



AWARENESS OF COVID-19 PRECAUTIONS AMONG DENTAL PRACTITIONERS IN ASSAM.

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ABSTRACT

Background : The coronavirus disease has affected the whole world drastically. It was first declared a pandemic by the World Health Organisation (WHO) in Early March 2020. Dental treatment that involves use of surgical instruments such as handpieces can be a major route for the spread of this virus.

Aim: The aim of the study was to evaluate the level of awareness of Covid-19 precautions among the dental practitioners in Assam.

Materials and Methods: A survey was conducted among 250 practitioners in Assam. A questionnaire was created using google forms and was sent to the participants through email. Data was collected and analysed by using SPSS software. Pearson Chi square test was done. In Pearson chi square test, if the p value was less than 0.05 ($p < 0.05$), it was considered to be statistically significant.

Result: Among the 250 participants, more than half of the respondents exhibited a high level of knowledge about Covid-19 symptoms in precautions.

Conclusion: The dental practitioners in Assam were well aware of Covid-19 symptoms, infection methods and its precautions in their dental clinic. Webinars played an important role in updating them about the latest protocols.

Keywords: Covid-19, precautions, dental practitioners, innovative technique, dental education.

Running title - Awareness of COVID -19 precautions among dental practitioners in Assam

INTRODUCTION

The coronavirus disease has affected the whole world drastically. It was first declared a pandemic by the World Health Organisation (WHO) in Early March 2020. It can be easily transmitted during close human to human contact through respiratory droplets. The viral content of saliva is a major source of

infection. (1) The dental procedures and treatments practiced by the dental practitioners are at a high risk of spreading the disease. Dental treatment that involves use of surgical instruments such as handpieces can be a major route for the spread of this virus.(2)

The Covid-19 situation in Assam was not extremely bad as many other places in India but it has slowly become worse. Therefore, it is necessary to create awareness among the dental practitioners in Assam so that they can help themselves as well as the people around them and prevent the spread of this deadly disease. Strict protocols and measures should be practiced and followed by the dental practitioners to prevent its spread. The dental practitioners should make themselves aware about the protocols and constantly keep updating themselves. They have been ordered to take several protection measures and avoid aerosol procedures as much as possible. In India also, it is important to implement the recommended measures in their dental clinics and be cautious.(3)

Our team has extensive knowledge and research experience that has translated into high quality publications (4),(5),(6),(7),(8),(9),(10),(11),(12),(13),(14),(15),(16),(17),(18),(19),(20),(21),(22),(23)

Although a variety of studies have taken place about the level of awareness of Covid-19 precautions among the dental practitioners, only a few were done involving the dental practitioners of Assam. This study aims to evaluate the level of awareness among dental practitioners of Assam and the level of precautions taken by them in order to prevent the spread of this disease.

MATERIALS AND METHODS

A questionnaire comprising 15 questions was created using google forms and was sent to a total of 250 dental practitioners in Assam through email. After the data was collected it was then analysed statistically using the SPSS software, version 23. Pie-charts and bar graphs were used to find the results. It was a cross sectional survey.

The questionnaire comprised a series of questions including their demographic characteristics like age and gender. The other questions are as follows:

- Are you aware of the signs and symptoms of Covid-19?
- Do you think it is important to follow protocols for its prevention?
- How often do you dispose off your masks?
- Do you think the patients are reluctant to get their dental treatment because of the pandemic?
- Have you rearranged your dental set up to maintain social distancing in your waiting area?
- Do you use N95 respirators while doing aerosol procedures?
- Do you think aerosol procedures from ultrasonic scalars and airtar hand pieces could transmit coronavirus from the patient to the health workers and vice versa?
- How often do you sanitise the frequently touched areas in your dental set-up?
- Have you installed HEPA filters in your dental clinic because of the pandemic?
- Do you think HEPA filters can help prevent the spread of the virus?
- Do you follow the correct protocol to don and doff your PPE?
- Have you spaced out or decreased the number of appointments in a day visiting your dental clinic due to the pandemic?
- How do you update yourself about the current dental guidelines?

The data was verified by the Dental anatomy faculty of Private Dental Institute with no resolution of conflict, censored data or error identification. The statistical analysis was done by the software SPSS, version 23. Chi square test was used to arrive at the results. In Pearson chi square test, if the p value was less than 0.05 ($p < 0.05$), it was considered to be statistically significant.

RESULTS

Two hundred and fifty participants completed the survey questionnaire. The majority of the participants were male (56.4%), female (43.6%) They were divided into four age groups, 21-30 years (10%), 31-40 years (40%), 41-50 years (36.80%) and 51-above years (0.80%)

100% of the participants were aware of the signs and symptoms of Covid-19 (Fig 1). 99.60% of them agreed that it is important to follow protocols to prevent the spread of this disease (Fig 2). 90% of the participants dispose off their masks after every patient (Fig 3). 56% of the dentists felt that the patients were not reluctant to get their dental treatment during the pandemic but 44% felt that the patients were reluctant (Fig 4). 89.60% of them have rearranged their set-up in their waiting area to practice social distancing (Fig 5). N95 respirator was used by 99.20% of the dentists for aerosol procedures (Fig 6). 97.20% think that aerosol can transmit the virus (Fig 7).

The frequently touched areas were mostly sanitised after every patient (92.80%), few did everyday (0.80%) and few once in few hours (6.40%) (Fig 8). HEPA filters were installed by 82.80% of the participants (Fig 9). 82.40% of the participants thought that HEPA filters can prevent the entry of coronavirus (Fig 10). 100% of the dental practitioners followed the correct protocol to don and doff their personal protective equipment (Fig 11) and have reduced the number of appointments per day (Fig 12). The dental practitioners mostly updated themselves about the current guidelines through Webinars (54%) (Fig 13). Correlation of gender with few questions was performed using chi square test ($p < 0.05$ was considered significant) as depicted in Fig 14-18.

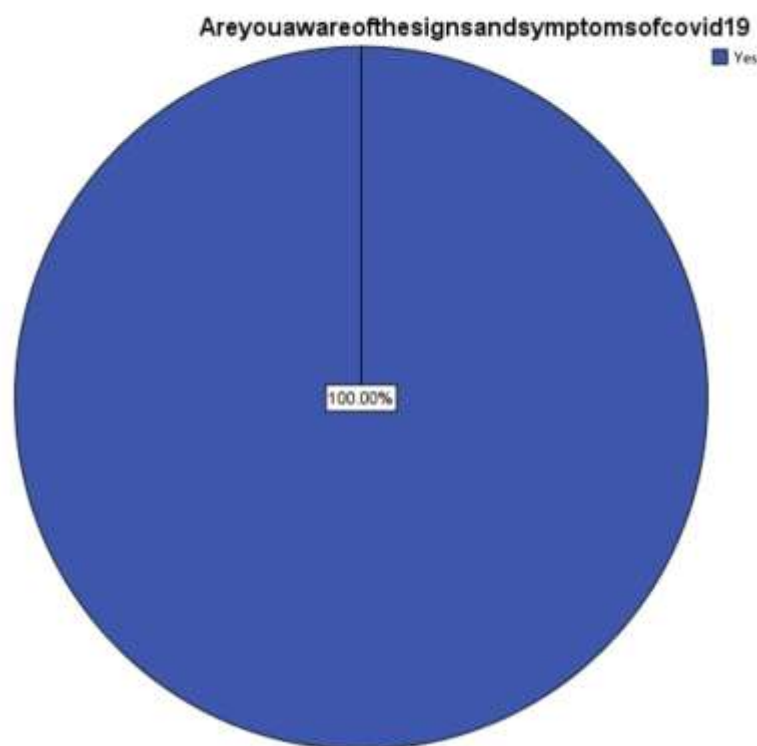


Fig1: Shows the amount of participants that are aware of the signs and symptoms of COVID-19. Blue indicates that 100% of the participants were aware. All the participants were aware of the signs and symptoms of COVID-19

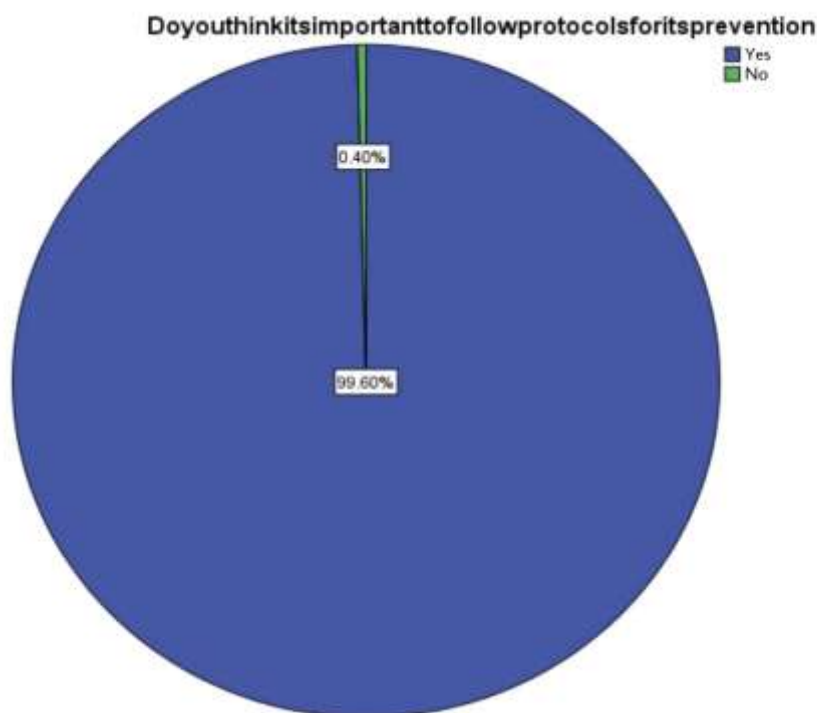


Fig 2: Shows the response of participants that think it's important to follow protocols for the prevention of COVID-19. Blue indicates the participants who agreed that the protocols are important (99.60%) and Green indicates the participants who didn't (0.40%) Majority of the participants agreed that it's important to follow protocols for the prevention of COVID-19.

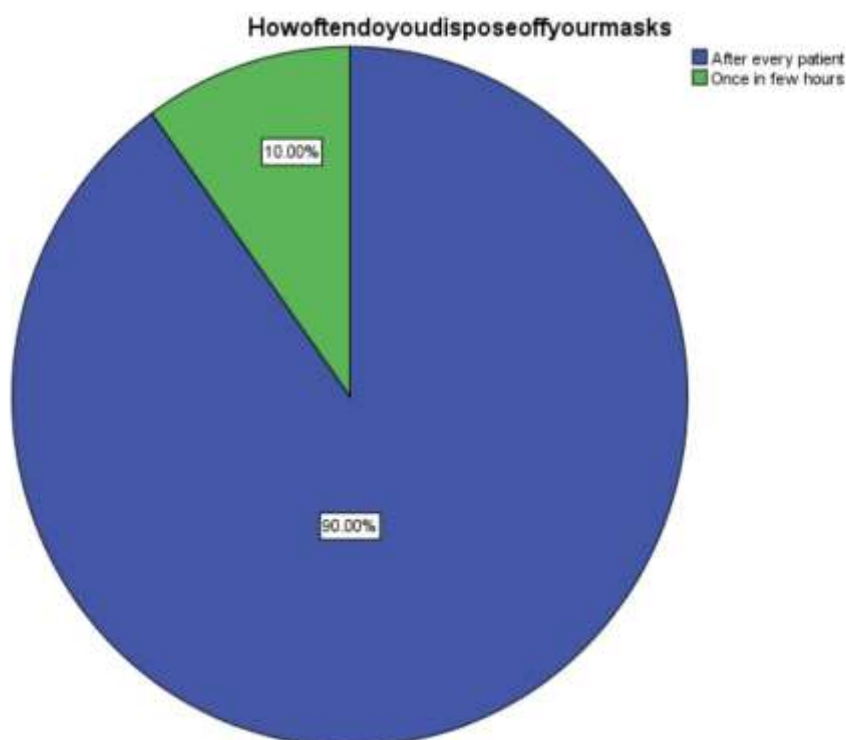


Fig 3: Shows the response of dental practitioners on how often they dispose off their masks. Blue indicates that (90% - Majority) dispose off after every patient and green indicates that 10% once in a few hours. Majority of the participants dispose off their masks after every patient.

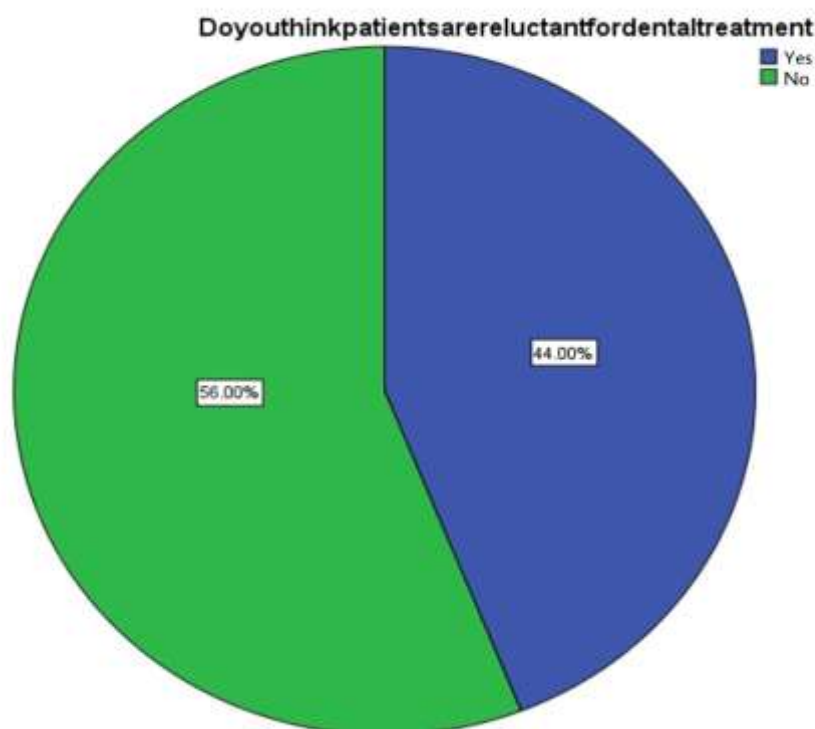


Fig 4: Shows the response of participants who think that the patients were or were not reluctant to receive dental treatment during the pandemic. Green indicated that 54% participants felt that patients were not reluctant, blue indicated that 44% of the participants thought they were reluctant. Majority of the participants think that the patients were not reluctant to receive dental treatment during the pandemic.

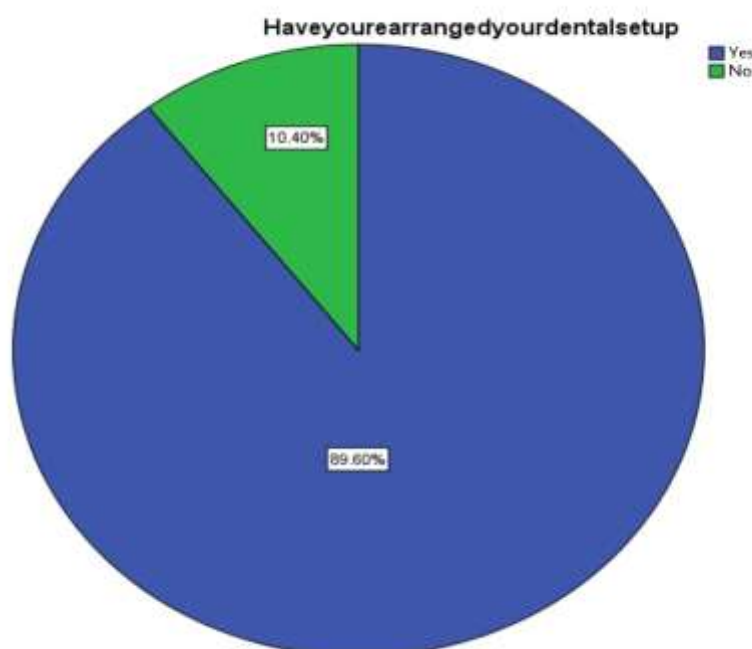


Fig 5: Shows the response of participants who have arranged their dental set up to practice social distancing. Blue indicates the number of participants who have rearranged their set-up (89.60%) and green indicates participants who didn't (10.40%) Majority of the participants have rearranged their dental set up to practice social distancing to prevent the spread of virus.

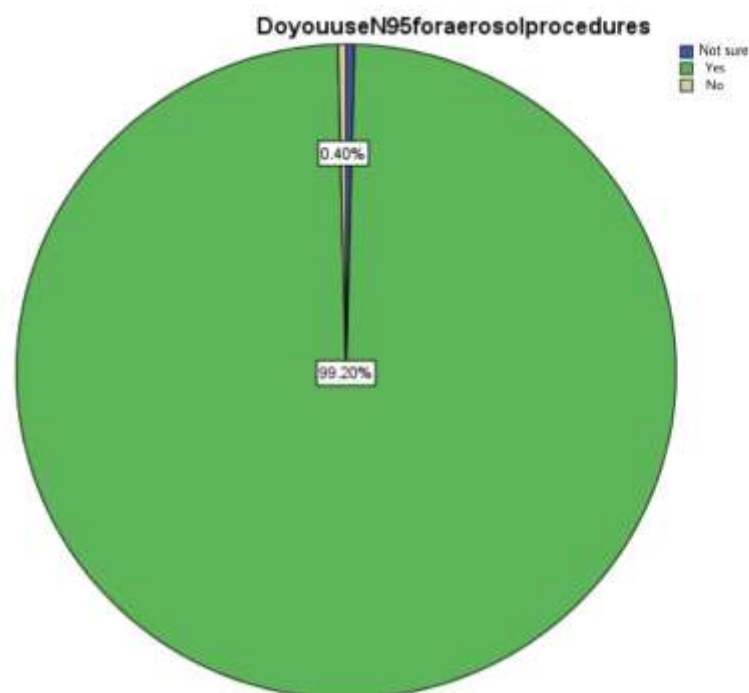


Fig 6: Shows the response of participants who were using N95 respirators for aerosol procedures. Green indicates the participants who were using N95 (99.20%) and white indicated those who didn't use (0.40%) Majority of the participants were using N95 respirators for aerosol procedures.

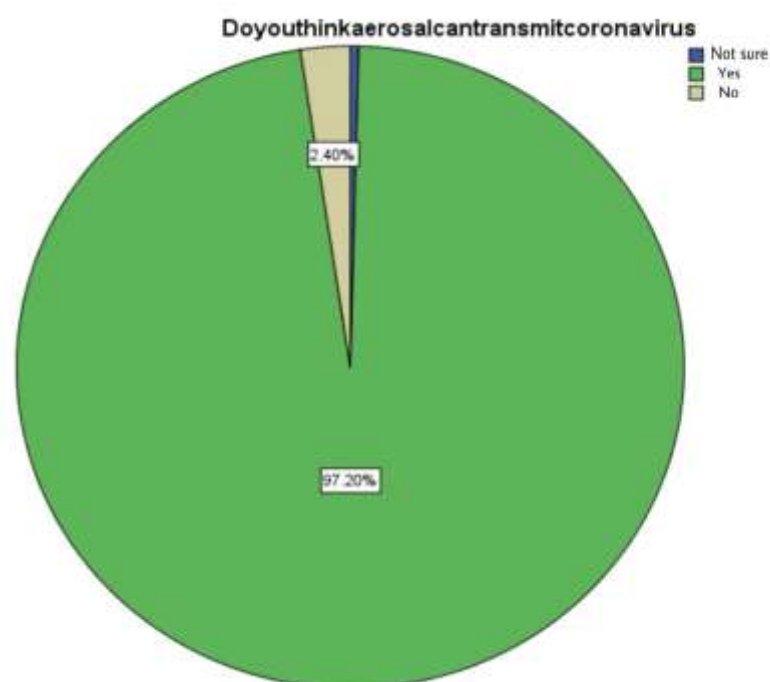


Fig 7: Shows the response of participants who think aerosol procedures can transmit coronavirus. Green indicated the participants who think it transmits the virus (97.20%) and white indicated the participants who didn't (2.40%) Majority of the participants think that aerosol procedures can transmit coronavirus.

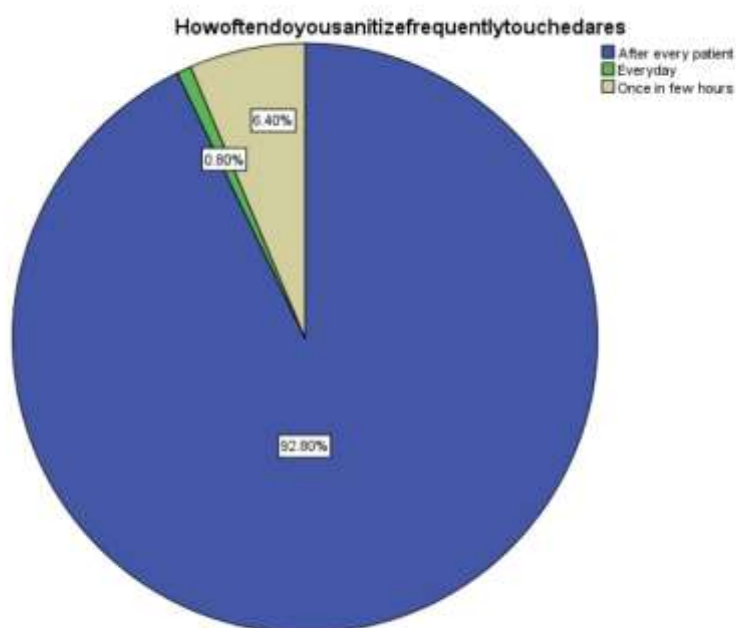


Fig 8: Shows the response of participants on how often they sanitise the frequently touched areas. Blue indicates the participants that sanitise after every patient (92.80%), white indicates participants who sanitise once in a few hours (6.40%) and green indicates participants who sanitise everyday (0.80%) Majority of the participants sanitise the frequently touched areas after every patient.

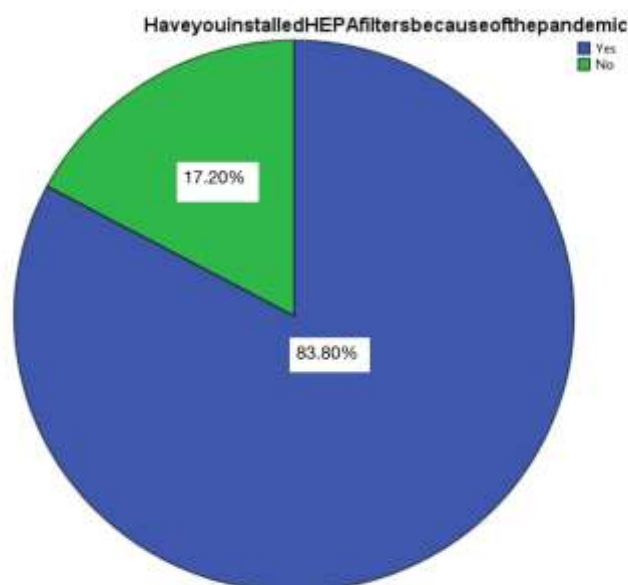


Fig 9: Shows the response of participants who have installed HEPA filters in their clinic. Blue indicates the participants who have installed it (82.89%) and green indicates the participants who didn't (17.20%) Majority of the participants have installed HEPA filters in their clinic.

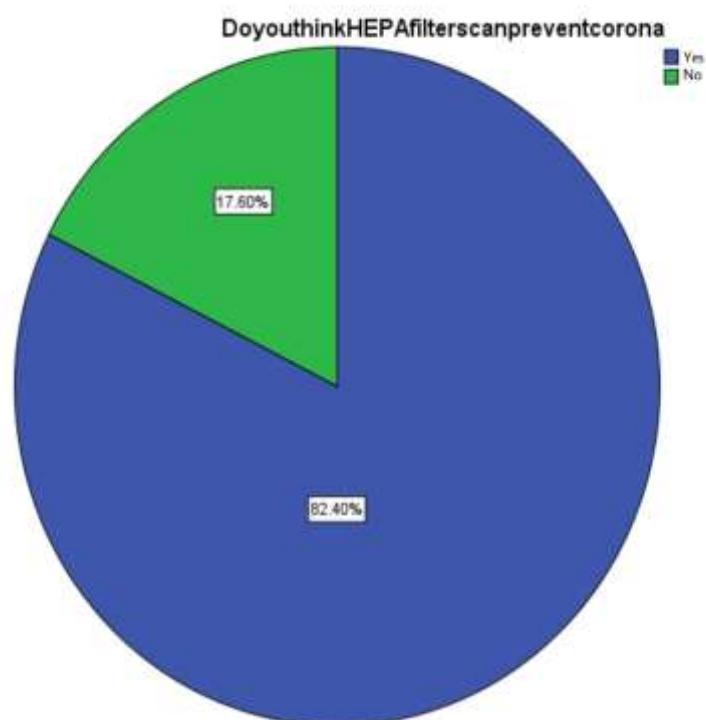


Fig 10: Shows the response of the participants that think HEPA filters can prevent coronavirus. Blue indicates the participants who think HEPA filters can prevent coronavirus (82.40%) and green indicates the participants who think that it doesn't prevent coronavirus (17.60%). Majority of the participants thought that HEPA filters can prevent the entry of corona virus.

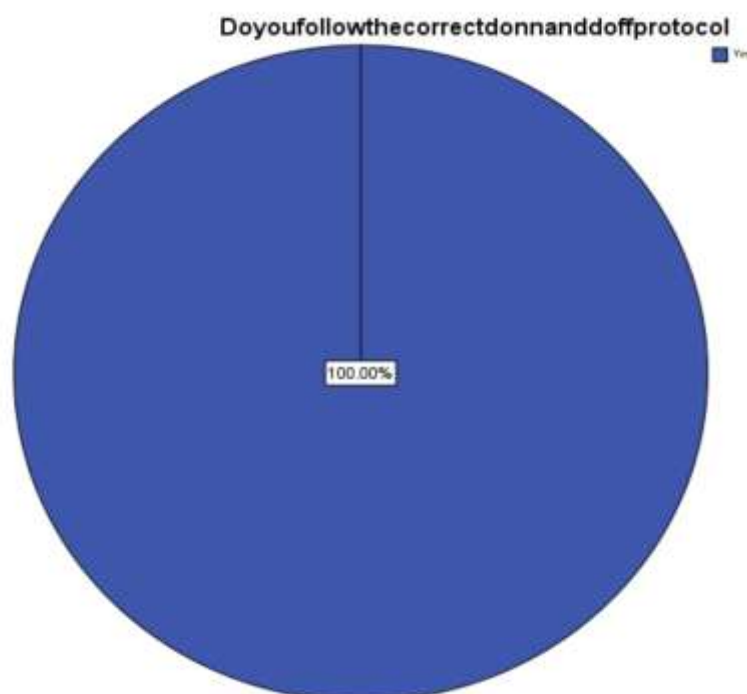


Fig 11: Shows the response of participants following the correct donn and doff protocol of the PPE. Blue indicates that 100% of the participants are following the correct protocol. All the participants follow the correct donn and doff protocol of the PPE.

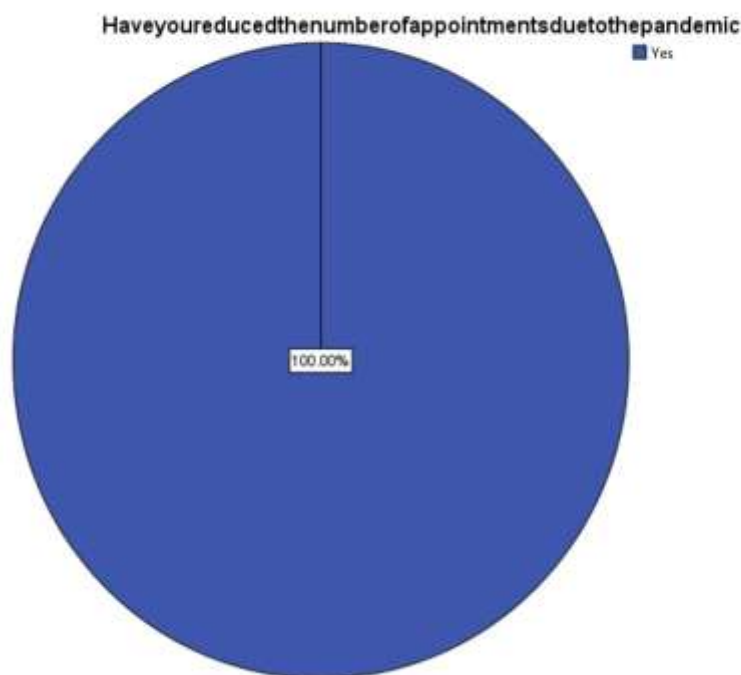


Fig 12: Shows the response of participants who have reduced the number of appointments due to the pandemic. Blue indicates that 100% of the participants have reduced the number of participants. All the participants have reduced the number of appointments due to the pandemic.

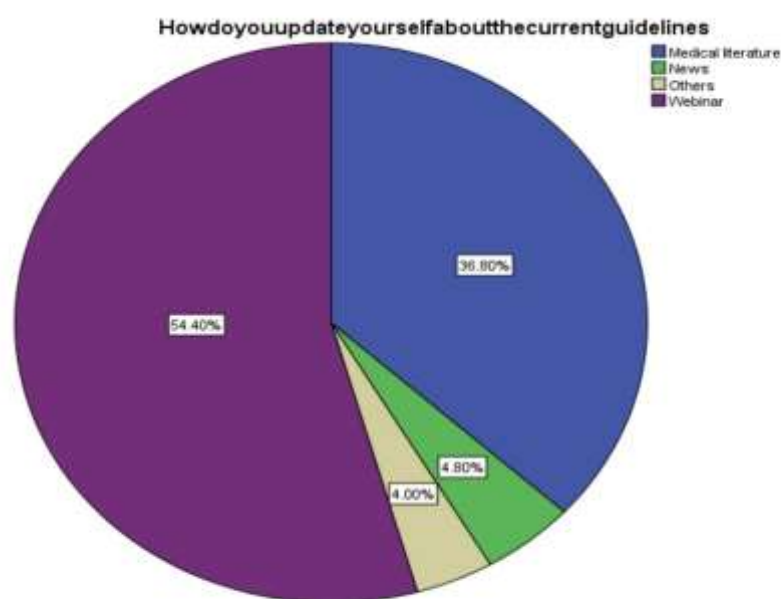


Fig 13: Shows the response of participants on how they update themselves about the current guidelines. Purple indicates that 54.40% of the participants are updating themselves through webinars, blue indicates they are using medical literature (36.80%), green indicates they are updating themselves with the help of news (4.80%) and white indicates the participants who are updating themselves through some other means (4.00%) Majority of the participants have kept themselves updated about the current guidelines with the help of webinars.

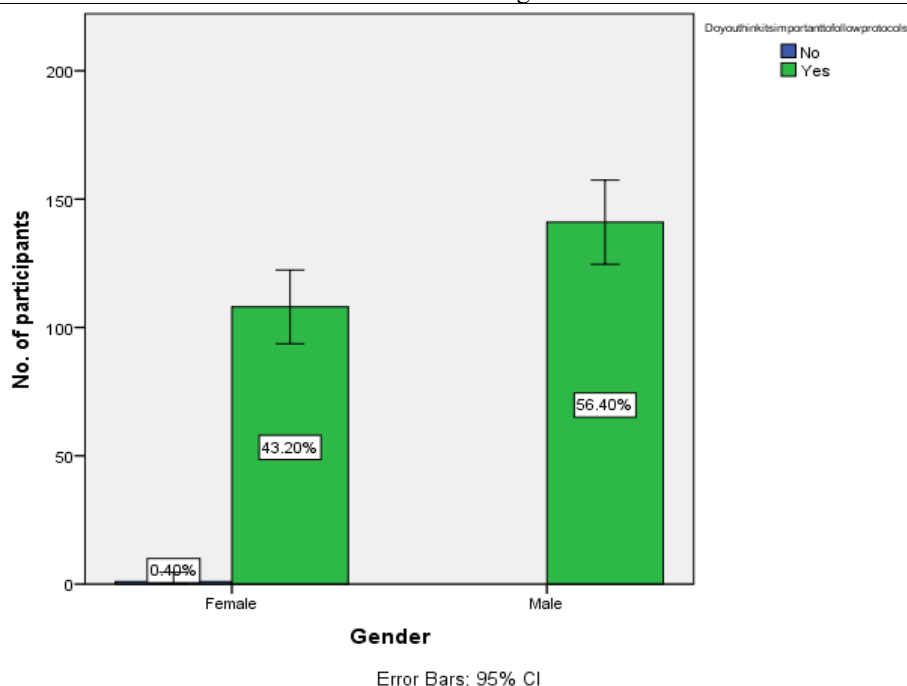


Fig 14: The bar graph represents the association between the gender and the importance of protocols among the participants. X axis represents gender and Y represents the percentage of responses. Blue denotes that the participants think it's important to follow protocols and green denotes those who do not. It shows that the majority of both male and female practitioners agreed that the protocols are important to prevent the spread of the virus. Pearson chi square test showed p value is 0.972 ($p > 0.05$), hence it is statistically not significant.

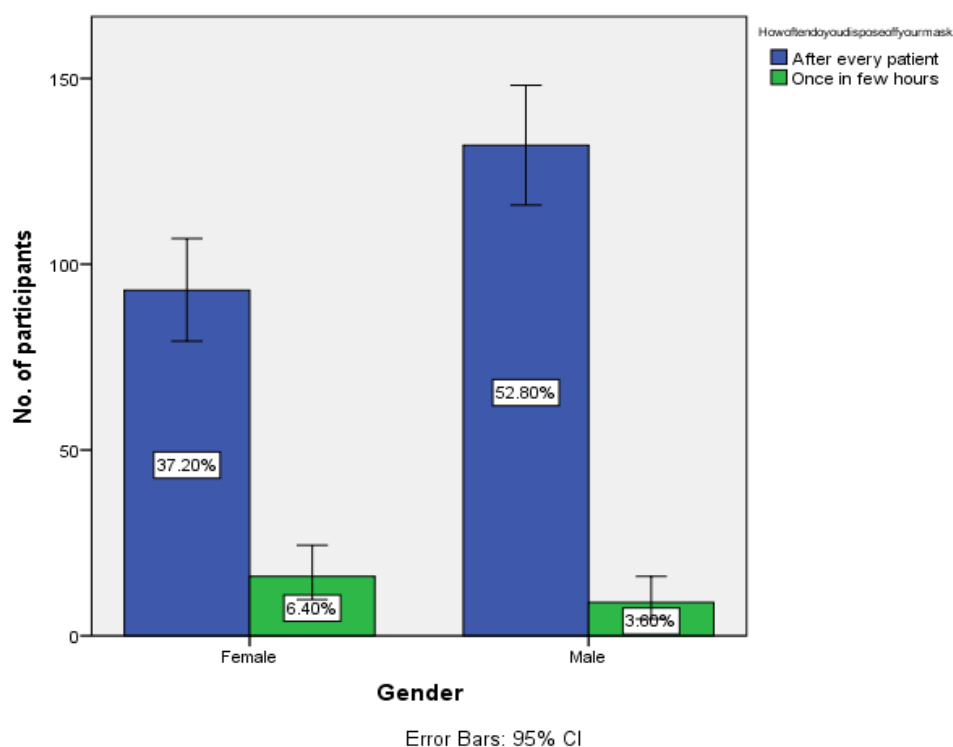


Fig 15: The bar graph represents the association between the gender and how often the participants dispose off their masks. X axis represents gender and Y represents the percentage of responses. Blue denotes that the participants dispose off their masks after every patient and green denotes that they dispose once in a few hours. It shows that the majority of both male and female practitioners dispose off their masks after every patient. Pearson chi square test showed p value is 0.042 ($p < 0.05$), hence statistically it is significant.

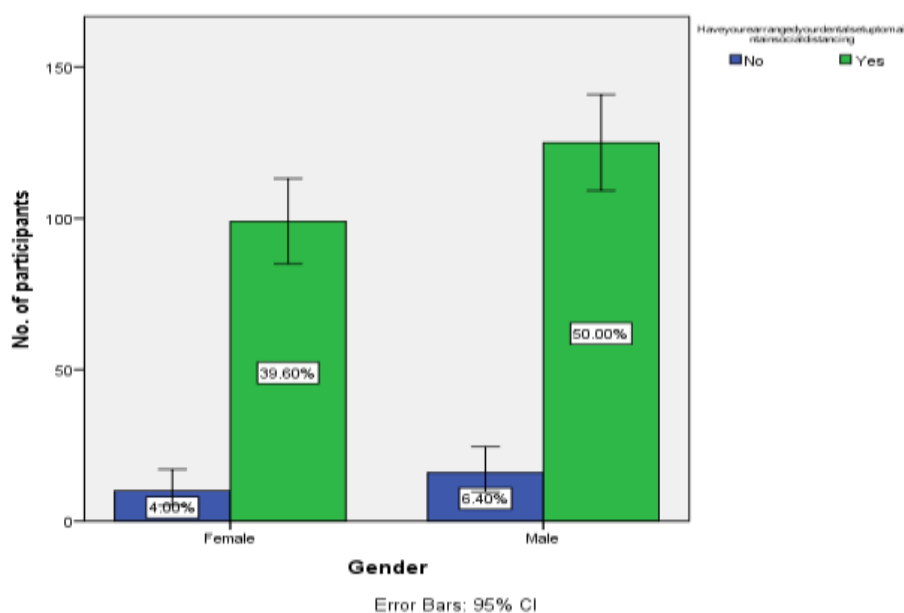


Fig 16: The bar graph represents the association between the gender and whether they have rearranged their dental set up. X axis represents gender and Y represents the percentage of responses . Blue denotes that the participants have rearranged their set up and green denotes that they have not. It shows that the majority of both male and female practitioners have rearranged their dental set up to practice social distancing. Pearson chi square test showed p value is 0.863 ($p > 0.05$), hence statistically it is not significant.

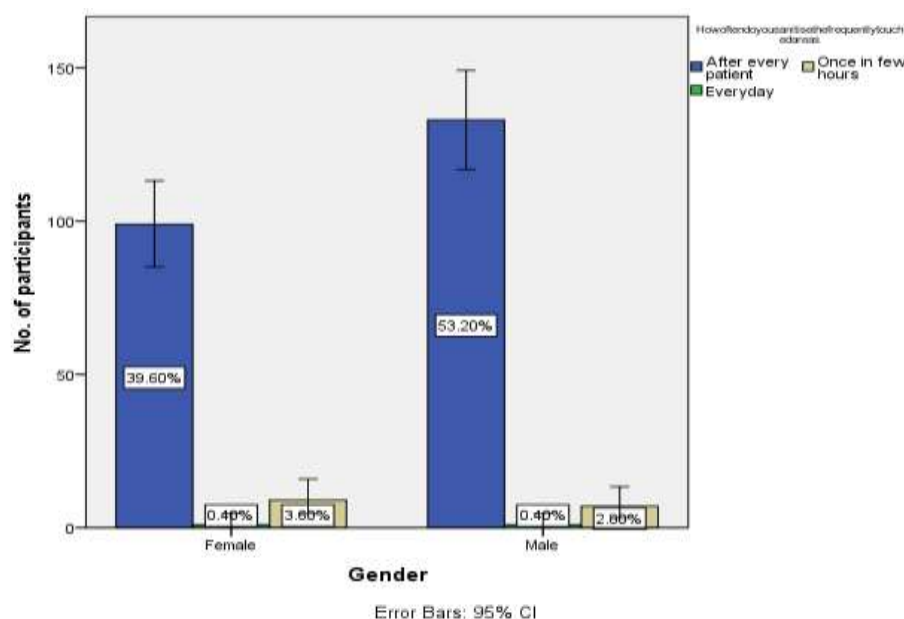


Fig 17: The bar graph represents the association between the gender and how often they sanitise the frequently touched areas. X axis represents gender and Y represents the percentage of responses. Blue denotes that the participants have sanitised the frequently touched areas after every patient, white denotes that they have sanitised once in a few hours and green denotes that everyday they sanitise the frequently touched areas. It shows that majority of the male and female practitioners sanitize their head rests after every patient. Pearson chi square test showed p value is 0.0018 ($p < 0.05$), hence statistically it is significant

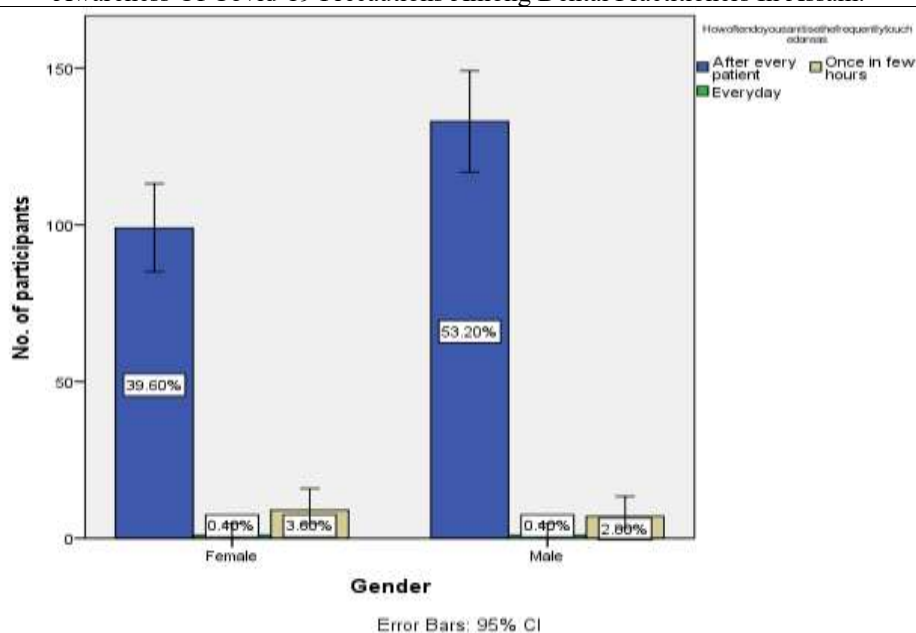


Fig 18: The bar graph represents the association between the gender and how they update themselves about the current guidelines. X axis represents gender and Y represents the percentage of responses. Purple denotes that the participants have updated themselves with the help of webinars, blue denotes that the participants have used medical literature, green indicates that the participants have used news and white indicates that they have used some other means to update themselves. It shows that the majority of both male and female practitioners updated themselves about the current guidelines with the help of webinars and medical literature. Pearson chi square test showed p value is 0.072 ($p < 0.05$), hence statistically it is significant.

DISCUSSION

Covid-19 disease is an extremely deadly disease which has caused a great concern for everyone. Few cases of Covid-19 affecting dental practitioners have already been reported and has caused a situation of panic among everyone. Through this study we observe that the dental practitioners in Assam are correctly following all the precautions which are necessary in the current situation.

In previous studies (24), (25) it was observed that aerosol procedures play a huge role in the spread of the virus and it is very risky to undergo aerosol procedures during the pandemic. If one undergoes aerosol procedures, the dental practitioner should take proper measures like wearing personal protective equipment, using N95 respirator. The majority of the participants in this study have agreed that they are taking these measures to undergo an aerosol procedure (99.6%)

A study (26) has stated the importance of clinic settings to be rearranged for the safety of the patients. Strict disinfection steps should take place including the desanitisation of door handles, chairs, desks and even an elevator, if there is one. In this study, it was observed that the dental practitioners have rearranged their set up to practice social distancing (89.6%) and have sanitised not only themselves but also the frequently touched areas. In another study (27) it was observed that social distancing and proper sanitisation are the best way to prevent the Covid-19 pandemic which was followed by the majority of the participants taking part in those surveys.

Another study (28) showed similar results as this study on how patients are not reluctant to undergo treatments during the pandemic. More than half of the participants were willing to visit the hospitals if required. Similarly in this study, even though few were reluctant, the majority were not reluctant to undergo dental treatment in this pandemic.

The limitation of the study is that the sample contains more males than females, it might affect the statistical analysis. It is a self administered questionnaire study, participants can hide the truth. Further studies to explore other regions will be useful to provide a nationwide picture to create awareness about the precautions among the dental practitioners and to help prevent the spread of the virus.

CONCLUSION

This study showed that the practitioners of Assam had a high level of knowledge regarding the precautions of Covid-19. Majority of them were practicing all the infection controls, precautionary measures everyday in their dental clinic. Educational Webinars mostly helped the dental practitioners who participated in this study to be updated about the current protocols which are required to be followed to prevent the spread of the coronavirus.

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CONFLICT OF INTEREST: Nil

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