Original Research Article

Assessing The Knowledge, Anxiety and Fear of Patients Visiting Dental Hospital During COVID 19 Pandemic in Bhubaneswar City, ODISHA. A Questionnaire Cross-Sectional Survey.

ABSTRACT

Introduction: Ease of transmission of COVID-19 makes people scared of getting infected with COVID-19 hence making them reluctant to visit dental health care providers, which delays dental care during COVID-19.

Aim & objectives of the study: To analyze the knowledge, anxiety and fear of subjects visiting dental hospital during COVID-19 pandemic in Bhubaneswar city, ODISHA using a questionnaire form.

Materials & method: A total of 111 subjects visiting the outpatient of KIDS, Bhubaneswar who were indicated for any dental treatment were selected for the study. Fear and anxiety of the subjects was assessed before and after the required dental treatment using a questionnaire consisting. Statistical analysis was done using SPSS 23 software.

Results: The result shows that majority of the subjects lack proper knowledge and were anxious to receive the treatment. Upon proper consultation and treatment, fear and anxiety reduced to a significant level.

Conclusion: Assessing pre-treatment anxiety using a questionnaire helps in modification in the treatment approach as well as the in the ambience of the dental clinic or hospital during COVID 19.

***KEYWORDS**: Anxiety, COVID-19, pandemic, dental treatment*

INTRODUCTION

After a rapid increase in cases, on January 9, 2020 WHO declared the coronavirus novel discovered by the name 2019-nCoV and then was officially named SARS-CoV-2 by a group of researchers from the International Committee on Taxonomy of Viruses. Infectious agents may spread from their natural reservoir to a susceptible host in different pathways.[1] Droplet transmission occurs by the direct spray of large droplets onto conjunctiva or mucous membranes of a susceptible host when an infected patient sneezes, talks, or coughs. In the meantime, direct physical touch between an infected individual and susceptible host and indirect contact with infectious secretions on fomites can cause the contact transmission. Based on the spread of SARS-CoV-2 and the occurrence of its spread to health care providers, health workers in the dental profession are at high risk of nosocomial infections and potentially become carriers of this disease.[2]

Fear of dental care usually refers to normal unpleasant emotional reactions to certain threatening stimuli that occur in situations related to dental care. The impact caused by the fear of dental care in many experienced the wider community so that delaying or avoiding dental care, those who fear often have poor dental health. Fear of dental treatment such as pain, fear of injection, fear-based on bad experiences in the past, or fear of infection during treatment.[3]

According to Occupational Safety and Health Administration (OSHA), dental health care personnel (DHCP) are placed in very high exposure risk category as dentists work in close proximity to the patient's oral cavity. Some studies have found that several people worry that some dentists might use unclean or unsterile instruments, making them at risk of contracting an infection. This fear is a barrier for some people to do dental treatment.[4] The research results from several countries that knowledge, behaviour, and processes during the practice for dentists during the Covid-19 period were reported to be good. A dental treatment procedure cannot be free from the risk of infection. Information about the ease of transmission of COVID-19 makes people afraid of being infected with COVID-19 so they are reluctant to go to health care providers, including dental services, and finally decide not to do or delay dental care during COVID-19.[5]

Hence, the aim of the study was to analyse the knowledge, anxiety and fear of subjects visiting dental hospital during COVID-19 pandemic in Bhubaneswar city, ODISHA using a questionnaire form.

MATERIALS AND METHODS

A cross-sectional study was performed using questionnaire containing 15 close-ended questions to analyse the knowledge, anxiety and fear of subjects visiting dental hospital during COVID-19 pandemic in Bhubaneswar city, Odisha between Oct-Dec, 2021. Sample size determination was done using G power software (version 3.0) to achieve a power of 80% and a level of significance of 5%. A total of 111 subjects were included in the study who visited the outpatient of KIDS, Bhubaneswar and indicated for any dental treatment need. The study was carried out after obtaining approval from Research Ethics Committee of KIDS, Bhubaneswar. (KIDS/RES/030/2021)

Sample inclusion criteria were subjects above 18 years of age who will be undergoing any dental treatment procedure during COVID-19 pandemic and who gave informed consent, subjects who will be needing the revaluation after treatment. Exclusion criteria were subjects who refused to give informed consent for dental treatment, subjects undergoing any psychiatric treatment, subjects visiting for routine dental consultation without receiving any dental treatment, subjects not reporting to the department for revaluation.

Fear and anxiety were assessed before any dental treatment on the basis of a fear & anxiety questionnaire consisting of fifteen close-ended questions which were provided to the subjects visiting the outpatient of any department of KIDS, Bhubaneswar. The subjects were re-assessed using the same questionnaire, during the revaluation visit.

The questionnaire was divided into 3 domains: knowledge, attitude and practice for further analysis.

STATISTICAL ANALYSIS:

For data analysis, each positive response was given a score ‘1’ and each negative response was assigned as a score of ‘0’. Individual scores were summed up to yield a total score. The quantitative data was entered onto computer for analysis using Statistical Package for Social Science (SPSS) Version 18 for Windows. Descriptive analysis was undertaken to present an overview of the findings from this population. The student’s paired t-test was used to test the significance level ($p<0.05$).

RESULTS:

A total of 111(58.6% male; 41.4% female) subjects were included in the study based on the inclusion and exclusion criteria which is represented in Fig 1.

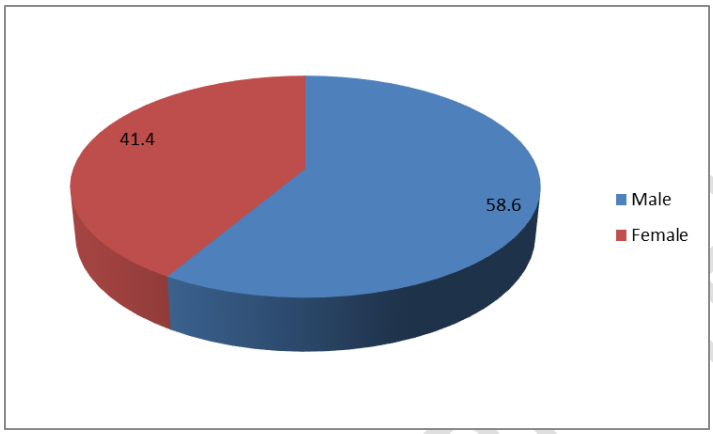

Figure 1: Graphical representation of the Gender distribution of the population

Table 1 represents comparison of knowledge domain pre and post operatively which consist of 5 questions. A statistically significant difference was noted for four out of five questions in the knowledge domain (p-value 0.0001, 0.047, 0.018, 0.0001).

Table 1: Knowledge domain comparisons pre and post operatively

Knowledge Domain		Pre-Operative		Post-Operative		T Score/ P Value
		Frequency	Percentage	Frequency	Percentage	
Consider PPE is important safety measure against COVID19	Yes	78	70.3	5	4.5	8.488/ <0.0001*
	No	0	0	90	81.1	
	Don't Know	33	29.7	16	14.4	
Dentist got in touch to schedule an	Yes	35	31.5	1	0.9	2.007/ 0.047*
	No	17	15.3	53	47.7	

appointment during the quarantine	Don't Know	59	53.2	57	51.4	
You feel reassured with vaccine news	Yes	51	45.9	0	0	0.352/ 0.725
	No	43	38.7	75	67.6	
	Don't Know	17	15.3	36	32.4	
Knowledge about carrying infection	Yes	69	62.2	42	37.8	2.407/ 0.018*
	No	40	36.0	48	43.2	
	Don't Know	2	1.8	21	18.9	
Waiting could increase disease transmission	Yes	77	69.4	17	15.3	11.05/ <0.0001*
	No	17	15.3	94	84.7	
	Don't Know	17	15.3	0	0	

*Statistically significant

Fig 2 shows graphical representation of knowledge domain consisting of five questions with their responses in percentage.

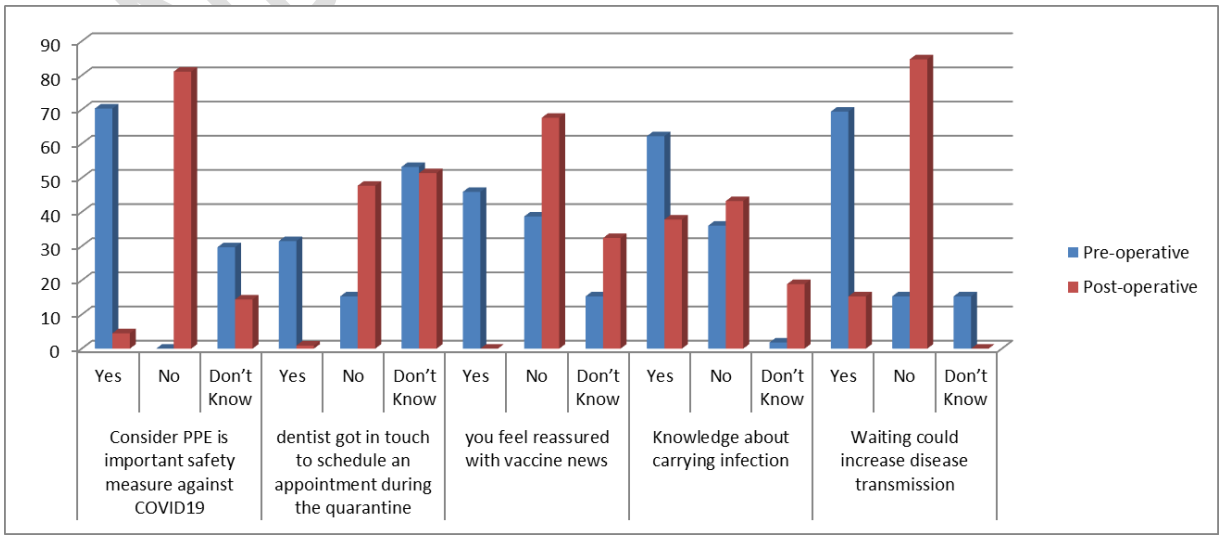

Figure 2: Graphical representation of the knowledge domain score

Table 2 represents comparison of attitude domain pre and post operatively which consist of 5 questions. A statistically significant difference was noted for all five questions in the attitude domain (p-value 0.0001, 0.02, 0.0001, 0.0001, 0.0001).

Table 2: Attitude domain comparisons pre and post operatively

Attitude Domain		Pre-Operative		Post-Operative		T Score/ P Value
		Frequency	Percentage	Frequency	Percentage	
Anxious about getting corona virus cross-infection	Yes	59	53.2	21	18.9	4.093/ <0.0001*
	No	36	32.4	38	34.2	
	Don't Know	16	14.4	52	46.8	
Risk of contracting the coronavirus by touch	Yes	75	67.6	15	13.5	2.352/ 0.02*
	No	17	15.3	43	38.7	
	Don't Know	19	17.1	53	47.7	
Coronavirus can be transmitted through aerosol	Yes	44	39.6	37	33.3	3.869/ <0.0001*
	No	33	29.7	59	53.2	
	Don't Know	34	30.6	15	13.5	
Coronavirus can enter the body through the oral mucosa	Yes	78	70.3	54	48.6	8.974/ <0.0001*
	No	0	0	51	45.9	
	Don't Know	33	29.7	6	5.4	

Coronavirus can be transmitted through saliva	Yes	67	60.4	16	14.4	4.428/ <0.0001*
	No	18	16.2	27	24.3	
	Don't Know	26	23.4	68	61.3	

*Statistically significant

Fig 3 shows graphical representation of attitude domain consisting of five questions with their responses in percentage.

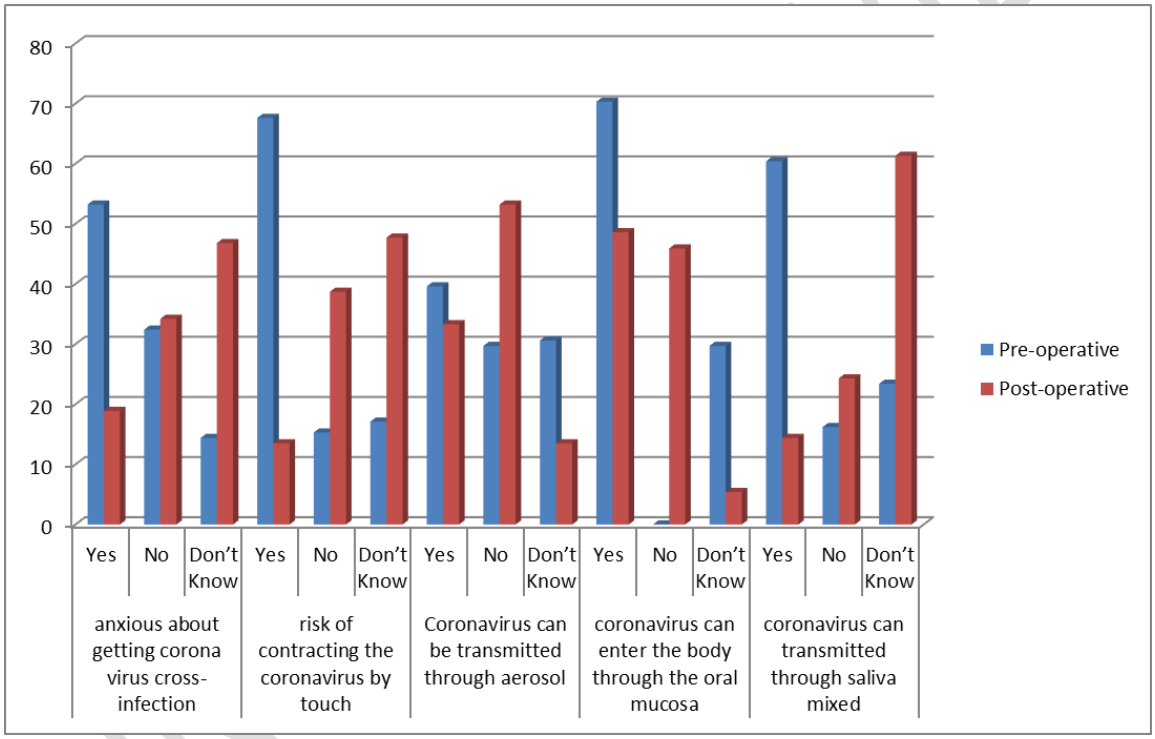

Figure 3: Graphical representation of the attitude domain pre and post operatively

Table 3 represents comparison of practice domain pre and post operatively which consist of 5 questions. A statistically significant difference was noted for four out of five questions in the practice domain (p-value 0.0001, 0.0001,0.002, 0.0001).

Table 3: Practice domain comparisons pre and post operatively

Practice Domain		Pre-Operative		Post-Operative		T Score/ P Value
		Frequency	Percentage	Frequency	Percentage	
Feel afraid to go to the dental clinic	Yes	87	78.4	35	31.5	5.703/ <0.0001*
	No	0	0	60	54.1	
	Don't Know	24	21.6	16	14.4	
Feel afraid of taking dental x-rays	Yes	53	47.7	37	33.3	10.768/ <0.0001*
	No	16	14.4	74	66.7	
	Don't Know	42	37.8	0	0	
Feel afraid to do a dental examination	Yes	77	69.4	16	14.4	3.175/ 0.002*
	No	34	30.6	59	53.2	
	Don't Know	0	0	36	32.4	
Afraid to do dental treatment that causes bleeding	Yes	26	23.4	16	14.4	0.447/ 0.655
	No	66	59.5	75	67.6	
	Don't Know	19	17.1	20	18.0	
Feel afraid when you hear that people are dying because of COVID-1	Yes	77	69.4	16	14.4	7.182/ <0.0001*
	No	0	0	78	70.3	
	Don't	34	30.6	17	15.3	

	Know					

*Statistically significant

Fig 4 shows graphical representation of practice domain consisting of five questions with their responses in percentage.

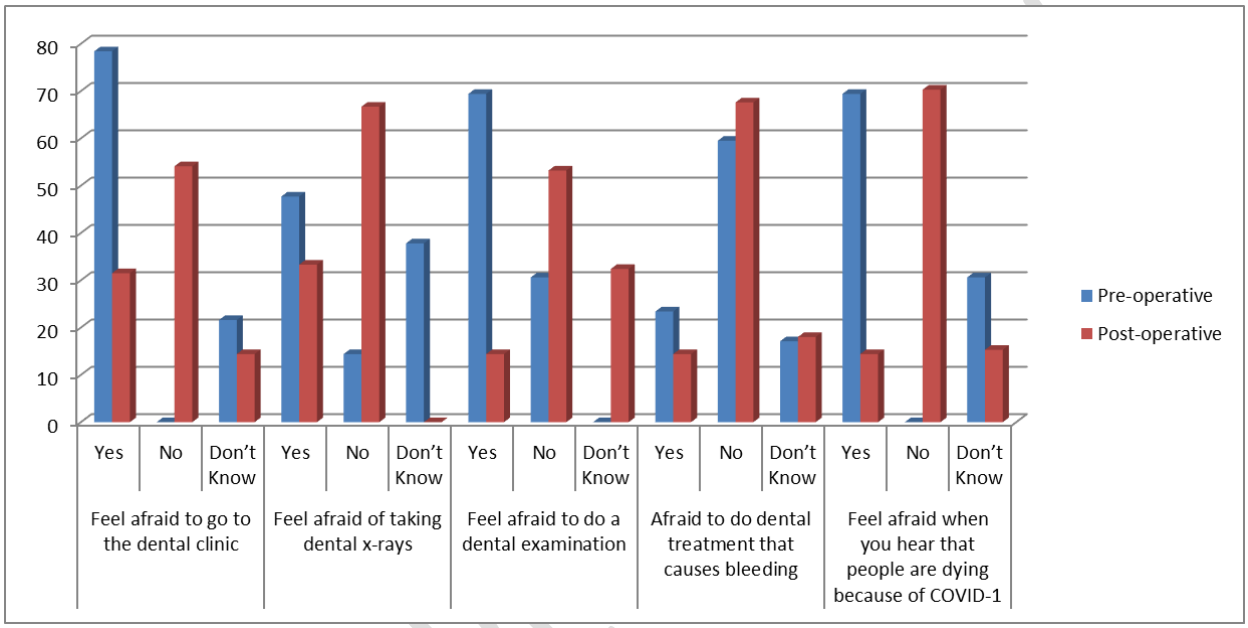

Figure 4: Graphical representation of the Practice domain scores pre and post operatively

Table 4 represents corelation between the domains (knowledge, attitude and practice). When knowledge domain was compared to attitude domain, a statistically significant correlation (p-value=0.0001) was noted between the two individual domains and similar correlation was noted between knowledge domain and practice domain. This informed that knowledge is related to both attitude and practice domain. When attitude domain was compared to practice domain, no significant correlation was noted.

Table 4: Correlation between the domains (knowledge, attitude and practice)

Correlations				
		Pre-Knowledge	**Pre-attitude**	**Pre-practice**
Pre-Knowledge	Pearson Correlation	1	-.696**	-.515**
	P Value		<0.0001*	<0.0001*
	N	111	111	111
Pre-attitude	Pearson Correlation	-0.696**	1	.153
	P Value	<0.0001*		.109
	N	111	111	111
Pre-practice	Pearson Correlation	-0.515**	0.153	1
	P Value	<0.0001*	0.109	
	N	111	111	111
**. Correlation is significant at the 0.01 level (2-tailed).				

DISCUSSION

During the COVID-19 pandemic, dental and oral diseases were an unavoidable problem. When the questionnaire study was conducted, COVID-19 pandemic was widespread with a rise in the curve and anxiety among the population regarding hospital visit and getting the treatment done. Hence, the primary objective of this questionnaire study was to assess the level of anxiety, awareness, concerns and attitude of patients regarding dental treatment during this pandemic. [6]

Dental treatments involve the use of dental hand pieces, ultrasonic scalers, water-air syringes, etc., which normally generate aerosols, sprays, spits and splashes of saliva, blood or other transport media of SARS-CoV-2.[7] It increases fear for dental treatment among the people, despite of the dental settings for protection including medical uniform, gown, medical cap, N95 respirator, goggles, face

shield, medical suit, gloves, and medical shoe covers and also protection measures for the staffs which includes dental interns, dental nurses and general dentists working in the hospital.[8] In addition, the use of antibacterial mouth washes, rubber dam, and high-volume section during treatment procedures with frequent cleaning and disinfecting of surfaces of chairs, door handles and floors was highly recommended. The present study assessed knowledge, anxiety and fear among people in current corona virus pandemic. [9]

In present study 111 subjects were included and more than 80% of participants reported anxiety of contracting with SARS-CoV-2. We found that there was significant corelation between the domains (knowledge, attitude and practice). [10] When knowledge domain was compared to attitude domain, a statistically significant correlation (p-value=0.0001) was noted between the two individual domains and similar correlation was noted between knowledge domain and practice domain. This informed that knowledge is related to both attitude and practice domain. When attitude domain was compared to practice domain, no significant correlation was noted. [11]

Similar result found in a study by Pasiga et al (2020) where he conducted a study to determine the relationship of transmission of COVID-19 virus knowledge with dental care during a pandemic through google questionnaire forms. In their study, a significant relationship between knowledge about transmission and fear for dental care during the COVID-19 pandemic. [14]

Nazir et al (2021) conducted a study to evaluate dental fear and emergency dental treatment among adults in COVID-19 quarantine centres and found that dental fear was common among adults with a predilection for the female gender. Increased dental fear was significantly related to dental pain and reduced dental attendance. Only one-third of adults were willing to perform emergency dental visits. [15]

Cotrin et al (2020) conducted a study to evaluate the impact of the coronavirus pandemic and the quarantine in orthodontic appointments, and patients' anxiety and concerns about their ongoing orthodontic treatment. He found that the quarantine and coronavirus pandemic showed to have impact on orthodontic appointments and patients' anxiety. Patients willing to attend an orthodontic appointment presented significantly lower level of anxiety than patients that would than males about coronavirus pandemic, quarantine and impact on their orthodontic treatments. [16]

According to the findings of the present study, subjects were more anxious about the risk of contracting corona virus through touch, waiting for the treatment in the reception area and fear of transmission through mucosa. A thorough knowledge and counselling might aid in relieving such fear and anxiety. [12] The limitations of this study that should be considered were the smaller number of subjects. Although the respondents noted here were regarding the fear and anxiety due to COVID-19 pandemic, but it cannot be distinguished from the generalized fear about the dental treatments. [13]

CONCLUSION

Pandemic outbreaks usually lead to widespread fear and mental distress in the population**.** The current strategies in management of COVID-19 in dental set-up are primarily concentrated towards controlling the spread of disease. The present study demonstrates a significant cross-sectional data of fear, anxiety and amount of knowledge people have regarding the hospital visit during COVID-19. Successful management of dental fear and anxiety requires the assessment of the severity of dental fear and adoption of primary treatment approaches tailored to individual patients.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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