

Evaluation of Knowledge, Awareness and Attitude on Covid 19 Spread among Dental Students.

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ABSTRACT

Background: The COVID-19 is an ongoing pandemic of coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Biologic risk of covid 19 inhalation transmissions is extremely high while performing dental procedures, so knowledge, awareness and attitude of dental students on covid-19 pandemic play a major role in infection control and preventing risk.

Objective: The objective of this study is to know the knowledge, awareness and attitude of covid 19 pandemic among dental students.

Materials and Methods: An online questionnaire based cross sectional study was conducted among dental students of Tertiary Dental care and teaching hospital, Mangalore. Two questionnaires were prepared for non clinical and clinical dental students including interns based on the current interim guidance and information for healthcare workers published by the US Centers for Disease Control and Prevention (CDC).

Result: The maximum number of dental students were in the good knowledge category, (Non-clinical students 72.1% and clinical students 62.1%), followed by moderate knowledge. Questions pertaining to awareness of covid 19 among dental students showed that 94.05% participants were aware of covid 19 and 92.5% students has positive attitude towards covid 19 pandemic situation and they believe that this pandemic situation will successfully controlled.

Conclusion: The study concludes that the dental students are well aware of the different clinical aspects of the COVID-19 disease and have good knowledge regarding the COVID-19 disease. Among dental students, the non clinical students have more knowledge towards covid 19 spread and the clinical students are not much aware about the personal protection in the dental clinic and the post covid dental treatment.

Keywords:- corona virus, dental students, personal protection, hand hygiene.

I. INTRODUCTION

An emergent pneumonia outbreak of unknown causes was detected in Wuhan city, China has first reported to the WHO country office in China on 31st December 2019. This outbreak has declared a public health emergency of International concern on 30th January. On 11th February 2020, WHO named this novel viral pneumonia as 'corona virus disease' (covid 19)^[1].

Covid 19 has been violent and fast spread worldwide, which has led to the declaration of a pandemic outbreak of the coronavirus by the world health organization ^[2] The virus that causes covid 19 was initially called as 2019-n cov, later the international committee on taxonomy of viruses (ICTV) has named as SARS-COV-2.

Clinical manifestations of covid 19 patients usually present with fever, headache and dry cough, and some nonspecific symptoms such as shortness of breath, conjunctivitis, sore throat, diarrhea, vomiting muscular pain and fatigue. SARS-COV 2 infections typically spread through direct transmissions [cough, sneeze and droplet inhalation] or contact.

The biologic risk of covid 19 inhalation transmission is extremely high while performing dental procedures, so the dental students face the same high risk of contagion due to the exposure to saliva, blood and aerosol/droplets as that of dental professionals

So knowledge, awareness and attitude of dental students on covid-19 pandemic play a major role in infection control and preventing risk. Assessment of knowledge, awareness and attitude on covid 19 infection among dental students by questionnaire helps in getting an idea regarding the level of awareness of dental students.

Therefore the objective of this study is to know the knowledge, awareness and attitude of covid 19 pandemic among dental students.

II. MATERIALS AND METHOD

It was an online questionnaire based cross sectional study. It was conducted among dental students of the Tertiary Dental Care Centre and teaching hospital in Mangalore. The study was prepared in an online form and the questionnaire was taken from the current interim guidance and information for healthcare workers published by the US Centers for Disease Control and Prevention (CDC).

Two questionnaires were prepared in which one for non clinical first years and second year students and others for clinical dental student including interns. In non clinical dental students questionnaire consist of 20 questions regarding knowledge and awareness and for clinical students 18 questions regarding the knowledge, awareness and attitude on covid 19. Total 147 non clinical students and 206 clinical students were participated this study. The questionnaire was reviewed by experts with knowledge of this field. Before submitting the questionnaire, a pilot study was performed on a random sample of the students ($N = 30$) and the questionnaire was modified according to the feedback obtained.

Data received were coded and analyzed using the Statistical Package for Social Sciences (IBM SPSS) version 20 software. Chi-square tests were used to assess the correlation between the year of study and knowledge regarding the covid 19.

III. Results

Demographic characteristics of the respondents:

A total of 353 students agreed to participate in the study. A total of 269/353 (%) students were female, while 84/353 (%) were male. Regarding the year of study, 147/353 (%) were nonclinical students, while 206/353 (%) were clinical dental students. Amongst which there were 36.7% First years, 62.6% Second years, 23.8% Third years, 28.2% Final years and 48.1% Interns.

Knowledge of covid 19 among dental students :

Questions pertaining to knowledge of covid 19 among dental students showed that 72.1% of the non clinical students has good knowledge regarding covid 19, similarly 62.1% clinical students has good knowledge regarding covid 19 (Table 1&2). The maximum number of students were in the good knowledge category, followed by moderate knowledge.

Awareness of covid 19 among dental students.

Questions pertaining to awareness of covid 19 among dental students showed that 94.05% participants were aware of covid 19 . Among Non-clinical students 73.8% and among clinical students 78.9% were aware about guidelines on COVID-19 infection. 90.5% of Non-clinical students and 93.2% of clinical dental students were aware about the importance of incorporation of travel history in a case history format after lock down (Table 3 and figure 1)

Social media was the main source of media for information regarding covid 19 among non clinical students.

76.7% clinical students were not aware about the anti-retraction dental hand piece and only 46.6% clinical students were confident of treating patients after the lock down ends. Interns were more aware about covid 19 among dental students followed by final year students.

Attitude of covid 19 among dental students

More number of non-clinical dental students (43.5%) were attended the classes on COVID-19 infection control compared to clinical dental students (Highly significant) (Table 3&4, figure 1)

92.5% students have a positive attitude towards covid 19 pandemic situation and they believe that this pandemic situation will successfully controlled. But they are not confident enough to go to colleges/clinics amidst this covid 19 situation, in that 78.2% students has concern regarding social distancing issue and 93.9% students worried about getting covid 19 infection.

Table1: Knowledge among Non-clinical students

	Frequency	Percent
Poor	3	2.0
Moderate	38	25.9
Good	106	72.1
Total	147	100.0

Table 2: Knowledge among clinical students

	Count	Column N %
Poor	0	.0%
Moderate	78	37.9%
Good	128	62.1%
Total	206	100.0%

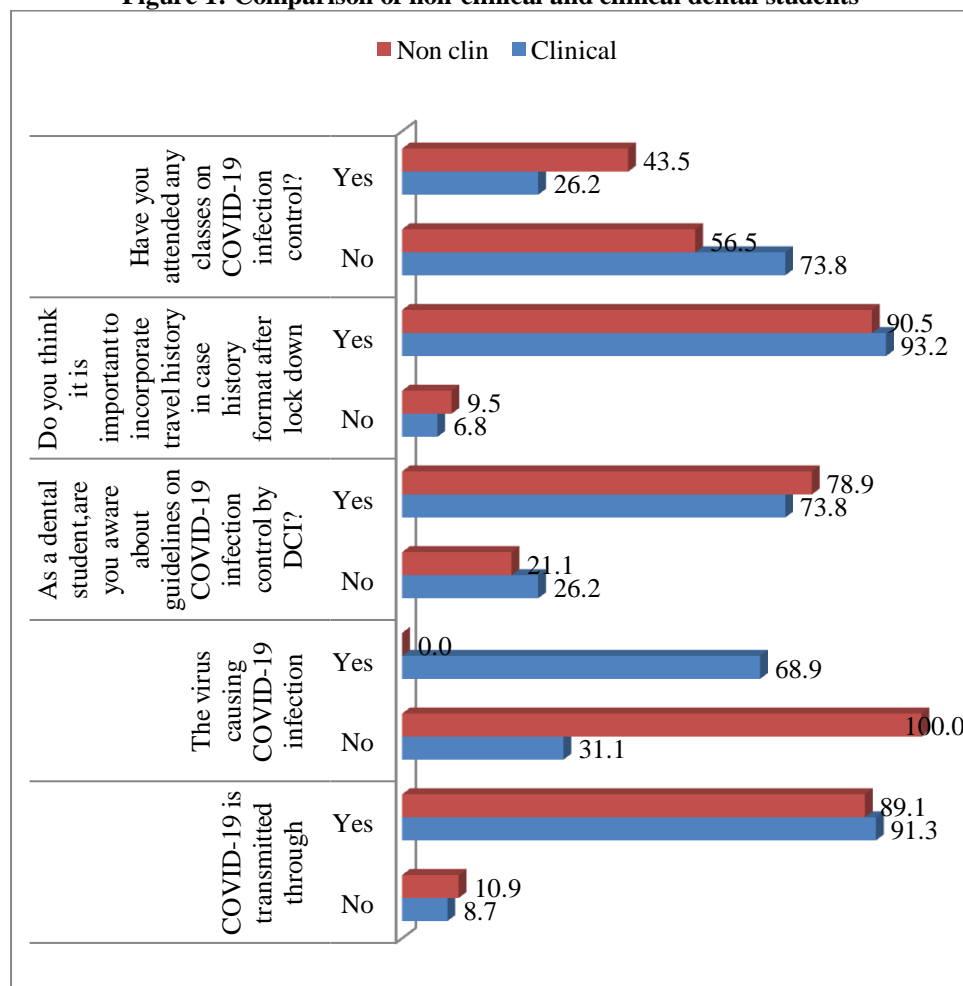
Table: 3 Comparison of non-clinical and clinical dental students

		Category			
		Clinical		Non clin	
		Count	Column N %	Count	Column N %
COVID-19 is transmitted through	No	18	8.7%	16	10.9%
	Yes	188	91.3%	131	89.1%
The virus causing COVID-19 infection	No	64	31.1%	147	100.0%
	Yes	142	68.9%	0	.0%
As a dental student, are you aware about guidelines on COVID-19 infection control by DCI?	No	54	26.2%	31	21.1%
	Yes	152	73.8%	116	78.9%
Do you think it is important to incorporate travel history in case history format after lock down	No	14	6.8%	14	9.5%
	Yes	192	93.2%	133	90.5%
Have you attended any classes on COVID-19 infection control?	No	152	73.8%	83	56.5%
	Yes	54	26.2%	64	43.5%

Table: 4

Category with Following parameters	Chi square test p	
COVID-19 is transmitted through	0.500	
The virus causing COVID-19 infection	0.000	
As a dental student, are you aware about guidelines on COVID-19 infection control by DCI?	0.267	
Do you think it is important to incorporate travel history in case history format after lock down	0.350	
Have you attended any classes on COVID-19 infection control?	0.001	HS

Figure 1: Comparison of non-clinical and clinical dental students



IV. DISCUSSION

The COVID-19 pandemic is an ongoing pandemic of corona virus disease 2019 (COVID-19), caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2).^[3] The outbreak was first identified in Wuhan, China, in December 2019.^{[4][5]} The World Health Organization declared the outbreak as a Public Health Emergency of International Concern on 30 January, and a pandemic on 11 March.^{[6][7]} As of 10th June 2020, more than 7.24 million cases of COVID-19 have been reported in more than 188 countries and territories, resulting in more than 411,000 deaths; more than 3.37 million people have recovered.^[8]

The virus is primarily spread between people during close contact, most often via small droplets produced by coughing, sneezing, and talking.^{[9][10][11]} The droplets usually fall to the ground or onto surfaces rather than travelling through the air over long distances.^[9] Less commonly, people may become infected by touching a contaminated surface and then touching their face.^{[9][10]} It is most contagious during the first three days after the onset of symptoms, although spread is possible before symptoms appear, and from people who do not show symptoms.^{[9][10]}

Common symptoms include fever, cough, fatigue, shortness of breath, and loss of sense of smell.^{[9][12][13]} Complications may include pneumonia and acute respiratory distress syndrome.^[14] The time from exposure to onset of symptoms is typically around five days but may range from two to fourteen days.^{[15][16]} There

is no known vaccine or specific antiviral treatment.^[9] Primary treatment is symptomatic and supportive therapy.^[17]

Recommended preventive measures include hand washing, covering one's mouth when coughing, maintaining distance from other people, wearing a face mask in public settings, and monitoring and self-isolation for people who suspect they are infected.^{[9][18]} Authorities worldwide have responded by implementing travel restrictions, lockdowns, workplace hazard controls, and facility closures. Many places have also worked to increase testing capacity and trace contacts of infected persons.

The result of this study provides valuable insights into a very important issue and significantly contribute to our knowledge of the covid 19 spread by dental students in Mangalore. To our knowledge, this cross-sectional study to identify the knowledge, awareness and attitude regarding covid 19 spread among dental students is the first to be conducted in Mangalore.

Questions pertaining to awareness of covid 19 among dental students showed that 94.05% participants were aware of covid 19 and 76.3% students aware about guidelines on COVID. From this study showed that knowledge of covid 19 among dental students showed that 72.1% of the non clinical students had good knowledge regarding covid 19. Similarly 62.1% clinical students had knowledge regarding covid 19. 60.5% non clinical students know the covid 19 abbreviation and 78.2% students know the virus causing this disease. 89.1% students know the mode of infection and 91.2% know the symptoms of covid 19. Social media was the main source of media for information regarding covid 19 among non clinical students. 76.7% clinical students are not aware about the anti-retraction dental hand piece and only 46.6% clinical students are confident of treating patients after the lock down ends. Interns are more aware about covid 19 among dental students followed by final year students.

92.5% students have a positive attitude towards covid 19 pandemic situation and also they believe that this pandemic situation will be successfully controlled. But they are not confident enough to go to colleges/clinics amidst this covid 19 situation, in that 78.2% students has concern regarding social distancing issue. 93.9% students worried about getting covid 19 infection. 81.6% feels dental clinics will be one of the source of covid infection.

The clinical student's awareness on the sequence of donning and doffing PPE is 89.3% and 77.2% respectively, and only 65.5% clinical student is know about the type of mask used in the covid 19 spread. But only 6.3% students aware about the mouthrinse for all dental patients before dental procedure

The results of this study were give us an idea about the knowledge, awareness, and attitude of dental students in the current covid 19 crisis. The data obtained from this study also help us in providing special training through workshop /courses to prepare them to manage dental patients according to the universal precautions so as to prevent the further spread of covid 19 and to protect themselves.

V. CONCLUSION

The study concludes that the dental students are well aware of the different clinical aspects of the COVID-19 disease and have good knowledge regarding the COVID-19 disease. Among dental students, the non clinical students have more knowledge towards covid 19 spread and the clinical students are not much aware about the personal protection in the dental clinic and the post covid dental treatment. This suggests the need for more workshops, webinars and classes for acquiring more information about the disease as well as the clinical protocols to be followed which is very crucial in future dentistry. Most of the students are currently in a panic state on the fear of getting the infection on their arrival back to college. In order to overcome this, more awareness classes must be arranged for alleviating the tension of the students during the current pandemic situation.

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