

Fear of general public towards dental treatment during COVID-19 Pandemic- A cross-sectional survey

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ABSTRACT

Background: Covid 19 is highly contagious. Unfortunately, Dental clinic becomes a high risk center for the potential spread of Covid-19 through the aerosols and droplets generated during dental procedure.

Aim: To assess the knowledge, perception, attitude of the general population towards dental treatment during COVID 19 pandemic period.

Methods: The cross sectional study was conducted online through pre-tested questionnaires circulated among the general public to assess their attitude towards dental treatment during COVID outbreak. Data tabulation and analysis was done using IBM SPSS software (version 21). The association between parameters were performed using chi-square test. If the p value is less than than 0.05 then it was considered significant.

Results: A total of 100 participants responded. 52% of males and 48% of females. 83.9% showed a fear attitude towards dental treatment during COVID 19 pandemic period.76% of them hesitate to take elderly/children to dental treatment during a covid pandemic.68% of them had visited dentist during covid 19 pandemic and 32% didn't visit dentist during covid.51% of Males compared to 45% female ask their dentist about the sterilization protocol followed in the clinic(p value= 0.278).50% of Males and

45% of females were aware that aerosol is the common route for covid 19(P value= 0.479). All the common preventive measures were mostly followed by both male (51%) and females (47%) (P value= 0.367).

Conclusion: The study records an overall reluctance and fear of the general public in undergoing dental procedure during Covid outbreak. Dentists should take the additional measures to devise protocols that inhibit cross-infection and educate the patients about having safe treatment during Covid-19 pandemic period.

Keywords:covid19,dental treatments, patients ,fear , dentist,innovative technology, novel method.

Introduction:

On 30 January,2020 the WHO declared a global public emergency about Covid-19. The disease was first recorded in Wuhan, China(1). The Covid-19 belongs to beta Corona-virus family and it is a respiratory disease that has spread across the world and it is highly contagious nature(2). It is the human to human transmission through the airborne droplets, touching or in contact with the place where the infected person touches(3). Some people affected by the Covid-19 had no symptoms of covid like dry cough, body aches, breathlessness, loss of smell and taste(4). The covid 19 became global health crisis with 15,296,920 cases and 6,28,903 deaths worldwide(5). The covid 19 has unique features which can change into another member of the corona family(6). when the covid is positive to the person they are recommended to be in quarantine which is for 14 days. The incubation period is 4 to 14 days(7)

Due to having face to face contact with the patient the dentist has a high risk of contracting covid 19 and rapid spread and poor knowledge of the disease there is fear of covid among dentists as well as patients(8). There were a lot of chances to spread covid 19 to the dentist by the asymptomatic patients. It was considered that the covid 19 can be transmitted through aerosol droplets; the dentist has a high risk of covid(9). During the dental procedure it is unavoidable in using hand piece and ultrasonic instruments and in generation of saliva and blood. The dentist is forced to do only the emergency treatment during COVID(10). The dentist faced many financial problems during lock down and they were forced to shut their clinic except in emergency cases(11).

During the COVID-19 the patients were afraid for dental treatment because the aerosol was the common route of COVID-19. The dentist and patient have close contact and oral mucosa was considered as an important point of transmission of covid(12). The patients are scared of dental instruments used during the dental treatment and the dental chair, overcrowding in the hospital can cause Covid-19. There was a fear on elderly patients because covid 19 easily affects the patients who are above 60 years and they cancelled the appointments(13). Many parents have the fear of bringing their children to dental treatment during COVID because it affects the children easily(14). Our team has extensive knowledge and research experience that has translate into high quality publications (15),(16),(17),(18),(19),(20),(21),(21,22),(23),(24),(25),(26),(27),(28),(29),(30),(31),(32),(33),(34). Thus the study aims to assess the psychological inhibitions faced by patients to approach a dentist for a treatment during COVID 19 outbreak

Materials and methods:

After obtaining prior approval from the institutional standard review board, the cross sectional study was conducted to assess the fear of dental treatment during COVID 19 among the general population. A close-ended, structured questionnaire was prepared using google forms and circulated online. The responses from the google forms were transferred into excel and exported to IBM SPSS software (version 21). Descriptive statistics was done using frequency and percentage. Inferential statistics was done using Pearson's Chi square test. Interpretation was based on a p value less than 0.05, which was considered statistically significant. Comparisons were done between independent variable gender and knowledge, attitude practice responses by the participants.

Results:

The survey was conducted with 100 participants. 91% of them were between 18 to 25 years and 9% of them were from 26 to 35 years (fig 1). 48% of them are female and 50% of them are male (fig 2) under the age of 68% of them visited dentist during covid 19 pandemic and 32% didn't visit dentist during covid (fig 3). 98% of them accepted that covid 19 is highly contagious (fig 4).95% of them were aware that aerosol was a common route of covid 19 (fig 5). 82% of them were scared to visit the dentist (fig 6) .79% of them were scared to travel during covid 19 (fig 7). 96% of them asked the dentist about sterilisation protocol (fig 8).93% will ask the dentist about the dental appointments (fig 9). 76% of them say no to taking elderly/child to dental treatment during a covid pandemic (fig 10). 92% will ask the dentist about the dental chair and accessories that are disinfected after every patient (fig11). 98% will follow all the preventive measures like mask, sanitizer, social distancing (fig 12).

The cross tabulation was made between what is your gender and preventive measures you will take before going to the dentist. In this 98% of them follow all the preventive methods and it is a nonsignificant value 0.367 (fig 13). The cross tabulation was made between gender and will you ask the dentist about the sterilisation protocol. In this 96% of them say yes. Its nonsignificant value is 0.278 (fig 14). Cross tabulation was made between what is your gender and are you scared to visit the dentist after covid 19 outbreak. In this 93% of them say yes and it is nonsignificant value 0.479 (fig15). Cross tabulation was made between what is your gender and are you aware that aerosols during dental treatment is a common route of covid and it is a nonsignificant value 0.582 (fig16).



Fig. 1: Pie chart representing the age of the study participants. The blue colour denotes the age group between 18 to 25 years and the green colour denotes the age group between 26 to 35 years. The most predominant age group participated in the study was between 18 to 25 years 90.91%. 9.09% of participants were in the 26-35 years age group.



Fig 2: Pie chart representing dental visits during covid 19 period .The blue colour represents no and green colour yes. 67.68% of participants had visited the dentist and 32.32% did not have any dental visit during COVID pandemic period.



Fig 3: Pie charts depicting the responses regarding the knowledge that aerosol is a common route of covid transmission during dental treatments .The blue colour represents no and green colour represents yes . 94.95% of participants were aware that aerosol is the common route for covid spread during dental procedure.5.05% of participants were not aware that aerosol is common route for covid spread during dental procedure.



Fig 4: Pie chart represents responses as to fear of the participants to travel during covid 19 outbreak. The blue represents no and green colour represents yes. 78.79% of them are scared to travel to visit dentist during covid 19 pandemic. 21.21% are not scared to travel during covid 19 pandemic.



Fig 5: Pie charts represent responses of participants regarding knowledge about the sterilisation protocol . The blue represents no and the green represents yes . 95.96% of participants had enquired their dentists about the sterilisation protocol followed in the clinic as a measure to keep the infection under control 4.04% of the participants had not enquired their dentists about the sterilisation protocol followed in the clinic as a measure to keep the infection under control clinic as a measure to keep the disinfection under control.



Fig 6: Pie charts represent that preventive measures taken by participants before visiting a dentist during covid pandemic. The blue colour represents All the above the green colour represents mask and yellow colour represents social distancing . 97.98% of them follow all the preventive methods like social distancing, wearing a mask, sanitizing their hands, avoiding touch of surfaces in the clinic. 1.01% of them were only masks and 1.01% followed the social distancing.



Error Bars: 95% Cl

Fig 7: Bar graph represents association between gender and preventive method taken before visiting a dentist. X Axis represents the gender and Y axis represents the preventive measures taken before going to the dentist. Social distancing is represented in yellow colour, mask is represented in brown colour, All the above is represented in red colour. All the preventive measures like social distancing, wearing a mask, sanitizing their hands, avoiding touch of surfaces in the clinic were followed by 48% of males and 52% of females. The difference was not statistically significant (chi square test, P- value = 0.367).





Fig 8; Bar Graph represents association between gender and asks the dentist about sterilization protocol during covid. X axis represents the gender and Y axis represents no of respondents enquiring their dentists about the sterilization protocol during covid. Yes represents the green colour and No is represented by the blue colour. 45% of Males compared to 51% female ask their dentist about the sterilization protocol followed in the clinic. The difference was statistically insignificant (chi square test,P-value = 0.278).





FIG 9; Bar Graph represents the association between the gender and fear of visiting the dentist during the covid 19 outbreak.X axis represents the gender and y axis represents fear of visiting the dentist after the covid 19 outbreak. Yes represented by the green colour and no is represented by the green colour. 38% of the male compared to 44% females were scared to visit the dentist during covid 19 outbreak. The difference was statistically insignificant (chi square test,P-value = 0.582).



Error Bars: 95% CI

Fig 160 Bar graph represents the association between the gender and awareness that aerosol during dental treatment is a common route of covid 19. X axis represents the gender and Y axis represents the aerosol is the common route of covid 19. Yes is represented by the green colour and no is represented by the blue colour. 45% of Males were more aware compared to 50% of females that aerosol is the common route for covid 19. The difference was statistically insignificant (chi square test,P value = 0.479).

Discussion:

The Covid-19 is a respiratory disease that has spread across the world. It is a highly contagious disease, transmitted through the airborne droplets, touching or in contact with the place where the infected person touches. Day by day, India has been recording ever rising cases with death rates. The dentist faced many financial crises during the lockdown. They are forced to shut their clinic except in emergency cases (35).

During the dental procedure it is unavoidable in using hand piece and ultrasonic instruments and in generation of saliva and blood. The dentist can be affected by covid 19 by the asymptomatic patients.

In this study 95% of the participants were aware that aerosol is the common route of covid 19 crossinfection. Not only the patients, even dentists have shown their fear of this transmission during the dental treatments. Even the covid 19 spread through blood and saliva produced stands a major chance in a dental set-up(36). In a previous study by Imran. E, et al, only 78.3% of the participants agreed that extraoral suction or cross-ventilation can control aerosol (water droplets) spread.

The overcrowding, sterilization protocol and whether the dental chair and accessories are disinfected and they are scared to take eldery and child to dental treatments because covid can affect easily. In this study 96% of the participants enquired the dentist about the sterilization protocol during dental treatment during the covid outbreak where as in the previous study by Martina, et al, only 60% of them only ask the dentist about the sterilization protocol to avoid of getting infected of covid during the dental treatment(37).

In this study 98% of the respondents were aware that covid 19 is highly contagious whereas in a previous study by Fardi.S, et al, 55.3% of them responded. In this study 76% of them responded that they will not take the child in their family to the dentist during covid. whereas in the previous study 82.9% will not take the child to the dentist during covid 19 because they are afraid that the covid 19 can easily affect the child and eldery people easily so the participants are afraid to get the child to the dentist(38). In this Present study 82% of the respondents had expressed their fear to visit the dentist during covid 19 whereas in the previous study 69.1% of the subjects were hesitant to visit the dentist during covid 19. In this study 79% of them took the travel history of the patients whereas in the previous study only 54.33% took the travel history and Majority of the participants did not routinely assess travel history for the patient before scheduling an appointment during the emergencies(39).

Conclusion:

Despite having high standards of knowledge and practices, the majority of the population participating in the study are in a state of anxiety and fear of undergoing dental treatments due to the COVID-19 pandemic. The dental health department has to take measures to educate people about having safe dental treatment during covid 19. The dental professionals should be updated with the current CDC or WHO guidelines for cross-infection control. The psychological problems faced by the patients about the dental treatment during covid 19 should be adequately addressed and online consultations should be available wherever possible.

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