Original Article

Assessment of Knowledge and Anxiety among Dentists in the State of Himachal Pradesh toward the COVID-19 Pandemic

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Abstract

Background: During the early days of March, the surge of COVID-19 patients was evident in India. Effective control measures were adopted timely to overcome this deadly pandemic, but the limited knowledge among the researchers as well as the healthcare professionals caused it to be a worldwide pandemic and created a scare throughout the world. **Aim:** In this survey, we aim to study the knowledge and anxiety among dentists in the state of Himachal Pradesh toward the COVID-19 pandemic. **Materials and Methods:** An online survey was conducted among general dentists studying or practicing in the state of Himachal Pradesh, with a sample size of 670 dentists based on convenience sampling. A self-developed online questionnaire was formulated comprising 24 questions. It was divided into demography, knowledge, and anxiety, with each having 4, 11, and 9 questions, respectively. **Results:** The survey revealed that the responders had adequate knowledge regarding COVID-19 as well as effective preventive measures to protect themselves as well as their families. Around 70% of people were well aware of the clinical manifestations of the virus. Anxiety was observed among dentists due to the rapidly progressing nature of this virus throughout the world. Around 50% of the people were anxious about facing any health-related issues due to corona infection. **Conclusion:** Thus, we feel there is a need for better sources of knowledge regarding this pandemic and methods to protect oneself, as well as care for the good mental health of the dentists.

Keywords: Anxiety, COVID-19, dentists, knowledge, pandemic

INTRODUCTION

In the later months of 2019, sudden outbreak of several pneumonia cases of unknown origin was seen in the Wuhan city of China. The cause of this outbreak was suspected to be originated from the Wet markets of Huwei province of China.[1] Then by January 7, 2020, a virus was isolated from patients with infection by Chinese scientists and was finally identified as novel coronavirus (n-CoV),[2] soon this virus had enveloped all of China and gradually all the other countries of the world. Due to the rapidly progressive nature of this virus, on January 30, 2020, the World Health Organization declared this as a public health emergency of international concern.[3]

The other members of this family, which had taken a serious toll on human lives, were severe acute respiratory syndrome and the Middle East respiratory syndrome. Now in 2019, another member of this same family has taken human civilization aback. As of now, by April 2020, it has affected 213 countries globally with 26, 26, 321 cases and 1, 81, 938

confirmed deaths,[3] which has created a state of scare and panic amongst people of all strata.

Health-care workers, who act as the first line of action, are now facing grave difficulties both physically as well as psychologically due to this pandemic. This vast spread of disease makes it clear that there is a lack of knowledge about the n-CoV and effective prevention measures in the general population as well as health-care providers. Hence, it has become an absolute necessity for everyone to have apt knowledge regarding the infection itself as well as the protection measures against it. Hence, we aim at surveying to assess the knowledge and anxiety among dental professionals in the state of Himachal Pradesh.

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Access this article online

Quick Response Code:

Website:
www.ijcommdent.com

DOI:
10.4103/ijcd.ijcd_5_20

MATERIALS AND METHODS

A cross-sectional, observational, and convenience-based survey was done. An online questionnaire was prepared through Google forms, the validity of which was checked by two independent investigators on a sample population of 50. The questionnaire was sent to around 750 dentists in the state of Himachal Pradesh through mail, messaging, or social networking sites. Based on the reverts from them, the final sample size for the survey was 670.

The questionnaire consisted of 22 questions and was divided into demography, knowledge, and anxiety based 4, 11, and 9 questions, respectively. The survey was started on April 11, and continued till April 17, 2020.

RESULTS

A total of 670 dentists from Himachal Pradesh participated in this survey. Out of the total participants, 67.8% were male and 31.9% were female. Among the various subgroups, 75.8% were B.D.S, 12.7% were postgraduate students, and 11.5% were M.D.S. The demography of participants is explained in Table 1.

Knoweledge of dentists regarding COVID-19

A considerable number of dentists had sufficient knowledge regarding the etiology of COVID-19, its clinical manifestations and methods adopted to prevent it. Out of the total participants, 99.5% knew about the ongoing COVID-19 pandemic in India. About 73.3% knew that it is an RNA virus, 84.4% knew that the virus spreads from person to person. About 70.1% dentists knew that fever, dry cough as well as dyspnea is the sign of COVID infection, but 28.8% did not recognize dyspnea as the symptom of this infection. Table 2 contains a complete evaluation of the knowledge of COVID-19 among dentists [Table 2].

Anxiety about COVID-19 amongst dentists

Out of the total participants who took part in this survey, 62.4% claimed that they were scared of the ongoing COVID-19 pandemic in India. Out of them, 51.3% were scared due to the health-related issues caused by this infection and 23% were due to the absence of all the community services. About 88.3% of dentists worried about contracting the infection and spreading it to their family members. 49.2% dentists believed that engaging your mind in other activities help reduce the level of anxiety. Table 3 shows the data representation of anxiety among dentists.

DISCUSSION

This pandemic of COVID-19 has created a state of panic and menace all over the world and, as a result, has triggered global discussions for public safety and awareness. Lack of knowledge among the general population as well as health-care professionals can further worsen this state, leading to an even higher mortality rate. A survey conducted in Ho Chi Minh city of China by Giao *et al*.[4] in April 2020, assessed the

Table 1: Demography of participants

Demographic groups	Subgroups	Total, *n* (%)
Age	<30	543 (82.3)
	30-40	87 (13.2)
	40-50	24 (3.6)
	>50	6 (0.9)
	Question left blank	10
	Total	660 (100)
Gender	Male	211 (31.9)
	Female	448 (67.8)
	Both	2 (0.30)
	Question left blank	9
	Total	661 (100)
Education completed	BDS	488 (75.8)
	PG student	82 (12.7)
	MDS	74 (11.5)
	Question left blank	26
	Total	644 (100)
Work experience	<5 years	518 (84)
	5-15 years	81 (13.1)
	15-25 years	15 (2.4)
	>25 years	3 (0.5)
	Question left blank	53
	Total	617 (100)

Table 2: Knowledge of dentists regarding COVID-19

Question	Correct answer	Percentage
Coronavirus is a?	R.N.A virus	73.3
What is the route of transmission?	Person to person	84
Incubation period of N-CoV?	1-14 days	90.9
Symptoms of infection?	All of the above	70.1

N-CoV: Novel Coronavirus

Table 3: Anxiety of dentists regarding COVID-19

Question	Response	Percentage
Which statement best describe your feelings toward contracting COVID infection?	Scared	62.4
Do you worry about spreading the infection to your family?	Yes	88.3
Do you have any vivid dreams or stress about contracting Coronavirus infection?	Yes	81.8

knowledge and attitude towards COVID-19 among health-care workers. This study showed that there was adequate knowledge regarding this pandemic among the health-care workers but also showed that there was a negative co-relation between the knowledge and attitude of people towards COVID infection. Moreover, the level of knowledge and perception was found to be lower as compared to their position level.

Similarly, another survey was conducted to assess the knowledge among Iranian nurses, and it was seen that more than half of the nurses had appropriate knowledge regarding sources, symptoms, transmission, treatment, and prognosis

of COVID-19. It also assessed the level of anxiety among them and concluded that the main cause of anxiety among these nurses was the fear of transmitting the infection to their family members.[5]

This deep-rooted fear, which is seeded among all the health-care workers, has caused a surge of anxiety, depression, and sleep disorders among them. In 2006, a survey was conducted for the evaluation of depression and anxiety among doctors working in emergency rooms.[6] The results showed that there was a high level of anxiety and depression among doctors, which was related to having low income as well as a lack of hobbies too. It was seen that the presence of depression among doctors led to an increase in the anxiety among them. These studies clearly show that mental health care is essential for the doctors who are acting as the first line of defense.

To combat this deadly virus, many countries of the world have even announced a complete lockdown to prevent further community spread of this disease. This situation provoked a feeling of apprehension among general citizens and even among the different genres of health-care professionals. The presence of symptoms of anxiety, depression, and self-reported stress have increased due to this ongoing pandemic.[7]

The constant contact with patients, combined with the lack of knowledge about this virus among the people, make them at the highest risk of physical as well as psychological trauma. An online survey was conducted in the state of the United Kingdom and the USA, to assess the misconceptions and knowledge in the general population regarding COVID-19.[8] It was observed that though most of the people had appropriate knowledge regarding this infection, there was a considerable percentage of people believing in certain myths regarding it like not eating at a Chinese restaurant or believing that normal surgical masks provide the highest prevention against this infection.

This lack of knowledge-seeking behavior and believing in any myths adds to the deadly nature of this infection and puts a great load of strain on the health-care workers too. For this reason, we felt the need to investigate the knowledge and anxiety levels among dental professionals about this COVID-19 pandemic.

The study revealed that 99% of the dentist are aware of the ongoing COVID-19 pandemic, with most of them having basic knowledge regarding the etiology, transmission, and clinical manifestations of this infection. It was seen that their understanding of COVID-19 is predominated through Internet or social sites, but hardly any of them got apt knowledge through newspapers and other traditional forms.

The highly contagious nature of COVID-19 is alarming, and therefore, the majority of the dental professionals believed that staying home, washing hands frequently, and maintaining social distancing can avert the spread of this infection. The awareness and knowledge among the dental professionals seemed satisfactory, but few initiatives that were put forward

by the Indian Government like 5T prevention methods and the Bhilwara Model were not well versed to them.

This pandemic has caused mass hysteria among the whole strata of society. The distress and anxiety among dentists were high, mostly fearing that they would acquire the infection and transmit it to their family members. However, a considerable amount of dental professionals believed that engaging in refreshing activities and distracting your mind can help you cope-up with this anxiety.

A survey showing similar results was conducted to investigate the causes of anxiety among health-care professionals during this COVID-19 pandemic. It was concluded that the anxiety primarily was due to a lack of access to PPE as well as the fear of being exposed to this virus and transmitting it to their family members.[9]

The whole world seems to have been engulfed by this deadly virus, which has made people fear for their lives and even have vivid dreams about it, although the percentage of this category is minimal but still not ignorable. Around 20% of the dentists express their anxiety both by irritation and sadness. This clearly states that COVID-19 is not only affecting the physical but is also taking a toll on the mental health of dental professionals. Our results are in accordance with a survey carried out to analyze generalized anxiety disorder, depressive symptoms, and sleep quality during the COVID-19 pandemic, it was seen that as compared to the general population, the health-care workers had higher levels of anxiety and sleep disorders.[10]

Thus, we feel that there arises a need to investigate further as to what is the cause of this developing fear and anxiety among them and what steps can we do to minimize it. As per a survey conducted by Shanafelt *et al.*,[9] the best way to reduce the fear and anxiety among health-care professionals is to ask. For this reason, eight listening sessions were started to explore the main cause of their stress and anxiety, and also what methods could be taken to reduce it.

We also firmly believe that much more care is needed for the mental health and well being of the dentists as well as other vulnerable health-care professionals. Similar effective measures should be taken to provide them with all kinds of help they need during this black times.

Limitations
This study was limited among dentists in Himachal Pradesh. This survey was conducted online to cover the maximum amount of dentists; nevertheless, entire dental professionals were not competent to be covered in this survey.

Conclusion
Most of the dental professionals are well aware of the pandemic situation even about infection, symptoms, and prevention. Yet the anxiety and panic among dentists is concerning and should be considered as a critical circumstance. Appropriate measures

should be taken to ensure the safety of the mental well-being of the dentists and also of other health-care professionals.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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