



# Dental Practice Scenario during Covid-19 Pandemic in India – A Questionnaire Based Survey

Prof. Dr Sudip Chakraborty, Dr Bihu Bandyopadhyay

<sup>1</sup> Professor, Department of Oral and Maxillofacial surgery, Guru Nanak Institute of Dental Science and Research, Kolkata, West Bengal, India

<sup>2</sup>Dental Surgeon, Microcap Hospital, Kolkata

Submitted: 01-03-2021

Revised: 15-03-2021

Accepted: 19-03-2021

**ABSTRACT:** The COVID-19 pandemic, an ongoing worldwide pandemic of severe acute respiratory syndrome coronavirus 2 first identified in December 2019 in Wuhan, China. Symptoms of COVID-19 varies from none to severe illness. The disease spreads from one person to another person via mouth, nose, or eyes when an infected person breathe, cough, sneeze or speak near a non-infected person<sup>[4]</sup>. As dental procedures unavoidably produce blood and saliva droplets; both dental practitioners and patients are at high risk of being infected with SARS- COV2 virus<sup>[1]</sup>. It was a questionnaire-based survey. Set of questions were sent to randomly chosen dentists. Participants were from three different types of practising areas; e.g., city, suburb and town. To reduce the biasness, none of the participants had to disclose any personal data- name, address, email, phone no. etc. in the survey sheet. Total 206 dentists participated in the survey. Among them 55 (26.69 %) were from city, 76 (36.89 %) were from suburbs and 75 (36.40%) were from town. 20.52% were in the below 30 years age group. 35.29 % were in the 30-50 years age group. 44.19 % were above 50 years of age. Participants below 30 years of age group were most particular about maintaining the Indian Ministry of Health protocol for dentists. Irrespective of age, protocol maintenance by the number of city dentists were significantly higher than the number of town dentists (p = 0.041). Same way, participants who used to deal less than 10 patients per day were more particular than those who used to deal more than 20 patients per day (p= 0.032).

**KEYWORDS:** COVID-19 pandemic, Dental practice protocol, Questionnaire-based survey.

## I. INTRODUCTION

The COVID-19 or coronavirus pandemic is caused by severe acute respiratory syndrome coronavirus-2 (SARS- COV-2). It was first identified in December 2019, in Wuhan, China. Its possible source was via bats, pangolin, or both<sup>[2,4]</sup>.

The World Health Organization declared the outbreak, a Public Health Emergency of International Concern in January 2020 and a pandemic in March, 2020<sup>[12]</sup>.

The Government of India first ordered a nationwide lockdown for 21 days on 24<sup>th</sup> March, 2020. Then again announced lockdown in three phases for a total of 47 days<sup>[1]</sup>.

Though healthcare and essential services were out of lockdown suspensions, almost all standalone dental clinics were closed in phase-1 lockdown. Most of the institutions also called off their dental services in different phases of lockdown<sup>[7]</sup>.

At that time, we dentists, maintained our consultation services mostly over telephonic conversations and restricted our procedures to emergency and urgent treatment only.

Dentists, auxiliaries, as well as patients undergoing dental procedures are at high risk of cross- infection. Most dental procedures require close contact with the patient's oral cavity, saliva, blood and respiratory tract secretions. Saliva is rich in COVID-19 viral load. Many patients who are asymptomatic may be carriers.<sup>[6]</sup>

Several guidelines had been issued earlier by DCI, IDA and other organizations. Later Ministry of Health of India issued a complete guideline for the dental practitioners.<sup>[3]</sup>

## II. AIM

Aim of this study was to have an inner look in the changing practice scenario of the dental surgeons in India due to COVID-19 pandemic.

## III. MATERIALS AND METHODS

It was a questionnaire-based survey. Set of questions were sent to randomly chosen dentists. Participants were from three different types of practising areas; e.g., city, suburb and town.

To reduce the biasness none of the participants had to disclose any personal data- name, address email, phone no. etc. in the survey sheet sent back by post.



Survey period was from April, 2020 to December, 2020.

The set of questions were like that;

- Age- below 30 years  
30 to 50 years  
more than 50 years
- Practising area- city  
suburb  
town
- What protocols you are following –  
Ministry of Health (Govt. of India)  
Dental  
Council of India  
Indian  
Dental Association  
Other  
official organizations  
Your  
own

- Have you ever been tested COVID-19  
positive-yes  
No

- Are you the first member in the family who  
tested positive for COVID-19 ? – yes  
No

- Did you stop doing practice for a noticeable  
(more than two weeks) period of time – yes  
No

If yes mention the time-

- Average No. of patients you used to deal with  
before April 2020- less than 10  
10 to 20  
20 and above

- Average no. Of patients you deal per day now -  
less than 10  
10 to 20  
20 and more

- What services have you provided to the patient  
– consultation only(mention the time period  
you had been giving this service in between  
April 2020 to December 2020)

Consultation and some selected procedures  
(mention the time period you had been giving this  
service in between April 2020 to December 2020)  
consultation and all the basic procedures(mention  
the time period you had been giving this service in  
between April 2020 to December 2020)

- Screening of patients–

RT- PCR - for all  
for aerosol generating procedures  
never

Temperature check – yes no  
Oxygen saturation – yes  
No

- Safety measures-  
Sanitization- before and after each patient  
once a day  
occasionally  
never

- Protective wear -

PPE kit – for dentists  
for auxiliaries

surgical gown – for dentists  
for auxiliaries  
other – for dentists  
for auxiliaries

If you are not using PPE kit, state  
the reason –

- Mask -  
N95 mask – for dentists  
for auxiliaries  
surgical mask– for dentists  
for auxiliaries  
other – for dentists  
for auxiliaries

- Face shield – yes  
no

- Changing of PPE kit or surgical gown-  
after each patient  
after each aerosol generating procedure  
at the end of the day

- Working area - Air Conditioned  
well ventilated  
not well ventilated

- Air purifier working – yes  
No

- Antiseptic mouth rinse by patient- before  
consultation and procedures  
before procedures  
before aerosol generating procedures

- Remarks – Write few lines about anything  
relevant to this survey.



Collected data were analysed to have an idea of different aspects of changing dental practice scenario.

#### IV. RESULTS

Total 206 number of dentists participated in the survey. Among them 55 nos. (26.69%) were from city, 76 nos. (36.89%) from suburb and 75 nos. (36.40%) were from town.

79 (38.34 %) nos. of participants were in the below 30 years' age group, 86 (41.74 %) nos. of participants were in 30 to 50 years' age group, and the rest 41 nos. (19.90 %) were above 50 years of age.

Large no. (78%) of city and suburb dentists stopped practising for more than 1 month, whereas only 28% of town dentists stopped doing practice for a noticeable period.

There was a marked reduction in no. of patients in all the three types of practising zone, however in town, dentists who were already dealing more than 20 patients per day on an average basis did not face any noticeable reduction.

All the dentists from city and suburb areas were following some screening system. Among them 8.39% were even getting their patients RT-PCR done before aerosol generating procedures.

29.33% of dentists were not following any COVID-19 protocols for dental surgeons given by official organizations. Most of them were dealing 20 and above patients per day.

82% of the city and suburb dentists who deal with less than 10 no. of patients, were doing sanitization every time a patient entered. Irrespective of practising zone, 54% of the participants who were dealing more than 10 no. of patients, were doing sanitization after each procedure.

12% of dentists from town were not doing sanitization time to time in a practising session and most of them were dealing a large no. of patients (more than 20 in a day).

49.51% of total no. of participants were using surgical gown instead of PPE. 3.27% of city dentists, 7.52% of suburb dentists, 16 % of town dentists were not wearing PPE or surgical gown (They were wearing regular apron, disposable plastic apron etc.). Those who were not wearing PPE showed non-supply of that as the cause mostly.

Those who were wearing surgical gown and surgical mask, actually relied on their own age-old safety protocols. It has been noticed that surgical mask is still the preferred one for most of the participants.

Only 15% of the participants used to wear n95 mask and PPE routinely, they were mostly city practitioners.

Only 12.62% of the participants who wear PPE kit or surgical gown, used to change it after each aerosol generating procedures. 97.08% of the participants used to wear face shields.

Almost all the city and suburb chambers were air conditioned, even 84% of town chambers were also air conditioned but only 13.59% of clinics had air purifiers and those were in the city area.

25.71% of city and suburb dentists got positive for COVID at the end of this survey and among them all were tested positive first in the family. In town 18.33% got positive and they were the first sufferers in the family.

73.23% COVID positive participants were in the above 50 years of age group.

Participants below 30 years of age group were most particular about maintaining the Indian Ministry of Health protocol for dentists. Irrespective of age, protocol maintenance by the number of city dentists were significantly higher than the number of town dentists ( $p = 0.041$ ). Same way, participants who used to deal less than 10 patients per day were more particular than those who used to deal more than 20 patients per day ( $p = 0.032$ ).

70.38% dentists restricted their service to non-aerosol generating procedures till August 2020 and they were mostly from city and suburb.

We found that doing or avoiding aerosol generating procedures did not significantly affect dentists of becoming COVID-19 positive.

#### V. DISCUSSION

COVID-19 pandemic jeopardized life. Restrictions in travelling, social mixing and gathering affected economy and resulted in downfall of GDP in a worst way.

Health workers bounced back to combat the situation with their untiring efforts.

We dentists who do practice in the quarantine zones were bound to close clinics for some period of time.

That time professional services were maintained by telephonic conversation.<sup>[10]</sup>

Later when clinics were opened, we restricted our services to emergency treatment only.

After coming up of safety protocols given by different official organisations and attending webinars, gradually we started all types of dental treatments.

There was a noticeable reduction in no. of patients in dental practice in all three regions except town



dentists who were already dealing more than 20 patients per day.

Probably patients were scared of coming to clinic due to cross infection.

And in this economic scenario when GDP was going down, patients were not willing to bear the treatment cost except emergency situations.

In contrast to city and suburb dentists, town dentists never closed their clinics for more than 2 weeks.

Only 3.8 % of the dentists were reluctant about maintaining some screening system. Among them most used to deal with more than 20 patients per day, most were in the above 50 age group and from town.

Truly speaking only 12.62% of dentists were following safety protocols given by any official organization almost toto and they belonged to city.

Tendency of maintaining the safety protocols at least to some extent is high in below 50 age group. Probably after reaching a certain age, it is difficult to cope up with something new.<sup>[5,9]</sup>

14.07% of dentists think using PPE instead of surgical gown has no justification. Wong SF et al. in their publication supported this thought.<sup>[13]</sup>

67.39% of town dentists did not wear PPE due to unavailability. It is true, regular supply of PPE specially in remote areas was inadequate until recently.<sup>[11]</sup>

Obviously 15.04 % of dentists did not wear PPE due to inconvenience.<sup>[7]</sup>

Unanimously dentists considered face shield a must for protection. Dentists give much value to face shield than PPE.

But the fact is only 16.99% of dentists discard PPE/ surgical gown, face shield regularly. Those who used to do this were from city, used to deal less than 10 patients per day and from below 50 years of age group.

## VI. CONCLUSION

There was a marked reduction in no. of patients in all the three types of practising zone. Doing or avoiding aerosol generating procedures did not significantly affect dentists to get COVID-19 positive. Dentists practicing in the city area and those who treat relatively a smaller number of patients are more particular about maintaining the safety protocol.

## REFERENCE

- [1]. Circular for COVID-19 – Ministry of Home Affairs, Govt. of India.
- [2]. EIOS Newsletter, January 2020

- [3]. Guidelines for Dental professionals in COVID-19 situation-Ministry of Health and Family Welfare, India
- [4]. Jie Cui et al – Origin and evolution of pathogenic coronaviruses, *Nat. Rev. Microbiol.* 2019, March.
- [5]. Matthew R. Nassar, Rasmus Bruckner et al. – Age differences in learning emerge from an insufficient representation of uncertainty in older adults, *Nature Communications* 7, article number 11609 (2016)
- [6]. Morteza Banakar, Kamran Bagheri Lankarani, Ashkan Mohammed Sadeghi – COVID-19 transmission risk and protective protocols in dentistry: a systematic review - *BMC Oral Health*, 20, Article number: 275(2020), 8 October, 2020.
- [7]. P. Bhanushali, Farhin Katge – Changing trends and its impact on future of dentistry – *International journal of dentistry*, V-2020/Article ID-8817424, <https://doi.org/10.1155/2020/8817424>
- [8]. Pier carmine, Passarelli – The impact of COVID-19 infection in dentistry. *Exp. Biol. Med.* (Maywood), June 2020
- [9]. Rachel Clark et al. – Are there age-related differences in the ability to learn configural responses?, [Journals.plos.org>plosone>article](https://journals.plos.org/plosone/article)
- [10]. SM Balaji – COVID19- Future of dentistry, *Indian Journal of Dental Research*, March-Apr 2020.
- [11]. Teena Thacker – Covid-19 outbreak: protective health gear in short supply, *The Economic times*, March 23, 2020
- [12]. WHO director General's opening remarks at the media briefing on COVID-19 – *WHO Newsletter*, 11 March 2020
- [13]. Wong SF, Chow KM, Shek CC, et al., Measures to prevent healthcare workers from contracting severe acute respiratory syndrome during high-risk surgical procedures. *Eur J Clin Microbiol Infect Dis* 2004; 23;131-133.