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Original Research Article

Impact of parent's knowledge and attitude about pediatric dental treatment during the Covid-19 pandemic in Bhairahawa City, Nepal

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ABSTRACT

Introduction: A new type of coronavirus that causes pneumonia was first detected in December 2019, in Wuhan. It was first denoted as the 2019 novel coronavirus (2019-nCoV). The International Committee on Taxonomy of Viruses, Wuhan in December 2019, referred to a new coronavirus capable of infecting humans as SARS-CoV-2. At the same time, the World Health Organization declared the official name of the disease caused by this virus as COVID-19.

Materials and Methods: In this cross-sectional questionnaire survey, 180 participants out of 190 participants were included to evaluate the knowledge and attitude about the pediatric dental treatment during covid-19 pandemic among parents, who visited the department of Pedodontics and Preventive Dentistry, of Universal College of Medical Sciences, during covid-19 pandemic for three months (February 2021 to April 2021), in Bhairahawa, Nepal.

Result: In this study out of 180 participants, 105(58.33%) were male and 75(41.66%) were female. All parents were concerned and aware of COVID-19. Every child was explained about covid-19 viruses by their parents.

Conclusion: Even though the parents were aware of the Covid-19 pandemic and had discussed it with their children, still they do not prefer any kind of dental treatment even in severe pain. As they thought that other places are less infectious than a pediatric dental clinic.

Thus, the aim of this study was to evaluate the knowledge and attitude of pediatric dental patients' parents' towards COVID-1 9 in Bhairahawa, Nepal.

1. Introduction

A new type of coronavirus that causes pneumonia was first detected in December 2019, Wuhan.[1] It was firstly denoted as the 2019 novel coronavirus (2019-nCoV).[2–4] The International Committee on Taxonomy of Viruses, Wuhan in December 2019, referred to a coronavirus capable of infecting humans as SARS-CoV-2.[5] At the same time, the World Health Organization declared the official name of the disease caused by this virus as COVID-19. The SARS-CoV-2 virus causes Severe Acute Respiratory Syndrome (SARS) called COVID-19. It is believed to be transmitted via contact with a contaminated surface, or droplet infection. After an incubation period of up to 14 days, patients may experience a range of no symptoms, or mild symptoms of pyrexia (85%), dry cough (68.6%) and general malaise, myalgia, or fatigue (35.8%), expectoration (28.2%), headache or

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dizziness (12.1%), diarrhoea (4.8%), nausea and vomiting (3.9%), dyspnea (21.9%) insomnia and general malaise. Respiratory distress and ultimate death are the severe symptoms observed. The latter affects mainly those with co-morbidities of all age groups.[6]

As dental procedures usually produce aerosols, splatters that contain patients' blood, and ample amounts of saliva making Covid-19 as a high transmissible diseases.[7] Thereby, due to the nature of the dental treatment, other healthcare authorities have shown that dental departments should implicate strict preventive measures such as screening, performing emergency treatment only, using personal protective equipment, disinfecting the dental clinic, maintaining sterilization, and avoiding treatments causing aerosol production. Despite all protective measures COVID-19 cannot be controlled completely in the dental environment as researchers had reported that some carriers have no symptoms.[8]

This risk increases even more in pediatric dentistry, as the majority of COVID-19-infected pediatric patients were asymptomatic or mild and moderate symptomatic.[8] During times of any epidemic, pandemic, or national or global disaster, to date, no universal guidelines are available for dental procedures. Thus, dental treatments have completely stopped or significantly decreased in several countries according to guidelines for pediatric dental patients from the Royal College of Surgeons of England and, more recently, from the American Academy of Pediatric Dentistry (AAPD),[9,10]

Thus, during the outbreak in the case of a dental emergency, involving a pediatric patient, a dentist should be aware of which recommended management protocol can be adopted during the practice, to prevent viral transmission. The routine dental practice should be postponed, and only severe dental emergencies must be treated (such as discomfort, pain, swelling, life-endangering dentigerous infection, traumatic dental injuries, etc.),[11]

2. Materials and Methods

In this cross-sectional questionnaire-based study the sample size calculation anticipating non-eligibility and unwillingness to participate in the study a sample of 180 participants out of 190 participants were included to evaluate the knowledge and attitude about pediatric dental treatment during covid-19 pandemic among parents, who visited the department of Pedodontics and Preventive Dentistry, of Universal College of Medical Sciences, during covid-19 pandemic for three months (February 2021 to April 2021), in Bhairahawa, Nepal.

A questionnaire containing 11 questions was distributed among subjects who visited dental OPD for pediatric dental treatment during the covid-19 pandemic. Data was collected and the statistical analysis was done by applying the chi-square test. For the test used the confidence interval and the p-value was set at 95% and ≤ 0.05 respectively. The study protocol was reviewed by the institutional review board, and it was granted ethical clearance.

2.1. Inclusion criteria

Patients visited dental OPD for pediatric dental treatment during the covid-19 pandemic for three months (February 2021 to April 2021).

2.2. Exclusion criteria

Individuals not willing to give the consent for study.

3. Result

The information was collected and analyzed using Statistical Package for the Social Sciences (SPSS) version 11. For descriptive variables that are categorical, simple frequency, and percentages were determined. A Chi-square test was used for statistical analysis. The socio-demographic data on sex, age, education level, and the rest 8 attributes with their respective result are shown inTable 1.

In this study out of 180 participants, 105(58.33%) were male and 75(41.66%) were female. All parents were concerned about COVID-19. Every child was explained about covid-19 viruses by their parents. The ratio is significantly higher among parents aged 40–50, 85(47.22%) years and 25-40, 65(36.11%) years those who have discussed it with their children, then those above 50 years 30(16.66%). On other hand, the ratio among parents with intermediate education who discussed COVID-19 with their children was significantly higher than those with an undergraduate and a graduate degree. In this study majority of males always pay attention to Covid-19 whereas the majority of female parents only pay occasional attention to covid-19. (Tables 1 and 2).

66.2% of parents thought that the dental department's environment was more dangerous as compared to other public places due to the presence of droplets, blood, and aerosols, whereas others thought it to be similar or not dangerous. Attributes with an intermediate level of education did not think that the dental environment is more contagious in comparison with the post-graduate education level. Among parents with a graduate level of education, most of them either thought it was similar or did not think that the dental department was more dangerous. Parents aged 40–50 years show significantly higher risk than that aged 25-40; who thought that dental clinic was more potentially infectious. (Tables 1 and 3)

91.89% of parents thought that their children can be easily infected with the covid-19 virus during the dental procedure as compared to other places showing a highly significant risk. Resulting in the main causative factors being blood droplets (94.89%), than medical apparatus, and the dentists themselves. Parents aged 40–50 years and

Table 1: Knowledge and attitudes of attributes recorded overall

Questions	Answers and percentage(number/ratio)		
1. Subject gender	Male 105(58.33%)	Female 75(41.66%)	
2. Subject age	25-40 65(36.11%)	40-50 85(47.22%)	Above 50 30(16.66%)
3. Education of parents'	Intermediate 60(33.3%)	Graduate 81(45%)	Postgraduate 39(21.7)
4. Are you attentive to COVID-19?	Always 166(92.5%)	Occasionally 14(7.5%)	Never 0
5. Have you discussed COVID-19 with your children?	Always 98(54.5%)	Occasionally 82(45.95%)	Never 0
6. Is the dental department more dangerous than other public places?	Yes 119(66.22%)	Similar 56(31.08%)	No 5(2.7%)
7. Does dental treatment cause covid-19 infection?	Yes 165(91.89%)	Similar to the risk in other Places 10(5.41%)	No 5(2.7%)
8. How can dental treatment cause covid-19 infection? (one or more choices)	Droplets/Blood 170(94.89%)	Medical apparatus/ Instruments 126(70%)	Dentists 129(71.89%)
9. Do you prefer to visit the dental department during covid -19?	Routine dental checkup 14(7.5%)	Emergency 166(92.5%)	Never 0
10. Would you take your children to the dental department in case of a toothache?	Yes (severe) 156(87%)	No (mild) 14(13%)	May be 0
11. Dental department has taken protective measures	Yes 151(84%)	No 29(16%)	May be 0

Table 2: Distribution of population according to pay attention to covid- 19

Age	Observant to covid-19		
	Always	Occasionally	Never
20-40	15(8.3%)	24(13.3%)	0
41-60	66(36.7%)	27(15%)	0
Above 61	21(11.7%)	27(15%)	0
Chi-square test	6.9		
p-value	0.06		
Gender			
Male	72(40%)	33(18.3%)	0
Female	30(16.7%)	45(25%)	0
Chi-square test			5.9
p-value			0.028
Education			
Intermediate	21(11.7%)	39(21.7%)	0
Graduate	36(30%)	27(15%)	0
Postgraduate	27(15%)	12(6.7%)	0
Chi-square test		7.9	
p-value		0.05	

Table 3: Distribution of population according to dangerous dental department environment than other public places

Age	dangerous environment than other public places		
	Yes	Similar	No
25-40	6(3.3%)	12(6.7%)	21(11.7%)
40-50	15(8.3%)	42(23.3%)	36(20%)
>50	21(11.7%)	9(5%)	18(10%)
Chi-square test			8.5
p-value			0.15
Gender			
Male	21(11.7%)	36(20%)	48(26.7%)
Female	21(11.7%)	27(15%)	27(15%)
Chi-square test		3.9	
p-value			.69
Education			
Intermediate	9(5%)	24(13.3%)	27(15%)
Graduate	12(6.7%)	36(20%)	33(18.3%)
Postgraduate	21(11.7%)	3(1.7%)	15(8.3%)
Chi-square test			16.9
p-value			0.03

Table 4: Attributes' perception about the mode of transmission of covid-19

Age	Cause of transmission during dental treatment.		
	Droplet/ blood	Medical apparatus/ instruments	Dentist
25-40	18(10%)	6(3.3%)	15(8.3%)
40-50	39(21.7%)	12(6.7%)	42(23.3%)
<50	15(8.3%)	15(8.3%)	18(10%)
Chi-square test			3.2
p-value			0.6
Gender			
Male	42(23.3%)	15(8.3%)	48(26.7%)
Female	30(16.7%)	18(10%)	27(15%)
Chi-square test		2.3	
p-value		.58	
Education			
Intermediate	18(10%)	0	42(23.3%)
Graduate	39(21.7%)	15(8.3%)	27(15%)
Postgraduate	15(8.3%)	18(10%)	6(3.3%)
Chi-square test			23.57
p-value			0.002

Table 5: Distribution of population about preference to visit the dental department during covid-19

Age	About preference to visit the dental department during covid-19		
	Routine dental check-up	Emergency	Never
25-40	12(6.7%)	27(15%)	0
40-50	51(28.3%)	42(23.3%)	0
<50	6(3.3%)	42(23.3%)	0
Chi-square test		5.4	
p-value		0.01	
Gender			
Male	39(21.7%)	66(36.7%)	0
Female	30(16.7%)	45(25%)	0
Chi-square test		1.05	
p-value		0.82	
Education			
Intermediate	63(11.7%)	39(21.7%)	
Graduate	42(23.3%)	39(21.7%)	
Postgraduate	6(3.3%)	33(18.3%)	
Chi-square test		3.6	
p-value		0.07	

Table 6: Distribution of population perception of the parent's toward toothache

Age	About the perception of the parent's toward toothache		
	Yes	No	Maybe
25-40	27(15%)	12(6.7%)	
40-50	69(38.3%)	24(13.3%)	
<50	36(20%)	12(6.7%)	
Chi-square test		3.2	
p-value		0.9	
Gender			
Male	66(36.7%)	39(21.7%)	
Female	66(36.7%)	9(5%)	
Chi-square test		9.6	
p-value		0.03	
Education			
Intermediate	42(23.3%)	18(10%)	
Graduate	57(31.7%)	24(13.3%)	
Postgraduate	33(18.3%)	6(3.3%)	
Chi-square test		3.9	
p-value		0.5	

Table 7: Distribution of population about protective measures in the dental department

Age	About protective measures in the dental department		
	Yes	Maybe	No
25-40	36(20%)	3(1.7%)	0
40-50	51(28.3%)	42(23.3%)	0
<50	42(23.3%)	6(3.3%)	0
Chi-square test		8.06	
p-value		0.01	
Gender			
Male	81(45%)	27(47.1%)	0
Female	48(26.7%)	27(15%)	0
Chi-square test		1.4	
p-value		.26	
Education			
Intermediate	33(18.3%)	27(15%)	0
Graduate	63(35%)	18(10%)	0
Postgraduate	33(18.3%)	6(3.3%)	0
Chi-square test	5.7		
p-value	0.11		

above concluded that their children are at higher risk of infection during a dental procedure than aged 25–40 years. No significant differences were seen in parents' education level and gender groups. (Tables 1 and 4)

Including all three demographic data age and sex and education level of parents who are taking their children to dental visits only for dental emergencies during Covid-19. They avoid a routine dental visits. (Tables 1 and 5)

Above 50% of parents will prefer to visit a dental clinic during the pandemic only in case of severe toothache, whereas others denied dental visits at any cost. Parents aged 25–40 years showed more interest in seeking dental treatment for their children in case of severe toothache compared to aged 40–50 years. Whereas parents with a postgraduate degree were keener on dental treatment than parents with an intermediate education level. No significant differences were seen among gender groups. (Tables 1 and 6)

After the implementation of protective measures, the majority of parents under 25–40 years and 50 years developed more trust in dental procedures, compared to parents under 40–50 years who were still in dilemma. No significant differences were seen in different education levels and gender groups (Tables 1 and 7).

4. Discussion

COVID-19 has highly affected every individual throughout the world including healthcare workers. In Nepal, the number of cases started to rise rapidly whereas worldwide at the early outbreak of the pandemic the cases were slowly decreasing by the end of June 2020. This study was conducted to ascertain the current status of parents' knowledge about the COVID-19 pandemic. Most parents had good knowledge about the Covid-19 disease, its signs, and its symptoms.[12] As per other educational committees' children are the center of attraction even if parents' are the prime concern and have equal involvement in maintaining the oral health care of their children.

In our study, all parents were interviewed, and they expressed their interest in the COVID-19 pandemic. A study done in Hong Kong during SARS 2003 outbreak claimed that approximately 80% of the people were paying attention to it via various social media approaches.[13] Since modern multimedia spreads more easily, widely, and rapidly, people can receive much more information on the COVID-19 pandemic. Mainly social media was found to be the one who helped during the Covid-19 outbreak.[14] In our study all the respondents have discussed with their children about Covid-19, which indicates that they are concerned about their children's well-being. Whereas undergraduate and postgraduate parents aged 25–40 years showed less concern.

The Coronavirus resembles the SARS virus of 2003.[15] It transmits through bodily fluids and feces, but airborne droplets containing bodily fluids are found to be the main causative factors[16,17] Dental treatment is at higher of transmitting the disease as it contains blood and saliva splatter[18,19] thereby, making the dental department a higher risk zone. The majority of parents (94.89%) thought that dental treatment could easily infect their children than others viewed it to be of no significant risk or similar. A majority believed that blood droplets were the main cause, while others believed it is dental equipment or the dental professional. Parents aged 40–50 years and above mostly believed that dental treatment easily infected their children, than those aged 25–40 years.

Therefore, as dental professionals, we can aware the parents about the preventive measures taken during dental treatment such as screening patients, following disinfection protocol, and using protective equipment.[20] As the implementation of these preventive measures has reduced the spread of infection mentioned in various studies.[21] 84% of the parents were relieved after knowing about preventive protocol. 50% of Unwilling Parents showed interest, indicating high confidence in the preventive protocol.

5. Conclusion

Even though the parents were aware of the Covid-19 pandemic and had discussed it with their children, still they do not prefer any kind of dental treatment even in severe pain. As they thought that other places are less infectious than a pediatric dental clinics.

Thus, more efforts should be directed towards informing the public that protective measures can be taken to avoid contamination during dental treatment in the department and that urgent cases can be treated with lower risk.

6. Source of Funding

None.

7. Conflict of Interest

None.

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