

**Assessment of Fear and Volunteering services of Oral Health Practitioners (OHP) in Karnataka during Covid19 –**

**A Cross sectional Study**

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**Abstract**

WHO announced COVID-19 outbreak as a pandemic on 11<sup>th</sup> march 2020 that originated from Wuhan, china <sup>(1)</sup>. The COVID-19 pandemic in India is a part of this global outbreak. It is caused by the SARS-COV-2 (severe acute respiratory syndrome corona virus 2), the first case in India was reported on 30<sup>th</sup> January 2020 <sup>(2)</sup> . The first death with COVID-19 was confirmed on 10<sup>th</sup> march 2020 in kalaburagi, North Karnataka. In Karnataka COVID-19 cases tally 23.03 lakh till May19 2021 with death toll of 23,854<sup>(3)</sup>. This current outbreak has influenced every aspect of life and every profession especially dentist (Oral Health Practitioner's)<sup>(5)</sup>.

The Karnataka government has advised to defer routine dental treatment, as the procedure required close contact with patient's oral cavity, saliva and blood. Further the treatment procedure requires aerosol producing units, thereby creating a high risk of cross infection to dentist, auxiliaries as well as patients undergoing dental procedure <sup>(5)</sup>.

Hence a cross sectional study was conducted to assess the fear and anxiety among the oral health practitioners in Karnataka during COVID -19 pandemic from April 5<sup>th</sup> 2020 to May 20<sup>th</sup> 2021. The study also determined the volunteering services of OHP'S during pandemic like situation. In addition the treatment modifications during covid times were evaluated. 20 closed, well-constructed

questionnaire was designed using google form, the responses of 199 patients from 5 districts of North Karnataka, was scrutinized and recorded for assessment. A chi square test and correlation test to control the confounders was adjusted. 99% of participants were aware that oral health practitioners were at the highest risk of contracting COVID-19 disease. They had genuine fear of getting infected with COVID-19 because of the close vicinity and of the patient's previous history of COVID-19 disease. A large number of participants were apprehensive of adjusting to new clinical setups, treating medically compromised adult patient, adhering to recommended clinical guidelines of Apex bodies. However, majority of the OHP's modified their treatment plan and few closed down their practices for uncertain period.

**Keywords:** Fear, Anxiety, Covid-19 in north Karnataka

### Introduction

SAR-S causes COVID-19 illness with severe respiratory disease varying from mild upper respiratory tract illness to severe acute respiratory distress syndrome. The spike surface glycoprotein in virus binds to host via Angiotensin converting enzyme (ACE-2) disseminating virions and suppressing immune cells<sup>(4)</sup>. The rapid spread of infection is due to the dominant mutated strains that put the country under strict lockdown<sup>(4)</sup>. 7 districts of North Karnataka presented rigorous primary and secondary contacts. This led to close down of dental institutions, private dental clinics in rural and urban areas<sup>(8)</sup>. Oral Health Practitioners (OHP'S) deferred treating dental emergencies attributing to the risk of getting infected through respiratory droplets, close contacts with patients and use of aerosol producing units<sup>(5)</sup>.

At this current juncture, the OHP's are fostering persistence fear and anxiety leading to irrational decisions and behavior. Further, the treatment approaches,

adjusting to new clinical setups have increased their apprehensiveness and its needs to be evaluated. The current pandemic has impact on humanity and as health care workers OHP's also need to take responsibility of volunteering services during pandemics<sup>(6)</sup>.

**Hence, the current study was conducted to assess**

- Fear and anxiety among the oral health practitioner (OHP'S) in North Karnataka during COVID-19 outbreak.
- To determine whether OHP volunteer their services during medical emergencies and pandemic.

### Material methods

The present cross-sectional study used online survey questionnaire. 20 closed, well-constructed questionnaire was designed using Google form with a strong relation of

The online survey link was circulated to all OHP through e-mail and through social media. The responses of 199 patients was scrutinized and recorded for assessment. A chi square test and correlation test to control the confounders was adjusted

### Result

A total of 199 participants submitted the completed questionnaire with a total of 20 questions. The demographic information of participants is presented in the table 1. Out of total 199 participants, 61.1% were female and 38.9% were male with common age group between 20-55 years.

By the designation 51.8% of them were specialists, 43.5% were general practitioners and by qualification 58.3% were post graduate and 41.7% were graduates. Majority of participants i.e. 53.2% had working experience between 5-10 years, 24.6% had 10-15 years of practice experience and 19.3% had 15-25 years of practice.

Table 1: Demographic information of dental care professionals (n=199)

Sn.	Demographics		Percentage
1	Gender	Female	61.1%
		Male	38.9%
2	Age	20-30yrs	41.2%
		30-40yrs	29.1%
		>40yrs	29.6%
3	Education qualification	Graduate	41.7%
		Post graduate	58.3%
4	Designation	General practitioner	43.5%
		Specialist	51.8%
		Consultant	4.7%
5	Year of practice	5 to 10 yrs	53.2%
		10to 15 yrs	24.6%
		15 to 20yrs	19.3%

The questionnaire of the present study mainly formed to gather the information about dentist’s fear and knowledge regarding dental practice during this current COVID-19 viral outbreak, which gave the following results.

- Wherein, 99% of participants were aware that oral health practitioners were at the highest risk of contracting COVID-19 disease.
- 82.1% of participants were afraid of getting infected with COVID-19 because of the close vicinity with the patients and 14.8% were afraid because of the patient’s previous history of COVID-19 disease.
- 92.5% of the participants were anxious of the patient’s under-reporting about his/her personal history, which is natural in pandemic, especially when the number of infected individuals and the mortality rates are increasing sharply and many dentists prefers asking about the familial history, medical history and travel history.

- 49.5% of the participants were apprehensive of treating a patient with history of the cough, cold respiratory disorders and other medically compromised both children and adult patients. This could be because of the infected person present with the same mentioned symptoms and considering the vital role of the body’s immune system, elderly patients with chronic debilitating diseases have a high risk of getting infected compared to young, healthy individuals with strong immune system.
- 91% intended to defer dental treatment for patients with the suspicious symptoms, this might be because the current guidelines of COVID-19 recommends to defer all non-essential dental treatment. 61.6% of the participants had doubt of their own self rated health status leading or contracting the COVID-19 disease because of the prolonged incubation period (14days) and it is virtually impossible to pin point an individual’s

exposure. Most of the practitioners could be nervous of carrying the infection from dental practice to their families and getting quarantined if they get infected.

- 79.1% of them were worried about developing the COVID-19 disease in spite of abiding universal precautionary measures of infection control, this could be because the COVID-19 outbreak is so fast and devastating, oral health care professionals are exposed to high risk while exposed to aerosols and droplets splashing out of patient's mouth. Although ADA has published preventive measures and guidelines, most dentists may not be aware of the recent guidelines.
- 88.4% of the participants had fear of contacting the COVID-19 through fomites or through the poor ventilation in dental set-up because the corona virus can last on various surfaces for few hours to days. This combined with the prolonged incubation period makes it particularly difficult to limit its transmission.

Due to this ability of COVID-19 to adhere to surface or suspend in air, to minimizing the viral load and spread of infection, dental operatories should be equipped with the efficient ventilation system and the time should be given after disinfection before bringing in the next patient. Although heating, ventilation and air conditioning system in most health- care facilities have HEPA, air purifiers could be an effective addition to improve ventilation.

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system in most health- care facilities have HEPA, air purifiers could be an effective addition to improve ventilation.

67% of the practitioners have shown uneasiness of adapting to rapidly evolving dental practice environment and around 69.1% were anxious of investing money for developing their existing clinical set, because dentistry today needs a complete structural change to prevent doctors as well as the patients from getting infected.

However, there is huge cost implication in adapting or procuring preventive cares including the respirators, AC filters, single use chair etc. to maintain strict hygiene and sterilization. Further clinical rents and wages have to be accounted, causing a huge socio-economic impact

71.4% of participants think that the dental professionals have larger role in imparting knowledge and combating COVID-19 pandemic and also 68.9% of them are willing to be a frontline warrior during pandemic.

Dental health care professionals can consider forming digital learning platform or by conducting webinars in order to influence more people positively. Dentists need to find the right way of articulating knowledge and information to prevent fear amongst patients, and create awareness by being honest and transparent.

According to 60.4% of the dentists in this study obligation to volunteering dental services should be based on moral/ethical/professional grounds or based on government justification or self-motivation.

Government should come forward to collaborate with the dental and medical fraternity.

99.5% of the oral health practitioners need medical training for volunteering emergency services during pandemics.

This could be because, particularly in Indian context dentistry got divorced from main stream medical services and this need to be addressed by providing dentist the

basic training in medicine –equipping them better to deal with all kinds of basic medical emergencies.

### Discussion

The viral outbreak of COVID 19 reported fear and anxiety among the health care workers. In our study, the psychological trauma, attitude, opinions and experience was assessed using a questionnaire. OHP's justified and described their risk of getting infected by their close vicinity to dental unit, contamination through salivary and blood component, use of aerosol producing units during treatment and finally through surface contamination (fomites) of dental unit. In addition, the legitimate fear was carrying infection from dental clinics to their families. This response is similar to the view point with rest of the population from getting infected during the pandemics (7). Increasing primary and secondary contacts among large population in North Karnataka, the government of Karnataka led to strict close down of dental practices, deferring even the dental emergencies was observed which resulted in suffering of patients with dental pain and swelling (8). In our study 99% of OHP's were anxious and apprehensive for the above risks. The fear also increased with under report of patients with respiratory disorders, medically compromised patients and post COVID illness. 91% of OHP's intended to defer treatment for patients with suspicious symptoms and 79.1% of them worked for developing the COVID-19 disease in spite of abiding by universal precautionary measures of infection control (9). Further our study observed that the use of rubber dam and use of povidone-iodine as pre-procedural mouth rinse is mandatory to control cross infection, these methods were less frequently practiced by OHP's. 61.6% of OHP's had doubt of their own self-rated practice methods and also compromised health status leading to the possibility and individual exposures (10).

Further investments were huge pertaining to suppression of transmission of infection through UV Radiation for sterilization and disinfection. High Efficiency Particulate Air (Filter HEPA) and use of respiratory filters for aerosol reduction. Our study found that the cost implications to procure these units had significant financial burden on OHP's. In India the cost incurred by health care system are not state sponsored. This led to the stress among OHP's for procuring preventive measures and also adapting to the new clinical set up. Henceforth, the concern is to abide by the guidelines pertaining to universal precautionary measures. The relevant recommendations given by ADA to effectively manage the dental emergencies are:

Emphasis on use of hand hygiene with alcohol-based sanitizers (32, 33)<sup>(10,11)</sup>

1. Use of N95 mask.
2. Use of extra oral radiographs such as orthopantomogram and CBCT.
3. Preprocedural mouth rinse with povidine-iodine.
4. Regular use of rubber dam (24) HEPA, high volume suction regulate the aerosol reduction
5. Suspicious patients further need additional precautional protocols recommended by universal cross infection control board.

The question of OHPs regarding their volunteering during pandemic showed willingness to be frontline warriors. However, they insisted to establish a right way of articulating knowledge in combating covid 19 pandemic. References of OHPs in this study suggested for medical training and handling of emergency services. Digital learning platforms should be based on moral and ethical grounds.

This study determines the role of OHPs and others for voluntary dental services significantly.

## Conclusion

1. The corona virus disease spread, its pathogenesis and course of illness is highly unpredictable. The health humanitarian and socioeconomic policies adopted by countries are in crisis. The fear and anxiety for dentists around the globe, although is universal.
2. Despite having set high standards of dental practice management by WHO, ADA and CDC there is need for day to day adoption of improving protection against covid 19.
3. Dentists however have modified dental services according to recommended guidelines.
4. Emergency oral health care needs to be prioritized and attended with utmost precautionary measures.
5. The fear and anxiety of adopting to new methods of protection against covid 19 is increasing.
6. Dental services are modified prioritization is given only in treating emergency cases.
7. However, the discomfort associated with other dental problems remain un attended.
8. Appropriate steps to attempt to curtail spread of COVID-19 should be prioritized by OHPS too.

## Limitations

1. In this study OHPs had a short time to understand the other OHPS's covid- 19 views.
2. Collected data influenced the OHPs psychology due to the rapid effect of outbreak of covid 19 and its variation in different places.
3. Precautionary guidelines given by WHO, CDC and ADA had varied information
4. Small sample size.

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