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# **Mental Health of Dentists during the COVID-19 Pandemic: A Critical Literature Review**

Mental Health of Dentists and COVID-19

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ICCL and LF wrote the manuscript. ALC conceived the study idea and wrote the manuscript. All authors read and approved the final manuscript.

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We declare that all authors of this manuscript have made substantial contributions to the conception of the paper, the acquisition, analysis and interpretation of data and the writing of the manuscript. All approved the submitted version.

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## **ABSTRACT**

The effects of the Coronavirus Disease 2019 (COVID-19) pandemic on the mental health of healthcare professionals has become a concern, particularly among those who are in close contact with infected patients, including dentists. The aim of this critical literature review was to analyze the possible implications of the COVID-19 pandemic on the mental health of dentists. This bibliographic search was carried out in the PubMed, Web of Science and Scopus databases, using the following search keywords “Psychiatry OR anxiety OR fear OR depression OR psychological distress OR mental health” AND “COVID-19 OR SARS-CoV-2” AND “Dentists OR dental practice. Original research publications that included data on the mental health status of dentists during the COVID-19 pandemic were included. Data were tabulated in Microsoft Excel 2016 for Windows and descriptively presented. Eleven publications were eligible for this review. All studies had cross-sectional design. Most of them used questionnaires created by study researchers (81.8%) and were carried out in Italy (45.5%). The number of participants ranged from 14 to 1,500. Effects on the mental health of dentists during the COVID-19 pandemic were observed, regarding fear of contamination, anxiety, concerns, stress, depression, job insecurity, subjective overload, perceived risk and feelings and emotions. It was concluded that the COVID-19 pandemic had negative impact on the mental health of dentists, with high prevalence of fear, anxiety and concern, among other psychological symptoms.

**Indexing terms:** Fear. Mental Health. COVID-19. Dentists.

## **INTRODUCTION**

At the end of 2019, in the province of Wuhan, China, the spread of a new virus of the family Coronaviridae was detected, the same as the causative agent of the Severe Acute Respiratory Syndrome (SARS) pandemic in 2002-2003 [1,2]. This virus spread rapidly around the world, causing an infectious respiratory disease that became known as Coronavirus Disease 2019 (COVID-19) [1,2]. In March 2020, the World Health Organization recognized the disease as a public health problem and raised the contamination status to the COVID-19 pandemic [3]. Currently, the disease is found in 216 countries, accounting to more than 18.5 million confirmed cases and 700,000 deaths, with the Americas concentrating almost 10 million diagnosed individuals [4].

SARS-CoV-2 is a positive, spherical, enveloped RNA virus with approximate size of 30 kilobase (kbp) [5], which can be transmitted by direct contact - coughing, sneezing and inhalation of droplets -, and by contact with mucous membranes - oral, nasal and ocular [6]. Thus, people who are in close contact with patients with COVID-19, including health professionals, are at increased risk of contamination [2,7]. Dentists in particular, have high risk of contamination and great potential to infect their family members and other patients, as they work close to the oral cavity of patients in direct contact with salivary fluids and in closed environment [8].

Most infected individuals have mild symptoms [2], with common fever and cough, and may also experience shortness of breath, muscle pain, confusion, headache, sore throat, diarrhea and vomiting [9]. Among the most severe cases, patients develop Acute Respiratory Distress Syndrome (ARDS), cardiac arrhythmia and shock [9]. Older individuals and the presence of comorbidities are associated with worse prognosis [10].

Social isolation and distancing measures have been adopted by the governments of different countries to prevent contagion and spread of the virus [11], such as severe restrictions on dental practice, in which dentists were allowed to perform only emergency procedures in several countries, such as China [2], Italy [12], United States of America [13], Brazil [14] and the United Kingdom [15]. These conditions generated financial consequences, insecurity and anxiety, leading to greater risk for the emergence of mental health problems [7,16]. Workers who were forced to stop working due to the pandemic reported increase in suffering and decline in general health [17].

In addition, social networks and the media in their various forms, spreading alarming news about the growing number of infected people, may have adversely affected the population and generated situations of stress, fear of contamination, personal frustration and difficulties in obtaining protective equipment [18], as well as stigma of COVID-19 and concerns about the well-being of themselves and their families [19].

Therefore, this critical review aims to analyze the possible implications of the COVID-19 pandemic on the mental health of dentists.

## **METHODS**

This is a bibliographic search conducted through the analysis of articles indexed until July 2020 in PubMed (U.S. National Institutes of Health's National Library of Medicine), Web of Science (Clarivate Analytics) and Scopus (Elsevier) databases. For the study, the search keywords used were “Psychiatry OR anxiety OR fear OR depression OR psychological distress OR mental health” AND “COVID-19 OR SARS-CoV-2” AND “dentists OR dental practice”. The PRISMA guidelines were followed (Available: <http://prisma-statement.org/>).

Articles eligible for the study were original research publications that presented data on the mental health status of dentists during the COVID-19 pandemic. Review and editorial articles were excluded. The analysis of studies was independently carried out by two researchers (ICCL and LF). At the end of the analysis, information collected was compared and differences were discussed. In cases of lack of consensus, a third researcher (ALC) decided to include or exclude the article.

The following variables were collected: information about the article (authors and year of publication), country, study design and research instrument, sample, sex, age, mental health conditions, COVID-19 status (positive or negative), risk group (yes or no), main results (related to the mental health of dentists). Data were tabulated using the Microsoft Excel 2016 software for Windows (Microsoft Press, Redmond, WA, USA) and were descriptively presented.

## **RESULTS**

Eighty-eight articles were found and distributed as follows: 14 in PubMed, 8 in Web of Science and 66 in Scopus. After removing duplicates, 70 studies remained, of which 15 were selected from reading of titles and abstracts. Of these, two systematic review articles were excluded because they did not meet the eligibility criteria. All other articles identified were analyzed in full. After full reading, two articles were excluded: one for not presenting information about the mental health of dentists and the other for not showing data specifically collected from dentists, but from health workers in general. At the end, 11 articles were included in this review (Figure 1).

Regarding geographical distribution, most studies were carried out by researchers in Italy (45.5%), followed by India (36.4%). Regarding the methodological design, all studies had cross-sectional design, using questionnaires (100%), with predominance of questionnaires created by study researchers (81.8%). The sample size ranged from 14 [20], to 1500 participants [21], with Chinese and Italian individuals,

respectively. In most studies, participants were men (55.6%) and young adults (55.6%). Six studies evaluated the fear of dentists during COVID-19 pandemic; six studies, anxiety; five studies, concerns; five, stress; two, depression; two, job insecurity; two, subjective overload; one, perceived risk and one, feelings and emotions. Only one study found dentists diagnosed with COVID-19 (50%) [22], and the frequency of dentists in the risk group ranged from 4.5% [23] in Italy to 28.8% [24] in Poland (Table 1).

## **DISCUSSION**

The COVID-19 pandemic brought changes around the world, such as situations of social distancing and isolation associated with the proposed restriction measures to control the disease [20]. In this context, mental health problems among health professionals resulting from changes in various daily routine aspects are gaining prominence [20]. This review highlights the significant impact of COVID-19 on the mental health of dentists and aims to inform these professionals about adversities experienced, to enable greater understanding of the problems that may affect the dental class and to assist in the planning of actions in this pandemic moment.

Feelings of fear, anxiety and stress have been reported in most studies [8,22-24,26,27]. Fear was associated with the fear of being infected by a patient or co-worker, taking the infection to their families and possibly causing permanent effects [7,8,22,25]. The dentist works in an environment with intense generation of aerosols and close contact with patients and their salivary secretions, which significantly increases their chances of contamination, justifying this behavior. Staying in hospital or in social isolation, possibility of infection, and the increase in mortality in the country were also causes for feelings of fear [8]. It is possible to infer that the lack of knowledge about the viral behavior pattern in the population can directly influence this behavior.

Two studies [20,22] used the General Anxiety Disorder-7 (GAD-7) to check the level of anxiety and both identified increase in anxiety disorders in this period. These data suggest that the pandemic is a source of anxiety for dentists and other professionals who are part of the dental team. The symptom was mainly related to the routine of care when treating patients with suspicious symptoms [20,22]. The guidance of the World Health Organization is that the suspected or diagnosed individual remains in isolation until recovery or presenting negative diagnosis for COVID-19 [3]. However,

in cases of dental emergencies, the dentist will need to intervene to minimize or resolve the patient's problem, and there may be need for close contact between patient and professional and, therefore, greater likelihood of infection.

The prevalence of generalized anxiety symptoms found in studies [20,29] is relevant, since high GAD-7 scores have been shown to be associated with reduced productivity at work, increased inflammatory processes and, consequently, decreased immune system response [20,29]. Being immunocompromised may be related to worse prognosis in confirmed COVID-19 cases. In addition to anxiety, the highest stress levels were found among dentists included in a risk group [27].

Depressive symptoms have also been identified [7,26]. Younger or less experienced individuals reported having greater fear of losing their jobs, indicating increase in depressive symptoms [7]. It is suggested that these professionals may be in a less stable and financially more insecure job condition. Knowing more than one person who died due to COVID-19 was also associated with higher levels of depressive symptoms [7]. The loss of close people makes these professionals more sensitive to the situation and aware of the disease severity.

Regarding patient management concerns, significant number of dentists (57.8%) reported that they would like to request test results for COVID-19 from all patients before performing any aerosol-generating treatment procedure [25]. Rapid diagnostic tests for COVID-19 have low sensitivity and there is a period of latency and virus manifestation that varies between populations, making the test result unsafe [30]. In addition, the cost of tests can make their performance unviable. The adoption of this criterion for access to care can make it even more difficult for the patient to seek the dental office. Another concern reported was the impossibility of purchasing personal protective equipment due to the lack of these products on the market [20].

Other less common psychological effects reported were job insecurity, subjective overload, perceived risk and feelings and emotions. For Italian dentists [7,21], perceived job insecurity was associated with depressive symptoms and this association increased with fear of COVID-19 infection [7]. The perception of job insecurity is the fear of losing or maintaining it [31]. Measures to avoid virus contagion such as social distancing, isolation and limitation of dental activities resulted in financial losses and, possibly, in the perception of job insecurity. Professionals with higher fear of COVID-19 infection may consider their jobs at greater risk, because, if they are contaminated, they would be unable to work for a specified period [7].

Subjective overload differed significantly among different countries - China, India, Israel, Italy and the United Kingdom, with the highest average value in the United Kingdom, followed by China, Italy, India and Israel [23]. When subjective overload and psychological distress correlations were compared between countries, the highest values were observed among Italian dentists compared to Chinese, Indian and Israeli dentists [23]. Subjective overload refers to perceptions and feelings that surround circumstances experienced by individuals in various aspects of the daily life, and not just the professional aspect [32]. However, included studies used instruments that assessed subjective work-related overload [23,27], demonstrating that Italian dentists experienced higher levels of stress at work, possibly due to the scenario observed in the country. This association between subjective overload and psychological distress can be explained by the Karasek's [33] demand-control-support model, in which stress experience is the result of the interaction between stressor, the individual's perception of control over the stressor and social support. In the context of uncertainties surrounding the COVID-19 pandemic, dentists have poor control, resulting in greater subjective overload [27]. Additionally, COVID-19 numbers may have a different impact on overload subjective and psychological distress experienced by individuals from different cultures and countries [23].

The assessment of perceived risk among Italian orthodontists in relation to COVID-19 revealed that most professionals considered dental practice to be of high risk for themselves and their families [26]. Regarding orthodontic care, there was higher frequency of professionals who considered it to be of lower risk [26], since Orthodontics can be classified as a specialty that represents little risk of contamination, since care is faster, generates less aerosols and most patients are in the age group least affected by the virus [34]. However, orthodontists should be aware of the SARS-CoV-2 transmission pathways, screen suspected patients, follow official protection guidelines for controlling virus transmission and request patient cooperation.

Other psychological consequences reported were the high frequency of some level of sadness and moderate frequency of anger related to COVID-19 [22]. This result corroborates findings of a recent review on the effects of quarantine in previous outbreaks, which demonstrated that health professionals were more psychologically affected, reported more anger, fear and sadness [35], suggesting the importance of psychological attention to health professionals, including dentists, during pandemics. In addition, the creation of programs to provide economic support for professionals and



encourage the use of applications or computer programs to facilitate communication via the Internet with patients, which are measures that can help reduce the impact on the mental health of these professionals, including dentists.

All studies included in this review were carried out through the distribution of an online questionnaire [8,20-25,27,28]. Digital tools gained prominence in studies during the COVID-19 pandemic, as they are a means of obtaining information quickly and directed to their target populations. Other advantages include answering questionnaires via cell phone, obtaining data in real time, sending questionnaire via links from one person to another and knowledge of the instant diagnosis of the health situation [36]. On the other hand, the use of non-validated questionnaires and convenience samples end up by influencing data generalization [37].

## **CONCLUSION**

The COVID-19 pandemic had a negative impact on the mental health of dentists, with high prevalence of fear, anxiety and concern, among other psychological symptoms. The support and monitoring of these professionals is highly necessary to minimize traumatic episodes resulting from the COVID-19 pandemic.

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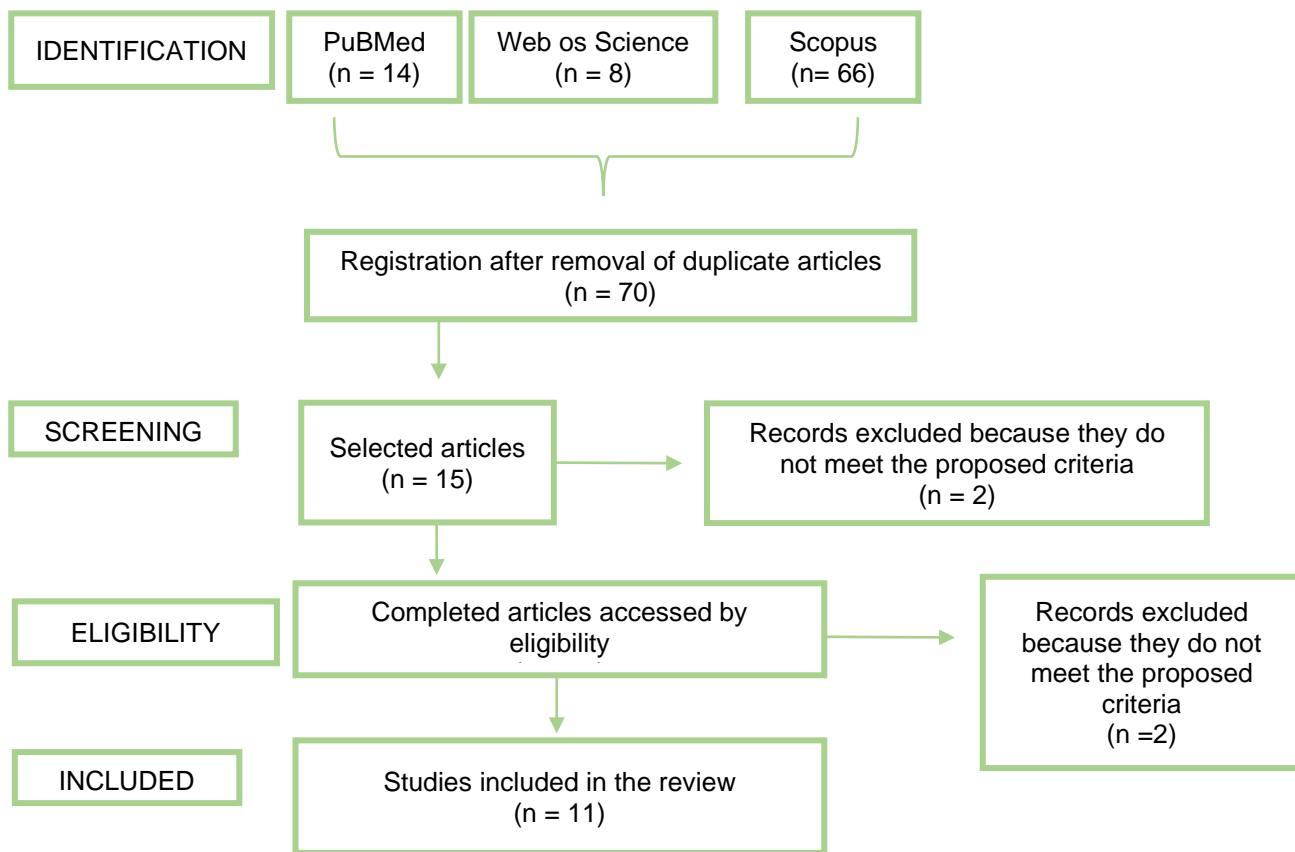
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**Figure 1.** Flowchart of selection procedure for the articles included in the review.

**Table 1.** Distribution of studies on the implications of the COVID-19 pandemic on the mental health of dentists.

AUTHOR(S)	YEAR	COUNTRY	DESIGN AND INSTRUMENTS	SAMPLE (n)	SEX (%)	AGE (years)	MENTAL HEALTH CONDITIONS	COVID-19 STATUS	RISK GROUP	MAIN RESULTS
Ahmed et al. [8]	2020	Saudi Arabia, Pakistan, India, United Arab Emirates, People's Republic of China, Italy, United Kingdom, Australia, Malaysia, United States of America, Ireland, Israel, New Zealand, South Africa, Turkey, Germany, Kuwait, Canada, Hungary, France, Poland, Bulgaria, Republic of the Congo, Mexico, Finland, Romania, Egypt,	Cross-sectional Online survey questionnaire developed by researchers, registered at online website (Kwiksurveys) and validated	650	25% were male and 75% female	20-30 years: 54% 31-40 years: 39% 41-50 years: 5% 51-60 years: 1.85% > 60 years: 0.15%	Fear, anxiety and nervousness	n.a.	n.a.	87% of participants were afraid of getting infected with COVID-19 from either a patient or a co-worker; 90% were anxious while treating a coughing or a patient suspected to be infected with COVID-19; More than 72% of participants felt nervous when talking to patients in close vicinity; 92% were afraid of carrying the infection from dental practice to their families, and 77% were afraid of getting quarantined if they got infected; 73% were anxiety concerning the cost of treatment if they got infected and 86% felt afraid while they learnt about mortalities because of COVID-19.



		Switzerland, Demark, Bahrain								
Consolo et al. [22]	2020	Italy	Cross-sectional Anonymous online survey questionnaire Questionnaire developed by researchers, created using the Google Forms and GAD-7	356	60.4% were male and 39.6% female	< 35 years: 16.6% 35-55 years: 48.6% > 55 years: 34.8%	Feelings and emotions experienced while thinking at the COVID-19 outbreak, dentists' perception of infection likelihood for themselves and patients, anxiety, concerns	1.1%	n.a.	85.1% of dentists reported being concerned of contracting COVID-19 during their clinical activity; 83.4%, 83.7%, 96.6%, 74.7%, 55.9%, reported feeling some level of fear, anxiety, worry, sadness and anger when they think about COVID-19, respectively. The results of the GAD-7 evaluation showed that 9% of respondents reported a severe anxiety. The GAD-7 score was positively correlated to the level of concern about the professional future ( $r(356) = 0.32, p < 0.001$ ) and the level of concern of contracting the COVID-19 ( $r(356) = 0.26, p < 0.001$ ). Dentists aged between 35 and 55 years were those more concerned about their professional future.
Gasparro et al. [7]	2020	Italy	Cross-sectional Anonymous online survey questionnaire Single-item based on the work by Strazdins et al., FCV-19S and short version of the DSM-5 SMDA	735	67.3% were male and 32.7% female	Mean 44.80 ±12.44 Interval 27-70	Fear, perceived job insecurity, depression	n.a.	n.a.	Mean perceived job insecurity (1–5): 3.57±1.15 Mean fear (7–35): 15.03±5.45 Mean depressive symptoms (0–27): 5.66±5.22 Perceived job insecurity ( $b = 0.58, p < 0.001, 95\% \text{ CI } [0.35, 0.70]$ ) and fear of COVID-19 ( $b = 2.11, p < 0.001, 95\% \text{ CI } [1.58, 2.60]$ ) were positively associated with depressive symptoms. Fear of COVID-19 significantly moderated the relationship between perceived job insecurity and depressive symptoms ( $b = 0.61, p = 0.007, 95\% \text{ CI } [0.14, 1.06]$ ), suggesting that the association between perceived job insecurity and depressive symptoms increases with the levels of fear of COVID-19. The regression coefficients of age and number of people who had died known personally were also statistically significant ( $p = 0.014$ and $p = 0.049$ ).

Kinariwala et al. [25]	2020	India	Cross-sectional Online survey questionnaire Questionnaire developed by researchers, based on guidelines of Centre for Disease Control (CDC), Ministry of Health and Family Welfare of the Government of India, and the Dental Council of India (DCI)	403	n.a.	n.a.	Anxiety, concerns	n.a.	n.a.	<p>respectively).</p> <p>As for patient management concerns, a small majority of dentist (57.8%) perceived that they like to request COVID-19 test results from all patients prior to any aerosol-generating treatment procedures.</p> <p>54.3% of the respondents were not confident and 35.7% were hesitant to commence their post-pandemic dental practices and the main reason was the risk of contracting SARS-CoV-2 infection via a patient (45.9%).</p> <p>75.5% were worried about medico-legal consequences of post-pandemic dental care provision.</p> <p>62% users of the COVID-19 tracking mobile application introduced by the Indian government in (Aarogya Setu), were significantly better prepared, with modest concerns, than non-users in providing patient care (p = 0.0001).</p>
Martina et al. [26]	2020	Italy	Cross-sectional Online survey questionnaire Questionnaire developed by researchers, created using the SurveyMonkey and PHQ-4	349	50.1% were male and 49.9% female	20-29 years: 18.6% 30-39 years: 31.5% 40-49 years: 16.3% 50-59 years: 21.8% 60-69 years: 10% > 70 years: 1.7%	Perceived risk, anxiety, distress, fear, depression	None of the participants were diagnosed as COVID-positive but only 35 were tested (10%)	n.a.	<p>PHQ-4: 22% reported moderate/high distress.</p> <p>Returning to daily work activities was a source of anxiety for 192 participants and this was associated with the level of distress (odds ratio (OR) = 3.7; p &lt; 0.001). 92.3% were consider dental practice as at higher risk; 88% were consider their work of higher risk for their families and 63.1% were consider orthodontic procedures at lower risk.</p> <p>There was an association between the number of dentists that dealt with fewer than 5 emergencies during this period and the level of fear facing the emergencies (OR 1.8; p = 0.035), there was an association between the level of distress (PHQ-4) and the fear during emergencies (OR 0.1; p &lt; 0.001).</p>

Mijiritsky et al. [23]	2020	China, India, Israel, Italy, and the United Kingdom	Cross-sectional Online survey questionnaire developed by researchers, Demands Scale—Short Version and K6	1.302 China: 514 India: 470 Israel: 202 Italy: 88 United Kingdom: 27	55.4%: male China 54.3%: male India 69.8%: male Israel 73.9%: male Italy 70.4%: male United Kingdom United Kingdom	Mean China $38.70 \pm 8.30$ Mean India $34.90 \pm 9.40$ Mean Israel $47.00 \pm 11.40$ Mean Italy $44.80 \pm 12.50$ Mean United Kingdom $44.70 \pm 9.60$	Fear, subjective overload, distress	n.a.	<p>Mean fear of contract COVID-19: <math>2.5 \pm 0.9</math> China, <math>2.4 \pm 0.9</math> India, <math>2.7 \pm 0.8</math> Israel, <math>2.5 \pm 0.9</math> Italy, <math>3.1 \pm 0.8</math> United Kingdom.</p> <p>Mean fear infect family COVID-19: <math>2.3 \pm 0.9</math> China, <math>2.5 \pm 0.9</math> India, <math>3.0 \pm 0.9</math> Israel, <math>2.8 \pm 0.9</math> Italy, <math>3.1 \pm 0.9</math> United Kingdom.</p> <p>Mean subjective overload: <math>16.1 \pm 4.6</math> China, <math>14.8 \pm 4.8</math> India, <math>14.4 \pm 5.8</math> Israel, <math>15.7 \pm 5.7</math> Italy, <math>18.6 \pm 4.8</math> United Kingdom.</p> <p>5.8% Mean psychological distress: <math>12.6 \pm 4.7</math> China, India 7.7% <math>12.2 \pm 4.2</math> India, <math>12.0 \pm 4.6</math> Israel, <math>12.7 \pm 4.8</math> Italy, Israel 23.3% <math>14.6 \pm 5.0</math> United Kingdom.</p> <p>Italy 4.5% Significant differences among countries for fear of contracting COVID-19 from patients (<math>F = 8.53</math>, <math>p &lt; 0.0001</math>), fear of family contracting COVID-19 (<math>F = 23.25</math>, <math>p &lt; 0.0001</math>), subjective overload (<math>F = 9.09</math>, <math>p &lt; 0.0001</math>) and psychological distress (<math>F = 2.49</math>, <math>p &lt; 0.05</math>).</p> <p>The comparison of correlations between subjective overload and psychological distress across the countries was the highest among Italian dentists in comparison to the Chinese dentists (<math>Z = -2.76</math>, <math>p &lt; 0.01</math>), Indian dentists (<math>Z = -2.09</math>, <math>p &lt; 0.05</math>), and Israeli dentists (<math>Z = -2.45</math>, <math>p &lt; 0.05</math>).</p>	
Shacham et al. [27]	2020	Israel	Cross-sectional Online survey questionnaire developed by researchers, Demands Scale—Short Version and K6	338	58.6% were female	Mean $46.39 \pm 11.18$ Interval 24-74	Fear, subjective overload, distress	n.a.	19.5%	<p>Mean fear of contracting COVID-19 from patients: <math>2.88 \pm 0.88</math></p> <p>Risk of elevated psychological distress: 11.5% of the sample</p> <p>Elevated psychological distress was found among those who have background illness (OR = 3.023 (IC 95%: 1.186–7.705); <math>p = 0.021</math>), fear of contracting COVID-19 from a patient (OR = 2.110 (IC 95%: 1.236–3.603); <math>p = 0.006</math>) and higher subjective overload (OR = 1.073 (IC 95%: 1.010–1.141); <math>p = 0.022</math>).</p>

Tysi�c-Mi�sta et al. [24]	2020	Poland	Cross-sectional Anonymous online survey questionnaire developed by researchers, created using the Google Forms	875	82.5% were female and 17.5% male	Mean 39.10 ± 11.00 Interval 24-75	Fear, anxiety	n.a.	28.8%	71.2% of the respondents decided to entirely suspend their dental practice; of this, 57.6% fear for the health and life of the members of family and 51.2% fear for their health and life. Mean anxiety: 3.61±1.01 Significant difference in the self-reported feeling of anxiety occurred between the group of non-working female dentists and the group of working male dentists (p <0.01).
Stefani et al. [21]	2020	Italy	Cross-sectional Anonymous online survey questionnaire developed by researchers, created using the Google Forms	1500	44.2% were male and 55.8% female	< 30 years: 12.1% 30-39 years: 27.6% 40-49 years: 27.8% Above 50 years: 32.5%	Confidence in being able to work safely, worry about going back to work and consequently being at risk of contagion, worry about the income loss	n.a.	n.a.	Mean confidence at treating a suspected case of COVID-19 (score range 1-10): 2.7 ± 2.2 Mean worry about going back to work and consequently being at risk of contagion (score range 1-10): 7.3 ± 2.2 Mean worry about the income loss of your dental office because of lockdown (score range 1-10): 8.3 ± 2.0 Mean worry about the consequence of income loss for them and/or their family because of lockdown (score range 1-10): 7.9 ± 1.1 Female dentists were less confident at treating a suspected case of COVID-19, more worried with returning to work, more worried with the consequences of income loss for them and / or their family than among male dentists (p <0.05).
Nair et al. [28]	2020	India	Cross-sectional Anonymous online survey questionnaire developed by researchers, created using the Google Forms, PSS and CPDI	586	53.07% were male and 46.93% female	< 25 years: 7.17% 25-35 years: 55.46% 36-45 years: 24.91% Above 45 years: 12.46	Stress and distress	n.a.	n.a.	PSS documented perceived moderate perceived stress (PS) (score 14-26) among 406 (69.28 %) and high PS in 63 (10.75%) respondents CPDI recorded 224 (38.23%) and 80 (13.65%) experienced mild-moderate and severe distress, respectively <b>Scale PSS:</b> Female endodontists (RRR = 2.46, p = 0.01) were significantly associated with an increased risk of high PS as compared to males

Mahendran et al. [20]	2020	China	Cross-sectional Questionnaire printed or digital GAD-7	14	n.a.	n.a.	Generalised anxiety, concern with the impact of COVID-19 on friends and family, personal health, and nature of the disease	n.a.	n.a.	<p>Younger age group (25-35years) individuals were observed to experience increased high PS in comparison with older age group (&gt; 45 years)</p> <p><b>Scale CPDI:</b>  Younger age, particularly among the age group of &lt; 25 (RRR = 9.75; p = 0.002), 25-35 years (RRR = 4.60; p = 0.004) in comparison with &gt; 45 years age and postgraduate students under supervised training (RRR = 0.35; p = 0.02) in comparison with solo practitioners had significantly higher risk of severe distress</p> <p>Specialist employed through only consultations was associated with higher risk for both mild to moderate (RRR = 2.90; p = 0.02)</p> <p>The mean PSS score in phase-1 period (n = 515) was 18.28 ± 6.45 (17.72 - 18.84) while the same after announcement of phase-2 lockdown (n = 71) was 21.18 ± 6.86 (19.56 - 22.81) with the p = 0.0005. For the CDPI, the scores were 30.96 ± 15.85 (29.59 - 32.33) and 36.18 ± 18.87 (31.72 - 40.65) respectively with p = 0.0113</p>
<p>GAD-7: 57.1% none; 21.4% mild; 7.1% severe (14.3% missing data)  Average GAD-7 score based on job role: 4.75</p>										

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GAD-7: 7-item Generalized Anxiety Disorder; FCV-19S: 7-item Fear of COVID-19 Scale; SMDA: 9-item Severity Measure for Depression – Adult; PHQ-4: Patient Health Questionnaire-4 items; K6: 6-item Kessler psychological distress scale; PSS: 10-item Perceived Stress Scale; CPDI: 24-item COVID-19 Peritraumatic Distress Index