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## RESEARCH ARTICLE

### POST COVID-19: HOW DIFFERENT YOUR DENTISTRY LOOKS

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#### ABSTRACT

**Aim:** This study aimed to evaluate the knowledge, attitude, skills and preparedness of dental practitioners regarding the concepts of dentistry post COVID-19. **Materials and Methodology:** A cross-sectional survey was carried out in March 2019 on 100 dental surgeons of dental clinics. A questionnaire was developed using literature and previously administered surveys to assess knowledge, attitude, and skills of dental practitioners regarding post COVID-19. Data were subjected to appropriate statistical measures and analyzed. **Subjects And Methods:** Data were collected through an online survey questionnaire based on awareness, knowledge, skills and practice of special health care dentistry basically dentistry after post COVID-19. **Statistical analysis:** The dentists knowledge, awareness, skill, social work and attitude as well as newer approaches in management were expressed in proportions . The 3-point scale was adapted for each of the following questions. **Results:** 67.2% dentists took proper travel history and contact history of their patients. 73.3% dentists are aware of grading their patients as moderate risk, high risk and low risk. 49.2% dentists make their patients rinse with 1% hydrogen peroxide before examining and treatment. 77.6% (90) dentists agreed for separate entry and exit of their dental operatory, modification of waiting area and prescheduling of appointment post COVID-19. 79.3% (92) dentists screen all their patients with infrared thermometer in the screening room before taking history. **Conclusion:** This questionnaire had a positive effect in raising awareness and knowledge in the dental surgeon who took part in the study.

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#### INTRODUCTION

COVID-19 is caused by a virus known as SARS-CoV-2. COVID-19 has challenged all the dental and medical professionals in all the areas which are affected. It originated in the city of Wuhan, China (World Health Organization, 2020). Coronavirus strain outbreak in 2019 constitutes a public health emergency of global concern (The Lancet, 2020). The most common symptoms of COVID-19 are cough, fever, acute respiratory disease, with severe cases leading to pneumonia, kidney failure and even death (Zhu, 2019). This COVID-19 is transmitted from human to human and was identified in the saliva of the infected individual (Sobino-silva, 2020). So this COVID-19 outbreak is a reminder that the dental and other medical professionals should always be diligent in protecting

against the spread of infectious disease (Huang, 2020; World Health Organization, 2020a). In dental procedure the aerosols are generated very frequently so the chances of transmission of COVID-19 is expected. In human to human transmission saliva can play an important role. So the effective strategies for the prevention, mainly for the dentists and healthcare professionals who perform mainly those procedures which generate aerosols.<sup>4</sup> This study was done to evaluates the knowledge, attitude, skills and preparedness of dental practitioners regarding the management of patients post COVID-19 in their dental operatory

#### MATERIALS AND METHODOLOGY

A cross-sectional study was conducted on 100 dentists across India to Know their awareness post COVID-19, The whatsapp based survey was conducted in two phases (survey tool development and data collection) for a period of 3 days to the contacts of the invigilator.

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**Survey tool development:** After a thorough literature search a survey tool of 10 item questionnaire was drafted in form of whatsapp based questionnaire. The first section focused on the dentist background such as Sex, Age, Qualification whether graduate or post graduate to measure the awareness related to COVID-19. The settings of the survey were such that one phone could only take the survey once to remove bias.

**Data Collection**

**Statistical Analysis:** The students' knowledge, awareness, skill, social work and attitude as well as newer approaches in management were expressed in proportions. The 3-point scale was adapted for each of the following 9 questions

**RESULTS**

Table 1 : The percentage of dentist that choose option A,B and C for particular questions. 75%(87) Females and 25% (29) males took part in this survey (**figure 1 Table 1**)

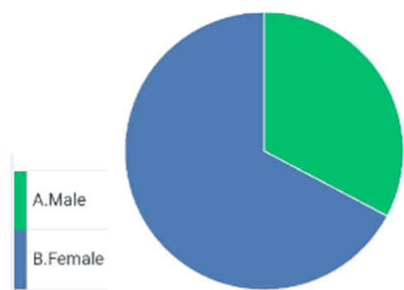


Figure 1.

20.6% (24) of dentists were under the age group of 18-22, 51.7% (60) dentists were under the age group of 23-31 and 27.5%(32) dentists were under the age group of 31 and above (Figure 2 Table 1).

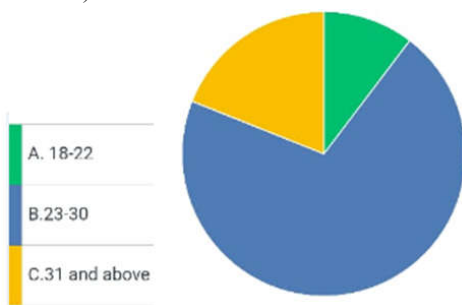


Figure 2

Out of 116 dentists 58.6% (68) dentists were BDS and 41.3% (48) were MDS (Figure 3 Table 1).

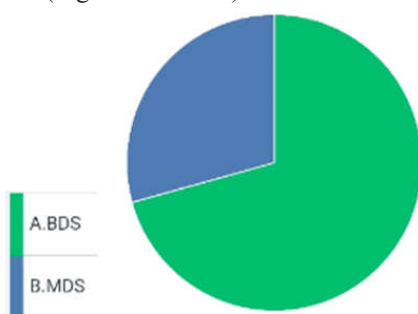


Figure 3.

67.2% (78) dentists took proper travel history and contact history of their patients. 17.2% (20) opted no and 15.5% (18) opted seldom (Figure 4 Table 1).

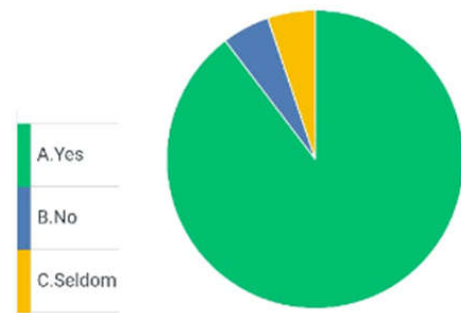


Figure 4

73.3% (85) dentists are aware of grading their patients as moderate risk, high risk and low risk (Figure 5 Table 1).



Figure 5

49.2% (57) dentists make their patients rinse with 1% hydrogen peroxide before examining and treatment.

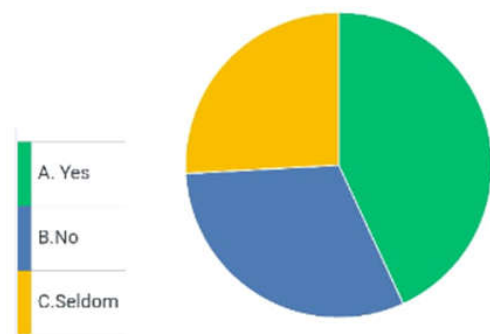


Figure 6

25.8% (30) opted No and 25% (29) dentists opted for seldom (Figure 6 Table 1).

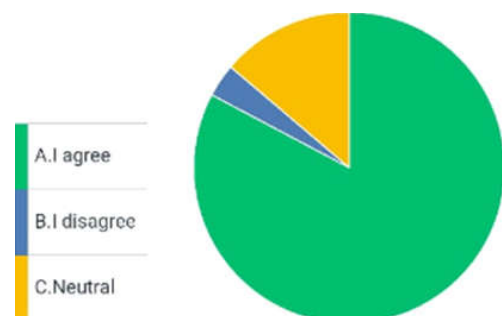


Figure 7.

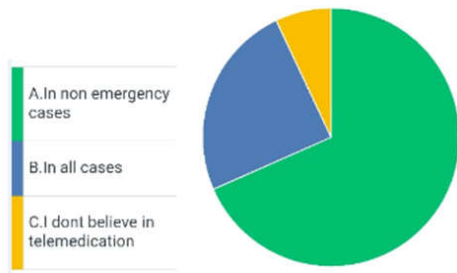


Figure 8

77.6% (90) dentists agreed for separate entry and exit of their dental operatory, modification of waiting area and prescheduling of appointment post COVID-19. 5.2% (6) disagreed with this and 17.2%(20) opted for neutral (Figure 7 Table 1).

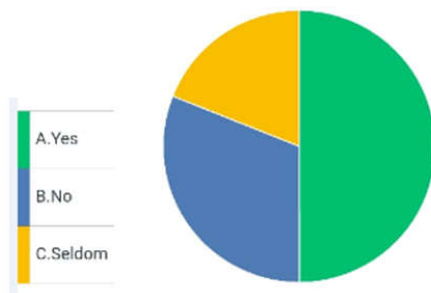


Figure 9

70.6% (82) dentists opted to give telemedication in non emergency cases.21.5% (25) opted in all cases and 5.2%(6) don't believe in giving telemedication (Figure 8 Table 1). 50% (58) dentists drape their patients with a gown, provide eye ware, mask, gloves and head cap before entering the operatory. 30.2% (35) opted No and 19.8% opted Seldom (Figure 9 Table 1). 79.3% (92) dentists screen all their patients with infrared thermometer in the screening room before taking history. 5.2%(6) opted No and 15.5%(18) screen in patients who give a history of fever and swelling (Figure 10 Table 1)

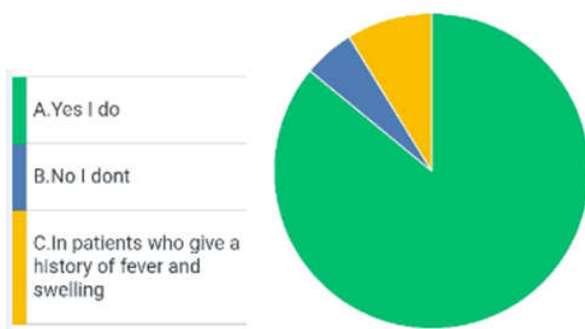


Figure 10.

## DISCUSSION

The novel corona virus belongs to a family of single-stranded RNA viruses known as Coronaviridae (Gorbalenya, 2020). It is advised that the highest risk of viral spread is during any procedure in which the upper respiratory aerosols are generated. So, it is mandatory that all workers who are involved in such procedures are adequately protected with personal protective equipment (PPE). Many high-risk AGP procedures with the small size of the virus particles, at an average of 0.125 microns in dental practice (Thomas, 2020).

Dental care is an essential service and needs to be available in emergency cases throughout this pandemic (Rao, 2020). Human Angiotensin-converting enzyme 2 receptors are highly concentrated in salivary glands on which this SARS-CoV-2 can bind, so this could be the reason that in secretory saliva there is a presence of SARS-CoV-2 (Hoffmann, 2020; Sabino-Silva, 2020).

The practice of dentistry involves the use of rotary dental and surgical instruments, such as handpieces or ultrasonic scalers and air-water syringes. These instruments create a visible spray that can contain particle droplets of water, saliva, blood, microorganisms, and other debris. WHO has provided various guidelines that should be followed by every dental practitioner during and Post COVID-19.

- Contact all the patients through telephone and schedule their appointment. Telephone screening of patient should be done for symptoms related to COVID-On the day of appointment when the patient arrives provide a surgical mask. Ask the patient about the symptoms consistent with COVID-19. Take the patient to the screening room and check the the temperature using non contact infrared thermometer.
- After the treatment is complete tell patient to re-don their face covering. Throughout the duration of the visit ensure patients and staff adhere to respiratory hygiene and cough etiquette as well as hand hygiene.
- In the waiting area the chairs should be six feet apart.
- Minimize the number of persons waiting in the waiting room.
- DHCP should wear a surgical mask, eye protection (goggles, protective eyewear with solid side shields, or a full-face shield), and a gown or protective clothing during procedures likely to generate splashing or spattering of blood or other body fluids.
- Pre procedural rinse with 1% hydrogen peroxide should be done prior to treatment procedure.
- Four handed dentistry should be used if aerosol-generating procedures are necessary. Use high evacuation suction and rubber dams to minimize aerosols and droplet spatter.
- Ventilation systems that provide air movement from a clean (DHCP workstation or area) to contaminated (clinical patient care area) flow direction should be installed and properly maintained. Providing supply air only in the receptionist area with return air louvers positioned in the waiting area will help to achieve this effect.
- Aerosol generating procedures should be ideally done in designated isolation rooms which should be equipped with HEPA (High- efficiency particulate air) filters. Place HEPA unit within vicinity of patient's chair, but not behind DHCP (Dental health care personal). Ensure DHCP are not positioned between the unit and the patient's mouth. Position the unit to ensure that it does not pull air into or past the breathing zone of the DHCP (Guidelines for dental settings, 2020).
- Disinfect inanimate surfaces using chemicals which are approved by WHO and dry environment should be maintained (van Doremalen, 2020).

The questions of survey were such framed that it could educate simultaneously and be knowledgeable to the dental practioners about the management of patients Post COVID-19 in a dental clinic. A new emerging branch of dentistry in the near future called "WhatsApp Dentistry" will be coming into picture.

**Table 1. The percentage of dentists that choose option A,B and C for particular questions**

S.NO	A	%age	B	% age	C	% age	SKIPPED
Q1	29	25%	87	75%	0	0	0
Q2	24	20.6%	60	51.7%	32	27.5%	0
Q3	68	58.6%	48	41.3%			0
Q4	78	67.2%	20	17.2%	18	15.5%	0
Q5	85	73.3%	31	26.7%			0
Q6	57	49.2%	30	25.8%	29	25%	0
Q7	90	77.6%	6	5.2%	20	17.2%	0
Q8	82	70.6%	25	21.5%	6	5.2%	0
Q9	58	50%	35	30.2%	23	19.8%	0
Q10	92	79.3%	6	5.2%	18	15.5%	0

### Conclusion

COVID -19 is a pandemic which is spreading all over the world in a very fast speed. This study was projected on to handle the patients Post COVID-19 with proper precautions in the dental practice. This questionnaire had a positive effect in raising awareness and knowledge in the dental surgeon who took part in the study.

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