

Evaluation of viewpoint of some Iranian people about dental care and coronavirus transmission: A preliminary study

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Short Communication

Abstract

BACKGROUND AND AIM: Due to numerous scientific evidence, the probability of transmission of coronavirus disease 2019 (COVID-19) in dental care is high. Are people aware of this? How much they believe in transmission of this disease through dental care? The current study investigates this issue for the first time.

METHODS: In this cross-sectional study conducted in April 25, 2020, a checklist was prepared for Iranian society, and they were asked to state their viewpoint about dental care and coronavirus transmission. This checklist consists of three simple questions; these questions were provided through a news site via a link for a one week. The answers were statistically analyzed and reported in table and diagram.

RESULTS: The answers of the questions were received from 1183 individuals. Eight hundred and twelve individuals (69%) believed that risk of transmission of coronavirus was about 70%-100% in case of not adhering to protective protocols. Eight hundred and eighty-two (75%) participants responded that they would not go to any dental clinic if they had oro-dental problems.

CONCLUSION: Majority of the people are aware of risk of transmission of coronavirus during performing dental treatments; therefore, dentists and dentistry staff should not reopen their offices in the pandemic condition of COVID-19. In case of reopening, they should delay the elective procedures and reduce days and hours of work.

KEYWORDS: COVID-19; Dental Care; Coronavirus; Iran

Citation: Poureslami P, Pirzadeh-Ashraf M, Pouradeli S, Poureslami H. **Evaluation of viewpoint of some Iranian people about dental care and coronavirus transmission: A preliminary study.** J Oral Health Oral Epidemiol 2020; 9(2): 99-103.

Coronavirus disease 2019 (COVID-19) was firstly discovered in Wuhan, China (2019) and now is widely prevalent worldwide. Confirmed samples of COVID-19 were reported from March 1, 2020, out of China, and they reached 150 countries until March 18.¹ Leading sample of COVID-19 is collected from throat swab which was recognized by Centers for Disease Control and Prevention (CDC) of China on

January 7, 2020, and subsequently was known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), finally it was named as COVID-19 by World Health Organization (WHO).² Most of the patients with COVID-19 showed mild symptoms such as dry cough, throat sore, and fever and most cases were spontaneously eliminated. However, some cases consist of various detrimental complications such as body

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failure, septic shock, renal edema, severe pneumonia, and acute respiratory distress syndrome (ARDS).³ Although symptomatic patients with COVID-19 are the main cause of transmission, observations showed that asymptomatic patients or those in virus incubation period can transmit it to others. Thereby, recognition and control of such individuals are challenging.^{4,5} Incubation period of this disease is 5-6 days; however, in some cases, it is about 14 days.⁶ Transmission ways of new coronavirus include direct and/or indirect transmission (contact with mucosal membranes of mouth, nose, and eye) from a person to person. COVID-19 also can be transmitted directly or indirectly through saliva.^{7,8} Treatment of COVID-19 is based on inhibitory attempts, so that vigorous applying of this method in Germany and Southern Korea reduced new cases considerably.⁹

Dentists are among the first diagnostic centers since they work in close contact with patients. Dentists are faced with the most risk of infection with COVID-19 and probability of cross-infection among dentists and patients is high.¹⁰ Patients and dentists can be faced with pathogenic microorganisms. Dentists are mostly faced with infection by COVID-19 due to the manner of their profession, which includes face-to-face relation with patients, repetitive exposure to saliva and blood, and using sharp instruments.^{11,12} Most of the dental attempts cause viral-infected particulates and droplets. In addition to cough and breathing of infected patient, dental instruments such as high-speed handpiece produce the aerosol. Particulates and droplets are enough small to hover in the air prior to placing on surfaces or entering pulmonary tracts for long duration.^{13,14} That virus can remain alive on copper and paper from 4 hours to more than 24 hours but infection load could be decreased after at least 48 hours on stainless steel and 72 hours on plastic. Therefore, virus can live longer on steel systems or instruments in waiting room and can be transmitted to other patients.¹⁵ Therefore, transmission of droplets and aerosols containing COVID-19 is the most

concern in dental clinics, because prevention of producing large amounts of aerosol and droplets mixed with patient's saliva and even blood during dental procedure is highly difficult.^{13,14}

Meng et al. presented fundamental information on COVID-19 and hospital infections in dentistry environment due to their experiences. They provided management protocols and advices for dentists. Advices are presented for dentists which should be done for each patient, including trying to perform only urgent dental care in COVID-19 pandemic. Questions on general health of patient in previous days such as fever or fatigue should be asked and the fever should be measured prior to any procedure. Appropriate time gap between patients should be considered to prevent crowd in waiting room. Personal prevention for staff and patients should be implemented.^{11,12} Therefore, due to these subjects, the probability of COVID-19 transmission in dental care is high; however, are people aware of it? How much do they believe in transmission of this disease through dental care? We do not know whether the life returns to the past (before COVID-19) or dentistry procedures change in a various manner. Hence, prior to any change, we should be familiar with general information of people and their viewpoint regarding dental treatments and transmission of COVID-19, and in case of necessity, proportional attempts should be done. There is no previous study in this regard and the current study aimed to investigate this issue for the first time.

Methods

In this cross-sectional study, we selected subjects with convenience sampling method. A checklist was prepared for this study and was made available in April 25, 2020, for one week to Iranian society via a news site:

<http://konarsandal.ir/> as well as through this link:

https://docs.google.com/forms/d/e/1FAIpQLSeQq3gaV_NWixFAi6fIu75ICMUh0SoDL50QkfA5ymuS5tJcZw/viewform?usp=sf_link.

This checklist consists of three simple questions:

1- What is the gender of participant?

2- In your opinion, what is the percentage risk of virus transmission that causes COVID-19 during performing dental care in case of incomplete adhering to protective protocols?

3- Do you go to dental clinics in case of having toothache or oral problems in the pandemic condition of COVID-19?

These three questions were provided for the Iranian society and they were asked to state their viewpoint regarding the mentioned cases. Although convenience sampling method could not be considered as representative of Iranian society for a preliminary study, it was proved to be a cost-effective approach for fast reaching the viewpoint of people about dental care and coronavirus transmission. The answers were statistically analyzed and were provided as table and diagram.

Results

The answers of the questions were received from 1183 individuals in Kerman, Tehran, Qazvin, and Ardabil Cities, Iran, during a week. Seven hundred and twenty-one individuals (69%) were women and 462 individuals (31%) were men. Eight hundred and twelve individuals (69%) believed that the risk of transmission of coronavirus in dental centers in case of not adhering to protective protocols was about 70%-100% (Table 1).

Table 1. Frequency of answer to question “What is the percentage risk of virus transmission that causes coronavirus disease 2019 (COVID-19) during performing dental procedures in case of incomplete adhering to protective protocol?”

Percentage risk of virus transmission	n (%)
Ten	21 (1.78)
Twenty	14 (1.18)
Thirty	14 (1.18)
Forty	56 (4.73)
Fifty	196 (16.57)
Sixty	70 (5.92)
Seventy	147 (12.43)
Eighty	161 (13.61)
Ninety	147 (12.43)
Hundred	357 (30.18)
Total	1183 (100)

Eight hundred and eighty-two individuals (75%) answered that if they faced oro-dental problems in the pandemic condition, they would not refer to the dentist (Figure 1).

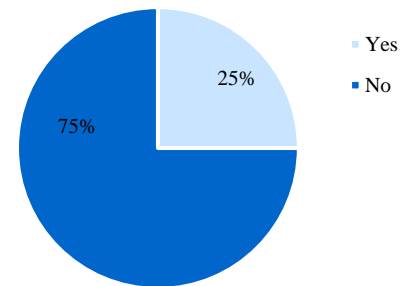


Figure 1. Percentage of answer to question “Do you go to dental clinics in case of having toothache or oral problems in the pandemic condition of coronavirus disease 2019 (COVID-19)?”

Discussion

According to the current study, most of the participants have sufficient awareness regarding the probability of coronavirus transmission during performing dental care, know the high risk of virus transmission in dental clinics, and do not agree to expose themselves and their families to COVID-19 through this way. They believed that they should not go to dental clinics for non-emergency procedures which could be delayed. We did not achieve study or studies which investigated viewpoints of people in other countries on dental treatments and coronavirus transmission risk since early 2020, which epidemics of COVID-19 has changed into pandemic gradually; however, studies in recent years on other diseases caused by this virus have been published, such as the study by Kharma et al. which investigated the awareness of 200 dental students in School of Dentistry, Al-Farabi Medical College, Jeddah, Saudi Arabia, regarding disease of Middle East Respiratory Syndrome Coronavirus (MERS-CoV).¹⁶ Results of their study showed that more than 50% of students were properly aware of detrimental nature of disease and risk of transmission in case of close contact among society individuals. Results of the current study was in line with the study by Kharma

et al.; however, the current study was conducted on general population and their study was conducted on dental students.

Another study in Riyadh, Saudi Arabia, by Almutairi et al. investigated the awareness, attitude, and performance of 1147 individuals in general population in shopping centers of this city regarding MERS-CoV disease. Results of their study showed that most participants had high level of awareness, attitude, and positive performance regarding MERS-CoV.¹⁷ Results of the study was also consistent with ours; however, that study did not ask participants any questions on role of dental centers in transmission of coronavirus.

Various jobs were scored based on higher risk of coronavirus transmission, and thereby, dental hygienists with a score of 99.7 and dental assistants with a score of 92.5 were placed in first and second place, respectively. Oral surgeons with a score of 92.3 and general dentists with a score of 92.1 were placed in fourth and fifth places, respectively.¹⁰ In our study, the type of

responses of a high number of people confirmed this grading, and these responses represented this issue that most people perceived risk of virus transmission in dental centers properly.

Conclusion

According to the current study, most people in Iran are aware of coronavirus transmission risk during dental care. This result emphasizes and reminds to dentists and dental staff not to reopen their offices in crisis condition of COVID-19 pandemic as much as possible, and in case of necessity for opening, just do treatments which cannot be delayed through proper adherence to protective protocols and decreasing work days and hours.

Conflict of Interests

Authors have no conflict of interest.

Acknowledgments

The authors would like to thank all participants for their cooperation.

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