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Original Research

Knowledge, Attitude and Awareness on Covid-19 among the Interns in Dental Colleges in India: A Questionnaire-Based Survey

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ABSTRACT:

Aim: The purpose of the study is to evaluate the awareness and attitude of interns as well as basic precautionary measures they undertake while handling patients, in various dental colleges regarding Coronavirus pandemic in India. **Methodology:** An online questionnaire was distributed among dentists across the interns in 5 dental colleges. 200 students participated in the study. The questionnaire was based on knowledge (3 questions), attitudes (3 questions) and practices (3 questions) of the dentists. **Results:** In the present survey study, it was observed that most of the respondents (143/200) were aware about the preliminary diagnostic methods of COVID-19. Around 156 respondents were also aware the basic signs as well as symptoms which COVID-19 patients generally presented which also made them more confident and cautious in taking preventive measures in handling such patients, if they arrived. **Conclusion:** Our study showed that the undergraduate dental students in different colleges in India are mindful, informed and well aware of the different clinical aspects of the COVID-19 disease and have good knowledge regarding the COVID-19 disease.

Key words Coronavirus, SARS-CoV-2, COVID-19, Awareness, Undergraduate students.

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INTRODUCTION

Coronavirus or SARS-CoV-2 is one of the major pathogens that primarily targets the human respiratory system. There have been previous outbreaks of coronaviruses (CoVs) which include; the severe acute respiratory syndrome (SARS)-CoV and the Middle East respiratory syndrome (MERS)-CoV which have also been characterized as great public health threat.¹

In late December 2019, a cluster of patients were admitted to hospitals in Wuhan with a primary diagnosis of pneumonia of an unknown aetiology. These patients were linked to a seafood and wet animal wholesale market in Wuhan, Hubei Province, China.² Coronavirus disease caused by SARS- CoV-2 represents the causative agent of a potentially fatal disease which is of global public health concern. Based on the large number of infected people that

were exposed to the wet animal market in Wuhan City, it is suggested that COVID – 19 is most likely of zoonotic origin i.e. transfer of infection from animals to human.³

The outer part of the virus is made of 4 proteins namely Spike, Envelope, Membrane and Nucleocapsid. SARS CoV 2 uses spike glycoprotein for neutralizing antibodies, receptor binding, mediate membrane fusion and to gain entry into the system. A two-step sequential protease cleavage model has been proposed for activation of S proteins of coronaviruses, priming cleavage occurs between S1 and S2 and activating cleavage on S2' site.⁴ The receptor utilized for entry is Angiotensin-Converting Enzyme-2 (ACE-2). Sign and symptoms appear within two to 14 days after exposure. Common features include fever, cough, shortness of breath or difficulty in breathing. Other symptoms include fatigue, body aches, chills, sore throat, loss of smell and taste, diarrhoea and severe vomiting.⁵

Dental care settings have the risk of 2019-nCoV infection due to the aerosols generated during procedures, handling of sharps, proximity of the dentist to the patient's oropharyngeal region. If adequate precautions are not taken, the dental setting can potentially lead to cross contamination. As the understanding of this novel disease is evolving, dental students and professionals should have an in-depth knowledge, a better understanding and should be updated with the practices that have to be adapted to identify a possible COVID-19 infection, and refer patients with suspected, confirmed, or a history of COVID-19 infection to appropriate treatment centres.⁶ Being on the list of high-risk professions, dentists are very much expected to develop severe anxiety about the current pandemic situation.⁷ Considering the current rapid spread of infection, the American Dental Association (ADA) highlighted key steps to be taken by dentists in addition to the standard universal precautions such as taking patients' recent travel history; assessing signs and symptoms of Respiratory Tract Infection (RTI); recording patients' body temperature; mouth rinsing with 1% hydrogen peroxide prior to commencement of any procedure; using a rubber dam and high volume suction during procedures; and frequently cleaning and disinfecting public contact areas including door handles, chairs and, washrooms.⁸

Most dentists or undergraduate dental students may not be aware of the recent guidelines. Therefore, we have conducted a questionnaire-based study to evaluate their response globally. The present study aimed to assess their knowledge about various practice modifications to combat the novel coronavirus disease (COVID-19) outbreak has been evaluated.

AIM OF THE STUDY

The purpose of the study is to evaluate the awareness and attitude of interns as well as basic precautionary measures they undertake while handling patients, in various dental colleges regarding Coronavirus pandemic in India.

METHODOLOGY

An online questionnaire was distributed among 200 interns across 5 dental colleges by Email. Out of 200 participants, 74 were male and rest were female respondents. The questions were open-ended and in English language. The questionnaire was based on knowledge (3 questions), attitudes (3 questions) and practices (3 questions) of various interns in dental colleges about coronavirus infection.

The response was collected from all the interns and was recorded on Microsoft Excel sheet. Statistical analysis was done using IBM SPSS for Windows, v. 21.0.

RESULTS

In the present survey study, it was observed that most of the respondents (143/200) were aware about the preliminary diagnostic methods of COVID-19.(Table 1) Around 156 respondents were also aware the basic signs as well as symptoms which COVID-19 patients generally presented which also made them more confident and precautionous in taking preventive measures like PPE suits, face masks, face shields as well as frequent sanitation measures, in handling such patients, if they arrived. Since Covid-19 has a strong connection to travel history from various hotspots in the country as well as the world over, around 175 respondents do take travel history from the patients who report to their OPD. Around 181-188 respondents also made it a point to spread awareness about this pandemic as well as its transmission routes to the patients.

Table 1- Survey Questionnaire of the present study.

S.No.	QUESTION	YES	NO
1.	Are you aware of method of diagnosing COVID-19?	143	57
2.	Are you aware of signs and symptoms of COVID-19?	156	44
3.	Are you avoiding outside food due to COVID-19?	82	118
4.	Are you explaining about transmission route of COVID-19??	181	19
5.	Are you spreading awareness regarding COVID-19?	188	12
6.	Do you follow WHO guidelines for the prevention of COVID-19?	137	63
7.	Do you ask the travel history while recording the patient's histories?	175	25
8.	Have you discussed preventive measures against COVID-19 with the patients?	102	98
9.	Has COVID-19 affected your social life?	166	34

DISCUSSION

Our study highlights the need of spreading awareness and updating the relevant and appropriate knowledge of COVID-19 disease amongst the undergraduate dental students. The recent spread of COVID-19 disease and its consequences has gripped the entire community and has caused widespread public health concerns. In spite of the efforts taken by the health organizations, the outbreak of the disease is still on a rise, because the nature of the spread of the infection and the difficulty in its containment.⁹

Dental students and health professionals might encounter such patients and will have to act diligently not only to provide dental care but at the same time prevent nosocomial spread of the infection. Considerable measures to reduce person-to-person transmission of the disease are required to control the outbreak. Adequate measures should be taken on a large scale to reduce transmission in susceptible populations like children, health care providers, and elderly people.¹⁰

Amongst the healthcare professionals, almost 90% chances of infectivity are there for dental health professionals. This can have serious implications in the routine dental practice. So, it is essential that at the basic level undergraduate dental students must be educated, empowered and provided appropriate and relevant knowledge of the disease. The infection control protocols, the personal protective equipment's for safety and handling even asymptomatic patients is of utmost importance for the dental students. This study has given an insight to understand the primary level of awareness that the undergraduate students have regarding the disease.⁶

Our study showed that the undergraduate dental students in different colleges in India are mindful, informed and well aware of the different clinical aspects of the COVID-19 disease and have good knowledge regarding the COVID-19 disease, except for a few disease domains. These include modes of transmission of the disease, diagnosis, treatment, pandemic spread and disaster management. The lower knowledge score for all these domains may be specifically attributed to the aspect that the undergraduate students haven't been exposed to a larger extent to handling clinical cases and participated much into case discussions and thus may lack a relevant knowledge of the same.

CONCLUSION

More emphasis should be put on updating knowledge regarding the diagnosis and treatment component of the COVID-19 disease in dental undergraduate students and interns. Interactive educational webinars can be conducted for them which focus primarily on the pandemic spread and the disaster management of such infectious disease. Further research studies can be conducted on the comparative assessment of the knowledge amongst the different academic year students and dental health professionals

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