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Assessment of knowledge and acceptance to the era of uncertainty (Covid-19) among exposed undergraduate and postgraduate dental students- A Questionnaire-based Investigation

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Abstract

Introduction: Dental students are facing complex problems during the COVID-19. So, it is important to assess their knowledge, risk perception, attitude, vaccination, measures taken for prevention by the dental students. **Objective:** Assess awareness, attitude and risk perception among dental students, COVID 19 scenario. **Methodology:** A questionnaire-based survey is drawn in an online form, comprising of 19- variable, structured, multiple choice questions, and respondents are under graduate and post graduate dental students. Data were analyzed using SPSS software version 20.0. **Results:** Total 105 responses, 45% under graduate, 55% post graduate students. More than 50% responded, dentists are more exposed than other health professionals, at high risk for infection. 45% are aware of all COVID-19 symptoms. 44.4% worried to return for dental clinical activities.74.7% took preventive measures in clinical. 64% received general information about biosafey measures to COVID-19 without any practice. 50% agreed treating vaccinated patients reduced risk for transmission and 70%, dentists play major role in educating patients. **Conclusion:** Dental students revealed good knowledge regarding COVID-19, they accepted this uncertainty by taking all the measures to prevent being infected.

Keywords: Dental students, COVID 19, Awareness, Attitude, Clinical Risk perception.

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INTRODUCTION

An unexpected pandemic respiratory disease that is caused by a novel corona virus has rapidly spread worldwide affecting large population across the globe.

COVID-19 is highly contagious and has a long incubation period. COVID-19 displays several symptoms like high fever, cough, nausea, vomiting, diarrhoea, muscle-joint pain and in advanced cases, respiratory distress [1], but in an asymptomatic person When a person is infected with pathogens but shows no signs or symptoms, the disease might progress [2].

The SARS-CoV-2 virus, which is abundant in nasopharyngeal and salivary secretions [3] of covid patients, is thought to be disseminated through aerosolized respiratory droplets [4].

Hence the Dentists are taken into consideration at excessive threat of being infected and additionally an excessive threat in spreading the infection to their families and other healthy individuals.

Dealing with current situations is a challenge for dental practitioners as well as dental students, who are continually exposed. During the pandemic, dental care treatments included excruciating pain from pulpal inflammation, dental trauma, and enamel fracture, but today dental institutions and clinical postins have reopened [5].

Although dental colleges and hospitals offer good enough education on infection control and safety, suboptimal adherence to these protocols can also additionally have an effect on students' self belief in treating patients with infectious disease and this could be manifested in the current pandemic situation [6].

Till date, there aren't any confirmed vaccines or efficient therapeutic interventions in opposition to the virus. The present scientific control consists of infection prevention and control, symptoms-particular

alleviation and supportive care.

METHODOLOGY

A questionnaire-based study was conducted to assess among exposed under graduate and post graduate dental students. A total of 105 students were participated.

Online survey was conducted using Google forms. Comprising, 16 multiple choice questions, and respondents are under graduate (final year and interns) and post graduate dental students who were aged 18 years or above of Navodaya Dental College and Hospital, Raichur, Karnataka.

The study was carried out in the department of Periodontology, Navodaya Dental College and Hospital, Raichur, Karnataka. This clinical study was approved by our Ethical Board Research Committee.

The online survey questionnaire had a total of questions based on:

Questions that was associated to preventive behaviours for COVID-19;

Questions to assess risk perception of COVID-19

Questions to assess awareness, attitude of COVID-19

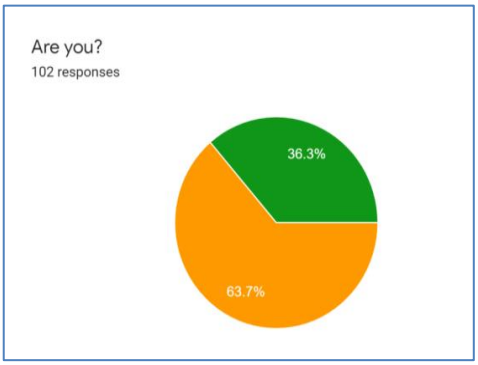
This survey highlighted on the degree of observance on infection control measures among dental students; and linked this to their knowledge and attitudes regarding infection control measures and correct vaccines. Contagiousness, symptoms, incubation period, source of infection, routes of transmission, treatment and infection control practices related to COVID-19. Quantify the perception in the exposure risk of dental students with that of other healthcare professionals.

AN ONLINE QUESTIONNAIRE SURVEY	
Q1	**Are you?** a) under graduate student b) post graduate student
Q2	**What do you think is (or) would be the mode of exposure of covid-19 to you?** a) Through contact with infected patient during dental procedures. b) Through contact with infected other dental students or staff in the institution. c) exposure outside dental institution d) by performing aerosol dental treaments e) by performing nonaerosol dental treatments f) Contact with blood of an infected person g) Accidents with contaminated sharp object
Q3)	**Did you notice any symptoms after exposure?** a) Fever b) Dry cough c) Diarrhoea d) Fatigue e) Sore throat f) Nausea and vomiting g) Difficulty breathing h) Headache i) Running nose j) No symptoms noticed
Q4	**When noticed symptoms,What measures did you take?** a) Got isolated b) Visited physician c) Got RT-PCR done d) All of the above e) Neglected symptoms
Q5	**Risk preventing measures adopted in dental practice for COVID-19?** a) Hand hygiene practices before and after treatment. b) Use of barriers to protect mucosa c) Use of disposable coat apron d) Use of mouthwashes by patients before the clinical examination e) Temperature assessment of the patients f) Cleansing and disinfection of surfaces g) all of the above h) none of the above
Q6	**To prevent the spread of COVID-19, are you trained for biosafety measures that are to be followed in dental clinic?** a) Not trained at all. b) I have received general information without practice c) I have received practical training
Q7	**What is your state of mind about returning to the clinical activities at dental school?** a) I might not be worried b) I am worried c) I am very worried d) I am completely worried
Q7.a	**Under which of the below do you classify the pandemics impact on the dental academics and clinical training?** a) Low impact b) Moderate impact c) Strong impact d) Very strong impact
Q8	**Did you come across any guidelines on COVID-19 infection control?** a) Yes b) No c) Not sure
Q9	**Following statements are based on the exposure to risk of contagion for medical doctors, dentists and other health professionals, which of the below are appropriate to you?** a) Risk of infection to dentists is more as they are more exposed when compared to other health professionals. b) Other health professionals are more exposed than dental professionals c) Equal exposure is noticed for risk of infection in all health professionals. d) I don't find anything relevant.
Q10	**Rate the risk of infection transmission of COVID-19 exclusively in clinical dental practice at dental school?** a) Low b) Moderate c) High

Q11	**What is the role of vaccination?** a) All dentists vaccinated for two doses have less chances of infection b) All dentists vaccinated for alteast one dose have less chances of infection c) Vaccination reduced the severity of Covid-19, but no role in preventing exposure to infection. d) None of the above
Q12	**Which below way or ways are more effective in preventing COVID-19 exposure during dental treatment.** a) Treating patients only who are vaccinated for two doses b) Treating patients who are vaccinated with at least one dose c) Motivate patients for vaccination d) none of the above e) both of the above
Q15	**Preventive Behaviors for COVID-19** a) I avoided coughing around people as much as possible b) Items which are been touched frequently are cleaned and disinfected after every use. c) I made sure to sanitize hands more fervently than usual. d) I had discussion with people I live regarding infection control of COVID-19 e) All of the above f) None of the above
Q16	**What role do you think dentists play in creating awareness among patients about COVID-19?** a) Very significant b) Moderately significant c) Mildly significant d) Not significant

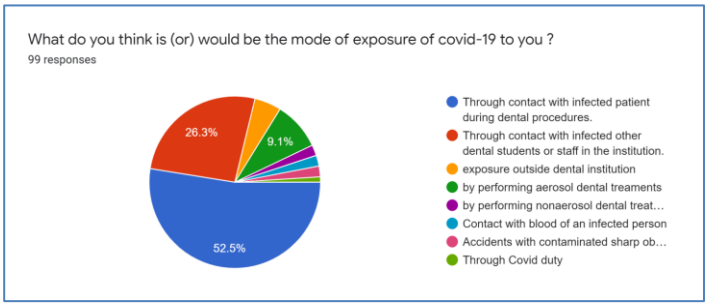
RESULT

Total 105 responses, 45% under graduate, 55% post graduate students. More than 50% responded, dentists are more exposed than other health professionals, at high risk for infection. 45% are aware of all COVID-19 symptoms. 44.4% worried to return for dental clinical activities.74.7% took preventive measures in clinical. 64% received general information about bio safety measures to COVID-19 without any practice.50% agreed treating vaccinated patients reduced risk for transmission and 70%, dentists play major role in educating patient.



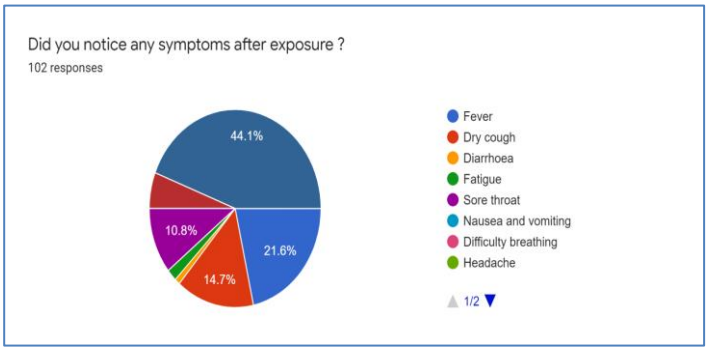
Graph 1

In graph 1: The current study reports a 63.7% were post graduates and 36.3% were undergraduates.



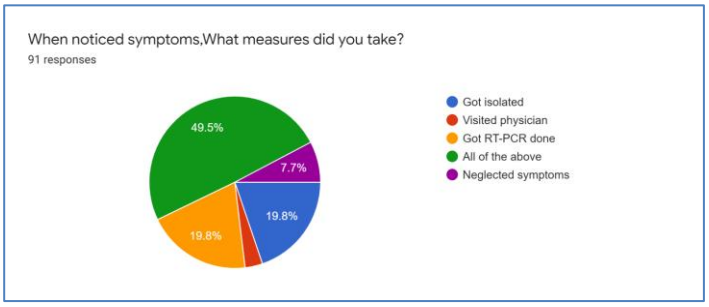
Graph 2

In graph 2: 52.5% through contact with infected patient during dental procedure.26.3% through contact with infected other dental students or staff of the institution. 9.1% by performing aerosol dental procedures.



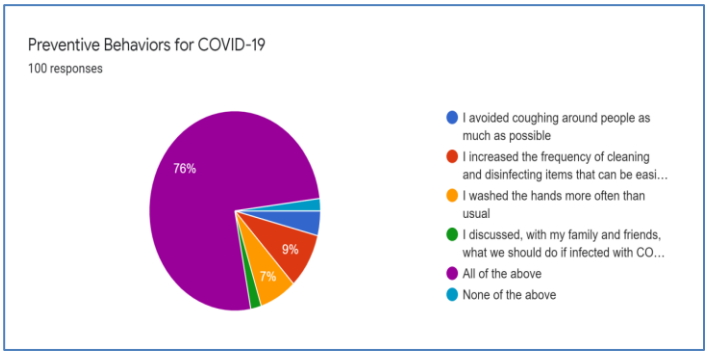
Graph 3

In graph 3: Approximately 44.1 percent of respondents were able to name all possible COVID-19 infection symptoms that were known at the time the study was done. "Fever," along with nausea, vomiting, dry cough, and sore throat, was regarded an essential symptom of the virus by all participants.



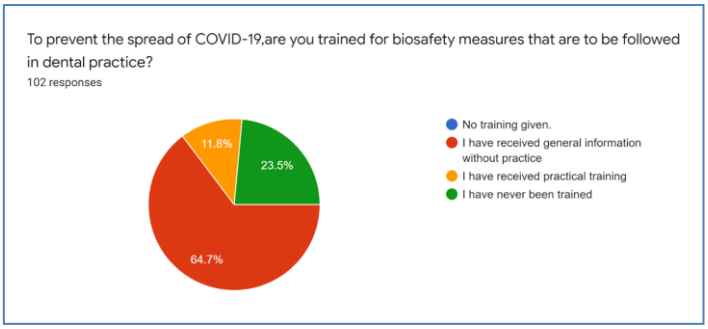
Graph 4

In graph 4, when students observed the symptoms around 49.5% students followed the measures of Covid.



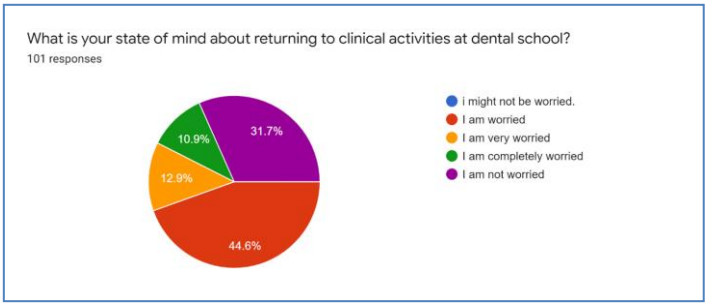
Graph 5

In graph 5, the highest overall practise was using a facemask, hand washing for at least 20 seconds, and covering mouth and nose when coughing or sneezing.

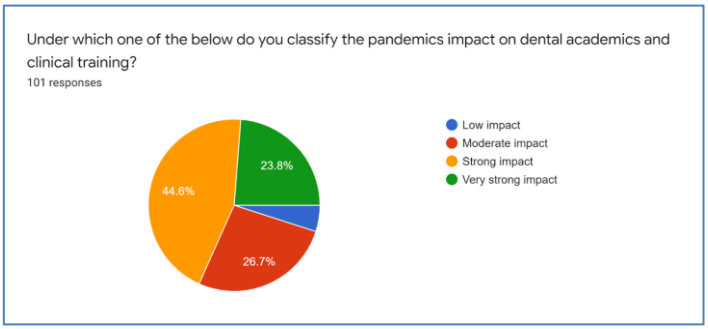


Graph 6

As shown in graph 6, only roughly 11.8 percent of students were taught for COVID procedures, according to 64.7 percent of participants who got their information about COVID-19 from broad sources like media and newspapers. and 23.5% students didn't participate in the training program.



a

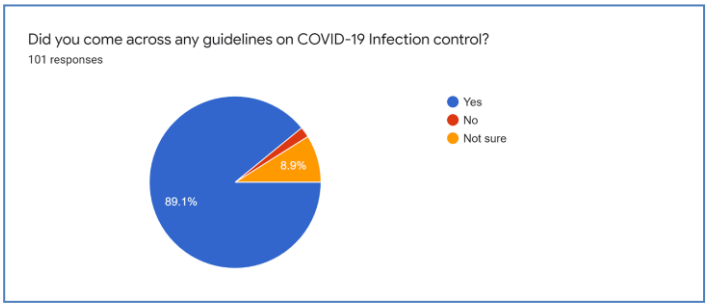


b

Graph 7

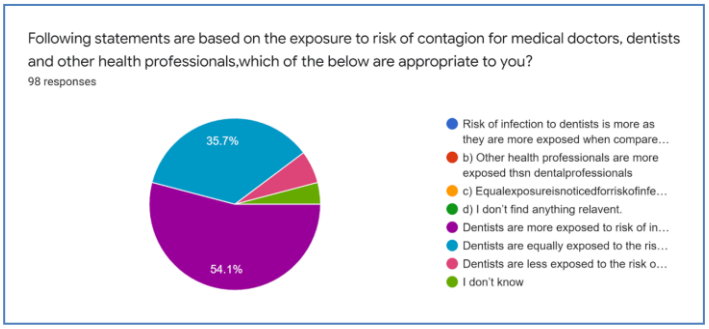
44.6% showed worried, 12.2% and around 10.9% was completely worried and expecting a delay in clinical activities. This showed a high impact on returning back to clinical activities.

Only 31.7% were not worried and were hoping to return to normal activity of clinical postings in graph 7(a)



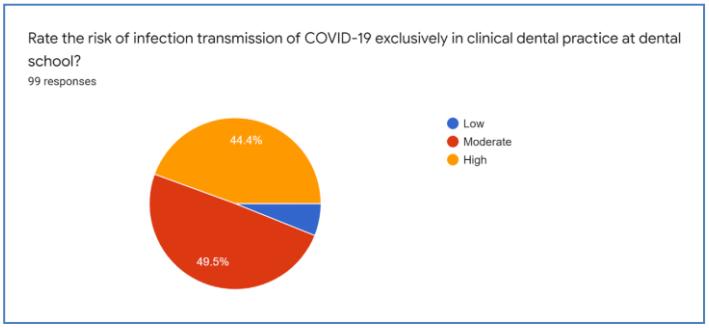
Graph 8

In graph 8, around 89.1% were aware of guideline that should be followed. "Social distance" was recommended as a way to prevent COVID-19 infection among patients, followed by frequent disinfection of dental offices and environs and Wear suitable protective equipment.



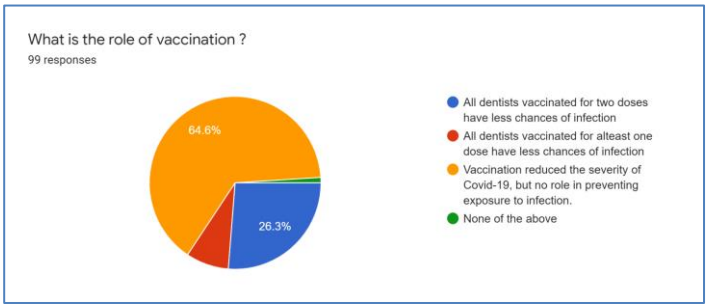
Graph 9

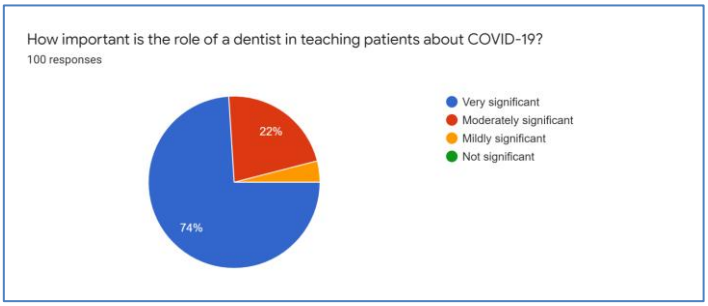
The responders in the graph 9 showed that around the increase in the risk of Covid when compared to other professionals.

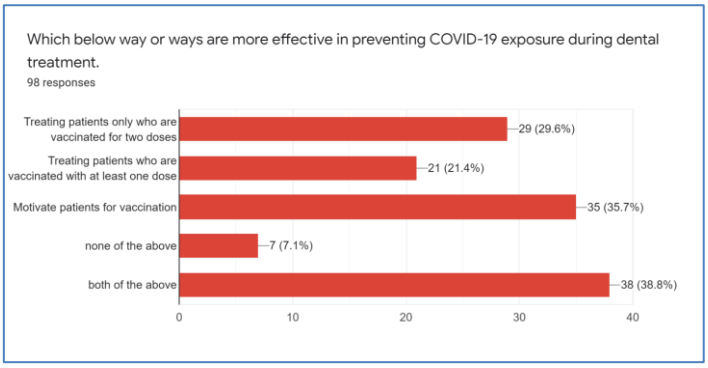


Graph 10

In graph 49% students responded that the risk of infection and transmission of covid-19 during the clinical practise.







Graph 11

Graph 11: 64.4% showed that COVID 19-vaccines are efficient and can lower the virus's risk. The broader public should be required to receive COVID-19 vaccine. The dentist's involvement in teaching patients about COVID-19 as extremely important.

DISCUSSION

COVID-19 still poses a large troubles for dentists in addition to the dental college students and dental establishments wherein a significant part of the treatment is carried out with the aid of using college students in their clinical term, there is great need to grant a decision with a greater systematic way to evaluate the understanding of knowledge and practice regarding the covid protocol for the students in phrases of scientific practise.

The study intended to evaluate protecting behaviours, risk perceptions, and fear approximately about the COVID-19 crisis among dental students in the dental institutions.

The present study evaluated by collaborating dental undergraduate and postgraduate students' understanding through COVID-19 crisis scoring them primarily based on their knowledge-based questions. This was in agreement with a previous study carried out by Srivastava *et al*. among dental health care professionals [7].

Studies performed all through the early degree of the pandemic revealed that dental students had inadequate expertise knowledge on COVID-19 pandemic to shield themselves from coronavirus infection [8].

However, the findings of the current study revealed that dentistry students in their clinical term of their curriculum have a strong understanding of the most important components of the novel virus, even if there are perhaps some knowledge gaps that need to be filled throughout treatment procedures.

Providing safe dental treatment during the COVID-19 pandemic is not officially compulsory in the revised standards, but it is recommended.

As shown in this study around 11.8 percent of students were taught for COVID procedures, as reported in this survey. Regarding 64.7 percent of the participants indicated that their sources of information about COVID-19 are general information such as media and newspapers and 23.5% students didn't participate in the training program. Looking into the COVID-19 information resources, this study found that social media site of 64.7% was accounted as the most used channels of information by dental students. Despite the fact that social media provides a immense opportunity for disseminating the most up-to-date COVID-19 information [9].

The majority of those who took part in the study reported usage of facemask, washed their hands frequently, and covered their mouth and nose when coughing or sneezing to prevent SARS-CoV-2 infection. This outcome is consistent with Abdel Wahed WY's findings from a similar study to prevent the virus from spreading among individuals and their close contacts [10].

In the present study, 52.5% through contact with infected patient during dental procedure.26.3% through contact with infected other dental students or staff of the institution. 9.1% by performing aerosol dental procedures.

It has been suggested that additional potential for Covid -2 transmission exists in dental settings during the delivery of aerosol-generating dental procedures. These Aerosols might be potential vectors for transmission, produced during dental procedures can contain infectious materials [11].

Being aware of its nature is crucial, as the possibility of SARS-CoV-2 transmission linked with aerosol-generating procedures puts students, particularly in the dental area, at increased risk. As a result, the focus is on improving the level.

The use of pre-operative mouthwash with alcohol free such as 0.2% chlorhexidine rinse, 1% hydrogen peroxide, 0.2% povidone iodine has been shown to control the bacterial aerosol burden [12].

Students should be made aware of the importance of wearing masks and gloves when treating patients, frequent changing gloves after each patient, maintaining social distance in the waiting room, and having hand sanitizer available in the clinical area. To protect themselves from COVID-19, students should agree to wear advanced PPE such as N-95 masks, impermeable gowns, and face shields while undertaking aerosol-generating activities [13].

The majority of dental students have resumed to practical classes. In present study. 44.6% showed worried, 12.2% and around 10.9% was completely worried and expecting a delay in clinical activities. This showed a high impact on returning back to clinical activities.

Only 31.7% were not worried and were hoping to return to normal activity of clinical postings.

Students were more likely satisfied for case presentation and discussions using online platforms ZOOM, Webex, and Microsoft Teams [14].

On the other side, the therapeutic clinical training in the institution clinical practise represented the main challenge for clinical dental education [15].

It's critical to communicate standards in order to make it easier to provide better dentistry education in a secure setting for a safe environment.

Students, instructors, and staff must emphasize strict infection control measures such as protective face masks and shields, social distancing, and hand cleanliness. The implementation of these procedures is critical for the students' safety in the workplace. Students, faculty, and staff should be only allowed to participate in limited, in-person classes, activities.

Furthermore, dental institution should absolutely avoid social activities and events.

Cleaning and disinfection of routinely touched areas should be done on a regular basis and monitored.

It has been hoped that vaccine acceptance from dentist will enhance vaccine uptake by the general public, as studies has shown that patients are more inclined to accept vaccination when their health care providers make a strong recommendation [16].

Educational institutions can take the lead in this regard. Infection control procedures in dental practise should be revised and strengthened at dental schools.

CONCLUSION

Since, COVID-19 continues to cause issues for institutions such as dental universities, where dental students perform a a momentous part of the treatment in their clinical placements, there is a pressing need to provide decision-makers with a more systematic way to assess knowledge and practise for students in their clinical postings. The goal of this survey was to get a overview of the student's perceptions of the novel virus and attitudes to infection control.

Conflict of interest

The auther reports no conflicts of interest.

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None declared.

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