Original Research Paper

University J Dent Scie 2021; Vol. 7, Issue 2

A Cross Sectional Survey on Practice Adaptation Among Dental Health Care Professionals Against COVID-19: A Central India Experience.

Abstract:

Introduction: Novel coronavirus disease (COVID-19) an outbreak has affected major aspects of life. Healthcare dental professionals are at high risk of getting infected of COVID-19 because of close contact with patients who might be infected. Moreover, high chances of infection to dental healthcare workers and patients while providing dental treatment had called for additional infection control measures.

Methodology: A cross sectional study was conducted using online google form survey. A well-constructed questionnaire was designed to assess the knowledge, attitude and practice of dental health care professionals towards infection control measures. The statistical analysis was done using one-way annova method and total of 393 dental professionals was included in this study.

Results: Out of all participants 88.72%, 69.53%, 57.34 % had good knowledge, attitude and practice respectively about infection control measures during the COVID 19 pandemic. On Comparison of Knowledge, Attitude and practice-based question among health professionals, statistically significant results were found.

Conclusion: Infection control measures would safeguard the dentist as well as the patients against COVID- 19. Furthermore, dental operatory must follow the Ministry of Health (MOH) recommendations while facilitating treatments to patients and education to dental auxillaries.

Key words: COVID 19, dental health care professionals, practice adaptation, infection control

Introduction:

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a novel coronavirus causing the disease referred to as COVID-19 by the World Health Organization.[1] SARS-CoV-2 refers to seventh member of a family of coronaviruses which infects humans.[2] Coronaviridae group is further divided into four subcategories i.e. Alpha, beta, gamma, and sigma; and for humans alpha and beta are of major concerns.[3] Typically, these viruses cause mild clinical symptoms; but inlast 18 years, there have been three noteworthy strains of coronavirus that have led to epidemics in their outbreak communities.

COVID-19 transmission is variable and can occur in various circumstances: According to the guidelines from Chinese health authorities three main transmission routes for the COVID-19 are: 1) droplets transmission, 2) contact transmission, and 3) aerosol transmission.[4]Ferrazzano G. et al (2020) in his studyreported that the severity rate is less in children compared to adult, due to highly active immune response, more healthy respiratory tracts and less underlying illnesses.[5]

In clinical practice contamination of material and surfaces of dental unit by saliva and blood droplets or aerosolsfrom rotating instruments act as a source of contagion.[6] The fact is that standard personal protective equipment (PPE) is not enough in cases of airborne infections such as COVID-19. The rapid spread of SARS-CoV-2 has established the need to alter and modify preventive as well as therapeutic protocols in dental practice.

Access this article online

Website: www.ujds.in

Quick Response Code

DOI: https://doi.org/10.21276//ujds.2021.7.2.4

[1]JYOTI RAGHUVANSHI, [2]NIKITA AGRAWAL, [3]PARIMALA KULKARNI, [4]SHIKHA MALI, [5]ANOOP KUMAR, [6]SANJANA BHARGAVA

[1-6]Peoples College of Dental Science and Research Centre

Address for Correspondence: Dr. Jyoti Raghuvanshi
Peoples College of Dental Science and Research Centre
Email: Jyotiraghuvanshi04@gmail.com

Received : 28 May, 2021, **Published :** 31 August, 2021

How to cite this article: Raghuvanshi, jyoti, Nikita Agrawal, Parimala Kulkarni, . Shikha Mali, Anup Kumar, & AKHANI, S. B. (2021). A cross sectional survey on Practice adaptation among dental health care professionals against COVID- 19 :- A Central India experience. UNIVERSITY JOURNAL OF DENTAL SCIENCES, 7(2).:16-23

Due to lack of knowledge among dentists we have conducted a questionnaire-based study to evaluate dentist response around Central India

Aim:

The of this study is to Assess Dentist's Knowledge, Attitude and Measures taken for Infection Control against the COVID-19 in Central India

Methodology:

The cross-sectional study was conducted around central India from 15th September 2020 to 6th October 2020. An online questionnaire was circulated via Google Forms containing 19 closed ended questions which focused on knowledge, attitude and practices of participants in respect of infection control against COVID-19. Study included Government/PrivatePost graduate students, Government/Privateacademician and Private practitioners. Under graduate student, Non-practitioner were excluded from the study.

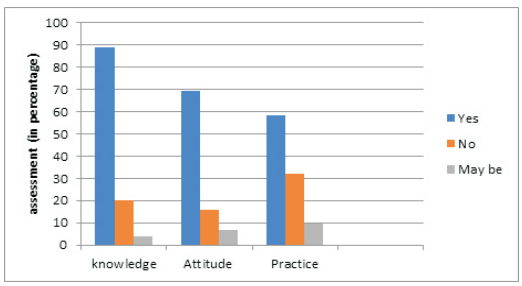
All participants were informed about the nature of the study. The online survey link was circulated via social media platforms and an e-mail to dental professionals and responses were received through an online survey submission. Only the principal investigator had access to the data. A total 393 participants across central India participated in the survey.

Statistical analysis:

Data was analyzed statistically using SPSS version 23. Statistical analysis was done using One way ANOVA method

Result:

Table 1 :- Assessment of Knowledge, Attitude and Practiceon Practice adaptation among dental health care professionals against COVID- 19



On assessment of knowledge, attitude and practice 100% study participants were aware of mode of transmission, 10.7% participants do not ask their patients to rinse with antibacterial mouth wash prior to procedure. Whereas 77.7% participants were updated of DCI and MOH guideline and 54.2% participants had undergone infection control programme but 44.3% and 1.5% participants did not under go any such programme or may have undertaken such programme respectively. 12.2% study participants do not follow 1 attend for 1 child rule in covid 19 era. 85.5% participants agree that the PPE should be modified child friendly and 65.6% participants do not have isolation room in their clinic for suspected patients. 87.8% participants follow extra precautionary measures such as no toys, no play area in covid time. 53.4% practice extraoral suction in their clinic during covid 19 pandemic as shown in table 1

Table 2 :- Comparison of Knowledge, Attitude and practice based question among health professional's by One way Anova

Variables		N	%	Mean± SD	P Value
Are you aware of mode of transmission of covid 19	Government employee	6	1.5	**1 ± 0.0**	
	Student	191	48.6	**1 ± 0.2**	
	Private employee	196	49.9	**1 ± 0.3**	**.001**
Do you ensure that child and parent does hand sanitization once they arrive the clinic	Government employee	6	1.5	1 ± **0.0**	**.002**
	Student	191	48.6	1± 0.3	
	Private employee	196	49.9	1± 0.0	
Have you undergone any infection control programme for covid 19	Government employee	6	1.5	1± **0**	**.004**
	Student	191	48.6	1.4 ± **0.5**	
	Private employee	196	49.9	1.5 ± 0.5	
Are You Aware of which Authority to Contact if You Come Across a Patient with Suspected COVID-19 Infection	Government employee	6	1.5	1± **0**	**.0045**
	Student	191	48.6	1.1± **0.**.4	
	Private employee	196	49.9	1.2± **0.**5	
Do you think PPE should be modified child friendly	Government employee	6	1.5	1± 0	**.004**
	Student	191	48.6	1.2± **0.7**	
	Private employee	196	49.9	1.2± **0.5**	
Should patient be allowed to spit	Government employee	6	1.5	1.5± **0.**5	**.038**
	Student	191	48.6	2 ± 0.7	
	Private employee	196	49.9	2 ± **0.8**	
Does your dental clinic have isolation room for suspected covid 19 patient	Government employee	6	1.5	1.5± **0.**5	**.004**
	Student	191	48.6	2 ± **0.**5	
	Private employee	196	49.9	2 ± **0.**47	

On Comparison of Knowledge, Attitude and practice-based questions among health professionals, statistically significant results were found among 48.6% students,1.5% Government employee and 49.9% Private employeefor the questions.Do you ensure that child and parent does hand sanitization once they arrive at the clinic,Have you undergone any infection control programme for covid 19, Are You Aware of which Authority to Contact if YouCome Across a Patient with

Suspected COVID-19 Infection, Should patient be allowed to spit, Do you think PPE should be modified child friendly, Does your dental clinic have isolation room for suspected covid-19 patient as Shown in table[2].

Discussion:

Infection control plays an equally important role in dentistry. The key to reduce and prevent contamination of various microorganisms is to strictly follow the infection control protocols[7]. Thus, the knowledge and attitude towards infectious diseases and measures adapted by dental health professionals are very important.

The findings of this study are alarming, as about 12.6% practitioners were not updated with guidelines of DCI whereas 14.2% were not sure about the guidelines, in order to enhance their knowledge DCI guidelines and MOH guidelines will be provided after the questioner. 48% practitioners had not undergone any infection control program for covid-19. Contrastingly participants of the study reported by Quadri M. et al have adequate knowledge regarding infection control programs for COVID 19[8]. As the covid 19 quickly became a pandemic,one should undergo infection control program so that they can combat this situation in their operatory.

The majority of practitioners (67.7%) reported that their practices did not have an isolation room for suspected COVID-19 patients. Correspondingly Al-Khalifa (2020) reported similar findings where majority of participants did not have isolation room. Nonetheless, dental practices need special arrangements to manage urgent cases that mandate immediate intervention. One such procedure is using extra-oral suction beyond regular saliva suction in present study approximately half of the participants (56.7%) implicated use of extraoral vacuum suction in their practice. Bacterial loadand hazardous bio-aerosols which are generated during routine dental treatment are reduced by this device. Unlikely Al-Khalifa(2020) reported that only one-third of the participating dentists uses extra-oral suction in their practice[9].

Toys provided for Pediatric patients may be a potential source of cross-infection. As in the present study (87.4%) are avoiding use of play area or toys in their operatory.

In the present study most of the practitioners (86.6%) ask their patients to rinse before commencement of the procedure. This recommendation is effective in reducing the viral load as gargling removes oropharyngeal protease and associated viral replication. Also, mouthwashes containing agents such as povidone-iodine have shown great results against various respiratory viruses[10]

Furthermore, Pediatric dentists should safeguard allchildren especially children with special health care needs, as they are at greater risk of complications arising from dental infection. Additionally, in the future, until COVID-19 is completely eliminated, Italian Society of Pediatric Dentistry (SIOI) has advised minimally invasive dentistry, such as atraumatic restorative treatment, use of pit and fissure sealants, silver diamine fluoride, selective caries removal and the Hall Technique, should be taken in to consideration

Conclusion:

Dental operatory must follow the Ministry of Health (MOH) recommendation while facilitating treatments to patients and education to dental auxillaries. Overall, present study had shown an acceptable level of awareness and preparedness among dental practitioners concerning infection control against COVID-1 spreadand prevention recommendations.

References:

1. World Health Organization. Novel Coronavirus (2019-nCoV), WHO Report. Geneva: World Health Organization; 2020.
2. 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; 12:1-5.
3. Zhou P, Yang XL, Wang XG, Hu B, Zhang L, Zhang W, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. Nature 2020; 579:270-3
4. National Health Commission of People's Republic of China. Prevent guideline of 2019-nCoV. 2020.
5. Ferrazzano G, Ingenito A, Cantile T. COVID-19 Disease in Children: What Dentists Should Know and Do to Prevent Viral Spread. The Italian Point of View. Int. J. Environ. Res. Public Health 2020; 17: 1-6.

6. Villani FA, Aiuto R, Paglia L, Dino R. COVID-19 and Dentistry: Prevention in Dental Practice, a Literature Review. Int. J. Environ. Res. Public Health 2020; 17: 1-12.
7. Nerabiah Z et al. Pediatric dentist's consideration for Covid-19 in children: Review article. International Journal of Applied Dental Sciences 2020; 6(2): 628-630
8. Quadri M. et al. Novel corona virus disease (COVID-19) awareness among the dental interns, dental auxiliaries and dental specialists in Saudi Arabia: A nationwide study. Journal of Infection and Public Health. 2020; 13: 856–864
9. Al-Khalifa KS, Al Sheikh R, Al-Swuailem AS, Alkhalifa MS, Al-Johani MH, Al-Moumen SA, et al. Pandemic preparedness of dentists against coronavirus disease: A Saudi Arabian experience. PLoS ONE. 2020; 15(8): 1-7
10. Ahmed M A et al. Fear and Practice Modifications among Dentists to Combat Novel Coronavirus Disease (COVID-19) Outbreak. Int. J. Environ. Res. Public Health 2020; 17: 1-11