

# Assessment of Knowledge and Awareness among Dental Students on COVID-19 Prior to Opening of Colleges in Andhra Pradesh: A Questionnaire Survey

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## ABSTRACT

**Context:** To assess the basic knowledge and awareness of the dental students about coronavirus disease 2019 (COVID-19).

**Aims:** The purpose of this study is to evaluate how well the dental students have the knowledge and awareness of COVID-19 in the event of the opening of dental colleges.

**Settings and design:** A questionnaire survey containing 20 questions was prepared for the students of dental colleges in Andhra Pradesh and the link was sent to them.

**Materials and Method:** The questionnaire was prepared on the basis of Centers for Disease Control and Prevention guidelines and World Health Organization (WHO) guidelines. An online survey was designed, and the link was forwarded to all undergraduates (UGs), interns, and postgraduates (PGs) of all dental colleges of Andhra Pradesh. Questions were prepared to examine the basic knowledge about COVID-19, and concerns and awareness around how to prevent exposure to coronavirus in the event of the opening of dental colleges in Andhra Pradesh. The link was forwarded to 3,000 students approximately, out of which only 750 gave the response.

**Statistical analysis:** Statistical data were obtained from Google Forms, and comparative evaluation was done using the Pearson's Chi-square test among UG (group 1), interns (group 2), and PG students (group 3). Data are analyzed using SPSS software version 20.

**Results:** Students have awareness regarding basic knowledge of coronavirus; most of them lack appropriate or exact knowledge of the precautionary measures to be taken before entering a clinic, or diagnostic methods for the confirmation of COVID-19 cases or donning and doffing of personal protective equipment (PPE) in emergency situations or postexposure precautions.

**Keywords:** COVID-19, Questionnaire, Survey.

**Key message:** Opening of colleges has to be considered only after emphasizing the students by giving proper training sessions about COVID-19 protocol.

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## INTRODUCTION

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by the novel coronavirus (SARS-CoV-2).<sup>1</sup> As of now, more than 90 million are affected worldwide, and the count is still climbing.<sup>2</sup> The World Health Organization (WHO) declared COVID-19 as a pandemic, and all the countries, including India, are fighting against COVID-19.<sup>3</sup>

Healthcare workers (HCWs), including doctors, nurses, and dentists, are in constant contact with patients and are thereby exposed to infected cases in healthcare settings; thus, HCWs are expected to be at high risk for infection.<sup>4</sup>

Dental care settings invariably carry the risk of infection due to the specificity of their procedures, which involve face-to-face communication or direct transmission and contact transmission.<sup>5</sup> So far, many guidelines are available for managing patients in a dental setting.<sup>6</sup> Due to the lack of widespread availability of approved vaccines or antivirals against COVID-19, nonpharmaceutical and preventive measures, such as masks, social distancing, and sanitizing, are the most critical interventions to date.<sup>7</sup> WHO even initiated and conducted several online training sessions and distributed materials on COVID-19 in various languages to strengthen preventive strategies, including raising awareness and training HCWs in preparedness activities.<sup>5</sup>

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In the advent of the opening of dental colleges in Andhra Pradesh, this survey tries to evaluate the basic knowledge, awareness, and concerns of dental students to attend the dental colleges during this pandemic.

## MATERIALS AND METHODS

An online questionnaire survey was designed using Google Forms with a set of 20 questions. Question numbers 1 to 10 examine the

basic knowledge about COVID-19. Question numbers 11 to 20 survey about the concerns and awareness around how to prevent exposure to coronavirus in the event of the opening of dental colleges in Andhra Pradesh. Knowledge and awareness questions are based on Centers for Disease Control and Prevention and WHO guidelines. The questionnaire was forwarded to all undergraduates (UGs), interns, and postgraduates (PGs) of all dental colleges of Andhra Pradesh, and students who refused to give informed consent are excluded from this study. Email address, age, sex, name of the college, and educational qualification were asked to fill before filling the questionnaire. Names of the students were not asked. The link was forwarded to 3,000 students approximately, of which only 750 students responded.

### Statistical Analysis

Statistical data were obtained from Google Forms, and comparative evaluation was done using the Pearson's Chi-square test among UG (group 1), interns (group 2), and PG students (group 3). Data are analyzed using SPSS software version 20.

## RESULTS

Out of 750, 628 females and 122 males filled the questionnaire. Groups 1, 2, and 3 have 582, 80, and 88 students, respectively (see Tables 1 and 2). Nearly 72.8% had answered correctly regarding the basic knowledge of coronavirus, and there are no significant differences between the three groups; 73.3% of students answered correctly regarding questions targeted to check awareness around how to prevent exposure to the coronavirus, and no significant differences were observed between the groups.

## DISCUSSION

The first section of the questionnaire targeted basic knowledge about COVID-19. Among the students, 79.5% had knowledge about the family of coronavirus, 94.5% about the incubation period, 99.6% about the mode of transmission, 91.7% about symptoms of COVID-19, 94.4% about possible routes of transmission, and 94.7% regarding chances of minimal COVID-19 exposure in clinics. This indicates that 90% of the student population in dental colleges have basic knowledge regarding the family of coronavirus, its incubation period, and mode of contact, which is essential for a dental student in attaining necessary information regarding the viral pandemic.

However, on the contrary, only 35.2% of students had given the correct information regarding the time of hand sanitizer rub (20–30 seconds) and only 12.6% (40–60 seconds) about soap hand washing time. This shows that 65 to 85% of the student population had poor knowledge on hand wash and hand sanitizer use, which is an important factor in preventing the systemic virus spread. So on average, 72.8% of the students answered correctly regarding the basic knowledge of the coronavirus with no significant difference between the three groups (see Table 1).

In the survey, 89.1% had awareness regarding personal protective equipment (PPE). However, only 39.5% of students have an understanding regarding how to wear a PPE (donning), and 42.6% have awareness regarding removing (doffing) of PPE (see Table 2). This endorses that more than half of the dental students do not know the exact method of wearing and removing PPE. There is no statistically significant difference among the three groups

**Table 1:** Intergroup comparison of knowledge-based questions correctly answered among undergraduate, interns, and postgraduate students

Q. No.	Total (n = 750)	BDS (n = 582)	Internship (n = 80)	MDS (n = 88)	p value
1	80.4%	83.7%	71.3%	86.4%	0.016*
2	93.3%	93.8%	96.3%	89.8%	0.179
3	99.9%	99.7%	100.0%	100.0%	0.741
4	86.2%	85.9%	88.8%	84.1%	0.622
5	36.9%	33.5%	36.3%	40.9%	0.549
6	6.8%	9.8%	3.8%	6.8%	0.242
7	77%	70.3%	75.0%	86.4%	0.02*
8	62.2%	46.6%	55.0%	85.2%	<0.0001**
9	94.7%	90.2%	95.0%	98.9%	0.023*
10	91.1%	87.8%	92.5%	93.2%	0.248
Average %	72.8%	70.13%	71.4%	77.17%	0.490

\*p < 0.05—significant, \*\*p < 0.0001—very high significant

**Table 2:** Intergroup comparison of correctly answered awareness questions among undergraduate, interns, and postgraduate students

Q. No.	Total (n = 750)	BDS (n = 582)	Internship (n = 80)	MDS (n = 88)	p value
15	93.4%	93.5%	91.3%	95.5%	0.487
16	94.5%	94.0%	97.5%	92.0%	0.225
17	91.6%	84.4%	96.3%	94.3%	0.005*
18	42.4%	39.9%	37.5%	50.0%	0.165
19	44.6%	40.0%	43.8%	50.0%	0.357
Average %	73.3%	70.36%	73.28%	76.36%	0.631

\*p < 0.05—significant, \*\*p < 0.0001—very high significant

in questions about preparedness and awareness to prevent the exposure to coronavirus.

Finally, regarding fears or concerns, 69 to 77% study population showed a definite fear regarding attending dental colleges and maintaining social distance in college or clinic. And 90% of students' families have shown fear for students attending college. Even after attending college, only 48% have shown confidence in treating patients. Also, 91.7% of the students find doing dental treatments without confirmation/result of COVID-19 test to be having a major impact on their mental health.

Although students have awareness regarding basic knowledge of coronavirus, most of them lack appropriate or exact knowledge of the precautionary measures to be taken before entering a clinic, or diagnostic methods for confirmation of COVID-19 cases or donning and doffing of PPE in emergencies or postexposure precautions. This holds good for UG, interns, and even PG students as there are no significant differences observed among these groups.

The study's limitations are that as this questionnaire has only a small sample of questions to evaluate the students' knowledge, one should not extrapolate these results as actual knowledge of these students. This is because to thoroughly assess the knowledge, the number of questions has to be increased, thereby reducing the student's compliance to fill the online form. Only a fraction of students responded, even though they were diligently sent to all the colleges and requested them to fill the online questionnaire.

## CONCLUSION

Within the limitations of this study, it can be concluded that without proper hand sanitizer methods and appropriate training methods for students, it can be riskier to open the colleges in the present scenario. Since the educational system has come to a stage of standby, the opening of colleges has to be considered only after emphasizing the students by giving proper training sessions from basic knowledge to management of emergencies. A keen approach regarding the coronavirus situation management needs to be taught by conducting workshops, training classes, and mandatory clearance exams before reopening the dental colleges.

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