

## COVID-19 Perceptual Disparity Among Dental Practitioners in Tricity (Chandigarh, Panchkula and Mohali)

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### Abstract

**Background:** Coronavirus (SARS-CoV-2) made the headlines after its initial breakout in Wahan, China in December 2019. Viral by genome, lethal by nature, strongly contagious by character succeeded in making a new chapter in everyone's life in a very short span making it a pandemic

**Objectives:** The aim of this study was to assess perceptual disparity among dental practitioners regarding the Coronavirus Disease 2019 (COVID-2019) pandemic.

**Material and methods:** A total of 300 participating dentists were randomly included in this cross sectional survey. A self structured, closed ended questionnaire was administered to each participant to record demographic and professional characteristics followed by their knowledge regarding corona virus. Statistical analysis was performed using SPSS Version 20 and Multivariable linear regression analysis was carried out

**Results:** It was found that only 33.3% of the clinicians had high knowledge regarding corona virus and only 38.5% of the respondents know the correct incubation period. About 65 % of the practitioners did not know about the diagnostic test available for corona virus and only 4.3 % of them gained knowledge from journals or print media. The above responses indicate a low knowledge among the dental practitioners regarding corona virus.

**Conclusions:** The knowledge and practice scores were found to be worrisome, which is important to combat COVID-19. They are advised to follow the Centers of Disease Control and Prevention (CDC) and World Health Organization (WHO) guidelines in their clinics, and sensitize their staff so that no stone is left unturned in defeating this pandemic.

**Keywords:** COVID-19; Dentists; Pandemic.

### Introduction

Viral by genome, lethal by nature, strongly contagious by character succeeded in making a new chapter in everyone's life in a very short span making it a pandemic. No one could have imagined that the end of the year 2019 will witness the historic birth of one of the deadliest, an abstruse virus, the severe acute respiratory syndrome coronavirus (SARS-CoV-2). COVID-19 which will strangulate

the world by spreading its tentacles in all spheres of life within no time, initiated as a pneumonia outbreak in Wuhan, China. Before anyone could have understood the virus WHO declared it as pandemic emergency on 11th March 2020 involving more than 216 countries in the world [1].

Lethality of this virus can be envisioned as statistical figures are

strongly petrifying till mid-January 2021, this pandemic has affected over 95 million cases and 52 million confirmed deaths worldwide out of which India still holding a second position after United States with over 10 million confirmed cases and 2274 confirmed deaths which is increasing everyday with average 0.12% [2]. Dental health care providers will have to ensure stringent infection prevention and control to prevent its nosocomial spread.

The SARS-Cov-2, previously named 2019-novel coronavirus by the World Health Organization (WHO), is a beta-coronavirus containing an enveloped, non-segmented, positive-sense RNA genome with high rates of mutation and recombination [3]. Initially, it started as a zoonotic infection, followed by human-to-human transmission. SARS-CoV-2 uses angiotensin-converting enzyme (ACE-2) which is found in the lower respiratory tract as its entry receptor. It is transmitted through both microdroplets due to direct proximity (a distance less than 2 metres and an exposure duration greater than 15 minutes) and core droplets that remain suspended in aerosol. Its transmission has been mainly described through inhalation/ingestion/direct mucous contact with saliva droplets with the incubation period ranging from 5 to 14 days [4].

Though, there is no definite cure for this disease; however, recently, a national and international Pharmaceutical company has claimed to manufacture a vaccine to combat this deadly disease and is currently undergoing preclinical trials and shall be available.

With corona virus rapidly manifesting itself as a pandemic concern, it is important for dentist to also have sufficient knowledge so as to screen potential carriers in their clinical setting, and hence, this study aims to assess the knowledge of dental practitioners in Tricity, India.

### Subjects and Methods

A cross sectional study was conducted among private dental practitioners in Tricity (Chandigarh, Panchkula and Mohali) area from June 2020 to January 2021. A total of 350 private dental practitioners were randomly selected, and only those who agreed to participate were included in the survey. The protocol of the study was approved by the concerned Ethical authorities. Written, informed consent was obtained from the subjects.

The final questionnaire was divided into two sections. Section A included questions regarding demographic profile such as age, gender, years and area of practice while Section B included questions related to knowledge regarding corona virus using a two-page, self-structured, closed-ended questionnaire which contained 10 multiple-choice questions which included questions regarding communicability, symptomatology and diagnostics, virus characteristics and treatment of corona virus. The knowledge scores of the practitioners were categorised as high and low based

on the mean of the total score which serve as a cut-off point. The questionnaire contained 10 questions which could be scored, and the highest score achieved by any participant could be 10 as a correct response was awarded score of 1 while an incorrect response was given a score of 0.

Statistical analysis was performed using SPSS version 20. The results were expressed in percentages and to assess the association of participants' demographics multivariable linear regression analysis was carried out. Cronbach's alpha ( $\alpha$ ) of the questionnaire was found to be good (0.82).

### Results

Of the 350 dental practitioners contacted to participate in the study, a total of 300 (85.71%) dental practitioners responded. The demographic variables are described in (Table 1). The sample consisted of 195 (65.5%) male and 105 (44.5%) female practitioners. Majority of the practitioners belonged to the age group of 25–40 years (74.5%).

**Table 1: Demographic characteristics of the dental practitioners**

Variables	Frequency	Percentage	
Gender	Males	195	65%
	Females	105	45%
Age	25-40 years	223	74.5%
	>40 years	77	25.5
Qualification	BDS	188	62.6%
	MDS	112	37.3%
Years Of Practice			
<2 years	98	32.6%	
>2 years	202	67.4%	

It was found that only 100 (33.3%) of the clinicians had high knowledge regarding corona virus (Table 2 & 3). Table 3 depicts the responses provided by the clinicians which have been expressed in percentage. It revealed that 95 % of the clinicians knew the viral origin of corona virus although 5% classified it of bacterial origin (question 1). The correct incubation period (7–14 days) was only marked by 38.5% of the respondents (question 2), and over 46 % of the participants were not knowing all the signs and symptoms of COVID (question 3). Though majority of them knew that it is a communicable disease (question 4) but about only 37 % of the practitioners know about the confirmed diagnostic test available for corona virus (question 5). Only 18% are aware of the all

modes of transmission (question 6) and only 60.5% use adequate protection protocols (question 7). Though majority goes with the routine fumigation protocols (question 8) but most of their knowledge came from television 34.5% (question 9) while the internet consisted of 61.2% of their knowledge. The least information was gained through journals which only represented 4.3% of the total information gained. Only 37 % dentists are aware of the vaccination and its schedule available ((question 10).

**Table 2: Knowledge scores of the participants regarding corona virus**

Characteristic	Value
Range of score	2-10
Mean	7.25±0.08
Median	7
High knowledge	33.3%
Low knowledge	66.3%

**Table 3: Various responses provided by the practitioners regarding corona virus**

Question No	Question	Percentage
1	Corona is of Bacterial Viral Fungal Don't know	5% 95% - -
2	Incubation period is of 2-7 days 7-14 days >14 days Don't know	10% 38.5% 15% 36.5%
3	Signs & symptoms Fever, cough Loss of taste Loss of smell All off the above	38.5 % 5.5% 2% 54%
4	Communicable disease Yes No Don't know	97% 3% -
5	Confirmatory Diagnostic test Rapid antigen RTPCR Both of above Don't know	22% 37% 41% -
6	Mode of transmission Inhaling /ingesting droplets Touch All of above Don't know	68% 14% 18% -
7	Mode of prevention while treating patients Only face mask & gloves Only handhygiene PPE KIT with N95 mask Don't know	15% 24.5% 60.5% -

8	Routine Fumigation required Yes No Don't know	98% 2% -
9	Mode of knowledge Television Internet Journals/print media	34.5% 61.2% 4.3%
10	Is vaccination available Yes No Don't know	37% 52% 11%

The above responses indicate a low knowledge among the dental practitioners regarding corona virus. (Table 4 & 5) reveals the sources of knowledge regarding corona virus among the dental practitioners. Most dentists 37.3% had a degree of MDS (Master of Dental Science) followed by BDS 62.6% (Bachelor of Dental Surgery). There was no statistically difference found in response of both the degree holders.

**Table 4: Association between the demographic and participants' variables assessed with the knowledge scores using multivariate linear regression analysis**

Preicter	Co-efficient	SD	T	P
CONSTANT	64.19	3.21	42.33	0.00
GENDER	-2.63	0.74	-2.78	0.52
AGE	-1.02	0.52	-0.99	1.25
QUALIFICATION	2.21	0.12	2.9	0.04
YEARSOFPRACTICE	-0.37	1.25	-0.36	0.08

**TABLE 5: Source of knowledge among the dental practitioners**

INTERNET	184	61.2%
TELEVISION	103	34.5%
JOURNAL	13	4.3%

## Discussion

Corona virus, a recently declared global public health concern, has been spreading at an alarming pace. Most of the dental treatments generate significant amounts of aerosols and droplets which can lead to rapid transmission of respiratory tract infections in the dental office [5]. As, SARS-CoV-2 has been shown to survive in aerosols for hours and on some surfaces for days, the Occupational Safety and Health Administration (OSHA) has placed Dental health professionals in the very high exposure risk category [6, 7]. Due to less distance between the dentist and the working field and certain dental treatments can require lengthy procedures, which puts the dentist at a higher risk of contracting COVID-19 [8, 9]. Several reports have been emerging concerning the infection and deaths of health care professionals due to COVID-19. Therefore,

it becomes important for the entire healthcare personnel to constantly update their knowledge so that they are able to potentially screen such patients for prevention of possible spread of the disease. Our study revealed that Most of the participants were found to be MDS (65%) with >2 years of work experience (50%) which is similar to a study done by kamate et al our study revealed that only 33.3% of the clinicians had high knowledge regarding corona virus Therefore, it can be assumed that lack of knowledge can result in possible transmission of the disease, and it becomes important that doctors can be acquainted with recent medical happenings from time to time regarding these recent outbreaks [10].

Although SARS-CoV&MERS-CoV have limited capacity to live on dry surface, they can remain viable on a surface for a few days, especially those which are suspended in human secretion [11-13]. It was observed that majority of the dental practitioners 61.2% gained their knowledge from internet as social networking sites have become a part of our daily lives, and 34.5% of the practitioners got their knowledge from television which is in agreement with various authors who also reported a majority of their respondents (dental practitioners) gaining their knowledge from audio visual aids.

Alarmingly, only 38.5 % of dental practitioners responded correctly to the incubation period. The study also revealed that knowledge of both genders regarding corona virus did not yield any statistical Significance. The creeping in of social desirability bias is the main limitation of our study. These findings are similar to that reported in previous studies carried out among dental practitioner by Ahmed MA et al [14].

## Conclusion

The study shows that while majority of dental health professionals have awareness regarding the global pandemic; still there were certain pitfalls in attitude and practice level among the dental practitioners. Being a patient who has travelled from corona virus prevalent areas to the patient belonging to such areas coming for dental treatment (dental tourism), it becomes important that the dentist has adequate knowledge regarding recent outbreaks to maintain a proper treatment protocol. This study thus provides an insight in shaping future guidelines, stratagem, and policies to be implemented in dental settings

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