



COVID-19 Impact on Dentists in Bosnia and Herzegovina: Qualitative Study

Zerina Hadzic*

Private Dental Practice, Sarajevo, Bosnia and Herzegovina

***Corresponding Author:** Zerina Hadzic, Private Dental Practice, Sarajevo, Bosnia and Herzegovina. **E-mail:** smajic.zerina@gmail.com

ORCID ID: 0000-0002-2239-7649

Received: May 18, 2020

Published: June 19, 2020

© All rights are reserved by **Zerina Hadzic**.

Abstract

The COVID-19 pandemic has caused economic and health consequences in many countries around the world. Some occupations, including dentists, were highlighted as the most endangered due to aerosols and the possibility of spreading the COVID-19 virus during the incubation period. It is well-known that aerosol generated in dental procedures with a large number of droplets, provoking that the standard protective measures in daily clinical work may not be effective enough to prevent the spread of COVID-19, especially when patients are in the incubation period or unaware that they are infected. The aim of the study is to check the attitude and possible fear and concern related to the COVID-19 pandemic among dentists in Bosnia and Herzegovina who are employed in the public and private health sector.

Keywords: COVID-19; Dentist; Aerosol; Infection

Introduction

The coronavirus disease (COVID-19) pandemic caused the entire world to go into an economic and healthcare crisis. Dentists all over the world were challenged to work in a situation of elevated risk of cross-infection between patients and dental staff, making dental practices a possible COVID-19 infection cluster. It is well-known that aerosol generated in dental procedures with a large number of droplets, provoking that the standard protective measures in daily clinical work may not be effective enough to prevent the spread of COVID-19, especially when patients are in the incubation period or unaware that they are infected. For this reason, the dental profession was marked as one of the riskiest jobs during the COVID-19 pandemic. Using the Occupational Information Network, the World Economic Forum has put dentists on fourth place on the list of most risky jobs during the COVID-19 pandemic with a COVID-19 risk score of 92,1.

The experience of COVID-19 in our country created enormous uncertainty, with dentist asking for guidelines and safe dental procedures protocols for COVID-19. Uncertainty of job preservation was especially seen in dentists working in private dental practices with emerging concerns about sustaining their dental practices and job positions, supply shortages and higher prices of dental equipment and dental materials including infection control and

prevention materials, adjusting procedures to ensure safety precautions, and avoiding potential exposures while dealing with the overall economic effects and their patients/staff needs. A major concern in private dental practice owners is the payment of obligations to the state and funds, credit obligations, and leasing.

This pandemic has had repercussions not only in the infection control system and patient treatment safety regulations but also in the bioethical, economic, and psychological fields, provoking social inequities and evoking important modifications to the different daily procedures in dental profession. Dental workers including dentists experienced fear, worry, and distress caused by pandemic influence on their jobs. The aim of the study was to examine how concerned dentists in the public and private sectors are and how vulnerable they feel to exposure to COVID-19 and the possibility of the infection spreading. We also expect to identify possible differences in attitudes towards COVID-19 among dentists from the public and private health sectors, but also possible differences in the attitudes of male and female dentists.

Materials and Methods

Study material

The questionnaire was formed following the epidemiological situation caused by COVID-19 in May 2020 in Bosnia and Herzegovina, and all participants who were randomly included in the

study completed the questionnaire in the period 12 - 15 May 2020. The questionnaire was formed using the Google Forms program online and distributed through a public network of dentists which includes dentists from Bosnia and Herzegovina employed in the public and private health sector. At the time the questionnaire was formed and completed, dentists employed in the public dental sector provided only emergency dental services to patients who underwent triage examinations for COVID-19. At the time of completing the questionnaire by dentists employed in the private dental sector in Bosnia and Herzegovina, the status of private dental practices was in line with the decision of the Federal Civil Protection Headquarters, and the decision included a ban on all private dental practices, including emergencies.

A total of 183 dentists working in the private and public health sector in Bosnia and Herzegovina who completed an anonymous questionnaire focused on dentist anxiety at the time of COVID-19 were included in the study using randomization.

The questionnaire was submitted online during the quarantine time in Bosnia and Herzegovina and during the faze of private dental practice work prohibition. The questionnaire included 16 questions, including the dentist status check. It was divided into 2 sections. The first section included demographic questions regarding gender, age, a city in which they are working as dentists, acquired specialization, and working sector (private or public).

Section two dealt with the dentist anxiety questions formed especially considering the epidemic situation in Bosnia and Herzegovina and dentist status in that period.

All questions in the questionnaire were mandatory and none of the questions allowed multiple response options.

The study group presented various specializations in different fields of dentistry making 26,92% of the total study group and 73,08 general dentists from Bosnia and Herzegovina. The study group included patients from all over Bosnia and Herzegovina with 23,8% of the study group working in the public health sector and 76,2% of the study group working in private dental practice.

Ethical statement

Participants did not state the identity nor is the identity of any of the respondents known to the researcher who received the results of the questionnaire directly electronically. Before completing the questionnaire, respondents who completed the questionnaire were introduced to the purpose of the survey and agreed to participate in the study.

Statistical analysis

Statistical analysis of the obtained results was performed. Python statistical program is used to perform correlations. Additionally, standardized residuals were calculated to estimate the contribution of individual cells in the result of the statistical test for the whole table. The calculations were performed using Microsoft Excel to calculate the standardized residuals. The results will be presented textually and graphically, and for correlation, we use the Python program to graphically display the correlation strength of individual statements using the matrix.

Results

Using the Generate random number (Excel), 183 dentists were selected to complete a questionnaire created for the study. Of that number, 29.5% were men and 70.5% were women. 49.2% of respondents are aged 31 - 40 years, 26.8% 41 - 50 years, 15.8% 18 - 30 years and 7.7% 51 - 60 years. Only one respondent belonged to the age group 61 - 70 years, which is 0.5% of the sample.

The study included dentist working in different parts of Bosnia and Herzegovina, including both Federation of Bosnia and Herzegovina, Republika Srpska and District Brčko, of which 30,60% dentist work in Sarajevo, 6,01% in Tuzla, 3,83% in Mostar, 3,3% in Bihać, 3,83 in Zenica and 2,2% in Brčko. 10,44% work in Banja Luka and 39,79% who work in 30 other cities of Bosnia and Herzegovina.

23.6% of respondents work in the public health sector and 76.4% of them work in private dental practice or polyclinic. 49 out of 182 respondents are specialists in some of the fields of dentistry in the field of oral surgery 28.6%, orthodontics 22.4%, oral medicine and periodontology 14.3%, pediatric dentistry 18.4% and dental prosthetics 12.2%.

In the second part of the questionnaire, dentists answered questions related to COVID-19. When asked if they knew anyone infected with COVID-19, 32,8% of them said they knew, and 67,2% that they did not know any person infected with COVID-19. In the second part of the questionnaire, dentists answered questions related to COVID-19. When asked if they knew anyone infected with COVID-19, 33% of them said they knew, and 67% that they did not know any person infected with COVID-19.

In nine questions with a linear scale of 1 - 5 (I absolutely agree-I absolutely disagree) dentists expressed their views on COVID-19 and through the above questions, we assess the level of anxiety among the respondents.

In response to the statement: I believe that the ban on the work of private dental practices during the COVID-19 pandemic is justified, 54 dentists (29.51%) absolutely agree, 48 (26.23%) are neutral, 43 (23.50%) absolutely disagree, 18 dentists (9.84%) partially agree with the statement and 20 dentists (10.92%) partially disagree.

Claim: I feel uncomfortable when thinking or talking about a COVID-19 pandemic, 83 (45.36%) dentists have labeled neutral, and 43 dentists (23.50%) dentists absolutely disagree with this statement. Only 9 (4.92%) absolutely agree with this statement confirming that they feel uncomfortable when thinking or discussing a COVID-19 pandemic, and 10 of them (5.46%) relatively agreed with this statement. With the statement: I think I was not adequately educated to work during the COVID-19 pandemic, 32.79% of respondents said they absolutely disagreed with the statement, and 27.32% of them were neutral. Only 11.48% absolutely agree with the statement and believe that they are not adequately educated to work during the COVID-19 pandemic.

Correlation results

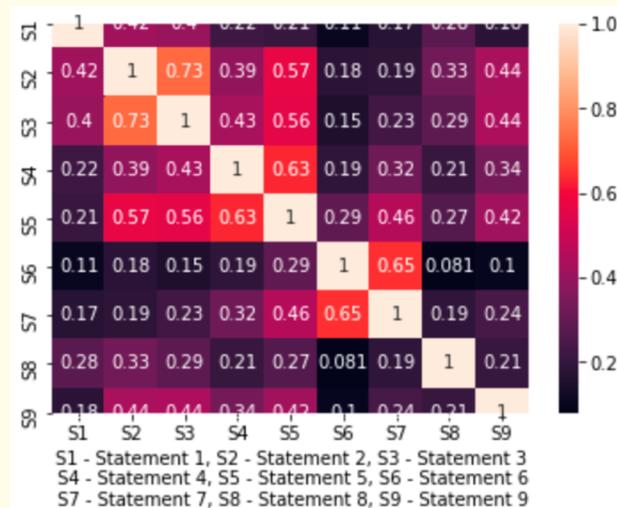
To monitor the attitude, concern and fear of dentists regarding COVID-19, we formed statements that the respondents marked in the questionnaire on a linear scale of 1 - 5, where the values are 1-absolutely agree, 5-absolutely disagree.

The questionnaire included the following statements marked with the symbol S and an ordinal number for easier data processing in Python.

The statements are:

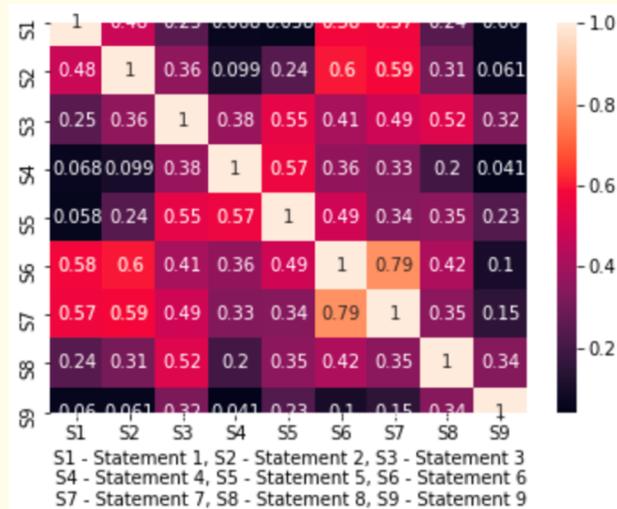
- S1-I feel uncomfortable thinking or talking about a COVID-19 pandemic.
- S2-I am afraid I will catch COVID-19 in my workplace.
- S3-I fear my dental office will be the site of the spread of COVID-19 to patients.
- S4-I am more afraid of infecting others than me.
- S5-I'm afraid I'm going to infect my family.
- S6-I feel stress due to the uncertainty of the duration of the COVID-19 pandemic.
- S7-I feel business stress during the COVID-19 pandemic.
- S8-I feel that I am not adequately educated to work during the COVID-19 pandemic.
- S9-I believe that the ban on the operation of private dental practices during the COVID-19 pandemic is justified.

The correlation results show that dentists employed in the private and public health sectors have different attitudes towards COVID-19 and different statements had a strong correlation. If the strongest correlation is marked with 1, in the sample of respondents employed in the private sector, the strongest correlation was in statements S2 and S3 (0.73); statements S6 and S7 (0.65) and S4 and S5 (0.63) (Matrix 1).



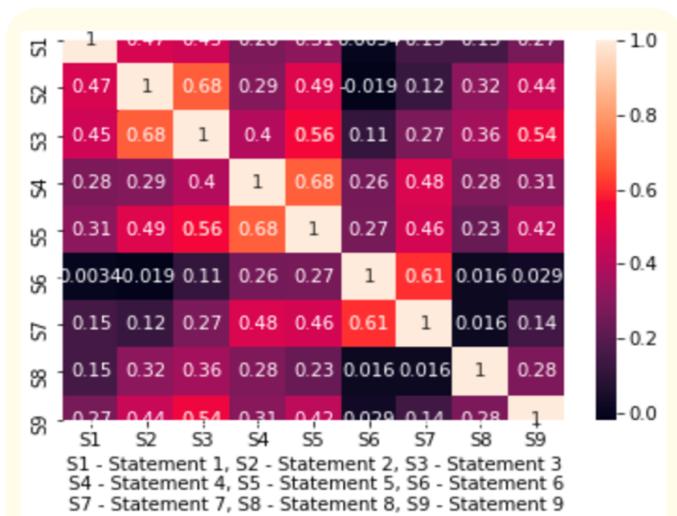
Matrix 1: Correlation matrix of statements from the questionnaire of dentists employed in the private health sector.

In the sample of respondents employed in the public health sector, the strongest correlation was in statements S6 and S7 (0.79), while other correlations were weak (Matrix 2).

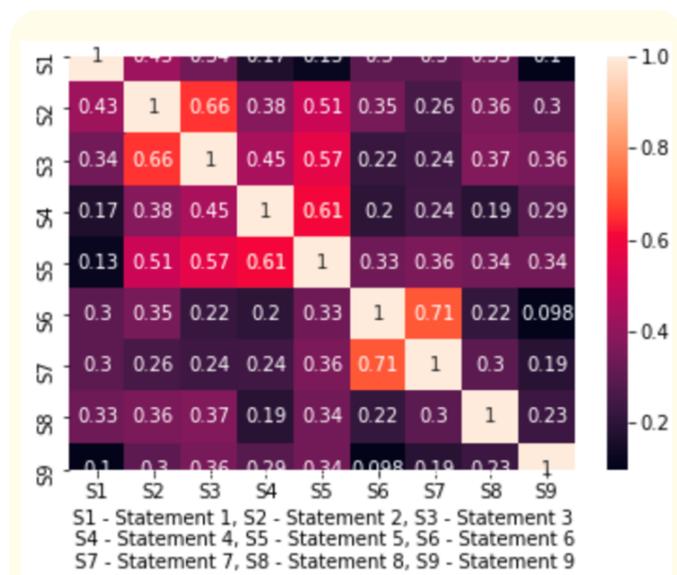


Matrix 2: Correlation matrix of statements from the questionnaire of dentists employed in the public health sector.

The results also show that male and female dentists have different views on the COVID-19 pandemic and are different statements in different correlations in these two groups (Matrix 3 and 4).



Matrix 3: Correlation matrix of statements from the questionnaire of male dentists employed in both private and public health sector.



Matrix 4: Correlation matrix of statements from the questionnaire of female dentists employed in both private and public health sector.

Discussion

Although the results show that the majority of respondents believe that they are sufficiently educated to work during a pandemic, at the same time we find different levels of concern among dentists employed in the public and private health sector, but also differences between male and female dentists. While dentists employed in the private sector were most concerned that they would be infected with COVID-19 in the workplace and that their office would be a place for the spread of infection, public health workers were most concerned about the uncertainty about the duration of the COVID-19 pandemic and business at the time of the pandemic.

Interestingly, in statements related to the potential spread of COVID-19 to an equal number of respondents, 74 of them (40.4% of the total sample) absolutely agreed with two statements: that they were afraid of infecting their family members with COVID-19 and that the practice in which they work to be a place of the spread of infection.

The difference in the response of dentists employed in the public and private sectors can be seen through the fear of stigmatization of the private practice and possible consequences for the stability and continuation of the practice after the pandemic, due to negative examples of stigmatization of infected dentists from the media. It is evident that the fear that family members may become infected is significant, and with the fact that a large number of respondents had a more pronounced fear of infecting others than they cared for themselves, the evidence that anxiety associated with the possible spread of the virus by dentists is pronounced.

Conclusion

The results of the study show that dentists in Bosnia and Herzegovina have concerns, concerns and fears about the spread of COVID-19 infection in the dental office and the spread to family members by the dentist himself. Given that the dentists responded to the survey during the declared state of natural disaster with a ban on movement, a ban on private dentists and limited work of dentists in the public sector (limited work on emergencies) and that at the time of the questionnaire there were still many unknowns about the spread and dangers of COVID-19, it is evident that COVID-19 caused fears related to doing work at the dentist. It should be noted that no experiences and analyzes related to dentists from other countries have been found in the literature, and the impossibility of comparing the obtained results is a shortcoming of this paper.

Declaration of Interests

The author declares no conflict of interest.

Assets from publication with us

- Prompt Acknowledgement after receiving the article
- Thorough Double blinded peer review
- Rapid Publication
- Issue of Publication Certificate
- High visibility of your Published work

Website: www.actascientific.com/

Submit Article: www.actascientific.com/submission.php

Email us: editor@actascientific.com

Contact us: +91 9182824667