

Knowledge, Awareness, Attitude and Practice about Covid 19 among Dental Students in Priyadarshini Dental College And Hospital, Tiruvallur - A Cross Sectional Study

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Abstract

Aim

This survey was to assess the Knowledge, Awareness, Attitude and Practice about covid 19 among Dental students in Priyadarshini Dental College and Hospital, Tiruvallur.

Methods

A self-administered questionnaire was used, which consisted of a set of 20 questions. All the data were entered into Microsoft Excel and then transferred to SPSS for analysis of data.

Results

A total of 361 Dental students contributed to this study. The General knowledge about Covid 19 is more among in interns. Overall, there is lack of attitude of covid 19 among Dental students.

Conclusion:

The inputs from the survey help us throw some light and fill up lacunae where required. There is a strong need to implement periodic educational interventions and training programs on infection control practices for COVID-19 among dentists in particular. The information from this survey helps us to make necessary changes in implementing periodic educational webinars and stress on areas where necessary, which is important for the dental fraternity for protecting themselves and shielding our society from COVID-19.

Keywords: covid-19, Knowledge, Attitude, Awareness, Dentist.

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I. Introduction:

COVID-19 has become a pandemic these days and it is a topic of high public concern and medical students are directly or indirectly related to it. Many people reported to different hospital in Wuhan, China with the complaints of fever, headache, shortness of breath, malaise and dry cough in mid- December 2019. They were admitted as the cases of atypical pneumonia. Some of them developed complications as the disease progressed. They developed respiratory failure and were given ventilatory support.¹ The novel coronavirus disease (COVID-19) is a communicable viral disease caused by the SARS-COV-2 virus, which was identified around the end of December 2019 in Wuhan, China. On January 30, 2020, the World Health Organization (WHO) declared COVID-19 a Public Health Emergency of International Concern (PHEIC) and on March 11, 2020 it was declared to be a pandemic.² The majority of clinical manifestations (80%) are mild and may include a variety of symptoms, such as fever, dry cough, shortness of breath, and fatigue. More severe presentations of COVID-19 are the development of sputum production, headache, hemoptysis, diarrhoea, and vomiting [2,3,7]. Finally, a high mortality risk has been associated with patients developing pneumonia or acute respiratory distress syndrome. Population groups at risk of developing pneumonia or acute respiratory distress include older adults or patients with a pre-existing chronic illness such as, asthma, COPD, diabetes, cardiovascular disease, or immune suppression. The diagnosis for COVID-19 is made by identifying contact history, clinical manifestations, radiographic changes on CT chest imaging, and laboratory tests. Currently, laboratory diagnostics offer the most accurate and reliable results, and include Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) tests.

RT-PCR is mainly used to detect viral RNA from respiratory secretions such as expectorated sputum, oropharyngeal, and nasopharyngeal samples. It is important to note that a negative RT-PCR test result will not exclude the patient from having the virus and other diagnostic criteria should be considered. Transmission of COVID-19 is primarily through respiratory droplets generated from an infected person during sneezing, coughing, talking, and direct contact through physical transfer of microorganisms between an infected person and a susceptible host. It can also be transmitted indirectly by an intermediate object such as a contaminated object used by the infected person. Dental procedures are highly likely to expose both patients and

professionals, due to the close contact of dental team members and patients. Additionally, the majority of dental procedures generate and aerosolize a large number of droplets containing saliva and blood. Incubation periods for the virus are said to range from 2-14 days increasing the likelihood of post dental treatment spread.³

In order to introduce and install effective control measures, having knowledge about basic hygiene principles and modes of disease transmission, and measures in such an environment is, therefore, of vitally importance.⁴

When compared with most seasonal influenza viruses, the infection fatality rate of COVID-19 was high (1%) and a matter of concern in the public and healthcare fraternity.⁵

Rarely, SARS-CoV-2 can lead to severe respiratory problems, kidney failure or death. Computed tomography in patients with pneumonia revealed ground-glass opacity and patchy shadows.⁶

The high risk of COVID-19 infection among dental staff emphasizes their equally important role in preventing and controlling its transmission. Although dental students have learned how to deal with infectious diseases and take preventive measures, the need to be aware of a new protocol adjusted for COVID-19 is of great importance. The objective of this study is to assess the knowledge and awareness of COVID-19 disease and its related infection control practices among dentists in Priyadarshini Dental College and Hospital, Tiruvallur.

II. Materials and Methods

This study used a descriptive cross-sectional study design with a self-administered questionnaire. The questionnaire included four sets of 20 questions. The comparison of mean score of knowledge, Awareness, Attitude and Practice were interpreted based on Dental students in Priyadarshini Dental College and Hospital in Tiruvallur. A consent was obtained from each participants prior to being enrolled in this study.

The cross-sectional study was conducted in September 2021 using a structured questionnaire with 20 close-ended questions in English. A pilot assessment was done on 15 dental practitioners to ensure the lucidity and appropriateness of the questions. This panel of 15 dentists was excluded from the study. Most of the contributors found the questionnaire to be uncomplicated and precise, involving the following groups: First year -113, Second year-19, Third years -65, Final year -83 and Interns -81. Duration of the study was Sep 2021- Nov 2021. Informed consent was obtained from the study participants. Data collected were anonymous in order to avoid the social desirability bias. The nature and purpose of the study was explained to the Institution review board of Priyadarshini Dental College and Hospital and Ethical clearance was obtained.

Statistical analysis

Descriptive statistics were used to summarize the responses to the questionnaire, with the results being presented as frequencies and percentages. Chi-square tests were used to compare the 5 groups, and the level of significance was set at $P \leq 0.05$. The analysis focused on the "yes" responses in the five groups to the 20 questions (7 were related to knowledge, 6 were related to awareness, 3 were related to Attitude, 4 were related to practice regarding dental record maintenance).

Data analysis

The data was analysed using the SPSS.19.0. software.

III. Result

A total of 361 dental students participated in this study (response rate, 99.21%) which included first year -113, second year -19, Third years-65, Final years-83 and Interns-81. The highest percentage of correct replies was reported in Question 3 (286,79.7%) and which was related to the knowledge. The lowest proportion of correct responses was reported in question 11 (155,43.7%) was related to Awareness. These responses were statistically significant. Table1 shows overall distribution based on Knowledge, Attitude, Practice and Awareness. Table2 shows Mean comparison based on Knowledge, Attitude, Practice and Awareness among undergraduate Academic year students using ONE WAY ANOVA. Table3 shows posthoc comparison based on Knowledge, Attitude, practice and Awareness among undergraduate students using BONFERRONIC CORRECTION.

IV. Discussion

We found that more than half percentage of people relied on social media as a source of information. Social media as a source of information is a two-way street. On one hand, it is cost- effective, wide-dispersal and easily accessible source while on the other hand, it spread fake information. Fake news and false information can have devastating effects on the society.¹

in India on the importance of handwashing as an essential measure to prevent COVID-19 transmission; however, students in this sample selected wearing masks also as an important measure. This is expected given

the time our data was collected, when more robust evidence on mask-wearing was emerging Media” as sources of information about COVID-19. This is in agreement with a study conducted in Jordan in mid-March which found that among the 1,404 medical students surveyed, 83.4% used social media “occasionally to most of the time” as the primary source of information about COVID-19.²

COVID-19 is a highly infectious disease requiring strict infection control measures. To decrease the spread of the disease among the community and dental healthcare providers, a high level of knowledge is crucial and must be obtained.³

According to the WHO, to protect yourself from COVID-19 infection you should frequently wash your hands, maintain social distancing (at least 1- meter between yourself and coughing or sneezing persons), avoid touching your face, cover your mouth and nose when you cough or sneeze, and you don't need to wear a mask unless you are sick or taking care of a suspected COVID-19 infected person. Similar study conducted on the general public in Egypt, almost all of the participants were aware of the role of handwashing in preventing the virus transmission compared to half of our students. On the other hand, 40% were aware that garlic has no partin protection against the virus.⁴

Knowledge obtained from previous airborne pandemics has validated that transmission is effectively prevented by social distancing, frequent hand hygiene and wearing a face mask in public. Quarantine of people exposed to confirmed, travel restrictions, school closure and physical distancing are extremely useful in reducing transmission. At individual level, recommended precautions such as frequent and proper hand hygiene with soap and water or with alcohol-based hand rub is proved to be effective. Also, wearing of suitable mask by covering the mouth and nose snugly in public is very effective. Also the emergence of COVID-19 has shown a dramatic effect on humans, as both public meetings and social activities are curtailed to limit the transmission rates. In lieu of these observations, it is also important to adopt good clinical practices, such as wearing clean gowns, face mask/N95, goggles face/shield and clean gloves during emergency duties.⁵ Our results indicate that participants had good knowledge about COVID-19, but also suggest the necessity for further continuing education in dental school, as well as improving public education about COVID-19 control. The SARS-CoV-2 outbreak and the increasing number of dental practitioners affected remind us of the need to acquire the basic information of infection control, which is the main principle for protection.

V. Conclusion

The COVID-19 pandemic has induced an unprecedented deferment of dental procedures. Students from Priyadarshini Dental college showed adequate knowledge and attitude of COVID-19 with an overall percentage of 70.40% correct answers. Still, we found an underestimation of the dentists' risk of infection compared to other healthcare professionals. This study confirmed that realizing educational interventions could be needful to create more awareness of COVID-19 among the dentists of tomorrow.

TABLE 01: OVERALL DISTRIBUTION BASED ON KNOWLEDGE ATTITUDE, PRACTICE AND AWARENESS

	Mean	Std. Deviation	Minimum	Maximum	Overall percentage
K	5.22	1.83	0.00	7.00	74.59
A	1.93	0.82	0.00	3.00	64.45
P	3.15	1.00	0.00	5.00	78.67
Aw	3.86	1.75	0.00	6.00	63.90

TABLE 02: MEAN COMPARISON BASED ON KNOWLEDGE, ATTITUDE, PRACTICE AND AWARENESS AMONG UNDERGRADUATE ACADEMIC YEAR STUDENTS USING ONE WAY ANOVA.

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		F	Sig.
						Lower Bound	Upper Bound		
K	1	113	5.17	1.56	0.15	4.88	5.46	34.823	0.001**
	2	19	5.47	2.34	0.54	4.34	6.60		
	3	65	4.60	1.59	0.20	4.21	4.99		
	4	83	4.13	1.98	0.22	3.70	4.56		
	5	81	6.85	0.42	0.05	6.76	6.95		
A	1	113	1.92	0.92	0.09	1.75	2.09	0.807	0.521
	2	19	2.00	0.58	0.13	1.72	2.28		
	3	65	1.78	1.01	0.13	1.53	2.03		

	4	83	1.98	0.90	0.10	1.78	2.17		
	5	81	2.01	0.37	0.04	1.93	2.09		
P	1	113	3.41	1.07	0.10	3.21	3.61	10.156	0.001**
	2	19	3.21	0.54	0.12	2.95	3.47		
	3	65	2.54	1.34	0.17	2.21	2.87		
	4	83	3.36	0.88	0.10	3.17	3.55		
	5	81	3.04	0.37	0.04	2.96	3.12		
Aw	1	113	3.90	2.04	0.19	3.52	4.28	8.677	0.001**
	2	19	3.74	1.49	0.34	3.02	4.45		
	3	65	3.97	1.61	0.20	3.57	4.37		
	4	83	3.05	1.71	0.19	2.67	3.42		
	5	81	4.58	1.07	0.12	4.34	4.82		

TABLE 03: POSTHOC COMPARISON BASED ON KNOWLEDGE, ATTITUDE, PRACTICE AND AWARENESS AMONG UNDERGRADUATE STUDENTS USING BONFERRONIC CORRECTION.

Dependent Variable	(I) Year	(J) Year	Mean Difference (I-J)	Sig.
K	1	2	-0.306	0.431
	1	3	.568*	0.02
	1	4	1.036*	0.001
	1	5	-1.684*	0.001
	2	3	.874*	0.033
	2	4	1.341*	0.001
	2	5	-1.378*	0.001
	3	4	0.467	0.072
	3	5	-2.252*	0.001
	4	5	-2.719*	0.001
A	1	2	-0.08	0.697
	1	3	0.136	0.291
	1	4	-0.056	0.642
	1	5	-0.092	0.444
	2	3	0.215	0.317
	2	4	0.024	0.909
	2	5	-0.012	0.953
	3	4	-0.191	0.162
	3	5	-0.228	0.098
	4	5	-0.036	0.777
P	1	2	0.197	0.404
	1	3	.869*	0.001
	1	4	0.046	0.74
	1	5	.370*	0.008
	2	3	.672*	0.007
	2	4	-0.151	0.532
	2	5	0.173	0.474
	3	4	-.823*	0.001
	3	5	-.499*	0.002
	4	5	.324*	0.029
Aw	1	2	0.166	0.691
	1	3	-0.067	0.799

	1	4	.854*	0.001
	1	5	-.678*	0.006
	2	3	-0.232	0.596
	2	4	0.689	0.108
	2	5	-.843*	0.05
	3	4	.921*	0.001
	3	5	-.611*	0.03
	4	5	-1.532*	0.001

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