929966			
2 children	72 (22.86)	15 (4.762)	54 (17.1429)				
3 or more children	21 (6.66)	6 (1.90)	21 (6.66)				

Table 7: D	ata ana	alysis o	n parents	willingness	to c	consult	dentists	over	telephone	rather	than	being	present	physically	in
dental hos	pital														

Variable	Yes, it sounds helpful (%)	No, a face to face communication (%)	Р
Age			
20-29	21 (6.66)	87 (27.62)	0.002075398
30-39	57 (18.09)	99 (31.43)	
40 and over	9 (2.857)	42 (13.33)	
Gender			
Male	42 (13.33)	84 (26.66)	0.064017177
Female	45 (14.29)	144 (45.714)	
Educational qualification			
Illiterate	0	6 (1.90)	0.012360413
Primary school	24 (7.62)	69 (21.9)	
High school	45 (14.29)	81 (25.714)	
Graduate	12 (3.81)	63 (19.99)	
Professional degree	6 (1.90)	9 (2.857)	
Occupational status			
Father working	72 (22.85)	174 (55.24)	0.398224502
Mother working	3 (0.952)	15 (4.762)	
Both working	12 (3.81)	39 (12.38)	
Number of children			
1 child	39 (12.38)	87 (27.62)	0.274017017
2 children	39 (12.38)	102 (32.38)	
3 or more children	9 (2.857)	39 (12.381)	

dental hospital for a face to face communication rather than having consultancy over telephone. There were no significant differences among parents in different education groups and gender groups [Table 7].

## DISCUSSION

The coronavirus pandemic has changed the daily life drastically for billions of people across the world and it has required adaptations from children, adults, and youth in every aspects. The new routine has an impact on every family in raising, fear, anxiety, and instability.<sup>[11]</sup> In case of children, the behavior of parents is very much important as they are the supervisor and primary implementers of the daily oral care of children. The nationwide shutdown declared on March 23 and especially the school shutdown demonstrated the magnitude of the pandemic and was alarming to the parents.<sup>[12]</sup> The working field for the dentist in only about 35–40 cm, some procedures can be time-consuming and with an uncooperative child, it can be cumbersome. A World Economic Forum publication leveraged an infographic data in April 2020 and found dentists to be one of the top four occupations to face the highest risk of exposure to 2019 n-Cov on the basis of three parameters-physical proximity, contact with others, and exposure to disease and infection.<sup>[13]</sup>

In our study about the knowledge of the present situation of COVID-19, we have found that about half of the participating dentists were very well aware about the situation and rest half of them did not have enough knowledge of the situation which raises a serious concern. Near about half of the parents said that they follow the guidelines regarding this only sometimes which again becomes a matter of concern. Whereas all the parents who were holding a professional degree were found to be very well aware about this infectious disease, and parents who were aged more than 40 were also mostly well aware. Among the respondents in our survey, almost all of them talked to their children and passed on COVID-19 information, indicating that they highly value their children's health which is a good outcome.

The major transmissible routes for this virus are through saliva, bodily fluids, feces, and airborne droplets, and during dental treatment, there is always a chance of getting in contact with considerable amount of saliva and blood splatter during routine dental procedures.<sup>[14]</sup> Some dental procedures can be time-consuming especially with an uncooperative child the chances of cross-infection become higher. In this study, less than half of the parents thought that hospital dental set up was more prone of having infections than other public places. Parents who were aged in between 30 and 39 years mostly found hospital dental set up to be more prone of getting infection whereas parents of 20-29 years mostly found it to be less infectious than public spaces and parents of more than 40-years of age found both having similar chances. Female participants found hospitals higher source of infection but male participants found hospitals to be lesser infectious than other public places. The reason behind this might be that mothers are usually overprotective and as they usually decide whether to take their children to the dentists during this pandemic or not so their opinion matters. More than half of the parents said that they do not know if there is any chance of their children getting infected during routine dental procedures. We believe this finding is attributable to insufficient awareness and education among general population regarding health issues. Parents who were aged more than 40 years and who were graduated or had any professional degree mostly said that they were aware about the fact that there is a chance of getting infection with the virus during dental treatment. On further investigation, it was revealed that only 3.81% of the participants considered that the source of virus infection during dental procedure can be the aerosol that is produced during treatment, and more than half of them (57.14%) considered the armamentarium that are used during treatment as a potential source and 39.04% of them that child can get infection from the dentist also. This indicates that the parents are not well aware about the protective measures that are taken in the hospital during this pandemic situation and enlightens us that we need to strengthen the propaganda of hospital protection work during the COVID-19 outbreak to let parents know about preventive measures undertaken by dental departments including patient screening, the strengthening of hospital environment disinfection, and the provision of special protective equipment for both dentists and patients (using gargles, rubber dams, strong suction, and other equipment).<sup>[15]</sup>

However, in a systemic review by Ludvigsson, it had been found that children infected with this virus presented milder symptoms of COVID-19 and also a better prognosis than adults.<sup>[16]</sup> Although adverse manifestations of COVID-19 had been reported in children of Europe and the United States, such as the Kawasaki disease-like illness related to the infection by SARS-CoV-2.<sup>[17]</sup>

About the attitude of the participants regarding taking their children during the pandemic condition, 60% of the participants said that they have brought their child as child was having dental pain and while only 14.28% of them have visited the hospital for routine dental check up for their child. Only 10.47% of the parents said the reason to be accidental trauma and 15.23% of them said the presence of visible swelling in the oral region to be the emergency reasons for seeking treatment. Different studies have conducted in different countries on dental emergencies during the COVID-19 outbreak and the result they founded are different in different regions. In Taiwan 52.3%-56.8% of dental emergencies after the COVID-19 pandemic were caused by trauma, in China dental pulpal or periapical lesion were the main reason (44.7%) for dental emergencies, In Missouri, dental caries accounted for 20.4% and pulpitis or periapical abscess accounted for 14.8% of the main reasons for emergency visits and In Croatia, the most common diagnosis was face and jaw abscesses (27.3%).<sup>[18]</sup> In this study, the parents showed a positive attitude toward revisiting the dentists despite being afraid of the pandemic situation. Most of the participants said that they will consider revisiting for consultancy or treatment procedure if the doctor advises and 40% of them said they will consider it only if the child has any dental problem. Only 11.42% of them said that they will not consider it until they find it an emergency. Parents who were aged in between 20 and 29 years mostly replied in favor of re-visiting only if the child has any dental problem but parents of 30-39 years or more than 40 years of age replied only if the doctor advises. Parents who were both working in majority said that they will come again if the doctor advises. Campagnaro et al. in their study reported that when the COVID-19 cases increased, parents with a higher level of fears

were less likely to take their children for dental appointments and 86% of child who endured dental trauma did not seek dental treatment during this pandemic.<sup>[19]</sup>

One of the major challenges after the and of the pandemic will be dealing with its sequelae. From the beginning of the pandemic, the access to routine dental care had been limited and the oral health problem might have gone unnoticed increasing their sufferings. That is why the duties of taking proper oral health care of the children by the parents had increased drastically in this time of need.

Majority of the participants (41.91%) confirmed that they were taking additional care of the oral health of their child as they were not able to visit their dentists for routine check up, although 29.52% of them said that they had not thought this in this way in this time of crisis and 28.57% of them said that they will follow the advises given by the dentists for home oral health care of their child from hereon. When the parents were asked if they think that in this pandemic situation teledentistry will be helpful or not, most of them (72.38%) said no and they think a face-to-face communication with the doctors will be more helpful and only 27.62% of them said it sounds helpful rather being physically present in the hospital.

Despite the comprehensiveness of this study, it has some limitations, one of which is 315 participants of this study did not fully reflect the knowledge, attitudes of all parents. However, as this study was undertaken during this pandemic in the institution it was coupled with other restrictions. One of the possibilities of self-selection bias among the participants can also be there.

## CONCLUSION

Unexpected life events as the COVID-19 pandemic that limits access to dental care are a good example of why prevention of oral disease is important and raising public awareness about it are of pivotal importance. In our study, we have found that parents do not have enough knowledge about this pandemic situation and are not that much well aware about the preventive measures. It is an opportunity for the dental professionals to increase the public awareness about the preventive measures of oral health care and they must be active to play a more important role in the fight against this emerging disease by being readily available for emergency treatment. More effort should be directed toward informing the public that some measures can be taken to avoid contamination in the dental set ups and that urgent cases can be treated with lower risk.

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#### **Conflicts of interest**

There are no conflicts of interest.

#### REFERENCES

- Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, *et al.* A novel coronavirus from patients with pneumonia in China, 2019. N Engl J Med 2020;382:727-33.
- World Health Organization WHO. WHO Director-General's Opening Remarks at the Media Briefing on COVID-19. Available from: https://www.who.int/dg/speeches/detail/ who-director-general-s-opening-remarks-at-the-media-briefing-oncovid-19---11-march-2020. [Last accessed on 2020 Mar 11].
- 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;12:9.
- Kumar Mallineni S, Chandra Bhumireddy J, Nuvvula S. Dentistry for children during and post COVID-19 pandemic outbreak. Child Youth Serv Rev 2021;120:105734.
- Adhikari SP, Meng S, Wu YJ, Ye RX, Wang QZ, Sun C, *et al.* Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: A scoping review. Infect Dis Poverty 2020;9:29.
- Xue Q, Xie X, Liu Q, Zhou Y, Zhu K, Wu H, *et al.* Knowledge, attitudes, and practices towards COVID-19 among primary school students in Hubei Province, China. Child Youth Serv Rev 2021;120:105735.
- Kimber S. ADA Develops Guidance on Dental Emergency, Nonemergency Care; 2020. Available from: https://www. ada.org/en/publications/ada-news/2020 archive/march/ ada-developsguidance-on-dental-emergency-nonemergency-care. [Last accessed on 2020 May 04].
- Anil S, Anand PS. Early childhood caries: Prevalence, risk factors, and prevention. Front Pediatr 2017;5:157.
- Guo H, Zhou Y, Liu X, Tan J. The impact of the COVID-19 epidemic on the utilization of emergency dental services. J Dent Sci 2020;15:564-7.
- Faccini M, Ferruzzi F, Mori AA, Santin GC, Oliveira RC, Oliveira RC, et al. Dental care during COVID-19 outbreak: A web-based survey. Eur J Dent 2020;14:S14-9.
- Cotrin P, Peloso RM, Oliveira RC, de Oliveira RCG, Pini NIP, Valarelli FP, et al. Impact of coronavirus pandemic in appointments and anxiety/ concerns of patients regarding orthodontic treatment. Orthod Craniofac Res 2020;23:455-61.
- Farsi D, Farsi N. Mothers' knowledge, attitudes, and fears about dental visits during the COVID-19 pandemic: A cross-sectional study. J Int Soc Prev Community Dent 2021;11:83-91.
- Marcus Lu for the World Economic Forum. These Are the Occupations with the Highest COVID-19 Risk; 2020. Available from: https://www. weforum.org/agenda/2020/04/occupations-highest-covid19-risk/. [Last accessed on 2021 Feb 21].
- Harrel SK, Molinari J. Aerosols and splatter in dentistry: A brief review of the literature and infection control implications. J Am Dent Assoc 2004;135:429-37.
- Zhang WJ, Jiang XQ. Measures and suggestions for the prevention and control of the novel coronavirus in dental institutions. Front Oral Maxillofac Med 2020;2:4.
- Ludvigsson JF. Systematic review of COVID-19 in children shows milder cases and a better prognosis than adults. Acta Paediatr 2020;109:1088-95.
- Choi JW. Can we get a clue for the etiology of Kawasaki disease in the COVID-19 pandemic? Clin Exp Pediatr 2020;63:335-6.
- Wu JH, Lee MK, Lee CY, Chen NH, Lin YC, Chen KK, *et al.* The impact of the COVID-19 epidemic on the utilization of dental services and attitudes of dental residents at the emergency department of a medical center in Taiwan. J Dent Sci 2021;16:868-76.
- Campagnaro R, Collet GO, Andrade MP, Salles JP, Calvo Fracasso ML, Scheffel DL, *et al.* COVID-19 pandemic and pediatric dentistry: Fear, eating habits and parent's oral health perceptions. Child Youth Serv Rev 2020;118:105469.