

Awareness, Attitude, and Proficiency of Oral and Maxillofacial Surgeon toward COVID-19 Pandemic

Ashutoshdutt Pathak¹, Neha Jain^{2*}, Ajay K. Pillai², Sabhrant Singh¹, Sushil Kishnani³, Vijayata Sharva⁴

¹Department of Oral and Maxillofacial Surgery, People College of Dental Science and Research Center, Bhopal, Madhya Pradesh, India.

²Department of Oral and Maxillofacial Surgery, People Dental Academy, Bhopal, Madhya Pradesh, India.

³Department of Conservative Dentistry and Endodontics, People College of Dental Science and Research Center, Bhopal, Madhya Pradesh, India.

⁴Department of Public Health Dentistry, People Dental Academy, Bhopal, Madhya Pradesh, India.

Abstract

Background: COVID-19, a pandemic, has created a social, economic, and emotional void among the folk globally. During the early pandemic, a lot of havoc and misconception were prevailing in minds of general public and maxillofacial surgeons were also not spared from this. Oral and maxillofacial surgeons (OMSs) also carry a risk factor in becoming a source of contagion causing virus transmission to their family, friends, and colleagues. Thus we conducted a study with an aim to determine the attitudes, knowledge and awareness about the transmission of corona virus among oral and maxillofacial surgeons in early pandemic while performing maxillofacial treatment. **Materials and Methods:** A cross-sectional questionnaire-based survey was conducted on 2888 members of Association of OMS of India. The pretested questionnaire was sent through Google Forms and the results obtained were analyzed. **Results and Conclusion:** Younger and female OMSs displayed a greater level of anxiety during early pandemic.

Keywords: COVID-19, Female, Oral and maxillofacial surgeon, Younger.

INTRODUCTION

COVID-19, a pandemic caused by coronavirus or severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has unleashed an emergency and havoc situation worldwide affecting the people socially, economically, and emotionally.^[1] Novel coronavirus was first observed in a patients with pneumonia of unknown cause in December 2019 at Wuhan, Hubei Province, China, on December 31, 2019.^[2] Soon the epidemic advanced to other countries so the World Health Organization declared the 2019–2020 coronavirus outbreak as a Public Health Emergency of International Concern on January 30, 2020, and later as a pandemic on March 11, 2020.^[2] SARS-CoV2 is a betacoronavirus, which is an enveloped, positive-sense, and single-stranded RNA virus which is transmitted from animals to humans through intermediate hosts such as bats.^[3] The escalation of infection from human to human may occur through coughing, sneezing, and inhalation droplets.^[4] The main source of infection is COVID-19-positive patient, the asymptomatic ones are extremely contagious, with a strong infectivity in the incubation period ranging from 1 to 14 days (24 days has also been reported).^[2] The disease may show symptoms such as fever, chills, cough, cold, sore throat, breathing difficulty, myalgia, nausea, vomiting, and diarrhea.^[3]

Oral and maxillofacial surgeons (OMSs) are at higher risk of developing COVID-19 infection due to close acquaintance with patient secretion such as saliva, mucus, blood, and water droplets while diagnosing and managing resulting in becoming a source of contagion.^[2,5] Prolong exposure time with virus while performing surgeries imposes greater risk of infection.^[6] Viral load in the nose and the aerosolized form of the virus can persist for up to 3 h in the air and 48–72 h on selected surfaces.^[5] Health care workers can be asymptomatic carriers of the virus, causing virus transmission to their family and friends.^[6]

The aim of this study was to determine the attitudes, knowledge, and awareness about the transmission of coronavirus among OMS in early pandemic while performing maxillofacial treatment. The investigators hypothesize that anxiety levels were high due to the COVID-19 pandemic.

Address for correspondence: Dr. Neha Jain,

Department of Oral and Maxillofacial Surgery, People Dental Academy,
Bhopal, Madhya Pradesh, India.
Email: nehamds26aug@yahoo.in

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MATERIALS AND METHODS

A cross-sectional study was conducted on Association of OMS of India (AOMSI) members. The sampling technique was convenience sampling. The study was approved by People University Institutional Ethical Clearance Committee (PU/IECC/03456/2020). The survey in the form of pretested questionnaire (through Google Forms) was sent electronically to AOMSI members through email. The AOMSI President was contacted to provide the email address of the student life members and consultant life members. This research was conducted from December 1, 2020, to December 31, 2020. The questionnaire was framed to determine the level of knowledge and attitude about the transmission of coronavirus during maxillofacial treatment.

The study population who did not fill complete survey form and those who failed to send the survey form on time, that is, after December 31, 2020, were excluded from the study.

The questionnaire included demographic data (age, gender, marital status, parental status, and qualification). It also investigated general knowledge, attitudes, and awareness of OMS members toward COVID-19 pandemic. Members were asked to answer the following pretested questions.

1. Do you hesitate to perform maxillofacial treatment in COVID-19 patient?
2. Do you feel all infected patients with COVID-19 die?
3. Do you consider yourself at occupational risk of getting COVID-19?
4. Do you believe if you get infected by coronavirus, you will recover?
5. Do you consider that you should test every patient for COVID-19 virus?
6. Do you feel N95 mask and personnel protective equipment (PPE) kit provides sufficient protection during treatment of a COVID-19 POSITIVE patient?
7. Does patient outpatient department (OPD) has decreased because of COVID-19?
8. Do you postpone elective surgery and perform only the emergency procedure?

The mode of dissemination of information about COVID-19 was also asked to mention.

Statistical analysis

Data were entered into Microsoft Excel spreadsheet and descriptive data were analyzed using SPSS software (Version 21.0) developed by IBM Corporation. One-way analysis of variance (ANOVA) and independent *t*-test were used to compare the mean scores. Tukey's honestly significant difference *post hoc* test was done for the attitude score since it was found to statistically significant in one-way ANOVA. For test, $P < 0.05$ is considered as statistically significant.

RESULTS

The questionnaire was sent to 2888 members. Out of which 940 members responded. Thus, 32.54% acknowledged to the survey.

Out of 940 members, 480 (51.06%) were male and 460 (48.93%) were female. Three hundred and forty (36.17%) members were aged between 20 and 35 years, 401 (42.65%) were between 36 and 50 years, and 199 (21.17%) were more than 50 years. The majority of the members were married, that is, 538 (57.23%), 386 (41.06%) were unmarried, and 16 members (1.70%) were divorcee. Four hundred and ninety-nine (53.08%) members had children, 423 (45%) members did not have child whereas 18 (1.91%) were expecting. Four hundred and sixty (48.93%) were pursuing their postgraduation and 480 (51.06%) were consultant maxillofacial surgeons.

Table 1 presents the attitudes, knowledge, and awareness of AOMSI members toward treatment during COVID-19. The majority of the members hesitated while treating COVID-19-positive patients ($n = 928$, 98.7%). About 99.1% of members had opinion that COVID-positive infected patient survive after their battle with COVID infection. About 99.7% of members reported that they are at higher occupational risk of becoming infected. About 97.8% of members believe that they would recover from COVID-19 infection, if they get infected. Eight hundred and forty-three (89.6%) members believe that each and every patient should be tested for COVID-19 before undergoing any maxillofacial procedure. Six hundred and sixty-seven (71%) members thought N95 mask and PPE kit would not provide sufficient personal protection during treatment of COVID-positive patient. Eight hundred and fifty-

Table 1: Attitude, knowledge, and awareness of AOMSI members toward treatment during COVID-19

Question	Yes <i>n</i> (%)	No <i>n</i> (%)
Do you hesitate to perform maxillofacial treatment in COVID-19 patient?	928 (98.7)	12 (1.27)
Do you feel all infected patients with COVID-19 die?	8 (0.8)	932 (99.1)
Do you consider yourself at occupational risk of getting COVID-19?	938 (99.7)	2 (0.21)
Do you believe you will recover if you get infected by coronavirus?	920 (97.8)	20 (2.12)
Do you consider that you should test every patient for COVID-19 virus?	843 (89.6)	97 (10.3)
Do you feel N95 mask and PPE kit provides sufficient protection during treatment of a COVID-19-positive patient?	273 (29)	667 (71)
Does patient OPD has decreased because of COVID-19?	852 (90.6)	88 (9.3)
Do you postponing elective surgery and perform only the emergency procedure?	617 (65.6)	323 (34.3)

AOMSI: Association of Oral and Maxillofacial Surgeons of India, OPD: Outpatient department

two (90.6%) members found that their OPD has reduced during COVID-19 pandemic. Six hundred and seventeen (65.6%) members had opinion to perform only emergency procedure and deferring elective surgery.

A statistically significant result was obtained between age and attitude of the members suggestive of experienced members who have a positive attitude and were better aware about handling the pandemic situation (Table 2).

A statistically significant result was observed when the attitude of male and female was compared which shows that females were more anxious about getting infection (Table 3).

We found that internet was major mode used by the members to get them updated regarding COVID-19. Other sources which were used by the members were television (25%), social media 20%, and newspaper was used by 13% of members (Figure 1).

DISCUSSION

The goal of this study was to assess the attitude, knowledge, and awareness about the transmission of coronavirus among OMS while managing maxillofacial cases during early pandemic.

Table 2: Comparison of mean attitude between age groups

Age groups	N	Mean	SD	P-value
20–35 years	340	3.114	0.89332	0.000*
36–50 years	401	3.645	0.47884	0.000*
>50 years	199	4.482	0.50095	0.000*

*Statistically significant, SD: Standard deviation, n: Number of subjects

Table 3: Comparison of mean score of attitude between genders

Score	Gender	n	Mean	SD	P-value
Attitude Score	Male	480	3.825	1.1407	0.000*
	Female	460	3.432	0.6968	

*Statistically significant, SD: Standard deviation, n: Number of subjects

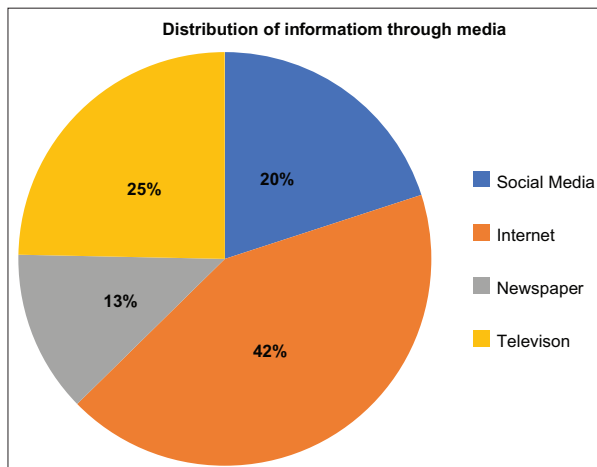


Figure 1: Distribution of source of information

COVID-19 pandemic has imported a lot of anxiety among population and maxillofacial surgeons are not exempted from this. In the study, we observed that 98.7% of the members exhibit this fear while performing the procedures and 99.7% considered themselves to be at higher occupational risk in getting infection. The reason may be because of the longer exposure time while performing surgery and aerosol emitting during fixation of reduced fracture segments.^[7] About 99.1% believed that all infected COVID-19 patients do not die. About 97.8% of members stated that they will recover soon if at all they get infected. Comorbidities may just delay their recovery for few days but will not hamper it. As quoted that necessity is the mother of invention, participants were continuously exploring the internet to refurbish their knowledge on COVID-19 protocols and preventive measures, which led to an optimistic response.

About 89.6% believed to test each and every patient before undergoing any maxillofacial treatment during the pandemic which reflected their level of anxiety. This ideology of testing each and every patient was followed mostly by younger surgeons. Although senior surgeons opined, only symptomatic patients for COVID-19 should go for testing. The result was inconsistent with the study conducted by Dina *et al.*^[6] Dina *et al.* emphasized that the rapid testing can reduce anxiety and fear among OMS surgeons as then each and every patient can undergo testing.

Six hundred and sixty-seven (71%) participants in our study had a mindset that N95 mask and PPE kit would not provide sufficient personal protection during treatment of COVID-positive patient. Apprehension among OMS has prompted them to explore regarding proper infection control methods. N95 filtering face piece respirators (FFRs), surgical N95 FFRs, and powered air-purifying respirator (PAPR) were major protective equipment's and of these three, PAPRs provided highest protection as it reduces the aerosol concentration inhaled by the wearer to at least 1/25th of that in the air compared with the 1/10th reduction for FFRs and elastomeric half face piece air-purifying respirators.^[8]

Eight hundred and fifty-two (90.6%) members found that their OPD has reduced during COVID-19 pandemic. Six hundred and seventeen (65.6%) members were of opinion to performing only emergency procedure and deferring elective surgery. Prioritizing the surgical care is must to prevent the infection from spreading.

A statistically significant result was obtained between age and attitude of the members suggestive of experienced surgeons who had a positive attitude in handling the pandemic situation. The reason may be because they were more experienced, more educated, and were better in coping with anxious situation. The study is in accordance with a study conducted by Dina *et al.*^[5,6] and Reolon *et al.*^[5,6]

A statistically significant result was observed when the attitude of male and female was compared which shows that females were more anxious about getting infection. The results are

hand in hand with other studies.^[5-7] Female exhibited more apprehension because of physical fatigue, psychological vulnerability, additional responsibilities at home, fear of health risks to their families, and a lack of adequate training, equipment, and facilities, in addition to lack of support from society.^[7]

The knowledge of information regarding COVID-19 globally was disseminated through various modes, namely, internet, television, social media, and newspaper. In our study, we found maximum members got themselves updated through internet. Pasiga^[4] in their study found internet and social media to be a major mode of distribution of health information. However, social media has a disadvantage for spreading rumors and misinformation, inducing a state of fear and anxiety among the people. However, in our study, majority gained the knowledge through internet and online which were regularly updating the awareness for COVID-19.^[6]

Although the study had some limitation as it involved very few members, only 32.54% responded. Second, our study was a cross-sectional study and we had not examined test-retest reliability and whether the stress and apprehension among people have reduced when there was substantial increase in COVID-related knowledge.

CONCLUSION

The COVID-19 pandemic has introduced a state of fear and apprehension among OMS surgeon which was observed more in female and younger surgeons.

ETHICAL APPROVAL

People University Institutional Ethical Clearance Committee (PU/IECC/03456/2020).

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