Knowledge, Attitude and Practice Regarding Covid-19 Pandemic among Dental Practitioners of India: A Questionnaire-based Survey

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Abstract

Background- Owing to high viral load in saliva, dental practitioners are not only susceptible for exposure during Covid-19 outbreak but also post pandemic era. During the period of evolving facts and recommendations of WHO for maintaining precautions this study is an effort to understand the preparedness of dental practitioners to resume their practice.

Objectives- The objective of this study is to evaluate the knowledge, attitude and practice of dental practitioners regarding the Covid-19 pandemic.

Methods- This cross-sectional study was conducted among dental practitioners of India through an online questionnaire-based survey to collect data. The questionnaire was divided into sections containing structured multiple-choice questions about the knowledge, attitude and practice of dental practitioners.

Result- Upon analyzing 311 responses it has been observed that majority of dental practitioners were aware of common symptoms of Covid-19 and about the modes of transmission of the disease. They possess adequate knowledge about use of Personal Protective Equipment (PPE) with 88.4 % suggesting to use it while performing aerosol generating procedure. Their awareness about a Covid-19 patient becoming noninfectious is inadequate with only 10% reporting 30 days. Attitude and practice of dental practitioners regarding Covid-19 were stratified on the basis of years of practice**.**

Conclusions -Dental practitioners possess adequate knowledge about standard precaution protocol although they are less aware about transmission-based precaution specific to Covid-19 situation. This study attempts to highlight some facts about Covid-19 which will enlighten the dental practitioners before resuming practice.

Key-words: *SARS-CoV-2, Covid-19, Dental Practitioners, awareness*

Introduction

Recent outbreak of coronavirus disease 2019 (Covid-19) in the Wuhan city of China, has rapidly advanced into a public health crisis and has a cascading effect in other parts of the world. On 11th March 2020 ,World Health Organization (WHO) had declared Covid-19 to be a pandemic.[1] Covid-19 caused by novel corona virus officially known as severe acute respiratory syndrome coronavirus-2 (SARS CoV-2) belonging to a family of single-stranded RNA viruses known as Coronaviridae seems to be more contagious than SARS-CoV and the Middle East Respiratory Syndrome coronavirus (MERS-CoV) virus.[2] This family of viruses

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are known to be zoonotic or transmitted from animals to humans. In Covid-19 case the source of spread is the Chinese horse shoe bats and the intermediate host is Pangolin.[3] The SARS CoV-2 has an incubation period of 5 to 14 days which is usually followed as quarantine period for potentially exposed persons in many countries. [4] Several patients remain asymptomatic during this period but are potential carrier of the virus. Common symptoms of the Covid-19 infection are fever with dry cough, sore throat, shortness of breath, fatigue, and some atypical symptoms include muscular pain, diarrhea, vomiting, headache and confusion. [2]

Dental clinics pose increased risk for spread of infection due to close contact with patients. Salivary viral load is of utmost concern for dental practice. The positive rate of Covid-19 in patients' saliva can reach 91.7%. Even after patient recovery, recurrence during the convalescence period was reported. SARS CoV-2 enters the cell in the same path as SARS coronavirus, that is, through the angiotensin converting enzyme2 (ACE2) cell receptor, which may promote human-to-human transmission. [5,6]

Dental treatment includes many aerosol generating procedures like ultrasonic scaler and high-speed handpiece thus increasing the chances of cross infection between dental practitioners and patients. Dental clinics and hospitals in countries affected with Covid-19, should follow strict protocol and guidelines for infection control. Standard Operating Procedures issued by several government organization should be followed. This article is an attempt to assess the knowledge, attitude and practice (KAP) of dental practitioners regarding the Covid-19 pandemic through questionnaire-based survey.

Methods

This cross-sectional study was conducted among dental practitioners who worked in private dental clinics, hospitals or dental institutions in different cities of India. Ethical approval for the study was obtained from the Institutional Review Board of the Institute of Dental Sciences (IDS) Bhubaneswar, India (No. SOADU/IDS/IRB/18/24). The online questionnaire was prepared to collect data using Google forms. The questionnaire was distributed personally to dental practitioners via a quick response (QR) code as well as posted on various social media platforms like Facebook and WhatsApp. It was also e-mailed to few dental practitioners. The study was done for a period of 1 week starting from 23rdApril 2020 to 30th April 2020. The participants were selected among members of different state branches of Indian dental association. A pilot study using the web-based questionnaire was conducted among 25 randomly chosen dental practitioners. The responses received from the pilot study was used to modify and validate the questionnaire with the help of expert in the field of Public health dentistry. With power set at 80%, sample size was determined to a minimum of 250 responses using G power 2.0 software based on the findings of pilot study.

The questionnaire consisted of structured multiple-choice questions which was divided into sections. First section had 4 questions regarding knowledge of dental practitioner's about common symptoms, incubation period, mode of transmission and screening methods for Covid-19 and next section consisted of 3 questions regarding their attitude and last section had 7 questions pertaining to practice during Covid-19 pandemic. Total 311 responses were received and results were analyzed using the statistical package for the social sciences (SPSS, version 21.0, Chicago: SPSS Inc).

Results

The study consisted of 311 responses forming a response rate of 62% from 500 questionnaires being sent. Majority of the respondents (46.6%) were having 0-5 years of clinical experience. Total number of responses received were divided on the basis of regions like east, west, north and south regions of India, with the largest number of responses (48.8%) coming from the dental practitioners of eastern part of India. (Table-1)

Because this pandemic affects the general dental practitioners, we have stratified our data according to years of clinical experience rather than stratification on the basis of qualification. The stratification of results showing KAP about Covid-19 related to years of practice were analyzed and summarized in Table-2

As depicted in Table-2 most of the dental practitioners were aware of the common symptoms of Covid-19 infection with 88% suggesting fever with dry cough and 37.6% suggesting sore throat. The dental procedure which in their opinion can transmit Covid-19

virus most aggressively was responded by 74.3% suggesting ultrasonic scaling and 22.5% suggesting tooth preparation. Their awareness about a Covid-19 patient becoming non-infectious is inadequate with only 10% reporting 30 days while 45% reported 15 days. (Figure-1)

Which preprocedural mouth rinse do dental practitioners think is most effective was responded correctly as 0.2%povidone iodine by less than 51% respondents while 43% suggested 0.2%chlorhexidine which is ineffective for SARS-CoV-2. (Figure-2) Choice of mask during diagnostic work-up had correct response by only 43% suggesting N95 mask and disposable gown. In present Covid-19 situation the choice of radiograph for diagnostic purpose is extraoral radiograph which was suggested by 92% as compared to only 8% suggesting intraoral radiograph and readiness to use rubber dam has been shown by 65% of dental practitioners.

Table-3 depicts stratification of results showing KAP about Covid-19 related to region of practice. It shows that response trends are nearly comparable in all different regions of India. KAP related to Covid-19 is not showing marked difference among different regions of practice.

Table -1 Sociodemographic characteristic of participating dental practitioners

	Characteristic	**n (%)**
Region of India	East West North South	152(48.8) 60(19.2) 48 (15.4) 51(16.3)
Years of practice	0–5 5-10 10-20 >20	145(46.6) 86(27.6) 66(21.2) 14(4.5)

Table-2 Stratification of results showing KAP about Covid-19 related to years of practice

		Overall N=311	**0-5years N=145**	**5-10years N=86**	**10-20years N=66**	**>20years N=14**
Knowledge	Common symptom in patients with Covid-19 infection Fever with dry cough- Sore Throat	274 (88.1) 117 (37.6)	138 (95.1) 67(46.2)	75 (87.2) 30 (34.8)	64 (96.9) 19(28.6)	13 (92.8) 1 (7.1)
	Which should NOT be given in suspected Covid-19 infected patient Paracetamol Ibuprofen Aceclofenac Ketorolac	50(16.1) 207 (66.6) 34 (10.9) 71 (22.8)	21(14.4) 83 (57.2) 12 (8.2) 26 (17.9)	19(22) 52 (60.4) 05 (5.8) 10(11.6)	7(10.6) 55 (83.3) 0(0) 4 (6)	01(7.1) 11 (78.5) 01(7.1) 01(7.1)
	How many days after recovery a confirmed patient of Covid-19 may become non-infectious? 7 days 15 days 21 days 30 days	20 (6.4) 141 (45.3) 119 (38.3) 31 (10)	9 (6.2) 70 (48.2) 57 (39.3) 9 (6.2)	7 (8.1) 37(43) 31 (36) 11 (12.7)	2 (3) 30 (45.4) 25 (37.8) 9(13.6)	2(14.2) 4 (28.5) 6 (42.8) 2 (14.2)
	Dental procedure can transmit Covid-19 virus most aggressively Ultrasonic scaling Tooth Preparation Extraction with forceps	231 (74.3) 70 (22.5) 10 (3.2)	102(70.3) 35(24.1) 08(5.5)	70 (81.3) 14 (16.2) 2(2.3)	48 (72.7) 18 (27.3) 0 (0)	11 (78.5) 3 (21.5) 0 (0)

Cont... **Table-2 Stratification of results showing KAP about Covid-19 related to years of practice**

Attitude	Category of patients they are attending No procedures at all Emergency procedure Routine procedures	123 (39.5) 180 (57.8) 08 (3.6)	64(44.1) 78(53.7) 3(2)	33(38.3) 51(59.3) 2(2.3)	20(30.3) 43(65.1) 3(4.5)	6(42.8) 8(57.1) 0
	Screening measures employed Travel and Contact History with Temperature Recording Rapid Screening kit with above	145(46.6) 166 (53.3)	64(44.1) 81(55.8)	42(48.8) 44(51.1)	32(48.4) 34(51.5)	7(50) 7(50)
	How far agree for using Tele-consult? Strongly agree-162 (52.1%) Agree-129 (41.5%) Disagree- 18 (5.8%) Strongly disagree-2 (0.6%)	162 (52.1) 129 (41.5) 18 (5.8) 2 (0.6)	71(48.9) 64(44.1) 8(5.5) 2(1.5)	47(54.6) 36(41.8) 3(3.4) 0	35(53) 25(37.8) 6(9)	9(64.2) 4(28.5) 1(7.1) 0
Practice	Intend to use for infection control and prevention during diagnostic work up? Regular Surgical mask and autoclavable gown with face shield Use of N95 masks and autoclavable gown	163(52.4) 148(47.5)	75(51.7) 70(48.2)	48(55.8) 38(44.1)	32(48.4) 34(51.5)	8(57.1) 6(42.8)
	Infection control and prevention during Aerosol Generating Procedure? Regular Surgical mask, gloves and autoclavable gown only N95 masks and autoclavable gown Personal Protective Equipment (PPE) with N95 mask and face shield-	19(6.1) 41(13.2) 275(88.4)	12(8.2) 19(13.1) 124(85.5)	4(4.6) 10(11.6) 72(83.7)	3(4.5) 5(7.5) 58(87.8)	1(7.1) 13(92.8)
	Radiograph preferred for diagnostic purpose Extraoral Radiograph Intraoral Periapical Radiograph	288 (92.6) 23 (7.4%)	137(94.4) 8(5.5)	79(91.8) 7(8.1)	60(90.9) 6(9)	12(85.7) 2(14.2)
	Agreement for the use of Rubber dam Strongly agree Agree Disagree Strongly disagree	202 (65) 85 (27.3) 13 (4.2) 11 (3.5)	90(62) 43(29.6) 4(2.7) 7(4.8)	60(69.7) 22(25.5) 4(4.6)	41(68.1) 16(24.2) 5(7.5) 4(6)	10(71.4) 4(28.5)
	Aerosol generating procedures, how virus load can be reduced Preprocedural mouth rinse High Volume Evacuator Aerosol reducing Air Purifier	148 (47.6) 123 (39.5) 189 (60.8)	77(53.1) 36(24.8) 32(22)	40(46.5) 20(23.2) 26(30.2)	32(48.4) 23(34.8) 5(7.5)	5(35.7) 7(50) 5(35.7)
	Preprocedural mouth rinse do they think is most effective? 0.2% povidone-iodine mouthwash 0.2% Chlorhexidine mouthwash Cetylpyridinium chloride (CPC)	158 (50.8) 134 (43.1) 58 (18.6)	49(33.7) 68(46.8) 38(26.2)	34(39.5) 40(46.5) 11(12.7)	40(60.6) 23(34.8) 3(4.5)	11(78.5) 3(21.5) 0
	Equipment to reduce bio aerosol in your clinic post-COVID to infection? Air Purifier with HEPA filter High volume evacuator (Nu Bird) Ultraviolet germicidal irradiation (UVGI)	175 (56.3) 145 (46.6) 113 (36.3)	70(48.2) 79(54.4) 73(50.3)	56(65.1) 40(46.5) 22(25.5)	40(60.6) 20(30.3) 18(27.2)	9(64.2) 5(35.7) 0

Table-3 Stratification of results showing KAP about Covid-19 related to region of practice

		Overall N=311	East N=137	West N=53	North N=63	South N=58
Knowledge	Common symptom in patients with Covid-19 infection Fever with dry cough- Sore Throat	274 (88.1) 117 (37.6)	127 (92.7) 10(7.2)	51 (96.2) 02 (3.7)	61(96.8)) 2 (3.1)	50 (96.2) 8 (7.1)
	Which should NOT be given in suspected Covid-19 infected patient Paracetamol Ibuprofen Aceclofenac Ketorolac	50(16.1) 207 (66.6) 34 (10.9) 71 (22.8)	19(14.4) 92 (67.1) 12 (8.7) 14 (10.2)	11(20.7) 34(64.1) 01 (1.8) 07(13.2)	13(20.6) 42 (66.7) 2(3.1) 6 (9.5)	06(10.3) 34(78.5) 03(5.1) 15(23.8)
	How many days after recovery a confirmed patient of Covid-19 may become non-infectious? 7 days 15 days 21 days 30 days	20 (6.4) 141 (45.3) 119 (38.3) 31 (10)	11 (6.4) 54(45.3) 56 (38.3) 16 (10)	4 (8.1) 28(52.8) 16 (30.1) 5(9.4)	4 (6.3) 28(45.4) 25 (37.8) 6(9.5)	1(14.2) 31 (53.4) 22 (37.9) 4 (6.8)
	Dental procedure can transmit Covid-19 virus most aggressively Extraction with forceps Ultrasonic scaling Tooth Preparation	10 (3.2) 231 (74.3) 70 (22.5)	06(5.5) 106(70.3) 25(24.1)	1(2.3) 34 (64.1) 18 (33.9)	2 (3.1) 48 (76.1) 13 (20.6)	1 (0) 42 (72.4) 15(25.8)
Attitude	Category of patients they are attending No procedures at all Emergency procedure Routine procedures	123 (39.5) 180 (57.8) 08 (2.6)	62(45.2) 72(52.5) 3 (2.1)	21(39.6) 32(60.3) 0	21(39.6) 40(63.4) 2(3.1)	19(32.7) 36(62) 3(5.1)
	Screening measures employed Travel and Contact History with Temperature Recording-134 (43.1%) Rapid Screening kit with above	145(46.6) 166 (53.3)	57(41.6) 80(58.3)	21(39.6) 32(60.3)	34(53.9) 29(54.7)	33(56.8) 25(43.1)
	How far agree for using Tele-consult? Strongly agree-162 (52.1%) Agree-129 (41.5%) Disagree- 18 (5.8%) Strongly disagree-2 (0.6%)	162 (52.1) 129 (41.5) 18 (5.8) 2 (0.6)	79(57.6) 51(37.2) 6(5.5) 1(0.7)	24(45.2) 24(45.2) 4(7.5) 1(1.9)	33(62.2) 26(49) 4(7.5)	26(44.8) 28(48.2) 4(6.8)

Cont... **Table-3 Stratification of results showing KAP about Covid-19 related to region of practice**

Practice	Intend to use for infection control and prevention during diagnostic work up? Regular Surgical mask and autoclavable gown with face shield Use of N95 masks and autoclavable gown	163(52.4) 148(47.5)	69(50.3) 68(49.6)	27(50.9) 26(49)	35(55.5) 28(44.4)	35(60.3) 23(39.6)
	Infection control and prevention during Aerosol Generating Procedure? Regular Surgical mask, gloves and autoclavable gown only N95 masks and autoclavable gown Personal Protective Equipment (PPE) with N95 mask and face shield	19(6.1) 41(13.2) 275(88.4)	9(6.5) 15(10.9) 113(82.4)	2(3.7) 4(7.5) 47(88.6)	4(6.3) 7(11.1) 52(82.5)	4(6.8) 9(15) 45(77.5)
	Radiograph preferred for diagnostic purpose Extraoral Radiograph Intraoral Periapical Radiograph	288 (92.6) 23 (7.4)	127(92.7) 10(7)	51(96.2) 2(3.7)	59(93.6) 4(6.3)	56(96.5) 2(3.4)
	Agreement for the use of Rubber dam Strongly agree Agree Disagree Strongly disagree	202 (65) 85 (27.3) 13 (4.2) 11 (3.5)	89(64.8) 38(27.7) 6(5.5) 4(2.9)	35(73.5) 13(24.5) 1(1.8) 4(7.5)	46(73) 13(20.6) 4(6.3) 1(1.50	24(41.3) 21(36.2) 2(3.4) 2(3.4)
	Aerosol generating procedures, how virus load can be reduced Preprocedural mouth rinse High Volume Evacuator Aerosol reducing Air Purifier	148 (47.6) 123 (39.5) 189 (60.8)	76(55.4) 61(44.5) 60(43.7)	20(37.7) 16(30.1) 30(56.6)	23(41.2) 28(44.4) 20(31.7)	31(53.4) 13(22.4) 10(17.2)
	Preprocedural mouth rinse do they think is most effective? 0.2% povidone-iodine mouthwash 0.2% Chlorhexidine mouthwash Cetylpyridinium chloride (CPC)	158 (50.8) 134 (43.1) 58 (18.6)	60(43.7) 61(44.5) 16(11.6)	15(28.3) 28(52.8) 10(18.8)	32(50.7) 21(33.3) 9(14.2)	27(46.5) 24(41.3) 7(12)
	Equipment to reduce bio aerosol in your clinic post-COVID to infection? Air Purifier with HEPA filter High volume evacuator (Nu Bird) Ultraviolet germicidal irradiation (UVGI)	175 (56.3) 145 (46.6) 113 (36.3)	76(55.4) 63(45.9) 50(36.4)	29(54.7) 30(56.6) 18(33.9)	35(55.5) 26(41.2) 26(41.2)	35(60.3) 26(44.8) 19(32.7)

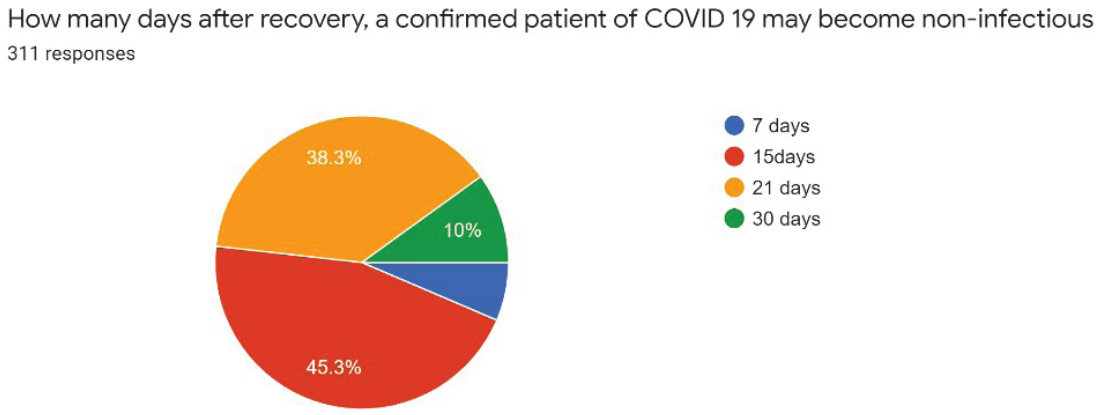

Figure-1 Awareness regarding confirmed patient of Covid-19 becoming non-infectious

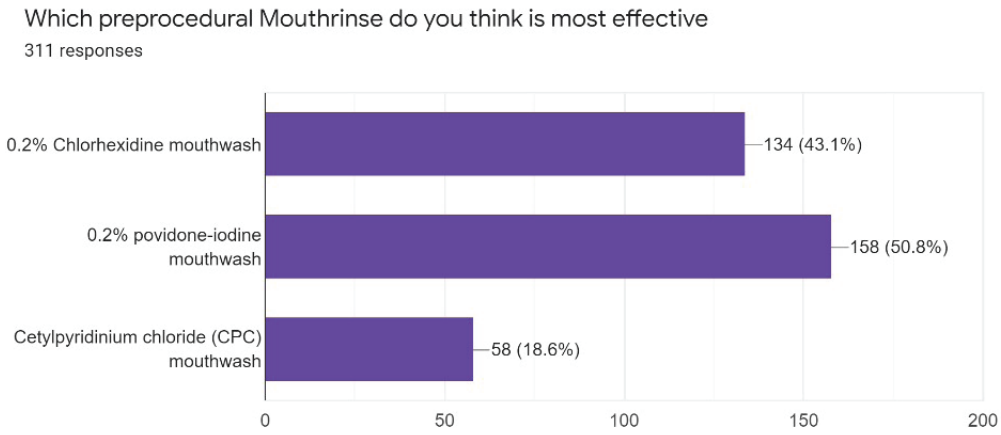

Figure-2 Knowledge about effectiveness of preprocedural mouth rins

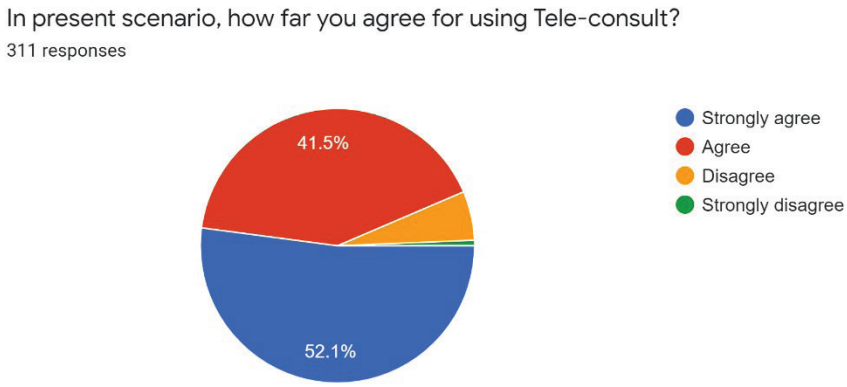

Figure-3 Awareness about Teleconsultation during Covid-19

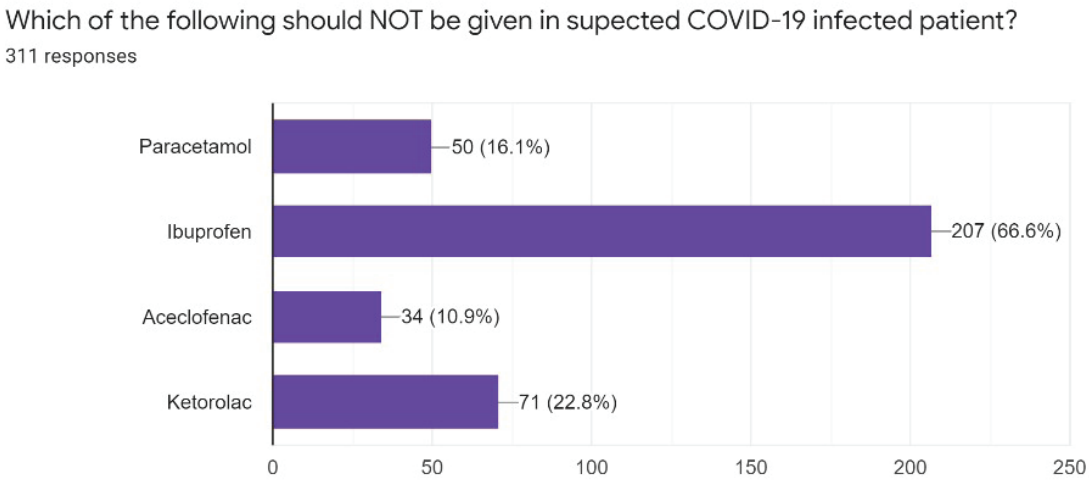

Figure-4 Knowledge about choice of analgesic in suspected patient of Covid-19

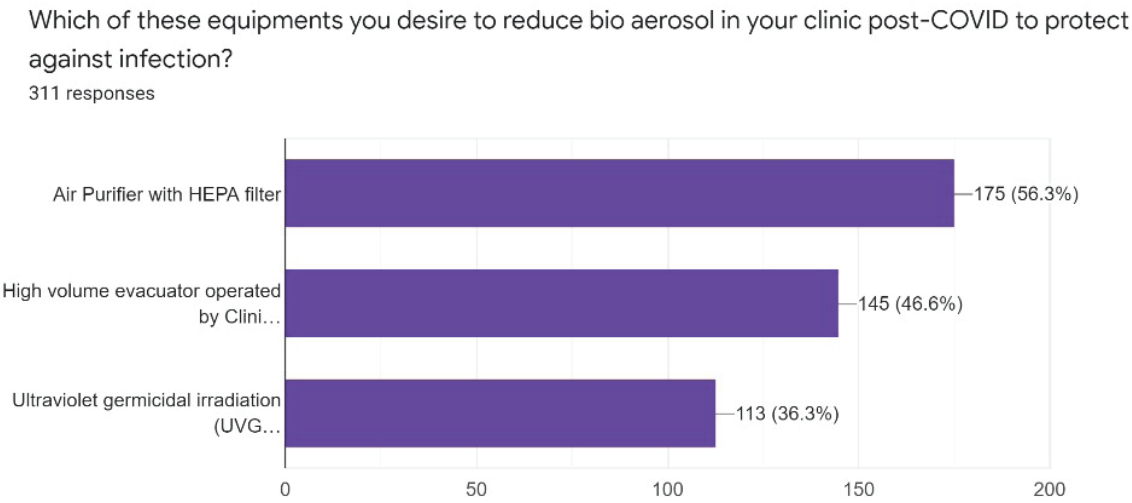

Figure-5 Awareness about ways to reduce aerosol in the dental clinic

Discussion

With the objective of assessing the knowledge, attitude and practice of Indian dental practitioners regarding the Covid-19 pandemic, this study was done through a questionnaire-based survey. After evaluating the responses, it has been observed that dental practitioners need to update themselves regarding both standard and transmission specific precautions for Covid-19. Dental practitioners should follow the guidelines issued by WHO and Indian Dental Association to categorize the patient and assess the risk and benefit while treating the patient.[7] Although WHO guidelines are still changing as this is a new disease.

Teleconsultation should be used via App based, Web based or Telephonic to assess patients' urgency for need of treatment. Questions related to recent travel history to affected countries, coming in contact with infected person at home or workplace, and/or presenting with common symptoms of Covid-19 should be asked. Patient consent form should be filled and signed by

patient before starting any treatment. A strict protocol for teleconsultation should be followed for scheduling appointment. However only 51% have strongly agreed to it. Therefore, spreading the awareness of teleconsultation among dental practitioners is the need of the hour. (Figure-3)

In response to the question about the screening measures for Covid-19 almost 92 % of dental practitioners were well aware and have reported contact and travel history with temperature recording alone or with rapid screening test as primary screening measure during the Covid-19 pandemic situation. Incorporation of the contact and travel history can significantly reduce the transmission as well as the burden of the disease. A non-contact forehead thermometer using infra-red rays is recommended for the screening. If a patient had a positive history of contact and/or symptoms, such a patient should not be given appointment through teleconsultation. As of now, there is no universally accepted rapid screening test available for chair side use. Each kit has their own sensitivity and specificity. However, dental practitioners should constantly update themselves about availability of such kits and start using whenever available.

Presently, in India, dental care facilities are either completely closed or are working only for emergency patients. In present survey 41 % of dental practitioners had reported that they are doing no procedure at all and 35% were dealing with only emergency patients. The reason could be that most of the dental clinics are one or two room operatories with little or no scope to maintain PPE protocol. Patients who were in urgent need of dental care might have suffered, although this step taken by maximum dental practitioners, will certainly reduce the spread of infection.

On being questioned which analgesic should not be given in suspected Covid-19 infected patient 67% suggested Ibuprofen while Ketorolac was suggested by 22%. Day [8] in his paper had suggested against the use of ibuprofen as it aggravates the respiratory and cardiovascular complications. He also suggested that ibuprofen's anti-inflammatory properties could diminish the immune system and slow down recovery. Nevertheless, the evidences are not enough for concluding remark. Further research in this aspect will enlighten dental practitioners. (Figure4)

To et al.[5] have reported that salivary glands remain the potential reservoir for the asymptomatic Covid-19 infection. In response to the question about how many days after recovery, a confirmed patient of Covid-19 may become non-infectious. 45.3% respondents have suggested 15 days, 38.3% have opined 21 days while only 10% have suggested 30 days which is actually the period up to which recurrence is observed in a patient as reported by Chen et al. [9]. They suggested the role of active surveillance of SARS-CoV-2 RNA for its infectious potential.

National Institute for Occupational Safety and Health (NIOSH) classification of filtering respirators describe efficiency of N95 respirators to be 95 % and of N99 respirators to be 99%. Because of tight fit these respirators minimize facial seal leakage and avoid inhalation of small airborne particles. In contrast, surgical masks are loose fitting, provide barrier protection against large droplets and prevent contact of hand with face.[10] In response to the question regarding diagnostic work-up, 33% of dental practitioners intend to use regular surgical mask and autoclavable gown with face shield while 46% have preferred use of N95 masks and autoclavable gown. However, during aerosol generating procedure 88.4% intend to use Personal Protective Equipment (PPE) with N95 mask and face shield and only 12% intended to use N95 masks and autoclavable gown. These results suggest that dental practitioners are aware about precautions to be taken, but its affordability and practicality remains obscure.

The most important concern in the dental clinics and hospital is to avoid droplet and aerosol-based transmission of SARS CoV-2. Many dental procedures generate large amount of aerosol mixed with patient's saliva and blood during dental treatment.[11] In response to the question on how viral load could be reduced during aerosol generating procedure, 60% of respondents have suggested the use of high volume evacuators and 47% have suggested to use preprocedural mouth rinse and 39% were of the view to use aerosol reducing air purifier. The use of high volume evacuators can effectively reduce the production of droplets and aerosols.[12]

In response to the question which preprocedural mouth rinse they think to be the most effective; 50%

have selected 0.2% povidone-iodine mouthwash while 0.2% Chlorhexidine mouthwash was selected by 43%. Chlorhexidine, which is commonly used as mouth rinse in dental practice, may not be as effective to kill SARS CoV-2. Preprocedural mouth rinse containing oxidizing agents such as 0.2% povidone iodine or 1% hydrogen peroxide is suggested as SARS CoV-2 is susceptible to oxidation.[13,14] The dentist should be sensitized about this aspect of usage of mouthwash to reduce the viral load significantly.

It has been reported that the use of rubber dam could significantly reduce airborne particles in approximately 3-foot diameter of the operational field by 70%. Rubber dam with high-volume evacuator would reduce splatter and aerosol. In such case execution of four-handed dental practice is also needed. A preprocedural mouth rinse would be strongly recommended in cases where rubber dam cannot be employed. [12]

In response to their choice of equipment to reduce bio aerosol in their clinic post Covid-19, 56% have opined in favor of Air Purifier with HEPA filter (High Efficiency Particulate Air) filter, 46.5% have opined for High volume evacuator operated by Clinician (NuBird), while 36.5% have positive opinion towards Ultraviolet germicidal irradiation (UVGI) device. The protocol for use of airborne contaminant removal suggest a minimum of 6 Air Changes per Hour (ACH). HEPA air filters provide 12 ACH with 20 minutes of use whereas UVGI provides 6 ACH with 15 minutes of use.[15] (Figure-5) These steps taken to combat the Covid-19 pandemic will certainly reduce the burden of disease.

Dental practitioners possess adequate knowledge and awareness about certain aspects of prevention and control of infection. Their response related to standard operating protocol are appropriate. Dental practitioners and their assistant should be sensitized about transmission-based precaution specific to Covid-19 situation which will help defeat this pandemic. The different modes of transmission include direct transmission (through cough, sneeze and droplet inhalation), contact transmission (through eye, oral and nasal mucosa) and air-borne transmission (aerosol and droplets mixed with the patient's saliva and blood).[11] This reinforces the importance of good hand hygiene. Dental practitioners should be more cautious to avoid touching their own mouth, nose and eyes. [16] Other than the questionnaire there are additional aspects for dental practitioners to pay attention for a safe practice. First, thorough disinfection of all surfaces with 0.1% sodium hypochlorite or 70% isopropyl alcohol at dental clinic is of great importance because the virus remains viable on surfaces for 2 hours up to 9 days. [17] Second, disinfection and sterilization after every patient which includes flushing of spittoon and suction drainage with 1% sodium hypochlorite (NaOCl). Third, hand hygiene two-before and- three-after guideline, proposed by the infection control department of the West China Hospital of Stomatology, Sichuan University should be followed.[11] Fourth, The medical waste generated after the treatment of patients with suspected or confirmed Covid-19 infection is regarded as infectious medical waste and should be disposed according to guidelines.

Conclusion

Amongst precautions for several infectious diseases, Covid-19 is a major challenge to the dental practitioners. Because of the novelty, the guidelines and recommendations to combat this disease are still evolving. This study is highlighting the lesser known facts about Covid-19 which may enlighten dental practitioners before resuming practice.

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