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Emotional well-being of dentists and the effect of lockdown during the COVID-19 pandemic: A nationwide study

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Abstract:

BACKGROUND: Lockdown in India might have adverse effects on the emotional health of the dental professionals; hence, the aim of the present study was to determine the impact of various factors on emotional well-being of dental professionals due to the effect of lockdown during COVID-19.

MATERIALS AND METHODS: It was a cross-sectional, descriptive, questionnaire study conducted on dentists in India during April 2020. Sampling technique was convenient sampling, and sampling frame was all the dental professionals in India. The questionnaire was prepared online using Google Forms, and the link was generated which was shared among as many dentists accessible as possible, with the help of message, mails, and WhatsApp. The questionnaire consists of questions on Demographic details, practice, and emotional well-being. A total of 1844 dental professionals in 14 states in India responded. The statistical analysis was done using SPSS version no. 20. IBM SPSS version 20.0 (IBM; Armonk, New York USA) Descriptive statistics and multinomial regression test was applied.

RESULTS: Majority of study participants (1096 [59.4%]) belonged to age group of 26–35 years. Emotional well-being score of 1206 (65.4%) dental professionals in the times of COVID-19 outbreak was poor with score between 26 and 78. It was assessed that males have significantly ($P = 0.00^{**}$) ($P < 0.001^{**}$) (**highly significant) poorer emotional well-being 0.085 (0.829–1.429) compared to females. Married dental professionals – 0.023 (0.011–1.221) had significantly better ($P = 0.05^*$) emotional well-being than others.

CONCLUSION: Emotional well-being score of majority of dental professionals in the times of COVID-19 outbreak was poor. Gender, marital status, socioeconomic status, years of experience, practicing in clinic, and average number of patients seen per month before lockdown have significant impact on emotional wellbeing of dental professionals.

Keywords:

COVID-19, dental professionals, dentistry, emotionalwell-being, lockdown, pandemic, quality of life

Introduction

According to the Mental Health Foundation, emotional well-being is usually defined as: “A positive sense of well-being that enables an individual to be able to function in society and meet the demands of everyday life; people in good mental health have the ability to

recover effectively from illness, change, or misfortune.”^[1]

Emotional well-being is referred to as the emotional quality that an individual experiences.^[2] Emotional well-being is influenced by a variety of economic, demographic, and situational factors. For example, emotional well-being was lowered by 74% on the onset of the COVID-19

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outbreak.^[3] The consequence of reduced emotional well-being are related to mental health concerns such as depression, anxiety, and stress. In turn, contributes to physical health concerns such as sleep disturbances, general lack of energy, and digestive disorders.^[4]

On the bright side, improved emotional well-being contributes to a rise in increasing coping ability, productivity at work, self-esteem, longevity, and performance.^[5]

COVID-19 infection as a mild-to-severe respiratory illness caused by a coronavirus (severe acute respiratory syndrome coronavirus 2 [SARS-CoV2] of the genus beta coronavirus). It is transmitted mainly by contact with infectious material (such as respiratory droplets) or with surfaces or objects contaminated by the causative virus.^[6] It is characterized by fever, sore throat, and shortness of breath which may progress to pneumonia and respiratory failure. COVID-19 infection is caused by a novel coronavirus, SARS-CoV2 that began in Wuhan, China, in late 2019 and spread worldwide.^[7]

Given the widespread transmission of SARS-CoV-2 and reports of its spread to health-care providers, they can also become potential carriers of the disease and are at high risk for nosocomial infection.^[8,9] These risks can be due to the unique nature of dental procedures, which include, aerosol generation, handling of sharps, and proximity of the dentist to the patient's oropharyngeal region.^[10]

The lockdown situation due to COVID-19 infection around the world has affected a large number of dentists in every aspect of their life physically, mentally, and economically. A wave of stress, depression, and psychological breakdown is prevalent among dental professionals with closure of dental practice and no clarity in future about resumption of work.^[11]

Emotions such as fear and anxiety may be correlated with the distressing reports on the COVID-19 pandemic by electronic, social, and print media. Mild anxiety is natural and encourages guarding and defensive behavior.^[12] In the present situation, people with persistent anxiety may dread and are more likely to make irrational decisions and show irrational behavior. Since dentists are on the list of high-risk professions, severe anxiety about the current COVID-19 situation is very much expected to develop. In such a tensed condition, even though^[13] the ADA has published preventive guidelines; the majority of dentists are still in fear and doubt to treat patients.

Due to COVID-19 outbreak, in the past 2 months and above, dental practice in India has come to a halt foreseeing the risk involved. Even after some relaxation

in many states, dentists are given guidelines to restrict their practice to emergency services or consultations only.^[14] This has affected the whole dental fraternity irrespective the sector, in which the dentists are working in every aspect that is socially, economically, and emotionally. Over that, the risk involved in every case due to contagious and asymptomatic nature of this disease has made the situation worse, leading to emotional breakdown. On research front, to the best of our knowledge in India, no study is conducted till now to assess emotional well-being of dental professionals during the COVID-19 outbreak or impact of factors on it. It is very important to determine the factors impacting the emotional well-being of dental professionals so that they can be manipulated to improve their emotional state. Therefore, the aim of the present study is to determine the impact of various factors on emotional well-being of dental professionals due to the effect of lockdown during the COVID-19 pandemic.

Materials and Methods

Study design

The present study was a cross-sectional, descriptive, questionnaire study conducted on dental professionals in India.

Sampling technique

The sampling technique was convenient sampling, and sampling frame was all the dental professionals in India. The study was conducted by six investigators.

Study settings

The questionnaire was prepared online using Google Forms, and the link was generated which was shared among as many dentists accessible as possible, with the help of message, mails, and WhatsApp and then responses were recorded. Reminder messages were also given to increase the response rate. The study was conducted in April 2020. The responses were accepted for 15 days after sharing the link. A total of 1844 dental professionals in 14 states in India responded.

Ethical consideration

Due to lockdown, ethical approval was obtained from ethical committee of R. R Dental College (RR-RD2020145).

Before the start of main survey, a pilot study was conducted on 10% of total sample size to check the validity and reliability of questionnaire. Internal consistency and reliability of questionnaires were measured by applying Cronbach's-Alpha (α) and Test-Retest. The value obtained was $\alpha = 0.91$, Kappa (k) = 0.84 Weighted Kappa (k_w) = 0.87. Those questions with less validity and reliability were removed.

Data collection tool and technique

A questionnaire was prepared to assess the emotional well-being of dental professionals due to the effect of lockdown during the COVID-19 pandemic. It consisted of three parts; first part was about the demographic details of study participants such as age, gender, education, socioeconomic status, religion, marital status, and years of experience. Second part consisted of practice details of study participants which included practicing in clinic or not, average number of patients seen per month before lockdown, nature and type of practice, location of practicing field, and practice closed due to outbreak. Third part consisted of 26 questions on emotional well-being of dental professionals. Responses to these question were assessed on Likert scale ranging from strongly agree – 5, agree – 4, uncertain – 3, disagree – 2, and strongly disagree – 1. The score for emotional well-being ranged from 26 to 130. The score was divided into two categories where in the poor was given a score from 26 to 78 and good was given 79–130 score.

Statistical analysis

Descriptive statistics was used to determine demographic details, practice details, emotional well-being details, and scores. Impact of various factors on emotional well-being of dental professionals due to the effect of lockdown during the COVID-19 pandemic was assessed using Multinomial Logistic Regression model, keeping good emotional well-being as reference category and keeping significance level at 0.001 highly significant and 0.05 as significant.

Results

Response rate of the present study was 84% with 1844 responded to survey out of 2183 respondents.

Table 1 shows that majority of study participants (1096 [59.4%]) belonged to age group of 26–35 years. Male study participants (1280 [69.4%]) were more than the female participants. Hindu Study participants (1481 [80.3%]) were in majority. Most of the study participants (1101 [60.5%]) were having BDS degree. Among specialists dental professionals majority of them belonged to department of Oral and Maxillofacial Surgery (96 [14.93%]). Years of experience among 872 (47.3%) study participants were 1–5 years.

Table 2 shows that, out of all study participants, 1346 (73%) study participants were practicing in clinic and (629 [34.10%]) in private sector. Solo practice (a clinic where single dentist practices) was the trend among 610 (30.20%) study participants. Location of practicing field for 1111 (60.20%) of dental

Table 1: Demographic details of study participants (n=1844)

Demographic variables	n (%)
Age (years)	
26-35	1096 (59.4)
36-45	616 (33.4)
46-55	104 (5.6)
>55	28 (1.3)
Total	1844 (100)
Gender	
Male	1280 (69.4)
Female	564 (30.6)
Total	1844 (100)
Religion	
Hindu	1481 (80.3)
Muslim	170 (9.2)
Christian	45 (2.4)
Others	148 (8.1)
Total	1844 (100)
Marital status	
Married	910 (49.34)
Unmarried	738 (40.02)
Widow/widower	196 (10.64)
Total	1844 (100)
Education	
BDS	1101 (60.5)
Postgraduate	100 (4.6)
MDS	643 (34.9)
Total	1844 (100)
Socioeconomic status	
High	349 (18.92)
Upper middle	889 (48.21)
Lower middle	532 (28.85)
Lower	74 (4.02)
Total	1844 (100)
Specialty	
MDS	
Oral medicine and radiology	82 (12.75)
Oral and maxillofacial surgery	96 (14.93)
Prosthodontics crown and bridge	95 (14.77)
Pedodontics	61 (9.48)
Periodontics and implantology	59 (9.17)
Endodontics and conservative dentistry	95 (14.77)
Orthodontics and dentofacial orthopedics	65 (10.10)
Oral pathology	36 (5.59)
Public health dentistry	54 (8.44)
Total	643 (100)
Postgraduation	
Oral medicine and radiology	4 (4)
Oral and maxillofacial surgery	11 (11)
Prosthodontics crown and bridge	26 (26)
Pedodontics	6 (6)
Periodontics and implantology	7 (7)
Endodontics and conservative dentistry	22 (22)
Orthodontics and dentofacial orthopedics	11 (11)
Oral pathology	4 (4)
Public health dentistry	9 (9)
Total	100 (100)

Contd...

Table 1: Contd...

Demographic variables	n (%)
Years of experience (years)	
1-5	872 (47.3)
6-10	471 (25.6)
11-15	290 (15.7)
>15	211 (11.4)
Total	1844 (100)

Table 2: Practice details of study participants (n=1844)

Demographic variables	n (%)
Practicing in clinic	
Yes	1346 (73)
No	498 (27)
Total	1844 (100)
Average number of patients seen per month before lockdown	
1-10	297 (16.10)
11-20	573 (31.10)
21-30	241 (13.10)
>30	732 (39.70)
Total	1844 (100)
Nature of practice	
Private sector	629 (34.10)
Government sector	534 (29.00)
Academic sector	398 (21.60)
More than one type of sector	283 (15.30)
Total	1844 (100)
Type of practice	
Solo	610 (30.20)
Group	556 (33.10)
Hospital	397 (21.50)
More than one type of practice	281 (15.20)
Total	1844 (100)
Location of practicing field	
Urban	1111 (60.20)
Peri-urban	485 (26.30)
Rural	172 (9.30)
More than one type of location	76 (4.20)
Total	1844 (100)
Practice closed due to outbreak	
Yes	1355 (73.50)
No	159 (8.60)
Only emergency patients	330 (17.90)
Total	1844 (100)

professionals was urban. Practice of majority of study participants (1355 [73.50%]) was closed due to COVID-19 outbreak.

Table 3 shows majority of dental professionals (799 [43.3%]) strongly agree with the statement that coronavirus outbreak in India is a very serious health situation and can be handled with the help of complete lockdown. Most of the dental professionals (941 [51%]) were suffering from anxiety

and depression. Lockdown will have a bad impact on dental practice in future, was the perspective 786 (42.6%) of dental professionals. The main source of information on COVID-19, for majority of study participants (845 [45.8%]), is social media platform or private news channel [Table 3].

Emotional well-being score of 1206 (65.4%) dental professionals in the times of COVID-19 outbreak was poor with score between 26 and 78 [Table 4].

On applying logistic regression model, it was assessed that males have significantly ($P = 0.00^{**}$) poorer emotional well-being 0.085 (0.829–1.429) as compared to females. Married dental professionals -0.023 (0.011–1.221) have significantly better ($P = 0.05^{*}$) emotional well-being than others. Postgraduate students have significantly ($P = 0.00^{**}$) poorer emotional well-being 0.330 (0.752–2.573). Dentists belonging to middle socioeconomic status has significantly ($P = 0.00$) better emotional well-being than lower class. Significantly ($P = 0.00^{**}$) poorer emotional well-being was prevalent among dental professionals with least years of experience 0.411 (0.972–2.340). Emotional well-being of dental professionals working in a clinic was significantly ($P = 0.05^{*}$) poor 0.260 (0.551–1.079). Dental professionals with average number of patients (11–20) seen per month before lockdown were having significantly better emotional well-being -0.123 (0.634–1.233). Emotional well-being of dental professionals working in government sector -0.806 (1.457–3.436) and academic sector -0.839 (1.473–3.637) was significantly ($P = 0.00$) better than others. Dental professionals working in hospitals were ($P = 0.05^{*}$) better emotionally -0.176 (0.431–0.1365) [Table 5].

Discussion

Emotional well-being among dental professionals during COVID-19 in India is an area of concern, which has been not been addressed till now. The main area of concern in the times of COVID-19 outbreak is the health professionals who are the frontline warriors against the deadly diseases and should be taken care of but not at the expense of other health professionals such as dentists, who are at much more risk than health professionals.

With, all resources used at single target of controlling the virus, and researches conducted to support the general health workers, the mental health of dental professionals is being ignored to a large extent, and to add to this situation, fake news in various social media platforms has created confusion, leading to increase in the risk by many folds.

Table 3: Emotional well-being details of study participants (n=1844)

Domain	Strongly agree, n (%)	Agree, n (%)	Uncertain, n (%)	Disagree, n (%)	Strongly disagree, n (%)	No answer, n (%)	Total, n (%)
Q1. Corona virus outbreak in India is a very serious health situation and can be handled with the help of complete lockdown							
Q2. Due to the lockdown, dental professionals in India are not suffering from anxiety and depression	799 (43.3)	156 (8.5)	125 (6.8)	394 (21.3)	370 (20.1)	0	1844 (100)
Q3. As a dental professional I am taking this lockdown as an opportunity to re-energies myself from the busy schedule	52 (2.8)	115 (6.2)	472 (25.6)	941 (51.0)	264 (14.3)	0	1844 (100)
Q4. During the period of lockdown government should not allow dental professionals to practice due to risk of spread of COVID-19 infection	133 (7.2)	294 (15.9)	235 (12.7)	858 (46.5)	324 (17.6)	0	1844 (100)
Q5. Lockdown due to COVID-19 will not have a bad impact on dental practice in future	244 (13.2)	221 (12.0)	167 (9.1)	605 (32.8)	607 (32.9)	0	1844 (100)
Q6. During the lockdown, priority of practicing dentistry has become secondary	80 (4.3)	109 (5.9)	466 (25.3)	786 (42.6)	403 (21.9)	0	1844 (100)
Q7. I shut down my dental clinic, foreseeing the risk of spread of COVID-19 infection and not due to advisory by dental council of India/ministry of health and family welfare	128 (6.9)	335 (18.2)	201 (10.9)	923 (50.1)	257 (13.9)	0	1844 (100)
Q8. I had continued my dental consultation online to help my patients during lockdown	190 (10.3)	299 (16.2)	191 (10.4)	521 (28.3)	286 (15.5)	357 (19.4)	1844 (100)
Q9. At this time, not practicing dentistry is the main contribution of dentist towards containment of this disease	234 (12.7)	278 (15.1)	172 (9.3)	668 (36.2)	492 (26.7)	0	1844 (100)
Q10. During lockdown, I think dentists could also help other health professionals for the containment of COVID-19 infection	296 (16.1)	271 (14.7)	148 (8.0)	586 (31.8)	543 (29.4)	0	1844 (100)
Q11. I think conditions for practicing dentistry in India would be better after the second lockdown	603 (32.7)	288 (15.6)	215 (11.7)	271 (14.7)	467 (25.7)	0	1844 (100)
Q12. During this period of lockdown, I think it is practically impossible for a dental professional to follow all the precautionary guidelines in a private practice	114 (6.2)	210 (11.4)	738 (40.0)	617 (33.5)	165 (8.9)	0	1844 (100)
Q13. Once the lockdown ends, still, there will be a need to follow all the mentioned precautions to start usual dental practice to prevent spreading of infection even after few months	265 (14.4)	699 (37.9)	210 (11.4)	275 (14.9)	395 (21.4)	0	1844 (100)
Q14. During lockdown, I am gathering all information about COVID-19 which can affect the dental practice	411 (22.3)	229 (12.4)	81 (4.4)	431 (23.4)	692 (37.5)	0	1844 (100)
Q15. During lockdown, I am not suffering from anxiety and depression and there is no need for me to follow every message or news regarding COVID-19 on different social media platform	263 (14.3)	336 (18.2)	130 (7.0)	692 (37.5)	423 (22.9)	0	1844 (100)
Q16. The main reason of anxiety or depression among dental professionals is the confusion created by fake news on different social media platform	208 (11.3)	255 (13.8)	282 (15.3)	785 (42.6)	314 (17.0)	0	1844 (100)
Q17. The main source of information for me, regarding the COVID-19 infection, is social media platform or private news channel	210 (11.4)	741 (40.2)	377 (20.4)	269 (14.6)	247 (13.4)	0	1844 (100)

Contd...

Table 3: Contd...

	Strongly agree, n (%)	Agree, n (%)	Uncertain, n (%)	Disagree, n (%)	Strongly disagree, n (%)	No answer, n (%)	Total, n (%)
Q18. The main source of information for me, regarding the COVID-19 infection, is official government sites such as ICMR website and government news channels	192 (10.4)	845 (45.8)	263 (14.3)	294 (15.9)	250 (13.6)	0	1844 (100)
Q19. Being a responsible dentist, I check the genuineness of every news or message regarding the COVID-19 infection, from the specified official sites, before completely relying on it	331 (18.0)	268 (14.5)	171 (9.3)	576 (31.2)	498 (27.0)	0	1844 (100)
Q20. I refrain from forwarding social media messages and news to my fellow dentists as it might not have a genuine content	329 (17.8)	284 (15.4)	152 (8.2)	600 (32.5)	479 (26.0)	0	1844 (100)
Q21. I think, more than the COVID-19 infection, fake news regarding the same is more detrimental to dental professionals and dental practice	314 (17.0)	307 (14.2)	179 (8.3)	609 (33.0)	435 (23.6)	0	1844 (100)
Q22. I think, government is instilling appropriate measures to stop the circulation of fake news regarding COVID-19 infection	289 (13.4)	418 (22.7)	262 (14.2)	599 (32.5)	276 (12.8)	0	1844 (100)
Q23. I think, boycotting all social media platforms completely is no solution to stop circulation of fake news	208 (11.3)	298 (16.2)	320 (17.4)	734 (39.8)	284 (15.4)	0	1844 (100)
Q24. I think, some perceptions regarding the relation between COVID-19 and dental practice, is leading to panic in general public	188 (10.2)	342 (18.2)	260 (14.1)	805 (43.7)	249 (13.5)	0	1844 (100)
Q25. I think, during this health crisis, fake news in social media may be the main reason for the spread of COVID-19 infection	168 (9.1)	300 (16.3)	452 (20.9)	731 (39.6)	193 (10.5)	0	1844 (100)
Q26. I think during this time, being a dentists carries a high-risk either doing only dental check-ups or performing any clinical work	146 (7.9)	189 (10.2)	441 (23.9)	810 (43.9)	258 (14.0)	0	1844 (100)
Q27. During this lockdown situation, as a dentist what one firm belief regarding dentistry or dental practice has changed in you. Please specify minimum words	Earlier I thought dentistry was enough for my finances but now I think a side business too is also the need of the hour I need to take sterilization and disinfection more seriously and follow proper protocol and guidelines which I did not bother to follow before Earlier I thought dentists are safer than other health professionals but now I think dentists are at greater highest risk than any other health professionals I skipped taking proper history of patients before, but now I feel detailed history is as important as the clinical procedure						

ICMR=Indian council of medical research

Table 4: Emotional well-being scores of study participants (n=1844)

Emotional well-being score	n (%)
Good (79-130)	638 (34.6)
Poor (26-78)	1206 (65.4)
Total	1844 (100)

The present study is conducted to evaluate emotional well-being of dental professional and factors impacting it, as due to lockdown for containment of COVID-19 and in times of unlock 1.0. Dental professionals do not get any relaxation which has affected the dentists in India in all aspects, leading to emotional breakdown and decreased working efficiency. Being, not able to work

in stress free environment and seeing the plight of the patients suffering from dental diseases has increased the frustration which should be addressed in proper manner. The study can be used as starting point to focus on this issue.

In the present study, impact of demographic variables on emotional well-being is evaluated as compared to the study by Shacham *et al.*,^[15] in which effect of self-efficacy on psychological stress was determined. Self-efficacy is defined as “people’s judgments of their capabilities to organize and execute causes of action required attaining designated types of performances.”^[16] In association with emotional well-being, self-efficacy can be one of the

Table 5: Multinomial regression analysis to assess the impact of demographic variables on emotional well-being of dental professionals

Emotional well-being subscales Factors	<i>b</i>	Poor emotional well-being	
		95% CI	<i>P</i>
Age group (years)			
26-35	-0.322	0.257-2.044	0.72
36-45	-0.285	0.264-2.139	0.42
46-55	0.433	0.460-5.160	0.65
>55 ^b	0 ^b		
Gender			
Male	0.085	0.829-1.429	0.001**
Female ^b	0 ^b		
Marital status			
Married	-0.023	0.011-1.221	0.05*
Unmarried	0.531	0.477-1.118	0.09
Widow/widower ^b	0 ^b		
BDS			
Yes	1.520	0.031-1.543	0.19
No ^b	0 ^b		
Socioeconomic status			
High	-1.412	1.164-3.256	0.23
Upper middle	-1.434	1.333-6.821	0.001**
Lower middle	-0.082	0.599-1.044	1.49
Lower ^b	0 ^b		
Postgraduate			
Yes	0.330	0.752-2.573	0.001**
No ^b	0 ^b		
Years of experience (years)			
1-5	0.411	0.972-2.340	0.001**
6-10	0.151	0.741-1.827	0.06
11-15	0.110	0.679-1.836	0.89
>15 ^b	0 ^b		
Practicing in clinic			
Yes	0.260	0.551-1.079	0.05*
No	0 ^b		
Average number of patients seen per month before lockdown			
1-10	0.038	0.716-1.506	0.16
11-20	-0.123	0.634-1.233	0.001*
21-30	0.280	0.866-2.023	0.43
>30 ^b	0 ^b		
Nature of practice			
Private sector	0.056	0.637-1.403	0.73
Government sector	-0.806	1.457-3.436	0.001**
Academic sector	-0.839	1.473-3.637	0.001**
More than one type of sector ^b	0 ^b		
Type of practice			
Solo	-0.128	0.583-1.328	0.94
Group	-0.096	0.599-1.378	0.45
Hospital	-0.176	0.431-1.365	0.05*
More than one type of practice ^b	0 ^b		
Location of practice			
Urban	0.321	0.754-2.522	0.94
Peri-urban	0.342	0.740-2.677	0.93
Rural	0.422	0.744-3.125	0.72
More than one type of location ^b	0 ^b		
Practice closed due to outbreak			
Yes	0.008	0.703-1.399	0.70
No	0.265	0.431-1.365	0.22

Contd...

Table 5: Contd...

Emotional well-being subscales	Poor emotional well-being		
	<i>b</i>	95% CI	<i>P</i>
Only emergency patients ^b	0 ^b		

^bPredictor variable, * $P \leq 0.05$, ** $P \leq 0.001$. CI=Confidence interval

important factors which can be evaluated further among dental professionals.

In the present study, a large number of dental professionals has poor emotional well-being, and as no study was conducted among dental professionals in India in our best of the knowledge, the present study is compared to studies in general health workers which shows similar results.^[17] In the present study, male dental professionals had poorer emotional well-being than females, same results were seen in a study by Aboalshamat *et al.*,^[18] conducted among dental students reported that male dental students had higher distress than female. This may be due to the fact that men with COVID-19 are more at risk for worse outcomes and death, independent of age.^[19]

In this study, gender, marital status, socioeconomic status, postgraduation, years of experience, practicing in clinic and average number of patients seen per month before lockdown, and nature and type of practice have significant impact on emotional well-being of dental professionals. Similar results were shown in review article by Spoorth *et al.*^[20] In a study by Shacham *et al.*,^[15] various factors which were significantly associated with increased psychological stress were subjective overload, self-efficacy, and psychological distress scales.

In the present study, the presence of any debilitating diseases was not measured which can be a one of the important factors of poor emotional well-being of dental professionals. The same was reported in a study by Shacham *et al.*^[15]

In the present study, majority of study participants were disagree with the statement that they have gathered all information about COVID-19 which can affect the dental practice. In contrary to this in a study by Ravi *et al.*,^[21] in which it was reported that general dental practitioners have maximum awareness regarding the COVID-19 infection. In an another meta-analysis by Jafari *et al.*,^[22] in which it was concluded that knowledge, attitude, and practice among dentists were high regarding COVID-19 infection.

In a study by Yang and Ma^[3] that is conducted to determine factors that worsens emotional well-being of people including health professionals. In this study, married people with high income has higher level

of emotional well-being which is consistent with the findings in the present study, this may be due to the fact that married people have psychological support from family and cope better in stressful conditions. In this study,^[3] it was quoted that a very less knowledge was present about various factors that have a worsening or protective impact on emotional well-being during an outbreak. It is very important to identify these factors, as they inform policies and interventions aimed at protecting people's psychological well-being in the age of pandemics. Therefore, the present study is an effort to put some light on the same.

Limitation and recommendation

The study was first of its type, during the COVID-19 pandemic, which explored in detail the emotional well-being of the dental professionals, and till now, no study was conducted on the same in Indian Scenario. There is severe paucity of data regarding the same and hopefully it will fill to certain extent the lacunae of knowledge gap. The questionnaire was developed by the investigators after analyzing the personal experiences of a large number of dental professional, which fits to determine the emotional well-being of the dental professionals.

Conclusion

From above, it was concluded that, emotional well-being score of majority of dental professionals in the times of COVID-19 outbreak was poor. Gender, marital status, socioeconomic status, postgraduation, years of experience, practicing in clinic, average number of patients seen per month before lockdown, and nature and type of practice have significant impact on emotional well-being of dental professionals. Further studies are needed among dentists with more factors to be researched in order to improve the emotional well-being.

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Conflicts of interest

There are no conflicts of interest.

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