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Attributes and Perception of People Who Delay Their Dental Treatment

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Abstract

Background: COVID-19 has slowed down the global economy, also affecting the healthcare sector with a major effect on Dentistry. Many have delayed their dental treatment due to fear of acquiring COVID-19 infection affecting the dentist financially. It is important to know the attributes and perception of people delaying the dental treatment, so that dentist can help removing the misconception of people by rightly educating them.

Method: A cross-sectional study was conducted using an online survey. A validated questionnaire was circulated to participants by investigators, consisting questions related to demographic data, delay of dental treatment and probable reason behind it. . A total of 383 participants responded. Statistical analysis was performed using SPSS version 25

Result: 76% have delayed their dental treatment due to fear of COVID-19. 66.8% think they may get COVID-19 infection from their dentist. And a vast number of respondents 84.3% think that they may acquire COVID-19 infection from the other patient in the dental clinic. 71% are concern about the sterilization procedures used by their dentist to prevent the spread of the infection. 68% have consulted their dentist over the telephone, video calls, or WhatsApp.

Conclusion: There is a delay in utilizing the dental services from people as they are afraid of cross infection, from the dentist and also other patients. They also worry about the sterilization process used by dentists. People should be made aware about precautionary measures taken by dentist so that there is no delay in dental treatment.

Keywords: Delay in Dental Treatment, Fear of COVID-19, Perception, Teledentistry in COVID-19 Period.

Introduction

Almost a year ago when COVID-19 was first detected in Wuhan, China it was a mystical disease with lots of unknown parameters. On 11th March 2020, the World

Health Organization (WHO) declared it as a controllable pandemic disease[1]. Creating havoc all around the globe, Covid-19 disease has affected all aspects of life, personal, professional, and emotional it has a multi-sectoral impact on the world as the economic activities of most nations have slowed down. In fact, even the delivery of healthcare care services is not spared. There has been a 37% decline in outpatient medical visits in the United States from March to June 2020[2]. Dentistry is one such industry that has been affected severely. On one hand, with the increase in COVID-19 cases dentists are called in for a screening and serving the COVID patients on the other hand they are advised to either shut down their clinic or to perform just a few emergency treatments, which has affected all dentist financially.

Preventing cross-infection in dental settings is one of the major concerns of the dentist even before the pandemic. Preventing infection spread is a constant duty of the dental team since the risk of infection starts with the first patient and continues till after the last. And dentists have been dealing with this for many decades. Occupation safety and health administration (OSHA) has issued guidelines for proper precautionary measures and sterilization method which has to be followed at dental settings to prevent various bloodborne, bacterial, and viral airborne infections. But when COVID-19 started it created panic which leads to the shutdown of dental clinics which still not recovered[3].

With gradual unlocking dental clinics were opened with full precautionary measures and maintenance of proper sanitization but the response from patients is not satisfactory. The future of dental practitioners and the sustenance of their practices is a serious concern. Wages and clinic rentals have to be accounted for every month even though there have been fewer revenues, causing a huge socio-economic impact. With the pandemic still on, there is no hope of revival anytime soon, compounded by zero profit earnings by dental practitioners and staff at clinics [3].

During the COVID-19 outbreak, people have received a huge amount of information that may lead to confusion of contamination risks in dental clinics. It is important to know the patient's perception so that dental professionals can help in improving hospital measures as well as patient education[4]. Hence this study to know the characteristics and perception of people delaying their dental treatment and to find out the probable cause for the delay of treatment.

Material and methods

A Google form of the questionnaire was created. The questionnaire and a small message explaining the aims and objectives of the study were sent to participants. Participants were patients of the principal investigator and co-investigator and were approached via personal connections and WhatsApp groups. Timely reminders were sent as well. The participation was voluntary and all had an option of opting out of the study by not filling the questionnaire. Study duration was 15 days. Sample size was 383.

Participants were first asked about their demographic data, age gender, and education. Then they were asked if they had any dental problems? Three response options were available "yes" "no" and "maybe" the next question was Have you delayed your dental visit due to fear of COVID-19.

The next three questions were targeted to understand the perception of people towards dental treatment and could it be a reason for delay of dental treatment With response “yes" and "no", Do you think you may get infected in the dental clinic by your dentist, Do you think you may get infected in the dental clinic by other patients, Do you have concerns about the sterilization procedures used by your

dentist to prevent the spread of COVID-19 these responses were "yes" and "no". The last question was to know the use of teledentistry, have you consulted your dentist through teledentistry (video call, WhatsApp, or phone call) again the responses were "yes" or "no".

Univariate statistics were generated to describe patient responses to each item related to dental care. Bivariate statistics were generated to describe the percentage of adults who reported delaying dental care due to the pandemic for each demographic characteristic (i.e., age, gender, education, and presence of dental problem) and for people using teledentistry to contact their dentist. ANOVA tests were conducted to assess if rates of delayed dental care varied by subgroup. Spss version 25 was used for statistical analysis.

Result

Figure 1, 2, 3 shows the demographic distribution of data. Figure 1 shows the age distribution majority of respondents belong to the 40-60 age group 46%. Gender distribution was almost the same with 54% and 46% for males and females respectively. The majority of respondents were well educated with only 12% intermediate and below. Figure 4 shows the distribution of respondents with or without dental problems with 68% responding yes shows that majority had dental problems. Figure 5 shows that around 76% have delayed their dental visit due to fear of COVID-19. Figure 6 showed data on why people are afraid to visit dental clinics and have been delaying their visit. 66.8% think they may get COVID-19 infection from their dentist. And a vast number of respondents 84.3% think that they may acquire COVID-19 infection from the other patient in the dental clinic. 71% are concern about the sterilization procedures used by their dentist to prevent the spread of the infection. Figure 7 show that 68% have consulted their dentist over the telephone, video calls, or WhatsApp.

Table 1 shows the characteristic of people who have delayed their dental treatment, there is statistical significance between age group, education, and those having dental problems, with the delay of dental treatment (p-value 0.001). However, gender and delaying of dental treatment have no statistical significance p-value 0.534. Only 16.6% and 18.8% of the age group 40-60 and above 60 years have visited the dentist and 83.4% and 81.3% respectively have delayed their dental visit. But 48.5% of the age group below 20 have visited the dental clinic and 70.9% have delayed their visit in the age group 20-14 years. 25% of males and 22.3% of females have visited their dentist. The majority of the respondent with the education of intermediate and below i.e 51.1% have not delayed their dental visit.

Table 2 shows the probable reason for the delay in treatment. 79.7% of respondent those who have delayed their dental visit, have delayed it because they think that they might get acquire COVID-19 infection from their dentist and 78.3% fear of acquiring COVID-19 infection from other patients. However, the statistical significance is very low of 0.024 and 0.026 respectively. 83.5% of respondent those who have delayed their visit have concerns about the sterilization procedures used by their dentist to prevent the spread of COVID-19 which has high statistical significance with a p-value of 0.001.

Table 3 shows the characteristic of the respondent who has consulted their dentist through teledentistry. There is no statistical significance between gender, education, having a dental problem, and those who consulted the dentist through teledentistry. However, there is statistical significance (p-Value 0.001) between the age group and those who consulted their dentist through phone, video call, or WhatsApp.

Figure 1: distribution of age

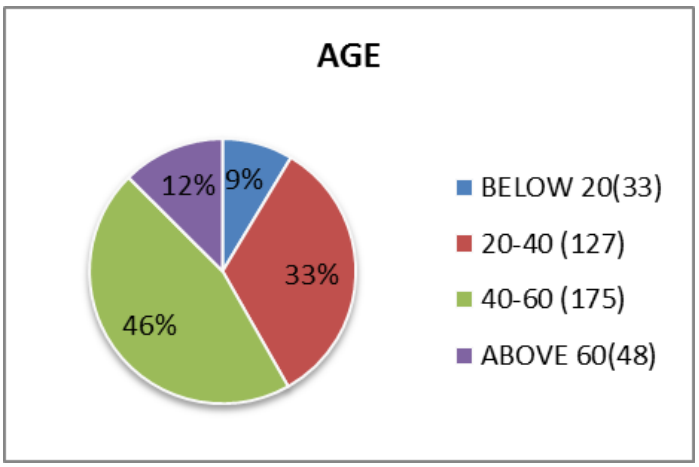

Figure 2: distribution of gender

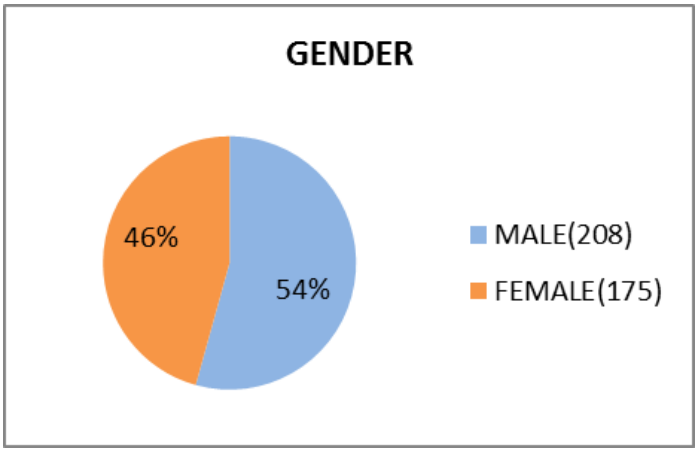

Figure 3 distribution of education

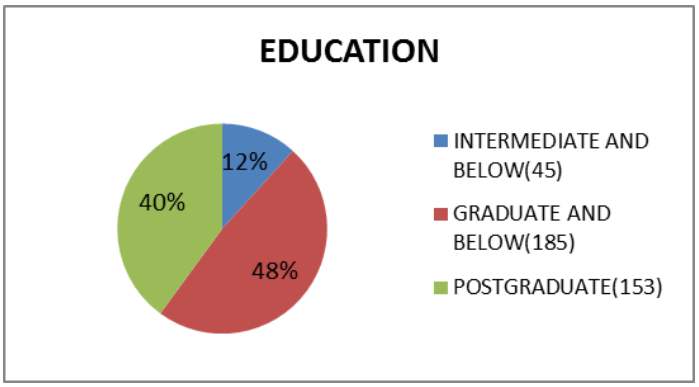

Figure 4: data on having dental problem

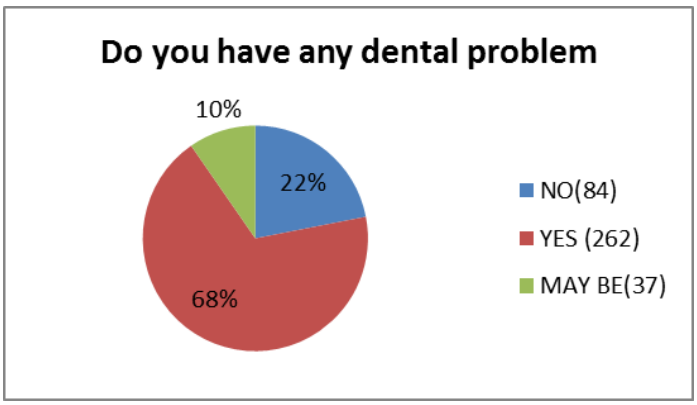

Figure 5: data on delay of treatment

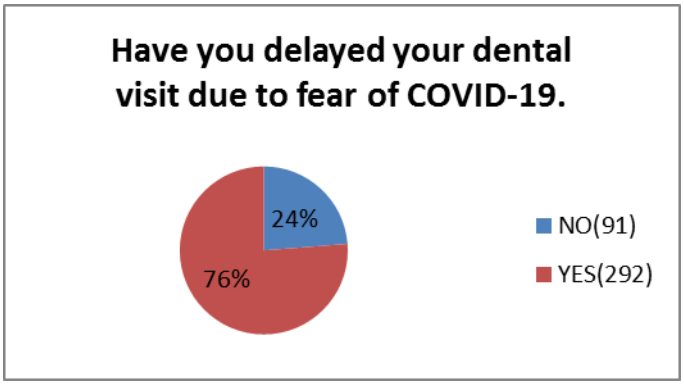

Figure 6: data on cause for delay of dental treatment

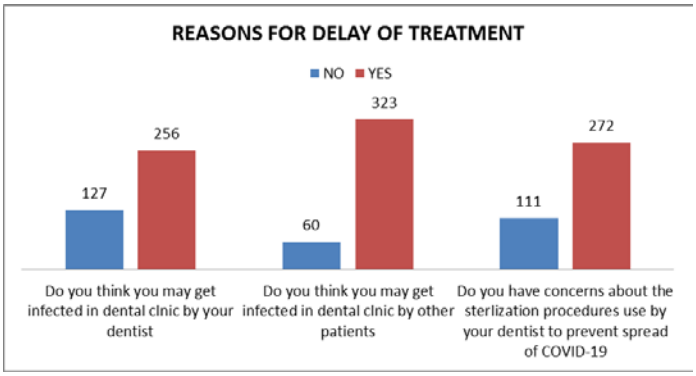

Figure 7: data on consultation through Teledentistry

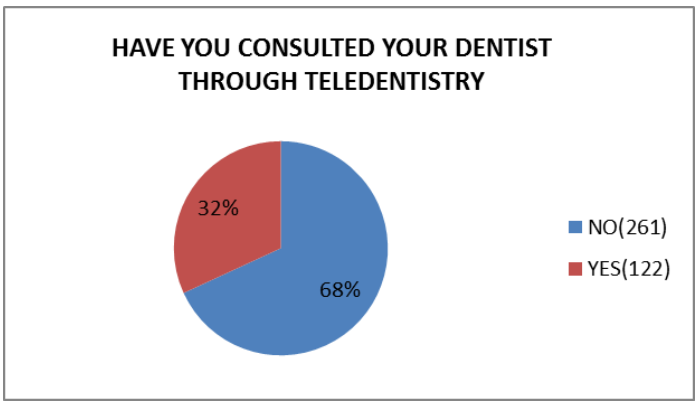

Table 1: Have you delayed your dental visit due to fear of COVID-19.

		No	Yes	p-value
Age	Below 20	16	17	
		48.5%	51.5%	0.001
	20-40	37	90	
		29.1%	70.9%	
	40-60	29	146	
		16.6%	83.4%	
	Above 60	9	39	
		18.8%	81.3%	
Sex	Male	52	156	0.534
		25.0%	75.0%	
	Female	39	136	
		22.3%	77.7%	
Education	Intermediate and below	23	22	
		51.1%	48.9%	
	Graduate and below	45	140	0.001
		24.3%	75.7%	
	Postgraduate	23	130	
		15.0%	85.0%	
Do you have any dental problems?	No	34	50	
		40.5%	59.5%	0.001
	Yes	51	211	
		19.5%	80.5%	
	May be	6	31	
		16.2%	83.8%	

Table 2: Reason for delay of dental treatment

		No	Yes	p-value
Do you think you may get infected in dental clinic by your dentist	No	39	88	
		30.7%	69.3%	0.024
	Yes	52	204	
		20.3%	79.7%	
Do you think you may get infected in dental clinic by other patients	No	21	39	

		35.0%	65.0%	0.026
	Yes	70	253	
		21.7%	78.3%	
Do you have concerns about the sterilization procedures use by your dentist to prevent spread of COVID-19	No	46	65	0.001
		41.4%	58.6%	
	Yes	45	227	
		16.5%	83.5%	

Table 3: Data on consultation through teledentistry

		No	Yes	p-value
Age	Below 20	25	8	0.001
		75.8%	24.2%	
	20-40	101	26	
		79.5%	20.5%	
	40-60	114	61	
		65.1%	34.9%	
	Above 60	21	27	
		43.8%	56.3%	
Sex	Male	135	73	0.139
		64.9%	35.1%	
	Female	126	49	
		72.0%	28.0%	
Education	Intermediate and below	34	11	0.79
		75.6%	24.4%	
	Graduate and below	130	55	
		70.3%	29.7%	
	Postgraduate	97	56	
		63.4%	36.6%	
Do you have any dental problems?	No	70	14	0.164
		83.3%	16.7%	
	Yes	160	102	
		61.1%	38.9%	
	May be	31	6	
		83.8%	16.2%	

Discussion

The outbreak of COVID 19 brought social and economic life to stand still. Dentistry is one of the most hit industries due to COVID-19. Dentists have been advised to keep their dental clinic closed during the lockdown and were suggested only to perform the emergency dental treatment. Even after unlocking in most US states, dental practices despite having taken the precautions seriously, only as little as 1.2% did business as usual[5]. In India, the situation is the same. Dentists have been confined to their homes, due to the high-risk nature of the profession. Dentistry has become one of the professions which are at high risk of transmitting the virus. With this increase in risk, the dental profession is facing heavy fallout and dentists all over the country are concerned about the effects of this pandemic on the future of dentistry, COVID-19 affected the monetary income of the majority of the dentists, considerably reduced their patient flow and most of them reported of working for lesser hours per day due to the pandemic. This may be due to the delay in dental treatment by patients. In this study, we tried to find out how many tried to delay their dental treatment, and probable cause for delay of treatment, and the characteristic of patients delaying the treatment.

The distribution of age group is more in between 40- 60 followed by 20-40 year age this may be due to two reasons, first, the use of the mobile phone is more in that age group and interest in filling the questionnaire. The interest in filling out the questionnaire can be less below 20 years and the use of mobile phones is less in above 60 years of age. The gender distribution is almost equal. The majority of people in his are well educated with the majority of them being graduate, followed by postgraduates this may be again due to interest in filling the questionnaire, could be more in well educated people as the questionnaire was in the English language. The number of people with dental problems is 68% and with no problems is 22% however 10% are not sure whether they have any dental problem. It is important to know if the population is suffering from the dental problem or not as it greatly change their perception and attitude towards dentist and dental treatment.

Due to COVID-19, not only dentistry but the whole health care sector has faced a major setback, previous studies have documented a reduction in health care services[6]. Even in our study, we found that around 76% have delayed their dental visit. The major lot belong to the age group of 40-60 years and above 60 years this may be due to the reason that it was found that the large percentage of the population, belonging to the age group of elderly people with age 50 years and greater, could be at a very high fatality risk and more to virus infection[7]. Due to the same reason, only 48.5% belonging to the age group of below 20 delayed their dental treatment as they were not at major risk. According to our study both male and female delayed their dental visit equally which is not in accordance with previous studies which shows females delayed their dental visit more as compared to female due to fear of cross infection[8]. More the education more people delayed their dental visit 85% of postgraduates delayed their treatment as compared to only 48.9% of intermediate and below delayed their treatment. This may be because more educated have more knowledge about the spread of disease and more awareness of the dentist being at high risk of acquiring the infection. Less educated have less knowledge hence less fear of cross-infection in the dental setting. In our study we found out that 40% of people who have no dental problem have visited a dental clinic, this may be because they had a dental problem before but visit a dentist and have no problem while responding to the questionnaire. However, it's interesting to notice that around 80.5% of people who have dental

problems but still are delaying their dental visit due to fear of COVID-19.

In this study, we further tried to reason out the probable cause of fear that leads to delay in dental treatment. Around 80% of respondents fear acquiring COVID-19 infection in a dental setting either through a dentist or other patients in a dental clinic or may have a concern about sterilization procedures used by their dentist to prevent the spread of COVID-19 infection. The majority have fear of acquiring COVID-19 infection from the dental setting. 66.8%think they may get infected from their dentist, out of these only 20% have visited their dentist. About 84% fear acquiring the infection from other patients in the dental clinic out of which 21.7% have gone for their dental treatment. And only 16.5% out of 71% who are concern about the sterilization procedures used by their dentist to prevent the spread of the infection have visited the dental clinic. These visits may have been unavoidable and emergency treatment.

Before COVID-19 teledentistry was not an integral part of the mainstream oral healthcare system. Teledentistry was more thought to be used to lessen the urban-rural divide. Even though no training or license is required in India to practice teledentistry the use of teledentistry was very less[9]. In our study teledentistry was limited to phone calls, video consultation, or WhatsApp consultation, and not the use of various telemedicine or teledentistry apps such as CollabDDS. We found that 68% have consulted their dentist through teledentistry. This also shows that corona has increased the use of teledentistry. The use of teledentistry is more in the age group above 60 years male and postgraduate group. 83.3% who do not have any dental problem have used teledentistry this may Be again because their problem could have already been solved through teledentistry.

Conclusion

This study provides important information about the use of dental services during the COVID-19 period. There is a delay in utilizing the dental services from people as they are afraid of cross infection, from the dentist and also other patients. They also worry about the sterilization process used by dentists. With the second wave of COVID-19 approaching the future of dentistry and the financial condition of dentists across the globe is in trouble. But if proper precautionary measures are taken by the dentist and people are made aware through advertisement and messages of it and assured of minimizing cross infection people may not delay their dental visit. This may help reduce the financial burden dentist are facing at the moment.

Limitations

As the study used social media as a medium of collecting data it may have not reached all sectors of society only those who can read and have internet access to participate. The study was in the English language, so people with good knowledge about English may have responded. There is also a need to mention the type of treatment that was delayed which was not covered in this questionnaire for example routine dental checkup, extraction, root canal, etc.

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