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RESEARCH ARTICLE

COVID-19. ARE WE PREPARED FOR FUTURE OUTBREAKS? AN ONLINE SURVEY TO ASSESS KNOWLEDGE, ATTITUDE AND AWARENESS OF DENTAL PROFESSIONALS

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Abstract

Background: COVID-19 continues to impact the dental community worldwide. The authors conducted an electronic study to examine dentists' knowledge, attitudes and awareness towards COVID-19 and its future outbreaks and its impact on their dental practice.

Methods: A questionnaire was circulated by electronic mail and social media platforms to dentists in different regions of North India. General dentists both BDS and MDS along with postgraduates and Interns represented the study population. On the level of comfortable with the preventive measures and provisions of treatment during the COVID-19 pandemic, knowledge, awareness and attitude were assessed using questionnaire. The questionnaire covered demographic characteristics and questions on COVID-19 outbreak related to dentists' level of comfort on preventive and safety measures, provision of treatment, impact on dental practice. Responses were tabulated and analyzed by chi-square or exact Fisher test. A P-value of less than 0.05 was considered significant.

Results: A total of 370 dentists responded. Comparisons were made gender wise, age wise, qualification wise and based on years of experience. Statistically Significant and very highly significant results were obtained for different questions in the questionnaire. Majority of the subjects were not aware regarding Personal Protective Equipment (PPE) and its use. ($P<0.01$).

Conclusions: The findings of the present study showed that dental professionals lack preparedness to confront COVID 19, however they are eager to attain knowledge and apply it in their clinical practice for possible future outbreaks. It also emphasized on essence of health education and training programs amongst the health care professionals.

Introduction:-

The Corona virus (COVID-19) has challenged health professions and systems and has evoked different speeds of reaction and types of response around the world. The unprecedented nature of this pandemic has caused exceptional disruption to dental services. It has been particularly challenging for the dental profession and for patients accessing oral healthcare services, due to the risks of this infection in a dental setting.[1]

Viral pandemics are not new and it is almost certain the dental profession will need to respond to the challenge of future outbreaks and waves of this deadly virus. Greater emphasis on robust preparedness at a national level could

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ensure smooth and uninterrupted flow of dental services in future as a part of pre planning for probable waves or outbreaks.[2]

A timely evidence-based overview on the impact of COVID-19 on dental care and oral health is the need of the hour, to identify the gaps in protection of patients and staff in dental settings to further protect ourselves and our patients from this deadly infection. [3] This can be achieved by increasing knowledge and awareness of dentists towards concerns and challenges faced in management of patient during the past outbreaks. And positive assessment of their attitude towards efficiently cope the crisis arising from the pandemic.[4]

The aim of this paper is to identify knowledge, awareness and attitude of frontline dentists delivering dental care, of the risks from the Covid-19 and it's impact on their practice.

Material And Methods:-

The present study was a descriptive cross sectional (questionnaire) study, conducted from 2020 to 2021. The study population consisted of dental health professionals all across different parts of different colleges across India.

A convenience sampling of internet users was used for the study through creating an online survey portal. Data was collected using questionnaire method which was compiled in, Google Form©. The survey link was shared in social media platforms such as WhatsApp© and Facebook© through email to various dentists, dental students, faculty and private practitioners.

Considering potential errors and sample loss, the final sample size was estimated to be 500. However, only 370 subjects returned the questionnaire that constituted the final study sample.

Inclusion criteria

1. M.D.S from all dental specialties working as faculty and/or general practitioners.
2. B.D.S working as faculty and/or general practitioners.
3. Undergraduate and Postgraduate Dental students from dental colleges across India.

Exclusion criteria

Incomplete questionnaires returned back by dental personals or not duly filled by them.

Methods of data collection

A self‑designed electronic questionnaire written in English Language was designed consisting of socio-demographic questions, questions based on knowledge, awareness and attitude of dental practitioners related to COVID‑19 disease and infection control practices, adapted from a previous research. The information obtained for general public published by the Centre for Disease Control as well as questions related to dental practice awareness and availability of treatment during the time of pandemic was also included in the questionnaire format. Subject experts evaluated the validity and ambiguity of the questionnaire. Prior to the data collection, the questions were pretested among a sample population to ensure the reliability.

Part 1, Introduction comprised of personal, professional and other demographic details of the participant. The details of each part were kept undisclosed and were blinded. During data analysis the study variables were given uniform numerical codes throughout the study.

Part 2, Knowledge of Dental Practice in Covid-19 Pandemic. It consisted of five (05) questions related to topics such as knowledge of personal hygiene and personal etiquettes along with Infection control and Quality assurance practices followed in dental practice.

Part 3, Awareness and Attitude of Dentists in Covid-19 Pandemic consisted of seven (07) questions about probability and prevention measures taken to avoid infection with Covid-19.

Statistical Analysis

Categorical variables are presented as absolute numbers and percentage. The software used for the statistical analysis were SPSS (statistical package for social sciences) version 25.0 and MedCalc software.

Results:-

A total of 370 study subjects were included in study, out of which 53.5% were males and 30.0% were females. Around 57.0% participants were undergraduate students, 2.7% participants were faculty, 23.2% were private practitioners and 17.0% postgraduates. As per training duration 54.9% were dental students at undergraduate and post graduation level, 28.9% had clinical practice after completion of training from 0-5 years, and 16.2% had the same from more than 5 years. Comparisons were done age wise, Gender wise and according to Years of Practice.

Knowledge regarding Covid 19

Age wise significant differences were obtained between the two age groups upon asking about use of disposable foot protector during clinical examination (p=0.013) and among different infection control procedures performed in dental operatory for each patient (p=0.009) A maximum of 82.2% dentists in age group <35 years always wash their hands before putting on gloves and 86.1% in the same age group always wash their hand after removing gloves. During clinical examination Disposable foot protector were found to be used more in the age group >35 years and a maximum of 83.6% always used it. Exploring different infection control procedures performed in dental operating before each patient; respondents in age group <35 years followed these procedures more. The various procedures included were disinfection with 70% alcohol (1.9%), using both methods together along with plastic barrier (62.5%), plastic barrier alone (3.6%). While in age group >35 years common cleaning with soap and water (1.6%), disinfection with 70% alcohol and common cleaning (26.2%), disinfection with 70% alcohol along with plastic barrier (27.9%) was observed. However 0.6% don't clean and 0.3% use other means of cleaning their dental operatory. (Table 1)

Gender wise significant differences were obtained and females used significantly more disposable cap (p=0.001), surgical cap (p=0.001) and common mask (p=0.003) and N95 or equivalent (p=0.019) eye goggles (p=0.001), disposable foot protector (p=0.001) during clinical examination respectively. (Table 1)

According to years of practice, significant differences were obtained in Dental Students (p=0.001) on asking about washing hands always after removing gloves before every clinical examination. During clinical examination Dental Students always use N95 or equivalent mask (p=0.003), face shield (p=0.006), eye goggles (p=0.004), disposable foot protector (p=0.001). Exploring different infection control procedures performed in dental operating before each patient it was found that Dental Students maximum followed common cleaning with soap and water (1.5%), both methods together along with plastic barrier (67%), other means (0.5%) and 1.0% don't clean their dental operatory. Amongst dentists with 0-5 years of experience disinfection with 70% alcohol was more prevalent (3.7%), disinfection with 70% alcohol along with plastic barrier (20.6%), disinfection with 70% alcohol and common cleaning (23.4%) and plastic barrier alone (3.7%) was observed. (Table 1)

Awareness and Attitude regarding Covid 19

Age wise significant differences were obtained between the two age groups upon asking about impact of Covid 19 on Dental students to pursue dentistry as career in future where <35 years answered a positive impact was expected (90.9%) (p=0.046) Upon asking about type of recommendations followed in dental practice a maximum of <35 years followed Local guidelines (52.4%) (p=0.016). (Table 2)

Gender wise significant differences were obtained and significantly more males felt risk of transmission of COVID 19 to OMR specialist is least as they deal with non aerosol procedures. (Table 2).

According to years of practice, non significant differences were obtained between the groups. (Table 2)

Discussion:-

The face of dentistry is changing, with COVID-19 presenting an unprecedented challenge to the dental industry. It is a new disease and associated with stigma as many things are still being discovered.[1] The recent past has clearly demonstrated how COVID 19 has dismantled the avenues of the dental world and given a major setback to the clinical practices of dentists. [2] The havoc refurbished by this virus has still not ended as studies have identified various circulating double-mutant and triple-mutant strains of SARS-CoV-2 across different regions of the world. [3] The upcoming strains have been so far more destructive and morbid than its predecessors. Such altered transmissibility, pathogenicity and ubiquity indicate the incessant evolution of the virus and have raised the concerns of the masses worldwide. [4]

In Indian scenario the key factors identified for repeated outbreaks were larger population density and poor execution of a coherent containment strategy and policies. Many sub-variants of this virus have been identified and some still under investigation and are circulating within the masses. [1]

This outbreak has created a huge impact on dentistry. Dental students and dental professionals are at a higher risk because dental practice comprises close communication and widespread exposure to blood, saliva, and other body fluids. Hence, both dental practitioners and patients could be at risk of being infected with microbial pathogens. [5]

The present survey provides an insight on the knowledge, awareness and practice of dentists in preventing the Covid-19 transmission. A total of 370 participants were included in this study. Comparisons were made Gender wise, Age wise and according to years of practice. Participants comprised of dental post graduates, BDS and MDS practitioners and faculty in hospital and self owned setup. Similar studies were conducted in the past by Azlan AA et al,[5] Walid QA et al,[6] Lakshmi M KS et al.[7]

Questions related to use of personal protective equipments (PPE) and hygiene practices and etiquettes both personal and for the environment were included in this study to assess knowledge of different groups and it was found that younger individuals (<35 years) significantly followed most of these equipments. (p=0.013) Upon assessing hygiene etiquettes for dental operatory significant differences were obtained among both age groups and "disinfection with 70% alcohol with common cleaning and plastic barrier" was commonly followed in young individuals under 35 years of age (p=0.009)

Gender wise significant differences were obtained and males more used PPE (p=0.001). Similar results were found in previous studies however, gender wise comparisons could not be determined, also it was found that COVID-19 has evolved rapidly into a public health crisis however, the disease transmission is controllable if appropriate knowledge of infection control and sanitisation protocol is followed in dental practice. Therefore, knowledge and proper execution of these practices are essential to curb this menance.[6,8] In another study the authors found that CDC has given guidelines which must be taken care of to prevent transmission of this deadly virus. They recommended that dentists must attain the knowledge of these practices and need to adhere to the guidelines in order to provide safe environment to themselves and their patients. Appropriate usage of personal protective equipment including the gloves, goggles and face shields, gown, masks or respirators and maintaining pre and post hand hygiene and sanitization using disinfectant solutions and alcohol based rubs must be ensured in everyday clinical dental practice.[9,10]

According to years of practice, significant differences were obtained in Dental Students (p=0.001) on asking about washing hands always after removing gloves before every clinical examination and use of PPE [N95 or equivalent mask (p=0.003), face shield (p=0.006), eye goggles (p=0.004), disposable foot protector (p=0.001)]. Maximum Dental Students also followed common cleaning with soap and water (1.5%), both methods together along with plastic barrier (67%) and other means (0.5%). However, dentists with 0-5 years of experience maximum followed disinfection with 70% alcohol (3.7%), disinfection with 70% alcohol along with plastic barrier (20.6%), disinfection with 70% alcohol and common cleaning (23.4%) and plastic barrier alone (3.7%). Similar studies comparing according to years of practice could not be found in the literature.

We recommend that dentists must be educated and sensitized to increase their knowledge towards Covid 19 which would be fruitful to effectively manage future outbreaks. Upgradation of the knowledge of dental practitioner may also protect them from treating asymptomatic patients. Walid QA et al emphasized detailed medical history form or COVID-19 screening questionnaire is an effective way to rule out the suspected patients of Covid-19. Dentists must attain knowledge to fill such forms and these forms should concentrate on the travel history and the history of acute symptoms in high risk individuals.[6] However, knowledge about these forms was not assessed in this study

In our study questions to assess awareness and attitude of dental practitioners were included that could prevent further propagation of the infection. Dentists agreed that they could help spread awareness regarding the disease as lack of awareness increases mortality associated with any new outbreak and instills a fear of the unknown among fellow colleagues and patients. Our study revealed that professional life and financial condition of dentists in a clinical set up has been affected during Covid 19 although the results were non significant gender wise, age wise and according to years of practice.

Our study revealed statistically significant differences gender wise where majority of males agreed that 'risk of transmission of Covid 19 to OMR specialist is least as they deal with non aerosol procedures. (p=0.001) Statistical significant differences were found age wise among different groups and maximum dentists under age 35 years agreed that Covid 19 related changes would impact the likelihood of current dental students to pursue a career in dentistry in their country. (p=0.046) Also participants in this group agreed to follow Local recommendations or guidelines and agreed that tele-consultations should be followed during Covid 19 pandemic times. (p=0.016, 0.041 respectively) Majority of dentists in the same age group agreed that detailed history on phone should be taken on patient's appointment to avoid contact with the patient. (p=0.001) Similar findings were reported in previous studies where majority of dentists re-emphasised on delivering only emergency care when required and to postpone all elective procedures until severity of the situation is under control.[9,11,12] In another similar study dentists followed official government websites as the main source of information about COVID-19.[13,14] This indicates that the COVID-19 updates posted online by official government health authorities had positive implications for creating awareness amongst dentists.

Tables

Table 1:- Age wise, Gender wise and According to Years of Practice comparison of knowledge of Covid-19 in dental practitioners.

		Age groups		Total	Chi-square value	p-value	**Gender**			Chi-square value	p-value	**Years of practice**			Chi-square value	p-value
		< 35 years	≥ 35 years				Female	Male	Other			Dental student	0-5 years	More than 5 years		
13. Before putting on gloves do you wash your hands	Always	254	45	299	6.639	0.249	85	158	56		0.212	161	89	49	14.038	0.171
		82.2%	73.8%	80.8%			76.6%	79.8%	91.8%			79.3%	83.2%	81.7%		
	Disinfection with 70% alcohol	16	6	22			8	11	3			9	5	8		
		5.2%	9.8%	5.9%			7.2%	5.6%	4.9%			4.4%	4.7%	13.3%		
	Never	2	0	2			2	0	0			2	0	0		
		0.6%	0.0%	0.5%			1.8%	0.0%	0.0%			1.0%	0.0%	0.0%		
	Rarely	6	0	6			2	4	0			3	2	1		
		1.9%	0.0%	1.6%			1.8%	2.0%	0.0%			1.5%	1.9%	1.7%		
	Sometimes	17	4	21			9	11	1			13	7	1		
		5.5%	6.6%	5.7%			8.1%	5.6%	1.6%			6.4%	6.5%	1.7%		
	Usually	14	6	20			5	14	1			15	4	1		
		4.5%	9.8%	5.4%			4.5%	7.1%	1.6%			7.4%	3.7%	1.7%		
14.After removing gloves do wash your hands before every clinical	Always	266	47	313	7.130	0.211	94	169	50	13.066	0.220	169	97	47	34.766	**0.001***
		86.1%	77.0%	84.6%			84.7%	85.4%	82.0%			83.3%	90.7%	78.3%		
	I perform disinf	10	6	16			3	11	2			3	4	9		
		3.2%	9.8%	4.3%			2.7%	5.6%	3.3%			1.5%	3.7%	15.0%		

examination	ection with 70% alcohol															
	Never	1	0	1			0	1	0			0	0	1		
		0.3%	0.0%	0.3%			0.0%	0.5%	0.0%			0.0%	0.0%	1.7%		
	Rarely	3	0	3			0	2	1			2	1	0		
		1.0%	0.0%	0.8%			0.0%	1.0%	1.6%			1.0%	0.9%	0.0%		
	Sometimes	14	4	18			8	9	1			14	3	1		
		4.5%	6.6%	4.9%			7.2%	4.5%	1.6%			6.9%	2.8%	1.7%		
	Usually	15	4	19			6	6	7			15	2	2		
		4.9%	6.6%	5.1%			5.4%	3.0%	11.5%			7.4%	1.9%	3.3%		
15.During clinical examination ,indicate the frequency with which you use the following items: [Medical coat]	Always	293	57	350	2.225	0.817	103	190	57	8.939	0.091	190	100	57	2.129	0.712
		94.8%	93.4%	94.7%			92.8%	96.0%	93.3%			93.6%	93.5%	95.0%		
	Sometimes	1	1	2			1	0	1			1	2	1		
		0.3%	1.6%	0.5%			0.9%	0.0%	1.6%			0.5%	1.9%	1.7%		
	Usually	15	3	18			7	8	3			12	5	2		
		4.9%	4.9%	4.9%			6.3%	4.0%	4.9%			5.9%	4.7%	3.3%		
15.During clinical examination ,indicate the frequency with which you use the following items: [Disposable cap]	Always	263	53	312	2.238	0.973	83	179	53	45.661	**0.001***	164	93	56	10.377	0.240
		84.7%	86.9%	84.3%			74.8%	90.4%	86.9%			80.8%	86.9%	93.3%		
	Does not apply	-	-	-			-	-	-			0	1	0		
		-	-	-			-	-	-			0.0%	0.9%	0.0%		
	Rarely	3	0	2			1	0	0			1	1	0		
		1.0%	0.0%	0.5%			0.9%	0.0%	0.0%			0.5%	0.9%	0.0%		
	Sometimes	4	0	4			2	0	5			4	2	0		
		1.3%	0.0%	1.1%			1.8%	0.0%	8.1%			2.0%	1.9%	0.0%		
	Usually	39	8	47			25	19	3			34	10	4		
		12.6%	13.1%	12.7%			22.5%	9.6%	4.9%			16.7%	9.3%	6.7%		
15.During clinical examination ,indicate the frequency with which you use the following items:	Always	227	51	277	13.548	0.139	68	164	47	61.177	**0.001***	148	74	55	14.246	0.076
		73.5%	83.6%	74.9%			61.3%	82.8%	77.0%			72.9%	69.2%	91.7%		
	Never	-	-	-			-	-	-			1	0	0		
		-	-	-			-	-	-			0.5%	0.0%	0.0%		
	Rarely	5	0	4			4	0	4			2	3	0		
		1.6%	0.0%	1.1%			3.6%	0.0%	6.6%			1.0%	2.8%	0.0%		

[Surgical cap]	Sometimes	19	1	19			15	1	3			14	8	0		
		6.1%	1.6%	5.1%			13.5%	0.5%	4.9%			6.9%	7.5%	0.0%		
	Usually	58	10	62			23	33	7			38	22	5		
		18.8%	16.4%	16.8%			20.7%	16.7%	11.5%			18.7%	20.6%	8.3%		
15.During clinical examination ,indicate the frequency with which you use the following items:+6 [Common mask]	Always	267	53	320	0.876	0.928	89	181	50	23.449	**0.003***	168	96	56	6.613	0.358
		86.4%	86.9%	86.5%			80.2%	91.4%	82.0%			82.8%	89.7%	93.3%		
	Never	4	0	2			0	1	1			2	0	0		
		1.2%	0.0%	0.5%			0.0%	0.5%	1.6%			1.0%	0.0%	0.0%		
	Sometimes	6	1	7			5	1	3			6	2	1		
		1.9%	1.6%	1.9%			4.5%	0.5%	4.9%			3.0%	1.9%	1.7%		
	Usually	32	7	39			17	15	7			27	9	3		
		10.4%	11.5%	10.5%			15.3%	7.6%	11.5%			13.3%	8.4%	5.0%		
15.During clinical examination ,indicate the frequency with which you use the following items: [Mask N95/FFP2 FFP3 or equivalent]	Always	234	51	285	6.063	0.532	79	166	45	27.091	**0.019***	142	88	56	19.660	**0.003***
		75.7%	83.6%	77.0%			71.2%	83.8%	73.8%			70.0%	82.2%	93.3%		
	Rarely	7	0	2			1	0	1			1	1	0		
		2.1%	0.0%	0.5%			0.9%	0.0%	1.6%			0.5%	0.9%	0.0%		
	Sometimes	6	2	8			6	2	0			8	0	1		
		1.9%	3.3%	2.2%			5.4%	1.0%	0.0%			3.9%	0.0%	1.7%		
	Usually	62	8	70			25	30	15			52	18	3		
		20.1%	13.1%	18.9%			22.5%	15.2%	24.6%			25.6%	16.8%	5.0%		
15.During clinical examination ,indicate the frequency with which you use the following items: [Face shield]	Always	237	52	283	4.162	0.761	73	179	37			140	87	56	21.464	**0.006***
		76.8%	85.2%	76.5%			65.8%	90.4%	60.7%			69.0%	81.3%	93.3%		
	Never	3	0	3			2	1	0			3	0	0		
		1.0%	0.0%	0.8%			1.8%	0.5%	0.0%			1.5%	0.0%	0.0%		
	Rarely	2	0	2			2	0	0			1	1	0		
		0.6%	0.0%	0.5%			1.8%	0.0%	0.0%			0.5%	0.9%	0.0%		
	Sometimes	18	2	20			14	2	5			16	9	1		
		5.8%	3.3%	5.4%			12.6%	1.0%	8.2%			7.9%	8.4%	1.7%		
	Usually	49	7	56			20	17	19			43	10	3		
		15.9%	11.5%	15.1%			18.0%	8.6%	31.1%			21.2%	9.3%	5.0%		
15.During clinical examination ,indicate the frequency	Always	215	49	259	5.885	0.553	58	170	36	90.919	**0.001***	124	82	53	22.657	**0.004***
		69.6%	80.3%	70.0%			52.3%	85.9%	59.0%			61.1%	76.6%	88.3%		
	Never	4	0	4			4	0	0			4	0	0		
		1.3	0.0	1.1			3.6	0.0	0.0			2.0	0.0	0.0		

with which you use the following items: [Eye goggles]		%	%	%			%	%	%			%	%	%		
	Rarely	9	0	9			7	1	1			6	3	0		
		2.9 %	0.0 %	2.4 %			6.3 %	0.5 %	1.6 %			3.0 %	2.8 %	0.0 %		
	Sometimes	26	5	31			22	5	4			23	10	3		
		8.4 %	8.2 %	8.4 %			19.8%	2.5 %	6.6 %			11.3%	9.3 %	5.0 %		
	Usually	55	7	62			20	22	20			46	12	4		
		17.8%	11.5%	16.8%			18.0%	11.1%	32.8%			22.7%	11.2%	6.7 %		
15.During clinical examination,indicate the frequency with which you use the following items: [Disposable foot protector]	Always	186	51	222	17.853	**0.013***	52	140	33	82.627	**0.001***	108	62	52	32.547	**0.001***
		55.3%	83.6%	60.0%			46.8%	70.7%	54.1%			53.2%	57.9%	86.7%		
	Never	-	-	-			6	0	1			7	0	0		
		-	-	-			5.4 %	0.0 %	1.6 %			3.4 %	0.0 %	0.0 %		
	Rarely	8	0	8			6	2	1			5	3	0		
		2.6 %	0.0 %	2.2 %			5.4 %	1.0 %	1.6 %			2.5 %	2.8 %	0.0 %		
	Sometimes	30	2	32			25	3	4			30	7	1		
		9.7 %	3.3 %	8.6 %			22.5%	1.5 %	6.6 %			14.8%	6.5 %	1.7 %		
	Usually	87	8	95			22	53	20			53	35	7		
		28.2%	13.1%	25.7%			19.8%	26.8%	32.8%			26.1%	32.7%	11.7%		
16.How often do you sterilize dental chair for each patient	Always	238	45	282	8.070	0.152	92	164	52	7.734	0.102	146	88	49	17.034	0.074
		77.0%	72.3%	76.2%			82.9%	82.8%	85.2%			71.9%	82.2%	81.7%		
	Never	3	0	3			1	1	1			1	1	1		
		1.0 %	0.0 %	0.8 %			0.9 %	0.5 %	1.6 %			0.5 %	0.9 %	1.7 %		
	Rarely	2	0	2			1	1	0			0	1	1		
		0.6 %	0.0 %	0.5 %			0.9 %	0.5 %	0.0 %			0.0 %	0.9 %	1.7 %		
	Sometimes	26	4	30			3	11	1			20	8	2		
		8.4 %	6.6 %	8.1 %			2.7 %	5.6 %	1.6 %			9.9 %	7.5 %	3.3 %		
	Usually	40	12	52			14	21	7			36	9	7		
		12.9%	19.7%	14.1%			12.6%	10.6%	11.5%			17.7%	8.4 %	11.7%		
17.Indicate the infection control procedures you perform on the dental operatory including dental chair for each	Common cleaning (water and soap)	3	1	4	20.323	**0.009***	2	2	0	9.273	0.051	3	0	1	51.906	**0.001***
		1.0 %	1.6 %	1.1 %			1.8 %	1.0 %	0.0 %			1.5 %	0.0 %	1.7 %		
	Disinfection with 70 % alcohol	6	0	6			3	1	2			2	4	0		
		1.9 %	0.0 %	1.6 %			2.7 %	0.5 %	3.3 %			1.0 %	3.7 %	0.0 %		

patient	Disinfection with 70 % alcohol + common cleaning (water and soap) + plastic barrier / over gloves	193	24	217			61	106	50			136	52	29		
		62.5%	39.3%	58.6%			55.0%	53.5%	82.0%			67.0%	48.6%	48.3%		
	Disinfection with 70 % alcohol + plastic barrier /over gloves	48	17	65			30	29	6			38	22	5		
		15.5%	27.9%	17.6%			27.0%	14.6%	9.8%			18.7%	20.6%	8.3%		
	Disinfection with 70% alcohol + common cleaning (water and soap)	45	16	61			10	48	3			14	25	22		
		14.6%	26.2%	16.5%			9.0%	24.2%	4.9%			6.9%	23.4%	36.7%		
	I don"t clean	2	0	2			2	0	0			2	0	0		
		0.6%	0.0%	0.5%			1.8%	0.0%	0.0%			1.0%	0.0%	0.0%		
	Other	1	0	1			1	0	0			1	0	0		
		0.3%	0.0%	0.3%			0.9%	0.0%	0.0%			0.5%	0.0%	0.0%		
	Plastic barrier /over gloves	11	2	13			2	11	0			7	4	2		
		3.6%	3.3%	3.5%			1.8%	5.6%	0%			3.4%	3.7%	3.3%		

Chi-square test * Significant difference

Table 2:- Age wise and Gender wise comparison of Awareness and Attitude of Dental Practitioners in Covid -19.

	Age	Tot	Chi	p-	Gender	Chi	p-	Years of	Chi	p-

		groups		al	-square value	value				-square value	value	Practise			-square value	value
		< 35 years	≥ 35 years				Female	Male	Other			Dental student	0-5 years	More than 5 years		
18. Do you think COVID-19 related changes will impact the likelihood of current dental students to pursue a career in Dentistry in your country?	No	28	3	31	6.144	**0.046***	15	11	5	6.682	0.154	20	7	4	6.418	0.170
		9.1%	4.9%	8.4%			13.5%	5.6%	8.2%			9.9%	6.5%	6.7%		
	Yes	281	58	338			96	187	56			183	100	56		
		90.9%	95.0%	91.4%			86.5%	94.4%	91.8%			90.1%	93.5%	93.4%		
19. Do you follow any recommendations or guidance in Dental practice?	No	33	5	38	5.375	0.068	11	19	8	1.505	0.826	18	12	8	6.399	0.171
		10.7%	8.2%	10.3%			9.9%	9.6%	13.1%			8.9%	11.2%	13.3%		
	Yes	276	56	331			100	179	53			185	95	52		
		89.3%	91.8%	89.5%			90.1%	90.4%	86.9%			91.1%	88.8%	86.7%		
If YES, which kind of recommendations or guidelines do you use?	Does not guidelines or recommendations	23	7	30	13.998	**0.016***	5	21	4	5.340	0.079	14	10	6	17.993	0.055
		7.4%	11.5%	8.1%			4.5%	10.6%	6.6%			6.9%	9.3%	10.0%		
	Local	162	22	184			46	100	38			104	51	29		
		52.4%	36.1%	49.7%			41.4%	50.5%	62.3%			51.2%	47.7%	48.3%		
	National	112	32	143			53	75	16			77	42	25		
		36.2%	52.4%	38.6%			47.7%	37.9%	26.2%			37.9%	39.3%	41.7%		
	Others	3	0	3			2	1	0			0	3	0		
		1.0%	0.0%	0.8%			1.8%	0.5%	0.0%			0.0%	2.8%	0.0%		
20. Do you agree	Cannot comment	52	9	61	9.949	**0.041***	20	27	14	8.573	0.067	41	14	7	6.458	0.08

that Teleconsultation should be followed during COVID-19 pandemic times?																6
		16.8%	14.8%	16.5%			18.0%	13.6%	23.0%			20.2%	13.1%	11.7%		
	No	25	10	34			6	24	5			15	11	8		
		8.1%	16.4%	9.2%			5.4%	12.1%	8.2%			7.4%	10.3%	13.3%		
	Yes	232	42	273			85	147	42			147	82	45		
		75.1%	68.8%	73.8%			76.6%	74.2%	68.8%			72.4%	76.6%	75.0%		
21. Do you feel detailed history on phone should be taken prior to patient's appointment so that patient contact is limited in COVID-19 pandemic times.	Agree	245	39	283	16.897	**0.001***	88	147	49	10.737	0.097	154	83	47	8.974	0.175
		79.3%	63.9%	76.5%			79.3%	74.2%	80.3%			75.9%	77.6%	78.4%		
	Cannot comment	32	6	38			15	16	7			26	8	4		
		10.4%	9.8%	10.3%			13.5%	8.1%	11.5%			12.8%	7.5%	6.7%		
	Disagree	32	16	48			8	35	5			23	16	9		
		10.4%	26.2%	13.0%			7.2%	17.7%	8.2%			11.3%	15.0%	15.0%		
22. Do you feel the need of OMR Specialist for prompt Diagnosis and Treatment plan of the patient visiting your clinic in COVID-19 pandemic times.	Cannot comment	56	10	66	2.148	0.342	24	36	6	6.988	0.137	39	17	10	9.513	0.059
		18.1%	16.4%	17.8%			21.6%	18.2%	9.8%			19.2%	15.9%	16.7%		
	No	23	8	31			5	21	5			9	15	7		
		7.4%	13.1%	8.4%			4.5%	10.6%	8.2%			4.4%	14.0%	11.7%		
	Yes	230	43	273			82	141	50			155	75	43		
		74.4%	70.5%	73.8%			73.9%	71.2%	82.0%			76.4%	70.1%	71.7%		
23. Do you feel OMR specialist can do effective	Cannot comment	63	11	74			25	43	6			46	22	8	6.276	0.393
		20.4%	18.0%	20.0%			22.5%	21.7%	9.8%			22.7%	20.5%	13.3%		
	No	29	6	33	0.6	0.8	8	19	8	11.	0.0	14	14	5		

triage of patients visiting dental OPDs					31	89				769	67					
		9.3%	9.8%	8.9%			7.2%	9.6%	13.1%			6.9%	13.1%	8.3%		
	Yes	217	44	261			78	136	47			143	71	47		
		70.2%	72.1%	70.5%			70.3%	68.7%	77.0%			70.4%	66.4%	78.3%		
24. Do you feel risk of transmission of COVID 19 to OMR Specialist is least as they deal with non-aerosolprocedures?	No	47	12	54	2.600	0.458	33	70	6	23.586	**0.001***	57	36	16	7.744	0.257
		15.2%	19.7%	14.6%			29.7%	35.4%	9.8%			28.1%	33.6%	26.7%		
	Cannot comment	89	15	104			21	23	10			29	18	7		
		28.8%	24.6%	28.1%			18.9%	11.6%	16.4%			14.3%	16.8%	11.7%		
	Yes	173	34	207			57	105	45			117	53	37		
		56.0%	55.7%	55.9%			51.4%	53.0%	73.8%			57.6%	49.5%	61.7%		

Chi-square test *** Significant difference**

Conclusion:-

From the present study, it can be concluded that the majority of the dentists currently practising have incorporated at least one or more additional safety measures in their clinics. Psychological interventions to improve dentists' mental health and to enhance confidence in the dentists' ability to treat patients and return to their practice during the COVID-19 epidemic are needed and can be accomplished with thorough knowledge and awareness of dental practices and positive attitude of the dentists. The future and sustenance of practicing and emerging dental professionals depend on their adherence to these new norms and protocols and adapting to post-COVID dentistry.

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