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IP International Journal of Periodontology and Implantology

Journal homepage: www.ipinnovative.com

Original Research Article

Awareness and attitude of dental professionals towards pandemic outbreak of covid-19 in central India- A questionnaire study

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ARTICLE INFO

Article history:
Received 12-09-2020
Accepted 29-09-2020
Available online 20-10-2020

Keywords:
awareness
attitude
COVID19
dental professionals

ABSTRACT

Background : Lack of proper knowledge can delay recognition and handling of potential diseases and this is true regarding the current pandemic situation of today as COVID-19. This study has been undertaken to have an idea about the awareness and attitude of Dental professionals toward the present COVID-19 situation so as to certain what more the needs and measures are needed to make our dental fraternity be more embanked and empowered with thorough necessary knowledge to help to fight with COVID-19 in these desperate times.

Aim: The aim of the present study was to investigate the awareness and attitude of dental professionals towards the pandemic breakout of COVID-19.

Materials and Methods: The study population consisted of dental professionals in Central India. An online questionnaire was sent to the dentists in the month of May 2020. The questionnaire was comprised of a series of questions about awareness and attitude of dental professionals towards Covid-19 which was prepared according to the guidelines issued by Dental Council of India.

Results: This study included a total of 221 dental professionals. A total of 105 (49.8%) BDS students, 19 (4.3%) interns, 36 (17.1%) BDS graduates, 38 (18%) post-graduate students and 23 (10.9%) MDS dentists were involved in this survey. 123 (56.91%) dentists reported that the incubation period is 14 days while 46 (21.3%) reported that it was 14-28 days. The majorities of dentists was aware of COVID-19 symptoms and ways of identifying patients at risk of having COVID-19 and were aware of measures for preventing COVID-19 transmission in dental clinics. A total of 168 (98.2%) believed that dentists are at the highest risk of getting infecting while treating patients. Also 142 (83.5%) mentioned that it is a stressful period due to COVID-19 epidemic.

Conclusion: Our findings suggest that Central India's dentists have demonstrated accurate and deep awareness as well as positive attitude towards COVID-19 at the time of its epidemic.

1. Introduction

Coronaviruses in human, responsible for upper respiratory tract infection, was first detected in the year 1960.[1] These viruses typically show a genetic material enclosed in a lipid bilayer membrane that has crown like processes or the spike proteins for which this class of viruses is called the Corona virus.[2] It shares its genetic constitution with the SARS virus that was responsible for creating havoc in 2003. Although its spread was controlled effectively by appropriate measures taken at that time. Around the month of November 2019, a peculiar type of pneumonia began to show up in the capital city of Wuhan, the sprawling capital of Central China's Hubei province. On further investigation it was found that this illness is caused due to a virus that

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https://doi.org/10.18231/j.ijpi.2020.028

resembles the SARS virus. Therefore, this virus was called the SARS 2 virus. Eventually it was renamed as novel corona virus or COVID 19 by World Health Organization (WHO) to avoid confusion and for better referencing.[3] It is a rapidly spreading disease, which is of more contagious form than severe acute respiratory syndrome coronavirus.[4] Most people infected with the COVID-19 virus generally experience mild to moderate respiratory illness and recover without any special treatment. However, the older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.[4,5] The best way to prevent and slow down transmission of COVID-19 virus is to be well aware about the causes of its infection and spread. The virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes.[4] Provision of dental care is not free from risk.[5] Cross-infection during clinical practice can occur with transmission of infectious agents like air droplets, blood, saliva, and instruments contaminated with secretions between patients and health workers in a clinical environment.[6] There are practical guidelines recommended for dentists and dental staff by the Centers for Disease Control and Prevention (CDC), the American Dental Association (ADA), the World Health Organization and Dental Council of India to control the spread of COVID-19.[7–9] Like with other contagious infections, these recommendations include personal protective equipment, hand washing, detailed patient evaluation, rubber dam isolation, anti-retraction handpiece, mouth rinsing before dental procedures, and disinfection of the clinic. Regardless of the availability of prevention guidelines and recommendations on disease control, many dental professionals lack the minimum requirements of infection control, which resulted from the low interest in taking the mandatory precautions.[10] It is important to implement comprehensive prevention measures in dental clinics and to increase the level of awareness among dentists to improve their prevention. Therefore, the aim of the present study was to investigate the awareness and attitude of dental professionals towards the pandemic breakout of COVID-19.

2. Materials and Methods

2.1. Study Population

The present study population consisted mainly of dental professionals of Central India, irrespective of their working place, whether in private clinics, hospitals, or health centers. This survey has been carried out in the month of May 2020. An online questionnaire using Four Eyes software was used to collect the data. The questionnaire [Table 1] was sent to 400 dental students, post-graduate students, dental professionals, etc., by computer generated randomization working in the states of Maharashtra, Madhya Pradesh, Chhattisgarh and Odisha. Initially a pilot study was conducted amongst 20 dentists in Maharashtra and Chhattisgarh. In all 221 dental professionals participated in the study out of 400 dentists contacted. The privacy and confidentiality of the participants was maintained. To maintain the privacy and confidentiality of all information collected in the study, the questionnaires were kept anonymous and informed consent was added in initial page of the questionnaire. Ethical approval (CDCRI/DEAN/ETHICS COMMITTEEPERIO/PG03/20) on 1st May 2020 was obtained from the Ethical Committee of Chhattisgarh Dental College and Research Institute, Rajnandgaon.

2.2. Study Instrument

A pilot study was conducted before commencement of the study with 20 dentists. The questions on the survey were prepared following the guidelines on COVID-19 issued by Dental council of India for dental colleges, dental students and dental professionals. The questionnaire was designed in English and comprised of a series of 24 questions pertaining to awareness of dentists and their attitudes toward COVID-19 and infection control in dental clinics. Since it was not practicable to do a community-based sampling survey during this pandemic period, it was decided to collect the data online. The survey was a structured multiple-choice questionnaire divided into section which includes 5 questions about the awareness of dental professionals towards COVID-19 and the rest 19 questions on the attitude towards the protection and prevention of transmission of COVID-19.

2.3. Data Analysis

The present survey data were auto-generated using the software Four Eyes.

3. Results

3.1. Participants' Characteristics

This study included a total of 221 dental professionals which includes 159 females and 62 males, forming a response rate of about 52.7% (221 participated out of 400 invited dentists). A total of 105 (49.8%) BDS students, 19 (4.3%) interns, 36 (17.1%) BDS graduates, 38 (18%) post-graduate students and 23 (10.9%) MDS dentists were involved in this survey. 123 (56.91%) dentists reported that the incubation period is 14 days while 46 (21.3%) reported that it was 14-28 days, which is said to be according to the current information that it can be as long as 14-28 days. However, a few participants have mentioned a lesser incubation period varying from 2-8 days. [Figure 1]

Regarding transmission of COVID-19, 148 (68.5%) participants expressed their opinion that it is transmitted by droplet infection whereas 24 (11.1%) responded that it is air borne infection. [Figure 2]

Regarding awareness majority of the participants (55.6%) reported that wearing personal protective equipment can help prevent transmission from patients with known or suspected COVID-19. 58.4% participants consider that the use rubber dams if an aerosol-producing procedure is being performed help to minimize aerosol or spatter. Almost all the participants contemplated that fumigation of dental clinics or rooms should be done on periodic basis and Scrubs be a must for every dental professional than regular outfits while in clinics or hospitals. Moreover, 98.2% considered that dental professionals are at the highest risk of getting infected during treatment of a patient. Almost all the participants think that consent forms and thermal screening should be a must for every patient before treatment. [Table 2]

Regarding attitude more than half (59.7%) participants ponder that electronic media is an efficient medium for enhancement of oral hygiene education, whereas 61.1% consider telephonic or video conferencing visits are efficient to deal with non-emergency patients. However, nearly two-third of the contestants is of the opinion that more training is required for handling electronic media for academic purpose. More than 70% of participants agree that training of faculty and staff in infection control, with sufficient protective equipment be effective in protection against transmission of disease.[Table 3] Most of the participants have expressed that this pandemic outbreak of COVID-19 has been a stressful period for them whereas a few had different opinion. [Figure 3]

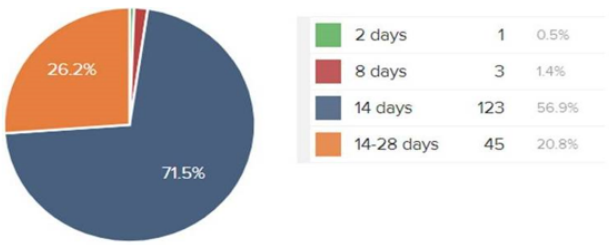

Fig. 1: Incubation period of COVID-19

4. Discussion

The present investigation offers an insight on the level of awareness and attitude of dental professionals of Central India to minimize the spread of infection during this pandemic outbreak of COVID-19. Female participants were predominant in this survey. The incubation period of COVID-19 as per WHO is upto 14 days.[7] However, the response of the participants in this study varied in their

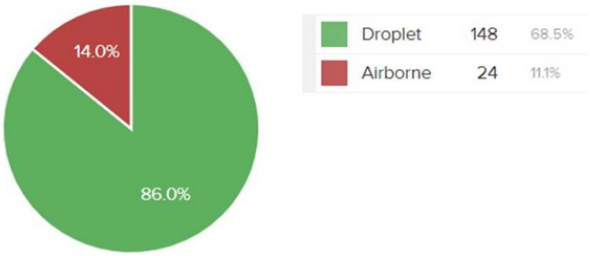

Fig. 2: Transmission of COVID-19

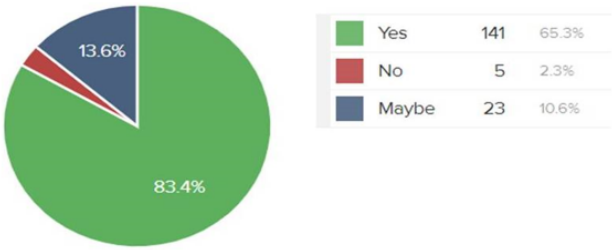

Fig. 3: Opinion poll for stressful period in pandemic outbreak

awareness about the incubation period of the disease.[11]

Most of the dentists have expressed that personal protective equipment and fumigation of dental clinics is of prime importance to reduce the risk of transmission of COVID-19 during dental treatment. Whereas the Centers for Disease Control and Prevention has mentioned that extra protective measures are not necessary because the infection is induced mainly through direct contact of mucous membranes and contaminated hands.[8] No specific guidelines regarding the treatment for COVID-19 is recommended by WHO. Dentists should evaluate risk of transmission through measurements of the temperature of every staff and patient as a routine procedure during this COVID-19 outbreak. Patients should be asked about their health status as well as any history of recent travel or contact with infected patient.[7] The only way to lower the risk of transmission is to control the source of infection; provide early diagnosis and use infection prevention, isolation, and supportive care for affected patients.[12] Patients with a fever should be registered and referred to designated local hospitals. Quarantining for at least 14 days is recommended if a patient has been to any epidemic regions within the past 14 days. In areas where COVID-19 is dominant, non-urgent dental treatment should be postponed.[1] So far, there has been no firm opinion regarding provisions to be adapted for the dental treatment during the COVID-19 epidemic. While treatment, dentists should take care of strict personal protection measures and either avoid or curtail procedures that may produce droplets or aerosols and also follow the

Table 1: Questionnaire- Awareness and Attitude of Dental Professionals towards Pandemic Outbreak of COVID-19

1.	Gender
2.	Education
3.	Covid-19 is caused by?
4.	What is the incubation period of COVID-19?
5.	Is COVID-19 droplet infection or Air borne infection?
6.	Is COVID-19 fatal?
7.	Can COVID-19 be cured?
8.	Do you think PPE kit is an absolute protective measure against COVID-19?
9.	Do you consider electronic media as a efficient medium for enhancement of oral hygiene education?
10.	Do you consider telephonic or video conferencing visits are efficient to deal with non-emergency patients?
11.	Do you think that more training is required for handling electronic media for academic purpose?
12.	Can strengthening training of faculty and staff in infection control, with sufficient protective equipment be effective in protection against transmission of disease?
13.	Should thermal screening be done of every patient before commencement of dental check-up?
14.	Should 4 handed dentistry be practiced in routine?
15.	Can the use rubber dams if an aerosol-producing procedure is being performed help to minimize aerosol or spatter?
16.	Should Fumigation of dental clinic or rooms be on periodic bases?
17.	Are you aware of Primary Care dental Triage?
18.	Should Scrubs be a must for every dental professional than regular outfits while in clinics or hospitals?
19.	Should Informative webinars on COVID-19 be carried out for awareness amongst dentists?
20.	Should dental professionals be in contact with the laboratories for screening of COVID-19 patients prior to dental procedure?
21.	Do you think Dental professionals are at the highest risk of getting infected during treatment of a patient?
22.	Consent forms should be a must for every patient before treating?
23.	According to you should single sitting dentistry be advised or avoided?
24.	Ac According to you do you think this pandemic outbreak has been a stressful time?

Table 2: Awareness of Measures for Preventing COVID-19 Transmission

S.no.	Parameters of the study	Percentage
1.	Wearing personal protective equipment can help prevent transmission from patients with known or suspected COVID-19.	55.6%
2.	Use rubber dams to minimize aerosol or spatter during dental procedure.	78.4%
3.	Fumigation of dental clinic or rooms is on periodic bases.	97.6%
4.	Scrubs be a must for every dental professional than regular outfits while in clinics or hospitals	94.7%
5.	Dental professionals are at the highest risk of getting infected during treatment of a patient.	98.2%
6.	Consent forms should be a must for every patient before treating.	97.1%
7.	Thermal screening be done of every patient before commencement of dental check-up.	97.7%

Table 3: Attitude of Dental Professionals towards COVID-19

S.no.	Parameters of the study	Percentage
1.	Electronic media is an efficient medium for enhancement of oral hygiene education	59.7%
2.	Telephonic or video conferencing visits are efficient to deal with non-emergency patients	61.1%
3.	More training is required for handling electronic media for academic purpose	72.2%
4.	Training of faculty and staff in infection control, with sufficient protective equipment is effective in protection against transmission of disease.	71.8%

guidelines given by WHO and Dental Council of India.[13] During the survey 67.1% participants have agreed that 4-handed technique is the effective measure for infection control.[4,8] The limitation of the study is that response rate was low as expected and further study needs to be done with larger sample size.

5. Conclusion

It can be concluded from the study that dentists were aware of COVID-19, its mode of transmission, infection control, and strict protocols of protective measures to be adapted in dental clinics. Disease management approaches. For effective disease management, guidelines released by WHO and Dental Council of India should be circulated to all registered dentists to make sure that are well informed and aware of the best practice.

Acknowledgement: I, Dr. Shweta Sarate, wish to express my deepest sense of gratitude to Dr. Hema Suryawanshi, Dean, Chhattisgarh Dental College and Research Institute, Rajnandgaon, Chhattisgarh for constant support and encouragement.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Kahn JS, McIntosh K. History and Recent Advances in Coronavirus Discovery. *Pediatr Infect Dis J*. 2005;24:S223–7.
2. Tyrrell DA, Almeida JD, Cunningham CH, Hofstad MS, McIntosh K, Tajima M, et al. Coronaries. *Intervirology*. 1975;5:76–82.
3. World Health Organization. 2020, Overview of Corona Virus. Available from: www.who.int.
4. Meng L, Hua F, Bian Z. Coronavirus Disease 2019 (COVID-19): Emerging and Future Challenges for Dental and Oral Medicine. *J Dent Res*. 2020;99(5):481–7.
5. Mccarthy GM, Britton JE. A survey of final-year dental, medical and nursing students: occupational injuries and infection control. *J Can Dent Assoc*. 2000;66:561.
6. Baseer MA, Rahman G, Yassin MA. Infection control practices in dental school: a patient perspective from Saudi Arabia. *Dent Res J (Isfahan)*. 2013;10:25–30.
7. Clinical management of severe acute respiratory infection when COVID-19 is suspected; 2020.
8. CDC recommendation: postpone non-urgent dental procedures, surgeries, and visits. *Centers for Disease Control and Prevention*. 2020;.
9. The American Dental Association. 2020. Mar 27, Coronavirus frequently asked questions.
10. Khader Y, Nsour MA, Al-Batayneh OB, Saadeh R, Bashier H, Alfaqih M, et al. Dentists' Awareness, Perception, and Attitude Regarding COVID-19 and Infection Control: Cross-Sectional Study Among Jordanian Dentists. *JMIR Public Health Surveill*. 2020;6(2):e18798.
11. Gaffar B, Tantawi ME, Al-Ansari A, AlAgl A, Farooqi F, Almas K, et al. Knowledge and practices of dentists regarding MERS-CoV. A cross-sectional survey in Saudi Arabia. *Saudi Med J*. 2019;40(7):714–20.
12. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan. *JAMA*. 2020;.
13. https://www.ada.org/en/publications/ada-news/2020-archive/march/ada-recommending-dentists-postpone-elective-procedures.

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Cite this article: Sarate S, Pawar BR, Salavadi SS, Sarate K, Dubey YK, Wankhede TD, Naik K. **Awareness and attitude of dental professionals towards pandemic outbreak of covid-19 in central India- A questionnaire study**. *IP Int J Periodontol Implantol* 2020;5(3):124-128.