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Perception of Patients towards dental treatment during COVID-19

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Abstract: This study identifies different factors influencing the patient's decision to receive dental treatments during the ongoing pandemic and identifies their expectations at the dental office during Covid-19. A cross-sectional study was conducted among 306 people in a dental institute. A questionnaire was used to collect primary demographic data. It consisted of questions concerning patient attitude regarding the utilization of dental services and expectations from the dental setup during the pandemic. The chi-square test was used to analyze the association between variables with a significance level set at p≤0.05. The mean age of the study population was 37±5.3 years, with the majority being males (52%). Many female patients (60.76%) and those from the lower middle class (38.59%) were apprehensive about getting the disease during their visit. Covid19 was not considered a threat among adolescents/middle-aged (47.27%) and upper lower-class patients (41.81%). Spending extra during this period was acceptable by 65.7% of patients, though a few (16.3%) responded or felt that the hospital should be considerate and bear the expenses. They (38.9%) had no specific complaints about the cleanliness issue of the hospital premises. All the above results were significant statistically (p≤0.05). Though apprehension of contracting the disease was observed among many patients, their dental problems were considered a priority, influencing their visit to the dental hospital.

Keywords: Patient perceptions, Covid19, Oral Health care.

Introduction

The coronavirus disease (COVID-19) emergence in December 2019 has till now affected many and is considered a global threat. It affected the health and economic well-being of various countries. This new strain of the virus differs from SARS-CoV and MERS-CoV, which probably originated from Chinese bats and mainly spread through droplets and close contact (Akhtar et al., 2021). The risk of getting infected increases more in the case of dental professionals and patients due to the aerosol involving procedures and other procedures in the dental setting. The COVID-19 outbreak was declared a Public Health Emergency on 30 January 2020 by the World Health Organisation (WHO). More than 88 million cases have been affected by the virus, which is rapidly increasing (Farooq & Ali, 2020). However, India has restricted the spread of this virus to a certain extent by announcing a lockdown in the entire country from March 2020, but still, there are 78000 reported (COVID-19) cases and 2500 deaths (Ather et al., 2020). Centre for disease control and Prevention stated that dental procedures generate more aerosols of higher risk than medical equipment. Instruments such as rotors and scalers generate aerosols that put patients and health professionals at risk. The doctors and the patients should have better knowledge about the virus's structure and transmission and the disease's clinical features, which will help prevent the spread (Alharbi et al., 2020).

There is hysteria due to unproven information circulating everywhere, affecting healthcare workers and patients (Izzetti et al., 2020). Because of the increase in deaths and the absence of any proven cure, negative news contributed to stress and restlessness amongst the general population and patients. This reduced the positive media coverage regarding the number of recoveries.

Due to the comprehensive media coverage and access to social media, patients are well informed about the risk posed by visiting hospitals and hence avoid it (Lee and Auh, 2020). Most patients are concerned about the aerosolized spread of the virus through coughing and aerosol-generating procedures (Mallineni et al., 2020; Meng et al., 2019). In the dental office, these patients must maintain a safe social distance in the waiting, reception, and clinical areas (Peng et al., 2020; Prati et al., 2020). All previously mentioned reasons lead to delays in treatment procedures, even in an emergency (Spagnuolo et al., 2020). This study was conducted to identify different factors influencing the patient's decision to receive dental treatments during the ongoing pandemic and to identify their expectations at the dental office during the Covid-19.

Materials and Methods

A cross-sectional study was conducted among a sample of 306 people obtained from a Dental Hospital in Bhubaneswar, the

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capital city of an eastern state (Odisha) in India. A purposive sampling method was employed, and all the patients who visited the dental setup from August 2020 to October 2020 were included in the study.

A self-designed 15-item questionnaire was used to gather basic demographic data and patients' attitudes regarding the utilization of dental services and expectations from the dental setup during the pandemic. The pilot testing of the final set of questions was done on a random sample of 10 participants to ensure the apprehension of the scientific vocabulary used. Questions were either omitted or added based on their performance.

A questionnaire was used to collect primary demographic data. It consisted of questions concerning patient attitude regarding the utilization of dental services and expectations from the dental setup during the pandemic. The survey also comprised many questions concerning the reason for hospital visits during the pandemic, knowledge about covid-19, attitudes and practices to avoid infection on the hospital premises, and their risk of infection. Epicollect web and mobile applications were used to collect data regarding age, education level, occupation, income, and area of residence. The socioeconomic status was recorded using a modified Kuppuswamy scale in 2020 (Saleem et al., 2020). It calculates the socio-economic status based on education, occupation, and monthly income of the head of the family. It is presented as five different social classes. Infection control measures like a surgical gown, face shield, N95 masks, head cap, and surgical gloves were used while interviewing the patients.

The reliability of the questionnaire was checked through Cronbach's alpha which was found to be 0.8. Informed consent was taken before collecting their responses to the questionnaire. The Institutional Review Board approved ethical clearance. SPSS version 23 was used to conduct statistical analysis.

Results

The study population comprised 306 patients who visited the dental setup. The mean age of the study population was 37±5.3 years, with the majority being males (52%) and mostly belonging to the age group 21-40 years. Most of the study population (38.2%) belonged to the Lower middle class. Socio-demographic characteristics are shown in Table 1.

Table (1): Socio-demographic variables.

		Frequency	Percentages
Gender	Male	159	52.0
	Female	147	48.0
Age Groups	<20	27	8.8
	21-40	174	56.9
	41-60	85	27.8
	>61	20	6.5
SES CLASS*	Upper	14	4.6
	Upper Middle	64	20.9
	Lower Middle	117	38.2
	Upper Lower	101	33.0
	Lower	10	3.3

*SES=Socio economic status according to the modified Kuppuswamy scale (Saleem et al., 2020).

The most common cause for visiting the dental office was to restore dental caries (28.8%). About 56.2% were afraid of getting infected. Spending extra on treatment costs during this period was acceptable to 65.7% of patients. (Table 2)

Table (2): Association of the variables with age, gender, and SES.

Questions	n	%
Reasons for visiting the dental set-up		
Pain	55	18.0
Swelling	7	2.3
Traumatic Injury	23	7.5
Cavity and filling	88	28.8
Bad breath and bleeding gums	2	0.7
Aesthetic treatment	48	15.7
Missing tooth	19	6.2
Recalled for appointment	28	9.2
Pain and Cavity	36	11.8
Afraid of being infected with the disease		
Yes	172	56.2
No	134	43.8
The possible reasons, if responded No		
No systemic illness	16	5.2
No history of breathing disease	3	1.0
Belongs to a younger age group	5	1.6
Do not consider Covid19 as a threat	110	35.9
Paying extra for preventive measures along with treatment		
Yes	201	65.7
No	105	34.3
If not, then what are the possible reasons		
Belongs to a lower socio-economic class	30	9.8
Thinks the hospital should bear the cost of all measures	50	16.3
Treatment is already very expensive	4	1.3
Exposure to aerosols during the treatment procedure		
Yes	126	41.2
No	180	58.8

Figures 1-3 represent the expectations of the patients from the dental setup with respect to the sterilization protocol followed. Majority of the study population (43.1%) wanted maximum protective measures to be followed in the dental office like temperature screening, social distancing, hand washing and sanitization provision, and recording travel history. (Figure 1) Most patients (75.5%) opted for Personal Protective Equipment to be worn by the doctors during treatment. (Figure 2). About 47.4% of the patients were happy with the hospital protocol and desired no modifications. (Figure 3)

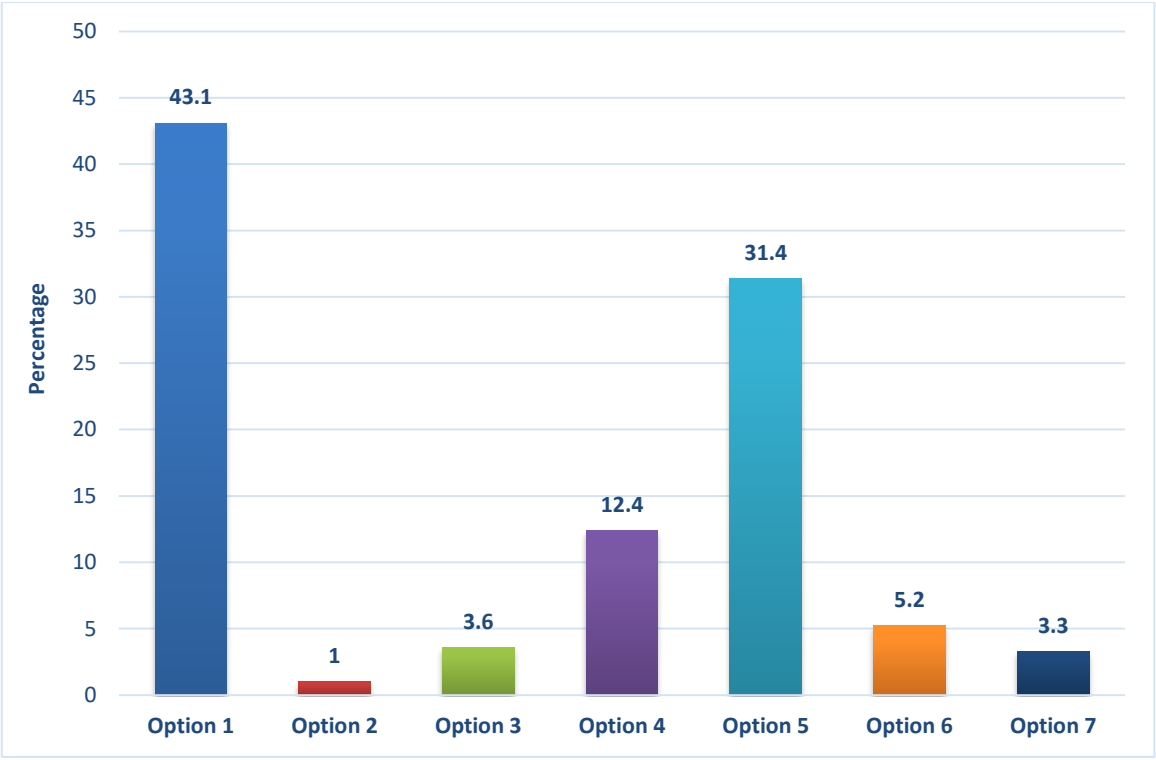

Figure (1): Measures expected by patients at the dental setup; **Option1:** Temperature screening, social distancing, hand washing, and sanitization provision, recording travel history **Option2:** Option1+ medical history**, Option3**: Social distancing, hand washing, and sanitization provision, recording travel history, **Option4:** Social distancing, hand washing, and sanitization provision, **Option5:** Temperature screening, social distancing, hand washing, and sanitization provision, Option6: Temperature screening and provision of hand sanitization, **Option7:** social distancing, hand washing, and sanitization provision, recording both travel and medical history.

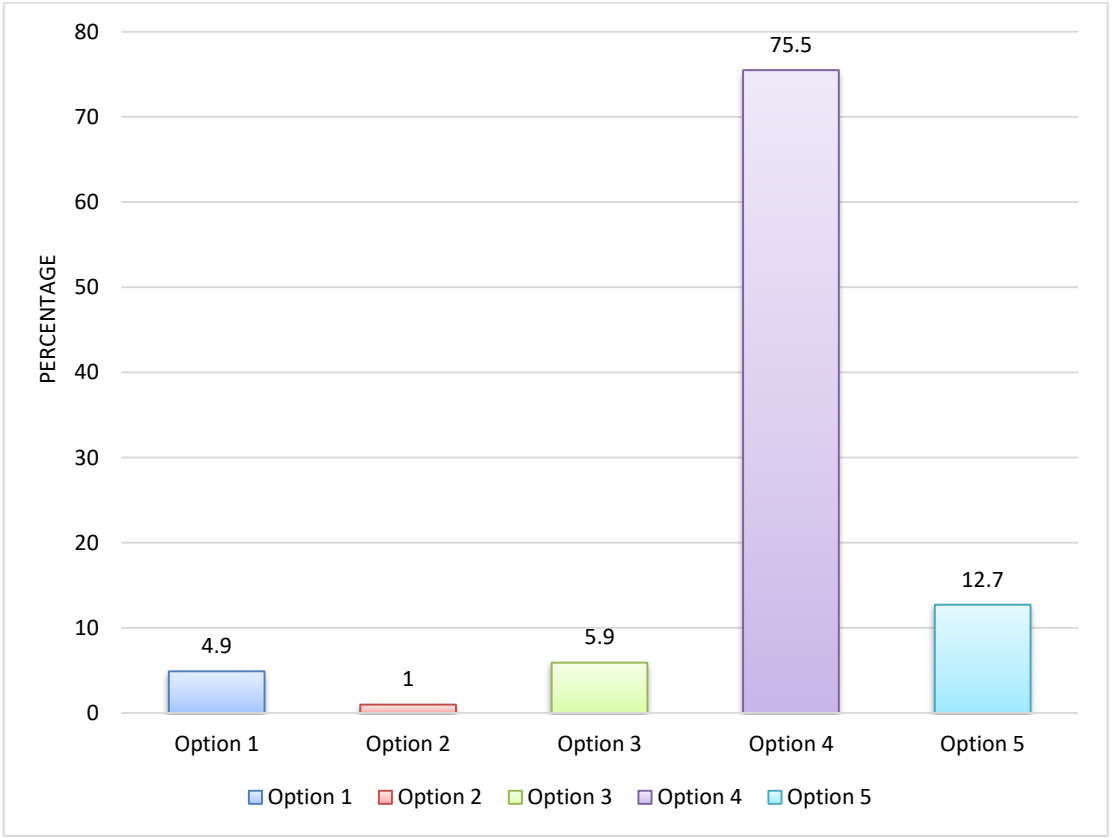

Figure (2): Preventive measures expected from the doctors during check-ups and treatment; Option 1: Gloves and Masks, Option 2: Gloves, Masks, and face shield, Option 3: Gloves, Masks, Head cap, and face shield, Option 4: Personal Protective Equipment, Option 5: Do not know .

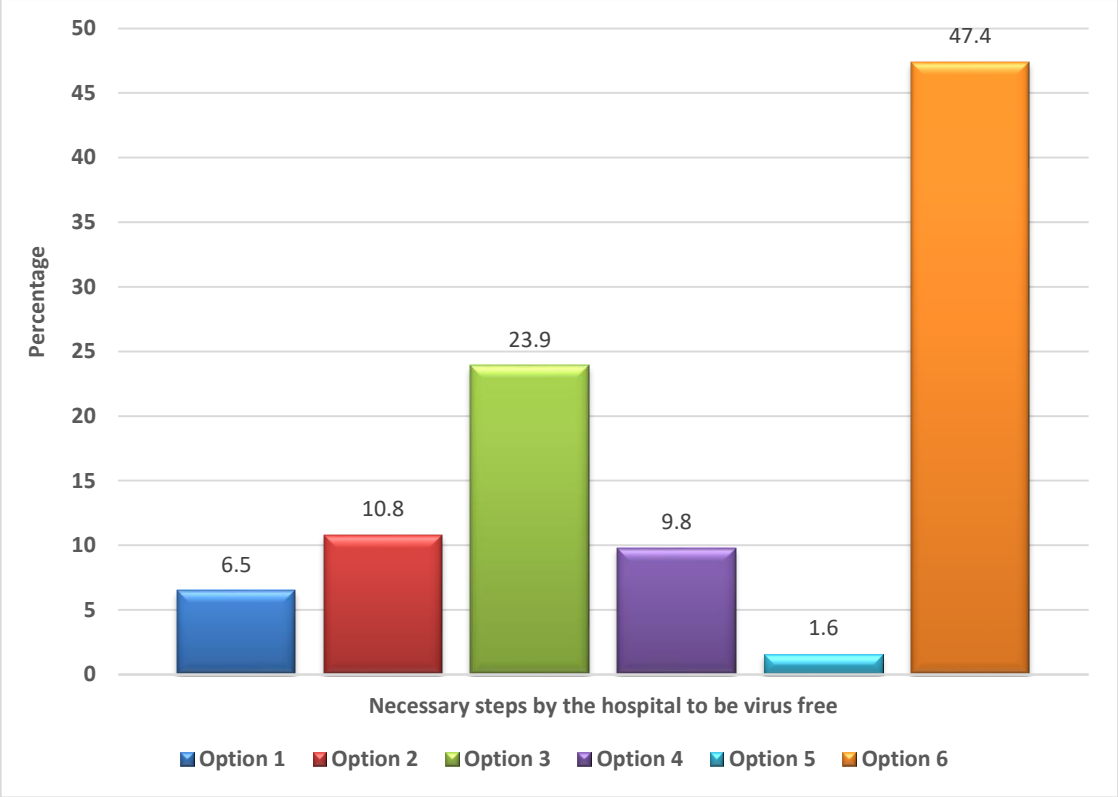

Figure (3): Responses by the patients for the steps they expect at the dental set-up to make the hospital infection/virus free; Option **1**: don't know, **Option 2**: Fumigating, **Option 3**: Air purifier, **Option 4**: Procedures involving aerosols should be operated in separated rooms, **Option 5**: Aerosols involving procedures should stop for the time being, **Option 6**: Continue as it, have no problem with anything. (This finding is significantly associated with Socioeconomic class with p=0.04).

Discussion

The pandemic has dramatically impacted the health sector, patients, and health professionals. It has influenced patients' decisions to seek medical and dental help from hospitals and private clinics, even in emergencies. Across the world, the provision of dental care was deferred to the only treatment of emergency cases due to the lockdown. It was a challenge to avail primary and secondary dental care. Also, the general population believed that the hospitals were a storehouse of the Covid19 virus as it has a wide variety of patients with various co-morbid and immune conditions. Some people are also sceptical about the disinfection and cleanliness maintained in hospitals and private clinics to make the setup virus-free. So, it is essential to identify the factors influencing patients' decision to seek dental treatment and to know their expectations from the dental office during the pandemic (WHO, 2020; Ren et al., 2020).

The mean age of the study population was 37±5.3 years, like Peloso et al. (2020) finding, as only the young and middle-aged patients deemed it not a threat to visit the dental setup during the pandemic. The majority of the patients in this study were males (52%), but females predominated in the case of Rhee et al. (2020) (57.3 %), Wolf et al. (2020) (59.7%), Mista et al. (2020) (82.5%). About 30.4% of patients did not know about the implications of visiting a hospital during a pandemic, similar to another study (Amato et al., 2020). In the current study, about 56.2% of patients were apprehensive about getting infected by the hospital and hospital staff, following the observations of Wolf et al. (64.1%) and Peluso et al. (2020) (54%) and Rhee et al. (2020) in who have mentioned that visiting the hospital increases the risk of infection (75.1%) (Wolf et al., 2020).

In the current study, Covid19 was not considered a threat among (47.27%), similar to those by Wolf et al. and Amato et al. [17, 18] However, this was in contrast with the findings of Alassaf A et al. (2021) where only 16% of the population agreed to visit the dentist. Most patients visiting the dental setup wanted maximum protective measures to be followed by the dental office, like temperature screening, social distancing, hand washing and sanitization provision, and recording travel history, similar to Aiello et al. This could be explained by greater awareness of the modes of transmission of the virus and the dangers of the infection (Gohel et al., 2021). The ongoing pandemic limited the inclusion of subjects from other dental hospitals. The social desirability factor also cannot be overlooked while recording the participants' responses. However, no other published data are available regarding patients' perceptions determining visits to a dental setup during the pandemic in India. Therefore, we can recommend that following prescribed Covid 19 protocols with the required protection for the patients and the doctors would be the most prudent way to tackle dental needs. Demystifying false fears and assurance from oral health professionals could encourage patients with dental needs to avail of dental care (Aiello et al., 2010; Moffat et al., 2021Salgarello et al., 2022).

Conclusions

The outbreak of Covid19 was shown to impact patients' perceptions of visiting a dental setup. The most important reason for visiting the dental setup was to restore decayed teeth. Those anxious about being infected with Covid 19 at the dental setting were because of their co-morbidities. This study tried to identify their expectations from the dental hospital for taking necessary

preventive steps to avoid spreading the infection during the pandemic. Patients wanted doctors to use all infection control measures, even if it meant increased treatment costs. Though apprehension of contracting the disease was observed among many patients, their dental problems were considered a priority, influencing their visit to the dental hospital.

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Conflict of Interest: None

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Author's Contribution: DS, RN & SR conceptualized the study and drafted the manuscript. SM, IM & RPD conducted the study and collected the data. DS and RN scrutinized the data and did the statistical analysis. SR finalized the manuscript.

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