

**Knowledge and Awareness about the signs and symptoms of Corona viral infection (COVID-19), and the required infection control measures to prevent its spread among undergraduate dental students in Sumandeep Vidyapeeth: Questionnaire study**

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**Abstract**

**Introduction:** The coronavirus disease (COVID19) is considered extremely infectious with flu-like symptoms and causes a relatively high mortality rate. It is usually transmitted from person to person mainly through droplets, putting dentists at high risk of infection. Therefore, the aim of this study was to evaluate dental students' attention and data about the signs and symptoms of coronavirus disease and to assess their awareness of infection management measures. Infections indicated during long-term dental treatment to correct the spread of coronavirus 19.

**Materials and methodology:** A questionnaire was formulated using Google forms and distributed to dental students and interns at Sumandeep Vidyapeeth. Questions focused on signs and symptoms of COVID19, dentists' attitudes toward dental treatment of suspected patients, and necessary personal protective equipment (PPE) and measures Infection control in the dental clinic.

**Result:** Most of the participants strongly agree/agree that COVID19 is a very dangerous disease, 53.90% of Participants said the most common symptom is loss of taste and smell, followed by 18.60% of students who

said that they had difficulty breathing. N95 respirators are the most useful personal protective equipment (PPE) in oral care (86.60%), followed by face shields 83.80%. Many participants (44.10%) suggested using 70% ethyl alcohol as the first method to disinfect surfaces between dental appointments, followed by sodium hypochlorite.

Conclusion: Dentistry student and intern of KM Shah University and Dental Hospital, Sumandeep Vidyapeeth, Vadodara has good knowledge and awareness about COVID19 and necessary precautions to provide treatment adequate dentistry for patients during the COVID19 pandemic.

**Keywords:** COVID19, Dental students, Knowledge and awareness, Infection control, signs and symptoms of Corona

### **Introduction**

The population is deeply distressed by the global virus pandemic. In addition to the opportunity for public physicality, monetary and social disruption threatens the livelihoods and long-term well-being of millions. COVID19 is a recently identified peak coronavirus infectious disease. India Prepares for the COVID19 Pandemic; Frontline health workers are the main culprits of this contamination. The virus that causes COVID 19 was first called 2019nCoV and later called syndrome coronavirus 2 (SARSCoV2) through the International Committee on Taxonomy of Viruses (ICTV) <sup>[1]</sup>. This is a completely new strain of bacteria identified in 2019 that had not been previously found in humans. Coronavirus disease (COVID19) first appeared in Wuhan, China in 2019; After that, it started spreading throughout the international community, causing concern and tension among all countries, extremely contagious and extremely deadly. Previously, Severe Acute Respiratory Syndrome Coronavirus (SARS CoV) and Middle East Respiratory Syndrome Coronavirus (MERSCoV) were

considered to affect humans. Outbreaks of respiratory illness caused by these viruses appear to have originated in animals before entering other hosts such as humans. MERSCoV was identified as being able to be transmitted from dromedary camels to humans, while SARSCoV was transmitted from civet cats to humans. SARSCoV2 appears to have originated in bats, and the first case scan from Wuhan, Hubei province, China, shows a man or woman walking out of a pet market. The virus then spread beyond Hubei and then to the loose area through human transmission. Several international locations have now announced the rollout of the network.

The World Health Organization (WHO) declared coronavirus disease a fatal disease on 11 March 2020<sup>[2]</sup> With this mode of transmission, healthcare workers are at risk for inflammation. highest infection. The fantastically contagious SARSCoV2 virus is a further risk for the healthcare device aside from the weight of prolonged paintings hours, bodily and mental stress, burnout, and fatigue<sup>[3]</sup> COVID19 is unfold via way of means of human-to-human transmission thru droplet, fecooral, and direct touch and has an incubation length of 214 days.<sup>[4]</sup>

Therefore, making use of preventive measures to manipulate COVID19 contamination is the maximum crucial intervention. Health care employees (HCWs) are the number one quarter in touch with sufferers and are an essential supply of publicity to inflamed instances in fitness care settings; thus, Dentists are anticipated to be at excessive chance of contamination. By the stop of January 2020, the WHO and Centers for Disease Control and Prevention (CDC) had posted tips for the prevention and manipulate of COVID19 for HCWs.<sup>[9]</sup>

The WHO additionally initiated numerous online education classes and substances on COVID19 in

numerous languages to reinforce preventive strategies, such as elevating consciousness and education HCWs in preparedness activities. In numerous instances, misunderstandings amongst HCWs have not on time controlling efforts to offer important remedy, caused the fast unfold of contamination in hospitals, and positioned sufferers` lives at chance.<sup>[9]</sup>

Knowledge can have an effect on the perceptions of HCWs because of their beyond reports and beliefs. Indeed, it could delay the reputation and treatment of people with COVID19 for the duration of the pandemic. However, the level of knowledge and awareness among healthcare workers about COVID19 remains unclear. In this regard, the COVID19 pandemic offers a very unique opportunity to analyze the level of understanding and awareness among healthcare workers during this international fitness crisis.<sup>[9]</sup> Due to the large transmission of SARSCoV2 and the analyzes of its spread for healthcare professionals, healthcare professionals are at high risk of nosocomial infection and may become the main culprits of this disease.<sup>[10]</sup> Therefore, on the one hand, it is essential to protect the physical condition of the patient by implementing a regimen to reduce the risk of infection. On the other hand, it is essential to paint in a safer environment and prevent dentists from forming viruses.<sup>[11]</sup>

In the modern situation, many dental college graduates feel afraid of getting inflamed by COVID19 or infecting others during their dental practice; This concern and tension can be attributed to a lack of understanding of the important precautions and contamination remediation approaches that must be followed to keep them safe and reduce the risk of ignition and control. This highlights the importance of being aware of the latest guidelines.<sup>[8]</sup> Reorganizing timely and necessary dental care is a challenge. Early management of acute

dental emergencies is essential to save patients from accidents and emergencies as well as to avoid nursing hospitalization.<sup>[12]</sup> Therefore, a complete exam-based questionnaire was established to assess dental students' attention and understanding of the symptoms and signs of Corona virus (COVID19) infection and to assess Rate their perception of the desired situation and the action to be taken. Supplement during dental treatment to control disease progression.

### **Material and methods**

This study was a cross-sectional study, conducted using the online survey from January 2-31, 2022 using Google Forms

[https://docs.google.com/forms/d/e/1FAIpQLSefGsALhZ Ea tbenjJdoL5LfEtsJ1f5rdUAWaiEqiWoWPkJw / view form? usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSefGsALhZ Ea tbenjJdoL5LfEtsJ1f5rdUAWaiEqiWoWPkJw / view form? usp=sf_link), a well-constructed and validated questionnaire designed and its link sent to dental students. It is self-administered and includes demographic details and qualifications of the participants. The remaining two letters 4 days apart will be sent to the student. All mail data will be stored in the software, after which other responses will be statistically analyzed. All participants who did not respond even after the remaining 2 sections were excluded from the study. A questionnaire form was sent to all undergraduate students (year 1, year 2, year 3, year 4 and internship students) of Sumandeep Vidyapeeth Dental College and completed only the forms. enough to be considered. The questionnaires were analyzed and scores were obtained. The obtained data were subjected to statistical analysis. The questionnaire consists of 15 closed questions. The questionnaire opens with an introduction explaining the purpose of the survey and does not ask for personal data; Furthermore, it is mentioned that the decision to participate in this survey is completely voluntary and will not affect the students

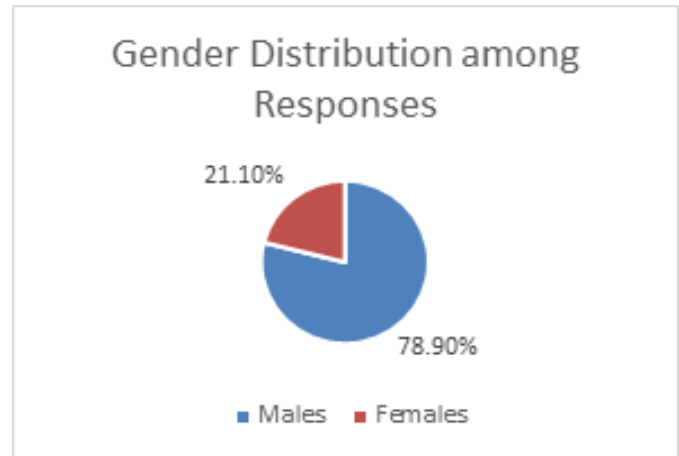
and their courses. Research Questionnaire was approved by Sumandeep Vidyapeeth Vadodara Ethics Committee and approved under SVIEC/ON/Dent/SRP/21141 and competed with zero. SVIEC / ON / Dent / SRP / 22014. The first part of the questionnaire began by asking whether the participants were male or female and determining whether the year of students of dentistry was 1<sup>st</sup>, 2<sup>nd</sup> 3rd, 4th, Internship. The second part of the questionnaire related to different signs and symptoms of Corona virus (COVID19) infection aims to test dental students' awareness of these signs and symptoms and their attitudes their in-office dentistry for suspected patients. The third section covers various issues related to dentists' personal protective equipment (PPE) and the infection control measures needed in the dental clinic to protect the dentist and the patient.

#### Sample size calculation and statistical analysis

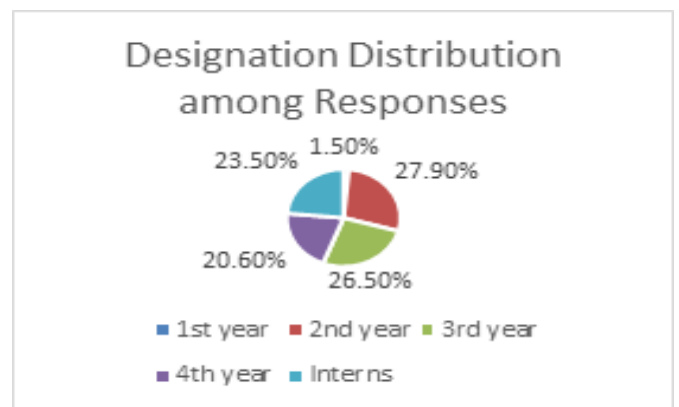
Undergraduate students (1 year, 2-year, 3-year, 4 year and Intern) at KM Shah Dental College, Sumandeep Vidyapeeth Total. 350 UG students. To calculate the sample size for this study, the following formula was used. Sample size  $n = [DEFF \times Np (1p)] / [(d2 / Z21\alpha / 2 \times (N1) + px (1p)]$ . The sample size for this study was estimated to be 200 with a 95 % confidence interval. Collected data were entered into the computer and analyzed using SPSS software. Descriptive and inferential statistical analyzes were performed in this study number (%). Any other appropriate statement will be used at the time of data analysis

#### Result

Personal information: In our study, of the total number of participants, 21.10% were female and 78.90% were male. in BDS, 20.60% of the students came from the 4th year of BDS and 23.50% were interns. (Graph 1).

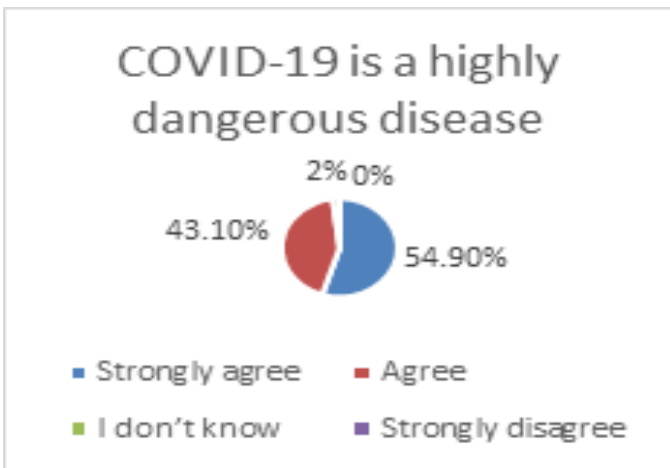


Graph 1

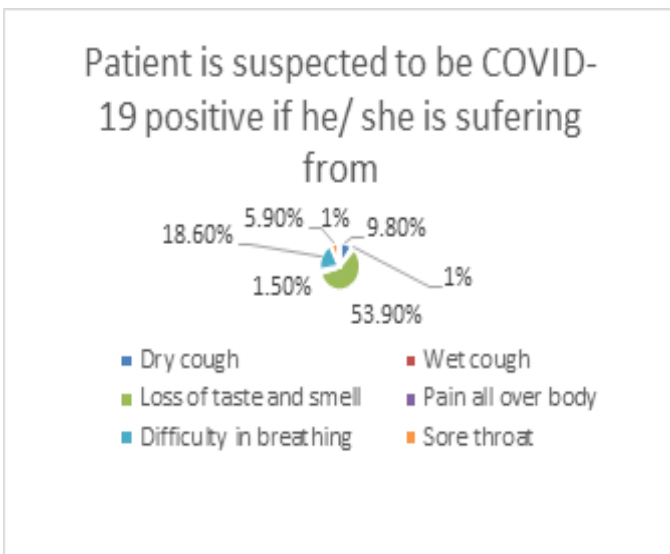


Graph 2

Knowledge and Attitudes towards COVID 19: The majority of participants strongly agreed/confirmed that COVID19 is a very dangerous disease, while only 2% were unsure if it was dangerous. showed that 53.90% of students thought that loss of taste and smell was the main symptom for patients who were suspected of being positive, followed by 18.60% of students who said that shortness of breath, 9.80% of dry cough, 5.90% said that pain in Throat 1.50% said that it hurts all over body and sneezes.

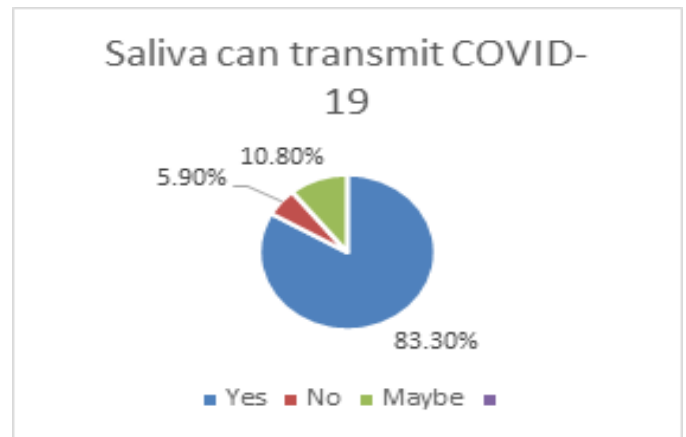


Graph 3

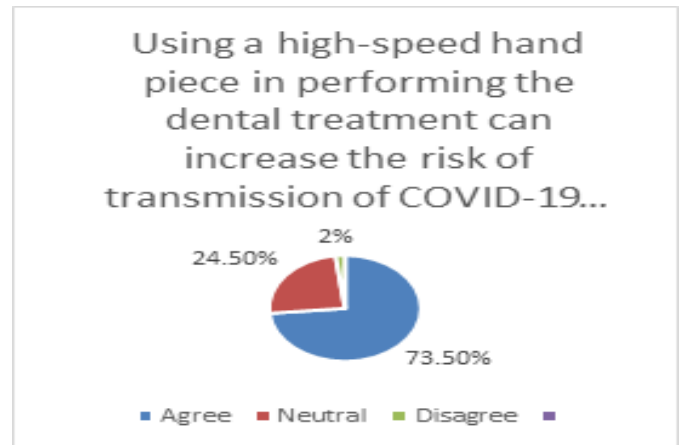


Graph 4

The majority of participants agreed that high-speed handing may increase the risk of COVID19 transmission. Almost all participants agreed that saliva can transmit COVID19 (83.30%) When performing dental treatment on a patient suspected of being positive for COVID19, 52% would accept treatment below appropriate care.

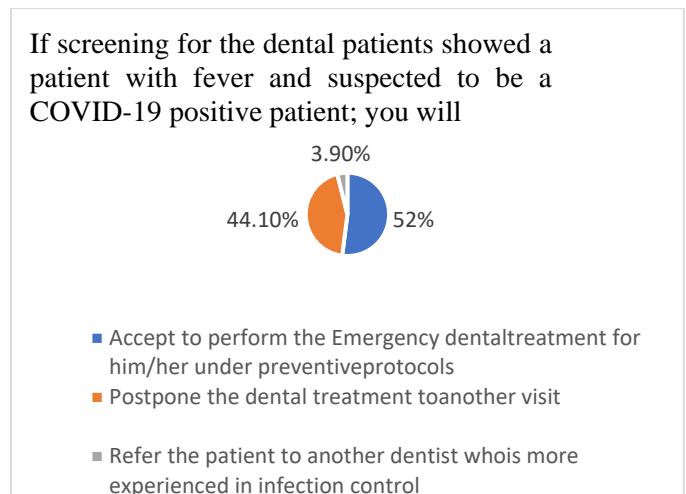


Graph 5

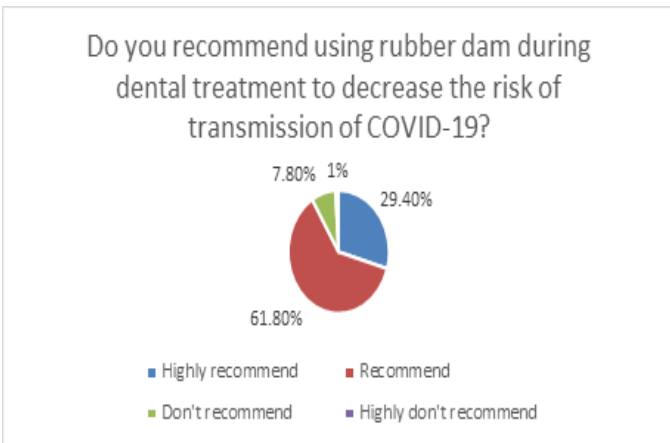


Graph 6

Use of rubber dam: The majority of participants (61.80%) recommended and strongly recommended the use of rubber dam during dental treatment to reduce the risk of COVID19 transmission.

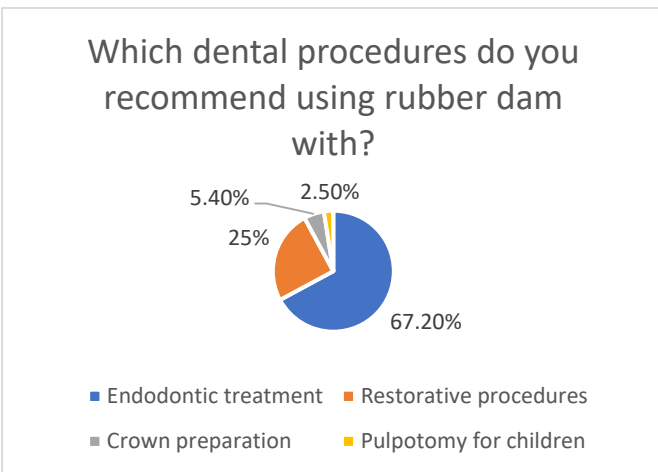


Graph 7

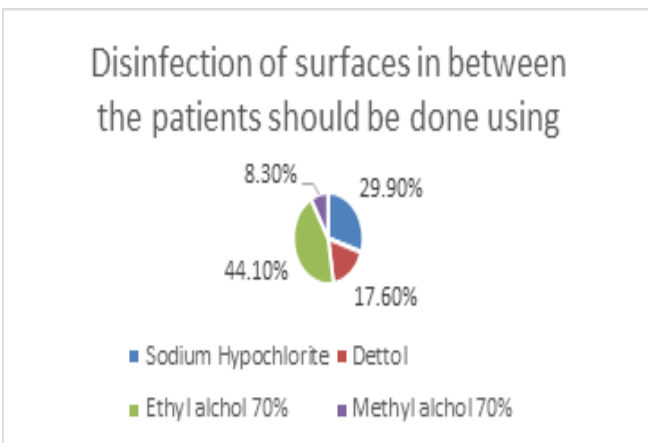


Graph 8

Dental procedures such as endodontic treatment, restorative procedures, crown fabrication and pediatric apex surgery recommended the use of Rubber Dam at 67.20%, 25%, 5.40% and 2.5% of students.

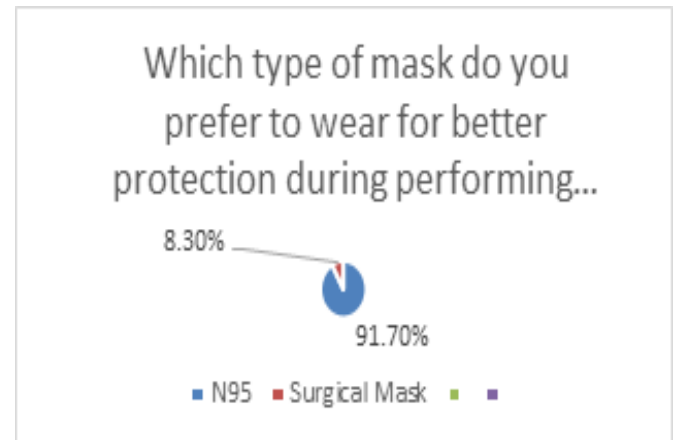


Graph 9

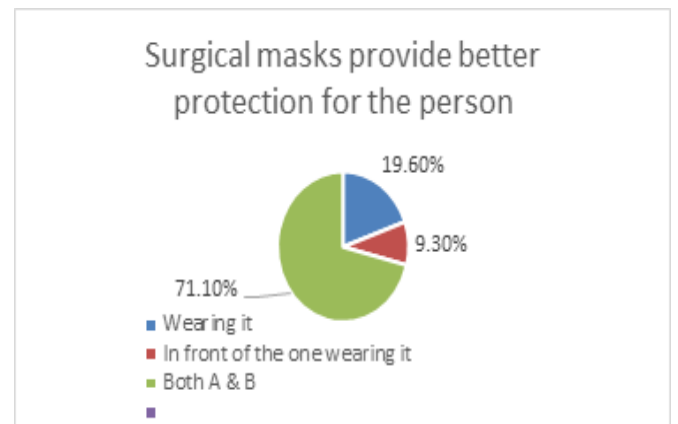


Graph 10

Protection against COVID 19 The majority of participants (44.10%) recommended 70% ethyl alcohol as the first method of surface disinfection between dental visits, followed by sodium hypochlorite.

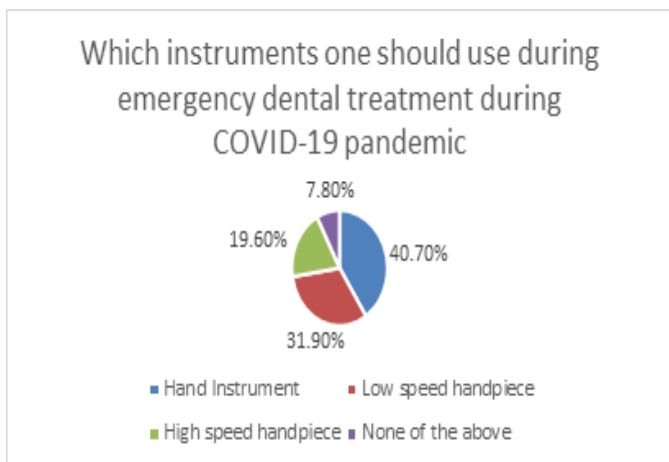


Graph 11

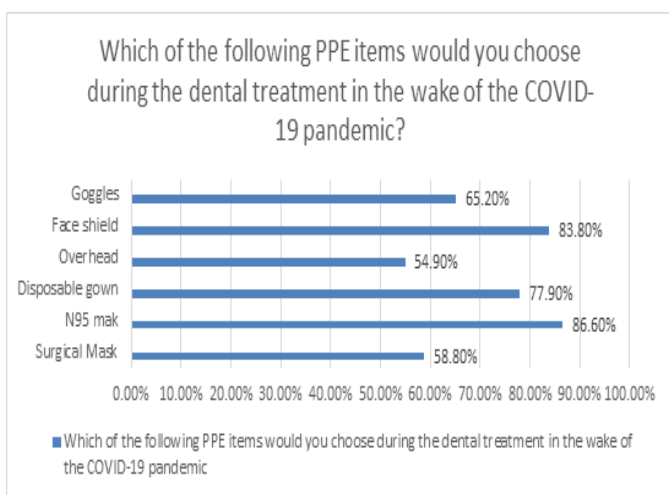


Graph 12

A majority (91.70%) also recommend the use of N95 respirators for better protection against COVID19 transmission than surgical masks. The percentage of participants who think that surgical masks provide better protection for the wearer is 71.10%. Instruments recommended for urgent dental care Hand tools are the most recommended for urgent dental care (40.70%) % followed by masks 83.8%, gowns disposable 77.90%, glasses 65.20%, surgical mask 58.80%, face covering 54.90%.



Graph 13



Graph 14

## Discussion

The aim of this study was to determine the awareness and knowledge of dental students and UG interns about the signs and symptoms of Corona infection (COVID19), as well as management measures. necessary infection when this infectious agent is present. The form used in this study objectively collected data for a month through a website. According to Singhal, the transmission of COVID19 poses a risk to those in close contact with an infected person, and the risk is higher in those who live or work near the patient. Transmission of COVID19 poses a risk to those in close contact with an infected person, and the risk is higher in those who live or work near the patient. The distance between the

dentist's office and the work area is approx. 35 to 40 cm, and some operations can take a long time, increasing the risk of the dentist getting an infection and transmitting the virus, as Nejatidanesh <sup>[12]</sup> discovered in 2013. COVID19 is most commonly transmitted when a woman an infected female sneeze, coughs or even talks and a droplet from her mouth or nose is inhaled by someone else, suggesting that saliva can spread the disease, as reported by 83.30% of the participants. family. According to Sengupta et al. <sup>[17]</sup>, who has stated that 95% of dentists in different countries report COVID19 as a deadly disease, the current survey indicates that the majority of students agree that COVID19 is a virus very harmful (54, 90%). However, Sumandeep Vidyapeeth's dental students involved in this study are aware of the key symptoms of COVID19, helping students recognize the threat and take necessary precautions during their practice. dentistry later on, is considered an important factor in the management and control of virus spread by Meng et al. in 2020 and Gafar et al. in 2019. It was reported that 52% of participants considered it necessary to postpone a dental visit for a patient with suspected COVID19 infection, and these results are consistent with a study by Guo et al. in 2020, as well as a study by Ahmed et al, found that most dentists are afraid to perform dental treatment on a patient with suspected infection. According to Ather et al. <sup>[10]</sup>, droplets, saliva, and aerosols are the most common routes of transmission of coronavirus, putting dentists and healthcare workers at high risk of infection or transmission of the disease to their families. their family or other patients. It was also found that the majority of participants (83.30%) agreed that saliva can transmit disease, indicating that they have knowledge and awareness of the routes of disease transmission. According to Barabari and Moharamzadeh and Shah and

Checchi et al. In the literature, high velocity aerosols and handles have the potential to deliver bacteria and viruses to dentists and dental staff. Therefore, most people choose hand tools or low speed handpieces. Thus, the fact that most of the participants chose a hand tool or a low-speed handpiece for the dental management of a patient with suspected COVID showed their awareness of the role of aerosols in spread viral infections and proper dental management. a patient with suspected COVID is best performed using hand tools. The use of a high-speed handpiece with an anti-retraction valve is considered one of the most important safety measures to prevent microbial cross-contamination between patients, as it prevents backflow of oral fluids. and aspirate biological/bacterial fluids from dental air and plumbing; thus, avoiding cross-contamination of the dental unit the use of a rubber dam during the dental treatment of patients played an important role not only in isolating the operating field but also in reducing saliva and blood, thereby reducing the risk of virus transmission. infection through saliva. A majority of 4044 participants agreed that they should use low- or high-volume 4044 rubber dam and saliva devices to reduce the production of droplets and aerosols during endodontics and 4044 for root canal therapy for children. This therefore indicates that information regarding the mode of contamination and spread of COVID19 and protective measures is well known. All dental clinics/facilities must be cleaned and disinfected to current regulatory standards, after each patient work surfaces must be effectively cleaned and decontaminated with ethyl alcohol (70%). If there is blood on the surface, sodium hypochlorite (0.5%) should be used to clean and disinfect the surface. It is essential to use protective gloves during cleaning and disinfection. All procedures must be performed carefully to avoid contact of the disinfectant with the skin, eyes or mucous

membranes according to Jamal et al. According to Khader et al. Personal protective equipment (PPE) refers to wearable devices designed to protect against exposure or exposure to infectious agents. PPE should be used appropriately for the type of patient interaction and effectively cover personal clothing and skin that may come into contact with saliva, blood, or other potentially infectious materials. These include gloves, masks, goggles, face shields, and protective clothing (e.g., reusable or disposable gowns). Student responses in favor of personal protective equipment showed that (98.6%) recommended the use of a blood or saliva barrier and (96.3%) chose a disposable gown as one of the options. most important personal protective equipment. Surgical masks are used to protect the nose and mouth from large particles containing pathogens (such as drops, sprays or splashes). It has also been found that surgical masks do not provide a tight seal on facial skin and are therefore not recommended to protect people from airborne infectious disease, and this suggests favourite. 88.4% of the participants preferred N95 masks versus surgical masks according to Bizzoca et al. In terms of strength, the results of this study can be considered as a standard to further evaluate the improvement of dental students' knowledge and awareness.

### **Conclusion**

Dental students and interns have a good understanding of COVID-19 and the precautions that must be taken in order to provide the necessary dental treatment for patients during the pandemic; however, infection control should be emphasised for both pre - clinical and clinical dental students in order to provide safe dental diagnosis and treatment as well as protection for dentists and healthcare workers.



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