Original Article

Awareness Related to COVID 19 among Dental Health-Care Students and Professionals of National Capital Region: A Cross Sectional Study

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Abstract

Background and Objective: The Coronavirus 2 syndrome (SARS CoV 2) or COVID-19 pandemic's rapid and widespread reach has become a major cause of concern to the dental health-care profession. The goal of this study was to assess the knowledge among dental students and professionals about COVID-19 disease and related infection management practices in the region of Delhi-National Capital Region, India. **Materials and Methods:** An online questionnaire was created, and it was divided into six sections to assess the awareness with respect to the facts, diagnostic aspects of the disease, and its importance in dental treatment. Convenient sampling method was used for data collection. Comparison was done among the following four groups: Bachelor of Dental Surgery (BDS) students, Master of Dental Surgery (MDS) students, academicians (teaching in a dental college), and academicians + practitioners (teaching/not teaching but working in a private dental clinic) over a total of 500 responses for a period of 10 days. The data were coded, entered, and analyzed using SPSS 20.0 version. Descriptive statistics, frequencies, and percentages were used to summarize the data. ANOVA test was used to determine the association of study disciplines among BDS, MDS, practitioners, and academicians and practitioners. $P < 0.05$ was considered statistically significant. **Results:** The average correct responses among various sections among all groups came out to be 60.64%, with the highest score being 64.91% among academicians + practitioners and the lowest score being 57.45% among BDS students. Among the sections, 72.4% was highest (section 1: what is coronavirus) and 41.2% was lowest (section 5: diagnosis/tests). Comparison of the overall sections among various groups showed a nonsignificant result although some individual questions showed a statistically significant result. **Conclusion:** Dental health professionals need regular educational activities and training programs on infection prevention practices with respect to COVID-19 infection to serve not just their own practice but also to help the health-care sector in case the demand arises.

Keywords: Awareness, coronavirus, dental healthcare, safety

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Introduction

The novel coronavirus disease 2019 (COVID-19) is a viral infection that began in Wuhan, China, and has caused pneumonia to break out in the rest of the world.[1] The virus causing COVID-19 was initially referred to as 2019-nCoV and was later referred to by the International Committee on Virus Taxonomy as Coronavirus 2 syndrome (SARS CoV 2). It is a new strain found in 2019, which was not detected previously in humans. Initially, Severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome have been known to affect humans.[2]

The first case of COVID-19 in India, a student who had returned to his home for a vacation from Wuhan University, was confirmed on January 30 in Kerala's Thrissur district. India already has more than 1.5 million total cases (according to the Ministry of Health and Family Welfare, Government of India, as on August 1, 2020), worth more than 15 million worldwide, which is ever increasing by each passing day. And, as the planet struggles, frontline health workers are particularly vulnerable to this infection. Several countries have now documented a

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community spread as well. Coronavirus disease was declared a pandemic by the World Health Organization (WHO) on March 11, 2020.[2,3]

COVID-19 and dental treatment

A large number of medical staff were reported to have acquired the disease while working with the infected individuals. Health-care workers, in daily physical contact with patients, face an elevated risk of exposure to COVID-19. Among health-care personnel, dentists seem to be those at highest risk. It is necessary to ensure their safety, not only to protect patient health, but also to safeguard themselves from the viral infection and to avoid viral transmission.[4]

In this setting, dental procedures, in which a large number of droplets and aerosols, containing microorganisms from an infected individual, could be generated, are at high risk of cross-infection between patients and dentists.[5-7]

There are many problems a dentist might face. Asymptomatic (carrier) patients as well as patients with an acute respiratory illness may present for dental treatment at outpatient dental settings. The growing fear of cross-infection, and the possible role of dental practice in spreading the infection, has obliged dentists to step aside and to confine themselves in home quarantine similar to other nonhealth-care sectors of the population as well as reports of loss of livelihood, as many dentists rely on their dental clinics for financial support. In addition, there has been an increased demand for personal protective equipment (PPE), which consists of garments to protect health-care workers or any other persons to get infected. Although regular dental care is not to be used in patients diagnosed with COVID-19, there will be emergencies, and close contact is unavoidable. Moreover, it is difficult to identify the presence of pathogens, which can increase the spread of a lay disease during the relatively long incubation period (the median incubation period was reported to be 5.1 days, 95% confidence interval: 4.5–5.86 or up to 14 days for some cases before some signs could be detected) and the postinfection period. There is also a major threat to dentists and other members of the dental team for patients diagnosed with COVID-19, not displaying any symptoms.[1,2,8]

In order to resolve and monitor its spread, dentists should ideally maintain a high degree of competence and honesty. The Centers for Disease Control and Prevention (CDC), the American Dental Association (ADA), and the WHO are providing specific recommendations for dentists to control the spread of COVID-19. Such precautions include PPE, washing of hands, patient assessment, proper usage of rubber dam, anti-retraction handpieces, oral rinsing before the procedure, and clinic disinfection. Furthermore, some guidelines and publications have provided valuable information about the symptoms and signs, methods of communication, and referral processes of dentists in order to improve their awareness and preventive practices so as to contribute to disease prevention at community level.[1,2,9-12]

Apart from the basic infection control in their clinical practice, dental health profession, armed with data and connected to science-based sources of information about such an infection, can serve the community in case of disproportionate distribution of doctors and patients in various areas. They can educate their patients and may affect public knowledge as a whole.[2,4]

Objectives

The study objective was to assess the level of awareness, perception, and attitude regarding COVID-19 and infection control among dental students and practitioners in the region of Delhi-National Capital Region (NCR), India.

Materials and Methods

This cross-sectional study was conducted at dental hospitals, teaching institutes, and private clinics in Delhi-NCR. The survey was prepared as an online application form and sent to 1100 potential participants from various dental health-care providers of the Delhi-NCR area of India. Inclusion criteria points were: students (Bachelor of Dental Surgery [BDS] or Master of Dental Surgery [MDS]) currently studying in any dental college of Delhi-NCR, any professional teaching in a dental college for at least a period of 1 year, and any dental professional who is working in a clinical setup for at least a period of 1 year. Exclusion points included: students/professionals studying/practicing outside Delhi-NCR and an experience of <1 year either in teaching or practicing in a clinical setup. The respondents included dental students, academicians, and private practitioners. The survey was conducted from 14th May to 23rd May, 2020, and the survey was completed by a total of 500 people at a response rate of 45%.

A self-administered sociodemographic questionnaire and 34 awareness and infection management questions relevant to COVID-19 in the field of dentistry were adapted from the present interim guidance and information. It comprised of the following six sections: what is coronavirus (questions 1–5), myths/facts (questions 6–10), prevention (questions 11–17), symptoms (questions 18–21), diagnosis/tests (questions 22–27), and appropriate dental treatment (questions 28–34). Consent was obtained from all participants in this study. The institutional ethics committee reviewed and approved the study-related documents.

For data collection, convenience sampling method was applied, and frequencies and percentages were used for the distribution of responses. Undergraduate students, postgraduate students, academicians, and private practitioners from various dental schools and private clinics/hospitals were classed into various groups of professional designation.

Statistical analysis

The data were coded, entered, and analyzed using SPSS 20.0 version (IBM, New York). Descriptive statistics, frequencies, and percentages were used to summarize data. ANOVA test was used to determine the association of study disciplines among

BDS, MDS, practitioners, and academicians and practitioners. $P < 0.05$ was considered statistically significant.

Results

We obtained a total of 500 responses [Table 1]. In section 1, about 99.3% of the BDS students, 93.8% of the MDS students, 97.1% of the practitioners, and 96.2% of the academicians responded correctly (the overall correct response was 98%) about the spread of COVID-19 via respiratory droplets of infected individuals, and this difference in responses was statistically significant ($P = 0.025$) [Table 2].

In section 2, when asked about myths, 34.2% of the BDS students, 58.5% of the MDS students, 56.2% of the practitioners, and 65.4% of the academicians identified the prevalent myths correctly (the overall correct response was 43.6%), and this difference in responses was statistically significant ($P = 0.001$). About 48.7% of the BDS students, 70.8% of the MDS students, 41.9% of the practitioners, and 46.2% of the academicians correctly identified the clinical and demographic factors that may promote the progression toward a severe form of COVID-19 (the overall correct response was 50%), and this difference in responses was statistically significant ($P = 0.002$).

In section 3, when asked about the features related to nonmedical masks that should be taken into consideration, about 18.1% of the BDS students, 32.3% of the MDS students, 21.9% of the practitioners, and 30.8% of the academicians responded correctly about the size of mask (the overall correct response was 21.4%). This difference in responses was statistically significant ($P = 0.047$). When asked about N95 masks, about 58.6% of the BDS students, 72.3% of the MDS students, 75.2% of the practitioners, and 69.2% of the academicians identified it correctly (the overall correct response was 64.4%), and this difference in responses was statistically significant ($P = 0.007$).

In section 4, the participants were asked to identify following statement true or false: "persons positive for COVID-19 but without fever cannot infect others." In response, about 84.9% of the BDS students, 95.4% of the MDS students, 91.4% of the practitioners, and 96.2% of the academicians identified it as true statement correctly (the overall correct response was 88.2%), and this difference in responses was statistically significant ($P = 0.028$).

Table 1: Demographic distribution of the responders

	n (%)
Age (years)	
≤30	456 (91.2)
≥31	44 (8.8)
Total	500
Gender	
Male	134 (26.8)
Female	366 (73.2)
Total	500

In section 5, when asked about the reference technique for etiological diagnosis of SARS-COV-2 infection, about 49.3% of the BDS students, 67.7% of the MDS students, 46.7% of the practitioners, and 84.6% of the academicians identified real-time polymerase chain reaction correctly (the overall correct response was 53%). This difference in responses was statistically significant ($P = 0.001$). When asked about the temperature and duration at which nasopharyngeal and oropharyngeal swabs to be kept at, about 46.4% of the BDS students, 52.3% of the MDS students, 34.3% of the practitioners, and 73.1% of the academicians identified 2°C–8°C for <4 days as the correct response (the overall correct response was 46%). This difference in responses was statistically significant ($P = 0.002$).

When asked about the leading cell reservoirs of SARS-CoV-2 invasion in lung tissues, about 59.2% of the BDS students, 56.9% of the MDS students, 39% of the practitioners, and 50% of the academicians identified alveolar epithelial cells as the correct response (the overall correct response was 54.2%). This difference in responses was statistically significant ($P = 0.004$). When asked about the leading clinical role of serological testing in COVID-19, about 27.6% of the BDS students, 12.3% of the MDS students, 33.3% of the practitioners, and 19.2% of the academicians identified correctly that it will help in assessing immunization against the virus (the overall correct response was 27.4%). This difference in responses was statistically significant ($P = 0.017$).

In section 6, when asked about the dental situations that need to be assessed as soon as a COVID-19 patient reports to the dental clinic, about 42.8% of the BDS students, 66.2% of the MDS students, 49.5% of the practitioners, and 61.5% of the academicians responded correctly (the overall correct response was 48.2%). This difference in responses was statistically significant ($P = 0.003$). When asked about the protocols which should be followed in a dental setup, about 44.1% of the BDS students, 70.8% of the MDS students, 61% of the practitioners, and 69.2% of the academicians responded correctly about the protocols (the overall correct response was 52.4%). This difference in responses was statistically significant ($P = 0.001$). When asked about what should a dentist do if a patient call on phone and complains of pain, about 70.1% of the BDS students, 78.5% of the MDS students, 53.3% of the practitioners, and 80.8% of the academicians responded correctly about the action to be taken (the overall correct response was 68.2%). This difference in responses was statistically significant ($P = 0.001$) [Figure 1].

Rest of all the questions showed a nonsignificant difference.

When we compared the response between the four groups for each section as a whole, none of the comparisons showed a statistically significant difference [Table 3].

Discussion

The COVID-19 pandemic has had a widespread effect worldwide since its outbreak in 2019 in Wuhan.[2] The alarming

Table 2: Distribution of correct responses according to profession

Questions	Profession				Total (n=500), n (%)	P
	BDS students (n=304), n (%)	MDS students (n=65), n (%)	Practitioners (n=105), n (%)	Academicians and practitioners (n=26), n (%)		
Q1	223 (73)	47 (72.3)	74 (70.5)	18 (69.2)	362 (72.4)	0.927 (NS)
Q2	162 (53)	27 (41.5)	50 (47.6)	13 (50)	252 (50.4)	0.338 (NS)
Q3	138 (45)	32 (49.2)	52 (49.5)	14 (53.8)	236 (47.2)	0.756 (NS)
Q4	302 (99)	61 (93.8)	102 (97.1)	25 (96.2)	490 (98)	0.025 (S)
Q5	291 (96)	63 (96.9)	105 (100)	26 (100)	485 (97)	0.125 (NS)
Q6	104 (34)	38 (58.5)	59 (56.2)	17 (65.4)	218 (43.6)	0.000 (S)
Q7	116 (38)	28 (43.1)	40 (38.1)	8 (30.8)	192 (38.4)	0.742 (NS)
Q8	168 (55)	43 (66.2)	57 (54.3)	19 (73.1)	287 (57.4)	0.131 (NS)
Q9	300 (99)	64 (98.5)	103 (98.1)	26 (100)	493 (98.6)	0.900 (NS)
Q10	148 (49)	46 (70.8)	44 (41.9)	12 (46.2)	250 (50)	0.002 (S)
Q11	301 (99)	65 (100)	105 (100)	25 (96.2)	496 (99.2)	0.209 (NS)
Q12	162 (53)	39 (60)	51 (48.6)	16 (61.50)	268 (53.6)	0.424 (NS)
Q13	278 (91)	63 (96.9)	100 (95.2)	24 (92.3)	465 (93)	0.324 (NS)
Q14	55 (18)	21 (32.3)	23 (21.9)	8 (30.8)	107 (21.4)	0.047 (S)
Q15	105 (35)	22 (33.8)	33 (31.4)	8 (30.8)	168 (33.6)	0.933 (NS)
Q16	178 (59)	47 (72.3)	79 (75.2)	18 (69.2)	322 (64.4)	0.007 (S)
Q17	298 (98)	63 (96.9)	104 (99)	26 (100)	491 (98.2)	0.672 (NS)
Q18	145 (48)	31 (47.7)	48 (45.7)	12 (46.2)	236 (47.2)	0.987 (NS)
Q19	178 (59)	32 (49.3)	60 (57.1)	16 (61.5)	286 (57.2)	0.551 (NS)
Q20	246 (81)	55 (84.6)	95 (90.5)	24 (92.3)	420 (84)	0.079 (NS)
Q21	258 (85)	62 (95.4)	96 (91.4)	25 (96.2)	441 (88.2)	0.028 (S)
Q22	101 (33)	26 (40)	41 (39)	14 (53.8)	182 (36.4)	0.144 (NS)
Q23	150 (49)	44 (67.7)	49 (46.7)	22 (84.6)	265 (53)	0.000 (S)
Q24	141 (46)	34 (52.3)	36 (34.3)	19 (73.1)	230 (46)	0.002 (S)
Q25	180 (59)	37 (56.9)	41 (39)	13 (50)	271 (54.2)	0.004 (S)
Q26	95 (31)	22 (33.8)	24 (22.9)	12 (46.2)	153 (30.6)	0.098 (NS)
Q27	84 (28)	8 (12.3)	35 (33.3)	5 (19.2)	132 (26.4)	0.017 (S)
Q28	74 (24)	11 (16.9)	24 (22.9)	9 (34.6)	118 (23.6)	0.325 (NS)
Q29	130 (43)	43 (66.2)	52 (49.5)	16 (61.5)	241 (48.2)	0.003 (S)
Q30	134 (44)	46 (70.8)	64 (61)	18 (69.2)	262 (52.4)	0.000 (S)
Q31	119 (39)	27 (41.5)	36 (34.3)	14 (53.8)	196 (39.2)	0.315 (NS)
Q32	205 (67)	51 (78.5)	65 (61.9)	18 (69.2)	339 (67.8)	0.165 (NS)
Q33	174 (57)	38 (58.5)	57 (54.3)	16 (61.5)	285 (57)	0.898 (NS)
Q34	213 (70)	51 (78.5)	56 (53.3)	21 (80.8)	341 (68.2)	0.001 (S)

Statistical analysis: ANOVA one-way test. Statistically significant if $P < 0.05$. BDS: Bachelor of Dental Surgery; MDS: Master of Dental Surgery, S: Significant, NS: Not significant

number of cases worldwide can be attributed to transmission via airborne droplets and to touching or contacting an infected surface.[1] The epidemic of viral respiratory infections such as SARS and COVID-19 demonstrated the importance of effective infection management procedures along with the difficulties faced during the epidemic by health-care professionals.[3] The quick spread of the COVID-19 pandemic has resulted in a significant number of fatalities and has stretched the health-care infrastructure of even the most developed countries.[13,14]

Dental health personnel are at high risk of being exposed to COVID-19 cross-infection due to the complexity of the transmission. The emergence of this pandemic has thus further illustrated the importance of appropriate methods for managing infections.[3] Failure to follow infection control practices may be due to lack of information and understanding of the existing policies, low rates of workers' commitment to adhere to the existing policies, or ignorance of the danger presented by occupational exposure to infectious diseases.[15]

Dental schools are responsible for providing appropriate measures for the prevention of diseases, imparting proper training of dental students to protect patients, and ensuring healthier working conditions. Dental education may play an important role in training dentists by encouraging them to develop correct information and attitudes about procedures for managing infections.

Dental students should be informed about the latest protocols in place during the current pandemic.[16] Therefore, this questionnaire-based cross-sectional study was conducted among dental undergraduate and postgraduate students,

Table 3: Distribution of correct responses according to profession, overall correct responses (mean)

Sections	Profession				*P*
	BDS students (*n*=304), *n* (%)	MDS students (*n*=65), *n* (%)	Practitioners (*n*=105), *n* (%)	Academicians and practitioners (*n*=26), *n* (%)	
1. What is coronavirus	223 (73.4)	46 (70.8)	77 (73.0)	19 (73.8)	0.997 (NS)
2. Myths and facts	150 (49.3)	57 (87.7)	56 (53.7)	25 (95.4)	0.376 (NS)
3. Prevention	197 (64.8)	46 (70.8)	71 (67.6)	18 (69.2)	0.989 (NS)
4. Symptoms	207 (68.1)	45 (69.2)	75 (71.4)	19 (73.1)	0.983 (NS)
5. Diagnosis/tests	125 (41.1)	29 (44.6)	38 (36.2)	14 (53.8)	0.297 (NS)
6. Importance in dental treatment	150 (49.3)	38 (58.5)	51 (48.6)	16 (61.5)	0.390 (NS)

Statistical analysis: ANOVA one-way test. Statistically significant if $P < 0.05$. BDS: Bachelor of Dental Surgery; MDS: Master of Dental Surgery, S: Significant, NS: Not significant

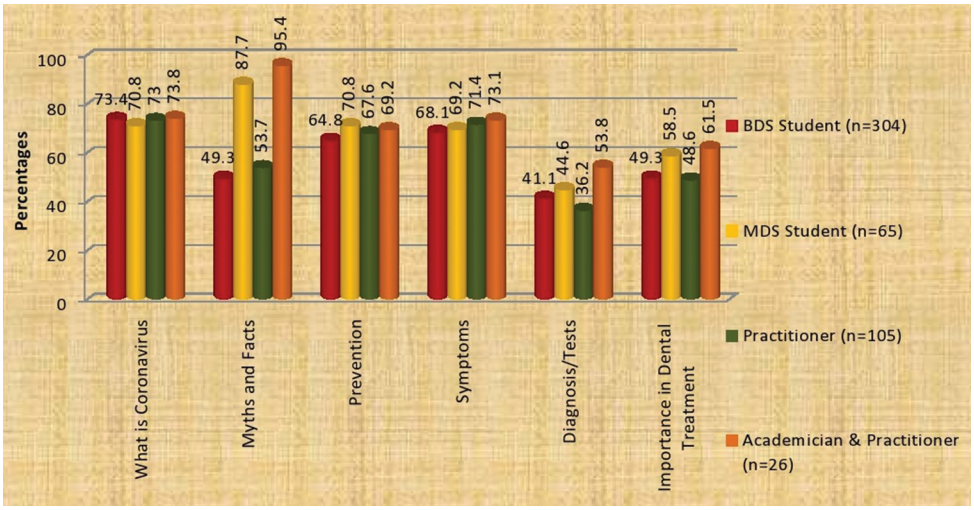

Figure 1: Graphical representation of correct responses according to the profession

academicians, and private practitioners. The questionnaire was divided into sections to assess the awareness with respect to the facts, diagnostic aspects of the disease, and its importance in dental treatment.[16]

The percentage of correct responses of academicians and practitioners was higher in all sections except for the section in prevention. However, these results were not statistically significant. The correct responses with respect to the general information about the pandemic were high in each group. The responses were highest in the category of academicians (73.8%) followed by BDS students (73.4%), practitioners (73%), and MDS students (70.8%). Similar trends have been observed in other pandemics observed in the 21st century. Bener *et al*.[17] explored the knowledge, attitude, and practice of the population of Qatar toward severe acute respiratory syndrome. They also attributed the knowledge of SARS among the general population (79%) to the electronic media. Therefore, this could also be attributed to the role of information technology and the spread of information through all electronic and print media.

BDS students and practitioners had a low correct response rate in the section involving the myths and facts related to the COVID-19 pandemic. Only 34.2% of the BDS students and 56.2% of the practitioners believed that COVID-19 virus can be transmitted in hot and humid climate areas. The WHO has stated that exposure to higher temperature cannot prevent the COVID-19 disease. It has also been emphasized that sterilization of hands and other skin areas should not be done with ultraviolet radiation because of possible skin irritation. In addition, spraying alcohol and chlorine on the skin cannot kill viruses that have entered the body.[10,11] This necessitates the need for education about the effective disinfection protocol in the current situation.

Low correct response rates were also observed in the diagnosis and treatment section. The lowest correct response was observed in practitioners (36.2%) followed by BDS students (41.1%), MDS students (44.6%), and academicians (53.8%). According to the figures by the WHO, more than 15 million people have been affected by COVID-19 up till August 1, 2020, worldwide with 668,910 deaths. Therefore, this pandemic is now considered to be a public health emergency of international concern.[1] Because hospitals and clinics are overwhelmed by the victims of these situations, oral health-care workers can be effectively incorporated into the emergency medical response system by developing appropriate relationships; recognizing and collecting resources; and promoting training, policy development, tracking, and assessment.[18]

However, disaster medicine has not been included either in the undergraduate curriculum of dental schools or in continuing dental education programs. Moreover, in the wake of new pandemics, development of learning modules on the pandemic and programs for strategic preparedness and response systems is essential. Such courses are offered on an online platform by the WHO and many other institutions but should also be developed specifically targeting dental professionals.

A low correct response rate was also observed for the section involving implications of the pandemic in dental practice. The lowest correct response was observed in the category of private practitioners (48.6%) followed by BDS students (49.3%). This section of the questionnaire was developed from the guidelines given by the ADA, the CDC, and the WHO.

Khader *et al*.[1] conducted a similar study to assess the level of awareness, perception, and attitude regarding the COVID-19 and infection control among Jordanian dentists. The results obtained again reflected similar trends to the present study. It was observed that dentists were aware of COVID-19 symptoms, mode of transmission, and infection controls and measures in dental clinics. However, they had limited comprehension of the extra precautionary measures that protect the dental staff and other patients from COVID-19. The authors suggested that spread of information about the relevant national and international guidelines can be done by the regional and national dental associations. This can ensure that dentists are well informed for a safe dental practice in the current pandemic.

A similar trend was observed by Johnson and Hariharan[19] among the general public of Trinidad and Tobago about H1N1 influenza. There is a similarity between COVID-19 and H1N1 that involve the respiratory systems and are viral in origin. It was observed that while the population had a good basic knowledge about the disease (98.2%), responses were divided regarding risk groups and prevention strategies. In contrast to the current study, different results were observed in a different geographical location. A study[2] conducted in the Mumbai metropolitan revealed a good knowledge of mode of transmission and prevention measures. Higher percentages of correct responses were observed in medical students, dentists, and physiotherapy and occupational therapy groups as compared to nonmedical and paramedical staff. However, the study did not categorize the dentists into academicians and private practitioners. Moreover, dental students were not included in the study.

In general, deficiencies in infection prevention practices have been attributed to a lack of expertise and understanding of established policies, low rates of workers' commitment to conform to the existing policies, or ignorance of the risk posed by occupational exposure to infectious diseases.[15] These figures further highlight the need for addition of updated infection control protocols with respect to the current pandemic in the existing curriculum at undergraduate and postgraduate levels. Furthermore, development of continuing dental education programs to train the private practitioners is imperative. Regular stress associated with juggling heavy workloads and controlling the available resources in a hospital environment can result in workers using an informal approach to risk assessment to direct their practice in infection control.[20-22] Therefore, the current situation requires spreading the knowledge of the infection control practices in the hospital and private clinical setting and its implementation at an individual level. Participation in the COVID-19 awareness programs available by various organizations should be encouraged. Long-term goals should include integration of the disaster preparedness strategies in dental school curriculum at undergraduate and postgraduate levels.

Conclusion

The current pandemic highlights the need for educating the oral health-care professionals on the latest protocols in place in dealing with infectious diseases. The oral health-care professionals under study represented a geographic location with high density of the general population. This further necessitates strict infection protocols to prevent cross-infection. This study concluded that there is a requirement of awareness of latest infection control protocols in all dental professionals with focus on private practitioners and BDS dental students.

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Conflicts of interest

There are no conflicts of interest.

References

1. Khader Y, Al Nsour M, Al-Batayneh OB, Saadeh R, Bashier H, Alfaqih M, *et al*. Dentists' awareness, perception, and attitude regarding COVID-19 and infection control: Cross-sectional study among Jordanian dentists. JMIR Public Health Surveill 2020;6:e18798.
2. Modi PD, Nair G, Uppe A, Modi J, Tuppekar B, Gharpure AS, *et al*. COVID-19 awareness among healthcare students and professionals in Mumbai metropolitan region: A questionnaire-based survey. 2020;12:e7514. Published 2020 Apr 2. doi:10.7759/cureus.7514.
3. Cascella M, Rajnik M, Cuomo A, Dulebohn SC, Di Napoli R. Features, evaluation and treatment coronavirus (COVID-19). In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2020.
4. Chang D, Xu H, Rebaza A, Sharma L, Dela Cruz CS. Protecting health-care workers from subclinical coronavirus infection. Lancet Respir Med 2020;8:e13.
5. Meng L, Hua F, Bian Z. Coronavirus disease 2019 (COVID-19): Emerging and future challenges for dental and oral medicine. J Dent Res 2020;99:481-7. doi:10.1177/0022034520914246.
6. Sabino-Silva R, Jardim AC, Siqueira WL. Coronavirus COVID-19 impacts to dentistry and potential salivary diagnosis. Clin Oral Investig 2020;24:1619-21. doi:10.1007/s00784-020-03248-x.
7. Peng X, Xu X, Li Y, Cheng L, Zhou X, Ren B. Transmission routes of 2019-nCoV and controls in dental practice. Int J Oral Sci 2020;12:9.
8. Ibrahim NK, Alwafi HA, Sangoof SO, Turkistani AK, Alattas BM. Cross-infection and infection control in dentistry: Knowledge, attitude

and practice of patients attended dental clinics in King Abdulaziz University Hospital, Jeddah, Saudi Arabia. J Infect Public Health 2017;10:438-45.
9. Zemouri C, de Soet H, Crielaard W, Laheij A. A scoping review on bio-aerosols in healthcare and the dental environment. PLoS One 2017;12:e0178007.
10. World Health Organization; Mar 13, 2020. Clinical Management of Severe Acute Respiratory Infection When COVID-19 is Suspected URL. Available from: https://tinyurl.com/s23yv4p. [Last accessed on 2020 Apr 14].
11. Centers for Disease Control and Prevention; 2020 Mar 27. CDC Recommendation: Postpone non-Urgent Dental Procedures, Surgeries, and Visits URL. Available from: https://www.cdc.gov/oralhealth/infectioncontrol/statement-COVID.html. [Last accessed on 2020 Apr 15].
12. The American Dental Association. Coronavirus Frequently Asked Questions URL. Available from: https://success.ada.org/en/practice-management/patients/coronavirus-frequently-asked-questions. Last accessed on 2020 Apr 14].
13. Gardner JM, Willem L, Wijngaart W, Kamerlin SC, Brusselaers N, Kasson P. Intervention strategies against COVID-19 and their estimated impact on Swedish healthcare capacity. medRxiv 2020.04.11.20062133 (pre-print). [Doi: org/10.1101/2020.04.11.20062133].
14. Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety perceived mental healthcare need in Indian population during COVID-19 pandemic. Asian J Psychiatr 2020;51:102083.
15. Watkins RE, Wynaden D, Hart L, Landsborough I, McGowan S, Speed G, *et al*. Perceptions of infection control practices among health professionals. Contemp Nurse 2006;22:109-19.
16. Wang D, Wang J, Jiang Q, Yang J, Li J, Gao C, *et al*. No clear benefit to the use of corticosteroid as treatment in adult patients with coronavirus disease 2019: A retrospective cohort study. medRxiv 2020.04.21.20066258. (pre-print). [doi: org/10.1101/2020.04.21.20066258].
17. Bener A, Khal A. Knowledge, attitude and practice towards SARS A community based study. JRSH 2004;124:167-70.
18. Gambhir RS, Kapoor D, Singh G, Sawhney G, Setia S. Disaster management: Role of dental professionals. Int J Med Sci Public Health 2013;2:424-9.
19. Johnson EJ, Hariharan S. Public health awareness: Knowledge, attitude and behaviour of the general public on health risks during the H1N1 influenza pandemic. J Public Health 2017;25:333-7.
20. Gould D, Ream E. Nurses' views of infection control: An interview study. J Adv Nurs 1994;19:1121-31.
21. Cutter J, Jordan S. Uptake of guidelines to avoid and report exposure to blood and bodily fluids. J Adv Nurs 2004;46:441-52.
22. Mangla M, Sharma P, Srivastava N, Raza M, Nafees N, Negi A. Oral health awareness among different professionals Int J Adv Res 2017;5:1529-41.