

**Knowledge and perception of parents towards dental treatment of their children during covid-19 pandemic-A questionnaire-based study**

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**Abstract:**

**Aim:** To evaluate the knowledge and perception of parents towards dental treatment of their children during the COVID-19 pandemic era.

**Study design:** A questionnaire was developed and circulated among parents of children to study their knowledge and perception regarding the dental needs of their children during this pandemic.

**Materials and methods:** A structured questionnaire was developed that included 15 close ended questions that was spread among parents of 300 children who reported to the OPD of Pediatric and Preventive Dentistry

Department in ITS Dental College. The data that was obtained was then analysed.

**Results:** The results of this current study revealed that most parents were very apprehensive regarding getting dental treatment for their children during such times of pandemic.

**Conclusion:** Thus, it was seen that dental treatment already being one of the neglected areas has further been negatively affected by the pandemic as most parents have become much more apprehensive and negligent regarding getting dental treatment for their children due to fear of contacting the virus.

**Keywords:** COVID 19, Coronavirus, Dentistry, Parental Attitude, Pedodontics.

### **Introduction**

The sudden outbreak of the novel coronavirus dates back to December 2019 in Wuhan, China that captured the entire world within few months and caused a havoc globally. Although, many viruses exist in the air, this virus has proven to be extremely dangerous due to its mutant nature that changed its property very frequently. There are many strains of corona viruses already known to cause respiratory infections in humans and animals but this recently discovered one is established to be SARS-COV-2 that causes COVID-19 infection. The virus is having a zoonotic origin and initially transmitted to mankind through infected bats. Once contacted it causes severe respiratory infection that is life threatening and many a times fatal.

There are a variety of symptoms displayed by this virus ranging from mild to high fever, cough, sore throat, headache, diarrhoea to respiratory distress and pneumonia as well. The virus spreads through close contact between people, especially through respiratory droplets. The detection method confirmed that 2019-nCoV exists in saliva, bodily fluids, faeces, and other samples from patients with COVID19. Additionally, the virus may be transmitted when people come in direct contact with objects touched by infected individuals. Thus, the virus was tried to be controlled by implementing social distancing and eventually a lockdown to reduce the active cases and prevent further transmission. Talking of dental treatment being important for people especially the pediatric population due to their rapidly changing oral environment, the fact that most dental treatment generates a lot of splatter cannot be neglected. Since the infection can spread in highest amounts through aerosol so dental treatment is to

be undertaken with strict guidelines and extreme caution for the welfare of both the doctors and the patients. Therefore, many health departments have asked dental departments to adopt strict measures. Such measures include screening patients, only providing emergency treatment, restricting aerosol operation as much as possible, using extensive protection, and performing environmental disinfection.

A lot of misconceptions regarding the spread of covid infection have also been propagated that has generated extreme fear among people. Dental treatment has been the most highlighted section that has been negatively impacted by the virus. In earlier times people would mostly neglect their dental needs but now it has become all of the most dreaded regions of health care for most people. Thus, the aim of this present study was to evaluate and examine the knowledge and attitude of parents regarding receiving dental treatment for their children in the covid -19 pandemic.

### **Methodology**

A structured questionnaire was developed containing 15 closed ended questions that was to be answered by the parents. The questionnaire was validated by performing a pilot study in which the questionnaire was distributed to experts within the field. After their responses were received the results were verified and after this validation the survey was carried out. The questionnaire was given to the parents of pediatric patients who reported to the OPD at ITS Dental college in the Pediatric and Preventive dentistry department. The questionnaire was also circulated via mails and online links. So, a total of 300 questionnaires was circulated among which 260 responses were received upon which the results were formulated. 40 of the questionnaires were not included as 37 did not revert back and 3 were incomplete. The questionnaire is as follows.

### Sample size estimation

It was revealed from pilot study the expected awareness of parents about COVID-19 was 78.9 %, so for precision 0.05 or 5 % the sample size is 256 which was in round off 260, To calculate we have used the following formula.

$$(1 - P) \quad n = \frac{Z^2 p}{d^2}$$

Where n= sample size

Z= z statistics for given level of confidence =1.96 (for 95 % C.I.)

p=expected prevalence =78.90%

d= Precision =50/o

### Data Analysis

Data from the questionnaire were inserted in Microsoft Excel 2003 for Windows. The data were cleaned and then transferred to SPSS 16.0 (IBM Corp) for their statistical analysis. Descriptive statistical analysis was used to describe items included in the survey.

The data were expressed with percentage values for overall variables. One-way analysis tests with Chi square test for multiple comparisons were used to compare pooled questionnaire responses by education level and gender. A p-value of less than 0.05 was considered to be statistically significant

### Result

**Participant's Characteristics:** This study included a total of 263 responses, out of which 3 were removed because of being incompletely or partially filled; forming a response rate of 86.7% (260 responses out of 300 invited participants).

The education level of participants with their frequencies and percentages are presented in Table 1.

The basic data on all the 15 questions of the questionnaire, as well as the percentages of answers, are shown in Table 2

All the data for the relationship of education level and the questions are graphically represented for easier understanding.

Parents with an 10th Standard Education level restricted leaving the house to buy essentials and social events while those with an 12th Standard Education level restricted leaving the house mostly for social events or for none of the activities. More than half the parents with a graduate level education restricted leaving the house for all activities. Most of the parents with a post graduate level education preferred restricting leaving the house for all activities.

Parents with a 10th Standard education level equally mentioned that in regards to dietary changes during the COVID-19 pandemic were to consume more home cooked food or that nothing had changed. All the other parents regardless of education level preferred to consume more home cooked food during the COVID-19 pandemic

All parents of 10th Standard education level mentioned that they left the house only for work during the pandemic. Three fifth of parents with 12th Standard education level said that they left the house only for work while equal amounts said that they left for buying essentials or left as usual. Majority of parents of graduate and post graduate education level preferred to leave the house only for buying essentials.

Equal number of parents with 10th Standard education level mentioned that their children were going and not going through dental treatment before the pandemic. Most of the parents with 12th Standard education level mentioned that their children were not undergoing dental treatment. Graduate level parents mentioned mostly that their children were undergoing dental treatment. All the post graduate level parents mentioned that their children were not undergoing dental treatment

10th Standard education level parents universally mentioned that their children either did not have any dental issue during the pandemic or that they did not seek any care for the dental issue. Equal number of the 12th Standard education level parents mentioned that they either sought care and received assistance for their child's dental issue during the pandemic or did not seek care for it. Majority of the graduate and post graduate level parents said that their child did not have any dental issue during the pandemic.

All the parents of 10th Standard education level mentioned that they were confident in their knowledge

about how the virus transmits during dental treatment. More than half the parents of 12th Standard education level said that they were confident in their knowledge while most of the parents of graduate and post graduate level said that they were confident

Equal number of parents of 10th Standard education level mentioned that the virus spread through droplets or medical apparatus/instruments during dental treatment. 12th Standard education level parents believed that it spread equally through blood and droplets. Two thirds of both graduate and post graduate level parents believed that it spread through droplets.

Table 1: Education level

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 10th Std	26	10.0	10.0	10.0
12th Std	65	25.0	25.0	35.0
Graduate	78	30.0	30.0	65.0
Post Graduate	91	35.0	35.0	100.0
Total	260	100.0	100.0	

Table 2: Questions and percentage of answers recorded.

Questions	Answers and percentages (number/ratio)				
	1. Which state do you live in?	New Delhi 39 (15%)	UP 221 (85%)		
2. How many people in your home leave the house for work (consider yourself)?	1 13 (5%)	2 13 (5%)	3 52 (20%)	>4 182(70%)	
3. Which activities have you restricted doing due to fear of contacting COVID- 19?	Going to Health offices/clinics/hospitals 26 (10%)	Buying essential goods 13 (5%)	Social events 78 (30%)	Doing all of the above 91 (35%)	Doing none of the above 52 (20%)
On a scale of 0-10 (0 indicates no fear and 10 indicates terror) indicate what best describes your fear?					
Have there been any dietary changes for your family due to COVID-19 pandemic?	Consumption of more outside food delivered at home 0 (0%)	Consuming more home-cooked food 234 (90%)	Going out to eat restaurants 0 (0%)	Nothing has changed 26 (10%)	

6. What is your family's daily routine during this pandemic?	Not leaving the house for anything	Leaving only for essentials (pharmacy and groceries)	Leaving just for work	Leaving the house as usual	
		130 (50%)	104 (40%)	26 (10%)	
7. Were any of your children undergoing dental treatment before the pandemic?	Yes	No			
	91 (35%)	169 (65%)			
8. Regular home maintenance of your child's oral hygiene is important.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		13 (5%)		182 (70%)	65 (25%)
9. Did your child experience any dental trauma/cavitation/toothache during the pandemic?	No	Yes, sought for care and my child received assistance	Yes, sought for care but my child did not receive assistance	Yes, but we did not seek For any care	
	143 (55%)	52 (20%)		65 (25%)	
10. Seeking dental treatment poses more risk of transmission of COVID-19	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	13 (5%)	13 (5%)	104(40%)	117 (45%)	13 (5%)
11. Are you confident in your knowledge of how the virus transmits during dental treatment?	Yes	No			
	208 (80%)	52 (20%)			
12. If yes, then how?	Droplets	Blood	Medical apparatus/instruments	All of the above	
	91 (35%)	52 (20%)	26 (10%)	91 (35%)	
13. The new safety measures taken in the dental setup for patient protection gives you confidence to seek dental treatment.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
				182(70%)	78 (30%)
14. COVID-19 virus can be contracted after a dental appointment	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		13 (5%)	13 (5%)	130(50%)	104(40%)
15. It is important to take precautionary measures at home after returning from a dental appointment to reduce chances of COVID transmission	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
			13 (5%)	52 (20%)	195(75%)

**Discussion**

Children may be given more focus in the medical research field but the behavior of the parents is almost

equally important. Parents act as the primary implementers or supervisors of children's daily oral care. Currently, parents are role models and advocate in their

children's health. Good parenting skills are essential when children are restrained within their home.

In light of the rapidly spreading COVID-19 virus, Indian government had imposed a strict complete lockdown of the country for several weeks to curb the spread of the disease. Even after lockdown was lifted, stringent social distancing measures were implemented and promoted by the country's administration. Most of the parents in our study had decided to restrict activities outside the house, especially social event, leaving only for buying essentials and work activity. This finding was in agreement with previous studies where many parents were in agreement that lockdown and quarantine were for the protection of themselves and their children.

Most of the parents had changed their eating habits to consuming more home-cooked during the pandemic to avoid contracting the virus. This is not in accordance with current literature where it has been said that dietary habits of people have deteriorated during the pandemic and lockdown, seeking out more comfort and junk foods. Dental treatment of children in India is often a neglected subject but with growth in the right directions in recent years. Majority of the parents in our study said that their children were not undergoing any dental treatment nor suffered from any dental issue before the pandemic started. The possible reason for this could be that most of the parents agreed that regular maintenance of oral care of the child at home was important.

The cause of COVID-19 is a coronavirus similar to the SARS virus of 2003.<sup>10</sup> The virus can be spread through saliva, bodily fluids, feces, and airborne droplets when people cough or sneeze, which is the major route of transmission. Since dental treatment can involve considerable saliva or blood splatter from the patient, it can carry a high risk of virus transmission. Therefore, the dental department has a higher risk of infection than

other departments or other places. Many but less than half of the parents believed that seeking dental treatment posed more of a threat for COVID-19 transmission.

Today, people can access news in various ways thanks to modern multimedia platforms. Since modern multimedia spreads more easily and more widely, people can receive much information on COVID-19. This means that modern multimedia has played an important role in this outbreak. It is a good sign that all parents interviewed in our study expressed confidence in their knowledge about how COVID-19 spreads.

Many of the parents agreed that their child/children could be easily infected with the virus while receiving dental treatment. Further investigation reveals that most parents can correctly understand the source of the virus infection as droplets and blood. However, fortunately, a vast majority of them had confidence to seek out dental treatment as they knew about the new measures taken during dental treatment during the pandemic. This indicates that parents have good trust in the protection measures of the hospital, and were not worried about the sterilization and disinfection of our medical apparatus, as well as the respective protection measures between dentists and patients. This enlightens us that we, as health professionals have been able to strengthen the belief of the children's parents during the outbreak of COVID-19 that we minimize the droplets and blood or aerosols produced in the treatment process and adequately disinfect and sterilize our medical equipment, as well as perfect protect our patients. This was not consistent with previous literature where parents had poor trust in the hospital set up and the dentists themselves regarding minimizing viral transmission during aerosol and other dental procedures and sterilization of dental instruments.

## Conclusion

Most parents had a good adherence to the “new normal” of the COVID-19 era by adhering to social distancing and home stay protocol. They have good background knowledge on the modes of transmission of the virus and protection measures against the disease. The parents were worried about the transmission of the virus during dental treatment but fortunately a good ratio of them would still take their children to a dental set up for their treatment if and when required.

## Reference

1. Sun J, Xu Y, Qu Q, Luo W. Knowledge of and attitudes toward COVID-19 among parents of child dental patients during the outbreak. *Braz Oral Res.* 2020 Jun 8;34: e066
2. Abu Hammad S. Parents' knowledge and attitude towards COVID-19 in children: a Jordanian Study. *Int. J. Clin. Pract.* 2020; e13671
3. 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 Feb;382(8):727-33
4. World Health Organization – WHO. WHO Director-General's opening remarks at the media briefing on COVID-19.
5. 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(1):9
6. Jayaweera M, Perera H, Gunawardena B, Manatunge J. Transmission of COVID-19 virus by droplets and aerosols: A critical review on the unresolved dichotomy. *Environ Res* 2020; 188:109819
7. Harrel SK, Molinari J. Aerosols and splatter in dentistry: a brief review of the literature and infection control implications. *J Am Dent Assoc.* 2004 Apr;135(4):429-
8. Wu F, Zhao S, Yu B, Chen YM, Wang W, Song

ZG, et al. A new coronavirus associated with human respiratory disease in China. *Nature.* 2020;03;579(7798):265-269

9. 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
10. 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 Mar;12(1):9
11. Aman F, Masood S. How Nutrition can help to fight against COVID-19 Pandemic. *Pakistan Journal of Medical Sciences.* 2020 May 9;36(COVID19-S4)
12. Di Renzo L, Gualtieri P, Cinelli G, Bigioni G, Soldati L, Attinà A, et al. Psychological Aspects and Eating Habits during COVID-19 Home Confinement: Results of EHLC-COVID-19 Italian Online Survey. *Nutrients [Internet]* 2020;12(7):2152
13. Saleha S. COVID-19 and paediatric dentistry traversing the challenges. A narrative review. *Ann Med Surg* 2020; 58:22-33
14. Campagnaro R, Collet GdeO, Andrade MPde, Salles JPde, Fracasso MLC, Scheffel DLS, et al. COVID-19 pandemic and pediatric dentistry: Fear, eating habits and parent's oral health perceptions. *Child Youth Serv Rev* 2020; 118:105469
15. Casamassimo PS, Townsend JA, Litch S. Pediatric Dentistry During and After covid-19. *Pediatr Dent* 2020; 42:87-90
16. Farsi D, Farsi N. Mothers' knowledge, attitudes, and fears about dental visits during the COVID-19 pandemic: A cross-sectional study. *J Int Soc Prevent Community Dent* 2021; 11:83-91.