ORIGINAL ARTICLE

The Psychology of Coronavirus Fear: Are Dentists of Pakistan Suffering from Corona-Phobia?

Muhammad Mansoor Majeed[1]   BDS, MDS

Zohra Saleem[2]   BDS

Huma Sarwar[3]   BDS, MDS

Zoobia Ramzan[4]   MBBS, FCPS

Syeda Naureen Iqbal[5]   BDS, FCPS

Meshal Muhammad Naeem[6]   BDS

OBJECTIVE: The objective of this study is to evaluate the level of anxiety and fear among Pakistani dentists due to COVID-19.

METHODOLOGY: Data of 386 dentists evaluated who responded to the questionnaire sent via social media. Fear of coronavirus scale (FCV-19S) was used for evaluation of fear among Pakistani dentists. Data was entered and analyzed using SPSS version 21. One way ANOVA, chi-square and independent t-test were used for statistical analysis. P-value <0.05 was considered as significant.

RESULTS: The overall mean FCV-19S score was 26.22 ± 4.907, which is on the higher end. Females showed higher fear scores as compared to males (p<0.001). A statistically significant difference between the scores of General Dental Practitioners (GDP) and specialists was also observed (p<0.001), Statistically, a significant difference was observed between all 4 age groups of dentists, young and elderly dentists demonstrating higher scores $(F (3,382) = 8.618, p< 0.001)$.

CONCLUSION: We conclude that due to the current COVID-19 crisis, majority of the dentists of Pakistan are afraid and among them, females, GDPs, young and elderly dentists are found to be more anxious and have a greater fear of getting infected by coronavirus during COVID 19 Pandemic.

KEYWORDS: Anxiety, Fear, Pakistani, Dentist, COVID-19

HOW TO CITE: Majeed MM, Saleem Z, Sarwar H, Ramzan Z, Iqbal SN, Naeem MM. The psychology of coronavirus fear: Are dentists of pakistan suffering from corona-phobia?. J Pak Dent Assoc 2021;30(1):1-6.

DOI: https://doi.org/10.25301/JPDA.301.1

Received: *15 July 2020*, Accepted: *11 November 2020*

INTRODUCTION

A viral respiratory disease that emerged in Wuhan, China by the end of 2019 that turned in to a global pandemic is caused by severe acute respiratory syndrome coronavirus 2 (SARS- CoV-2).

Coronavirus disease 19 (COVID- 19) is a highly contagious disease.[1] In March 2020, the World Health Organization (WHO) declared Coronavirus disease 2019 (COVID-19) a pandemic, affecting over 110 countries and territories globally where the coronavirus illness is present.[2] It can be transmitted by droplet inhalation, coughing, sneezing, and contact with the mucous membranes of the oral cavity, nasal cavity, and eye.[3] Widespread outbreaks of infectious diseases, such as COVID-19, are associated with psychological distress and symptoms of mental illness.[4] Infectious diseases and especially in the case of pandemic, psychological responses emerge. However, it is different in different people.[5]

Healthcare professionals (HCPs) are the most vulnerable group of individuals where fear, anxiety, depression and other psychological symptoms are the common problems due to the direct exposure and interaction with the patients or suspected individuals. Furthermore, studies have reported that workload, lack of protective type of equipments, isolation,

1. Assistant Professor. Department of Oral Biology, Altamash Institute of Dental Medicine, Karachi.
2. MDS-Trainee, Department of Oral Surgery, Dow University of Health Sciences, Karachi.
3. Lecturer, Department of Operative Dentistry, Dow University of Health Sciences, Karachi.
4. Assistant Professor, Department of Psychiatry, Dow University of Health Sciences, Karachi.
5. Assistant Professor, Department of Oral and Maxillofacial Surgery, Dow University of Health Sciences, Karachi.
6. MDS Trainee and Lecturer, Department of Periodontology, Dow University of Health Sciences, Karachi.
Corresponding author: "Dr. Muhammad Mansoor Majeed"
< mmansoormajeed@gmail.com >

and higher rate of infection among HCPs may result in anxiety and fear.[6] A significant element for health care professionals is the fear that relates to COVID-19 exposure and subsequent concern of transmitting the infection to their families.[7,8] A recent study conducted in China demonstrated that more than 70% of HCPs reported moderate to severe fear and 22.6% of medical staff showed mild to moderate anxiety whereas 2.9% had severe anxiety.[9] Moreover, studies conducted after the outburst of the severe acute respiratory syndrome (SARS) also suggested that HCPs are at greater threat of developing anxiety, fear, depression and other psychological issues.[10]

Pakistan is a developing country with limited health care facilities and during the current crisis of COVID-19 many HCPs along with general public in Pakistan have lost their lives.[11] This situation has created fear and anxiety among the HCPs which includes medical doctors, dental surgeons, nurses and other paramedical staff. In the current study. It is reported that dental health care professionals along with the associated staff dental nurses are at the risk of COVID-19 due to routine aerosol-generating procedures in and around the patient's mouth.[12] It has always been challenging for the staff of dental setup to maintain cross-infection control and, especially when doing selected dental procedures that produce aerosols. Due to the nature of dental care surroundings, the hazard of cross-infection is elevated among patients, dentists and their coworkers.[13]

To evaluate the fear among the dentists of Pakistan due to the current pandemic, we conducted this study.

METHODOLOGY

Study Design: It was an online survey-based cross-sectional study conducted in May 2020 during the period of strict lockdown as per government orders to prevent the spread and transmission of the coronavirus.

Sampling: Rao soft was used to determine the sample size. The minimum required sample size was 377 considering 50% response rate, 95% confidence interval (CI), and a 05 % margin of error. A supplementary 05 % (n=19) was added to overcome any flaws or discrepancies in the filling up of the survey form. So the final calculated sample size of 396 dentists of Pakistan was considered.

Study Population: Participants of the current study were the dentists working in different clinics, hospitals and teaching institutes of Pakistan having at least Bachelors of Dental Surgery (BDS) degree and more than 1-year experience. Non Practicing dentists were excluded. Dentists were approached by the Principal investigator and co-

investigators through their personnel contacts as per convenience snowball technique and also recruited through a Facebook group "DENTISTS OF PAKISTAN" with over 6000 dentists.

Questionnaire Design: In the current study, we used a previously validated Fear of Corona Virus Scale (FCV-19S) with Cronbach's alpha value of 0.82, to check the fear among the dentists of Pakistan. The FCV-19S is 7 items measured on five points Likert Scale.[14] The FCV-19S is ranging between 7-35, greater the score, higher the fear. The survey instrument for the current study was comprised of 2 sections; Demographics and FCV-19S. A pilot study was performed on dentists from different cities of Pakistan, to furnish their views and ideas to make the current survey instrument easier and concise. After a detailed and thorough discussion with medical educationists, the current survey instrument was finalized. The reliability coefficient of the survey instrument for the current study was computed using SPP v.21 and Cronbach's alpha was found to be 0.807 which is considered good.

Ethics: Ethical approval was obtained from the ethics and review committee of Altamash Institute of Dental Medicine, Karachi, Pakistan (AIDM/EC/04/2020/04).

Statistical Analysis: Data was downloaded in MS excel and afterwards transferred to SPSS V.21 for analysis. Categorical variables (Gender, Age Group, Category i.e. General Dentist or Specialist) were stated as frequencies and percentages and Qualitative values (Score of FCV -19S) were calculated as mean and standard deviation. To check the significance of demographic characteristics Chi-square test was used. Independent sample t-test was performed to access any difference in FCV-19S among genders and different categories of dentists. Differences in mean fear among different age groups were accessed by one-way ANOVA. A p-value of less than 0.05 considered significant in all tests.

RESULTS

Total of 409 dentists participated in the current study. Due to the discrepancies in the data, analysis of 386 individuals was carried out and data of 23 participants were excluded. The analysis showed that there is a significant difference among genders (X2= 36.073, p <0.001), Age Groups (X2= 350.953, p <0.001) and between the 2 categories of dentists i.e. General Dentist and Specialists ((X2= 269.477, p <0.001). Out of 386 , females were 252 (65.3%), in the 18 to 30 age group 236 (61.7%) participants were present and 265 (68.7%) participants were general dentists.

(Table I).

In Table II the mean levels of central tendencies along

Table I: Demographic Characteristics

Character	Frequency	Percentage	X^2	p-value
Total	386	100.0		
Gender				
Male	134	34.7%	36.073	<0.001
Female	252	65.3%		
Age Group				
18-30	238	61.7%		
31-40	118	30.6%		
41-50	22	5.7%	350.953	<0.001
51 +	8	2.1%		
Category				
General Dentist	265	68.7%	269.477	<0.001
Specialist	121	31.3%		

with skewness and Kurtosis of each item of FCV-19S has been reported. The total mean score of FCV-19S was 26.22 ± 4.907 which is towards the higher side (Table II).

Table II: Item properties of Fear of Coronavirus-19 Scale

	Mean	Std. Deviation	Skewness	Kurtosis
I am most afraid of Corona.	3.68	0.769	-0.185	-0.293
It makes me uncomfortable to think about Corona.	3.80	1.049	-1.060	0.871
My hands become clammy when I think about Corona.	3.97	0.965	-1.249	1.816
I am afraid of losing my life because of Corona.	3.09	1.286	-0.403	-0.873
When watching news and stories about Corona social media, I become nervous or anxious.	3.67	1.109	-1.031	0.615
I cannot sleep because I worry about getting Corona.	4.00	1.005	-1.347	1.934
My heart races or palpitates when I think about getting Corona.	4.01	0.953	-1.276	2.029
Total	26.22	4.908	-0.720	0.455

We performed an independent t-test to find out the mean score among the gender for each item of FCV-19S. We analyzed that females showed higher scores of fear and the difference is highly significant. We further analyzed the difference among genders for a total score of FCV-19S. As per independent t-test, we found a significant t value (t (229.34) = -4.763, p<0.001). The analysis further revealed that males had a lower mean score (M=24.54±5.371) as compared to females (M=27.11 ±4.399). (Table III).

To analyze the statistical difference among 2 categories of dentists i.e. General Dental Practitioner (GDP) and Specialist Dentists (SD), we executed independent t-test. We evaluated that GDP showed higher scores of fear in all the 7 items of FCV-19S and the difference is highly significant (p<0.05). We further analyzed the difference between GDPs and SDs for a total score of FCV-19S. As per independent t-test, we found a significant difference (t (384) =-4.557, p<0.001). The analysis further revealed that GDP had a higher score (M=26.97 ±4.648) as compared to females (M=24.57 ± 5.077). The results show that GDP has more fear of COVID-19 as compared to the SD. (Table III).

Table III: Comparisons between genders and Category on the Fear of Coronavirus-19 Scale

Fear of Coronavirus-19 Scale Items	Gender Mean Score ±SD		T-Scores	p-value	Category Mean Score ±SD		T-Scores	p-value
	Males (n=134)	Females (n=252)			GDP (n=265)	Specialist (n=121)		
I am most afraid of coronavirus-19.	3.55 ±0.74	3.75 ±0.76	-2.43	0.015*	3.74 ±0.74	3.55 ±0.79	2.24	0.022*
It makes me uncomfortable to think about coronavirus-19.	3.46 ±1.20	3.98 ±0.90	-4.45	<0.001 ***	3.98 ±0.97	3.41 ±1.10	4.81	<0.001 ***
My hands become clammy when I think about coronavirus-19.	3.71 ±0.98	4.11 ±0.93	-3.97	<0.001 ***	4.08 ±0.97	3.73 ±1.04	3.22	0.001* *
I am afraid of losing my life because of coronavirus-19	2.81 ±1.31	3.25 ±1.25	-3.15	0.002* *	3.22 ±1.28	2.82 ±1.25	2.86	0.004* *
When watching news and stories about coronavirus-19 on social media, I become nervous or anxious.	3.43 ±1.21	3.79 ±1.03	-2.99	0.003* *	3.78 ±1.07	3.40 ±1.144	3.15	0.002* *
I cannot sleep because I'm worried about getting coronavirus-19.	3.74 ±1.13	4.14 ±0.90	-3.57	<0.001 ***	4.09 ±0.96	3.81 ±1.05	2.56	0.011* *
My heart races or palpitates when I think about getting coronavirus-19.	3.84 ±0.99	4.09 ±0.92	-2.39	0.015* *	4.07 ±0.92	3.86 ±0.99	2.03	0.042* *
Total Score	24.54 ±5.37	27.11 ±4.39	-4.76	<0.001 ***	26.97 ±4.648	24.57 ±5.077	4.557	<0.001 ***

A one-way ANOVA was performed to find out the impact of Age on fear. Participants were divided into 4 age groups: Less than 30 years old, 31 to 40, 41 to 50 and more than 51 years old.

The test revealed that there were significant differences in Total Fear Score of FCV-19S for four different age groups [F (3,382) = 8.618, p< 0,001].The findings also indicate that young adults and elderly people had higher scores on the FCV-19S than middle-aged (Fig I).

Figure 1: Mean of total FCV-19S among different age group
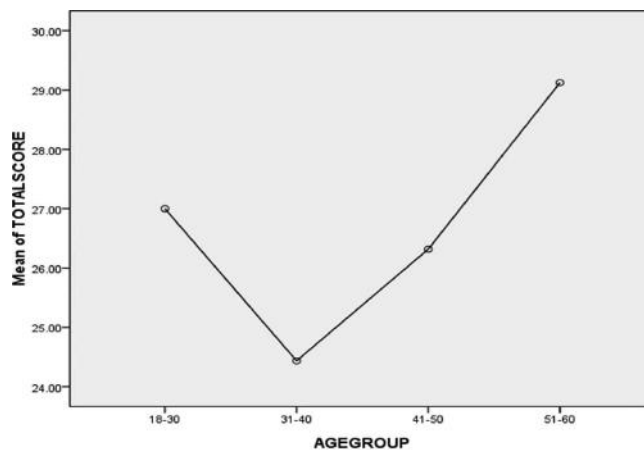
DISCUSSION

In the current study, we observed that the mean fear score. According to FCV-19S was towards the higher side and fear is highly prevalent among the dental professionals of Pakistan. In agreement with our findings a study, conducted on HCPs, observed high fear and anxiety among the dentists as compared to medical doctors and pharmacist.[8] Studies have reported that dental professionals are more prone to infections because of the aerosols generating procedures and confined environment of the dental offices.[15,16] In the current study, we observed that that female dentists are more afraid of these crises and there is a

Majeed MM/ Saleem Z/ Sarwar H/
Ramzan Z/ Iqbal SN/ Naeem MM

The psychology of coronavirus fear:
Are dentists of Pakistan suffering from corona-phobia?

significant difference in all item of FCV-19S as compared to males. This can be elucidated by the fact that women have more burden than men and they are responsible for house chores, take care of the family members and other domestic issues,[17] furthermore females are more sensitive by nature. Moreover, in agreement with our findings, previous studies have also shown higher levels of anxiety among women[18] and female doctors.[19]

Similarly, the current study expressed a higher score of fear in general dental practitioners as compared to the specialist dentist. In accordance with the finding of our study, other studies targeted physicians also showed lower levels of anxiety among the specialists as compared to non-specialist doctors.[20,21] However, an Iranian study has contradictory results.[22] In our opinion, persistent jobs and salaries could be the reason of lower level of fear among the specialists, moreover their capability to buy expensive personnel protective equipments and carry forward the patients to the junior dentist may have a pivotal role. Majeed MM et al have also reported anxiety and stress among the young dentists and postgraduate dental trainees due to the closure of dental outpatient departments and dental hospitals, likewise anxiety is also reported among those dental professionals who are associated with teaching due to online classes.[23]

Similarly the young dentists below the age of 30 years expressed higher anxiety levels as compared to the dentists between the ages of 31 to 50 years. On the other hand dentists above 50 years of age had the highest level of anxiety among all age groups. By the current study findings, another study conducted on the general population in Pakistan reported higher fear among young individuals.[24] Comorbidities and social issues could be the reason for higher FCV-19S score among the dentists above 50 years. The observations and findings of the high level of fear in the current study are consistent with studies regarding the epidemic of SARS and MERS.[25,26] Studies conducted in different parts of the world and in Pakistan about anxiety and fear among the HCPs revealed that HCPs are the most vulnerable group and because of the current COVID-19 pandemic have shown higher levels of stress, anxiety, fear, depression and other psychosomatic problems.[27,28] In another study, primarily targeting the fear among dentists during the current crisis revealed that fear of being infected from the patients or colleagues, transmission of infection to family members, economic and financial insurgencies, panic and anxiety of getting quarantined, etc. are the major factors causing fear among the dentists.[29-31]

The probabilities of getting infected as well as transmission of the disease are highly common from the dental office. The dentist comes under the high-risk zone and the chances of the spread of infection from the hand-piece, ultrasonic scalers, triple syringe, and other aerosol-generating procedures have been reported along with the possibility of transmission of infection to the patient or dentist.[32]

Due to the highly contagious nature of the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), professional dental organizations asked the dentist to stop performing aerosol-generating as well as elective procedures. In a few countries, dental clinics were completely closed and many dentists started giving consultancies from home.[33]

Due to a high level of fear among the dentists of Pakistan, it is mandatory for them to practice coping strategies and if required intervention from psychologists and psychiatrists can be obtained.

We also recommend conducting a longitudinal study facilitate identification of the prevalence of fear, anxiety, depression and other psychological issues.

The strength of this study is the data was collected from all the provinces of Pakistan. There are few limitations in the current study that due to COVID-19 and lockdown we were bound to conduct online survey and results may not be generalized and may have source bias effects.

CONCLUSION

Due to the current crisis dental professionals of Pakistan are in a state of fear. To overcome such issues, government or medical and dental association should arrange sessions with the psychologist and psychiatrists. Moreover during the crisis dentist should only perform the emergency procedures following all the necessary protocols. Furthermore, policies for such pandemics should be made and implemented to prevent or to control the spread.

ACKNOWLEDGEMENTS

CONFLICT OF INTEREST

None

FUNDING

None

AUTHORS CONTRIBUTION

SZ: Initial draft writing, literature search, data collection and final approval of the manuscript. **IN:** Data collection, write up, Critical revision and final approval of the manuscript. **RZ:** Study Concept and design and critically revised and approved the final draft of the manuscript. **SH:** Data collection, write up, tables and figure and final approval of the manuscript. **NMM:** Data collection, statistical work and final approval of the manuscript. **MMM:** Conceived the study, supervised the project and is responsible for the integrity of the research. Comprehensively contributed to Data collection, statistical work, writing of the manuscript and critically revised and approved the final draft of the manuscript.

REFERENCES

1. Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, et al. Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia. New Eng J Med. 2020;382:1199-207.
https://doi.org/10.1056/NEJMoa2001316

2. Montemurro N. The emotional impact of COVID-19: From medical staff to common people. Brain, Behavior, Immunity. 2020;87: 23-4.
https://doi.org/10.1016/j.bbi.2020.03.032

3. Lu C-w, Liu X-f, Jia Z-f. 2019-nCoV transmission through the ocular surface must not be ignored. Lancet. 2020;395(10224): e39.
https://doi.org/10.1016/S0140-6736(20)30313-5

4. Rajkumar RP. COVID-19 and mental health: A review of the existing literature. Asian J psychiatry. 2020:102066.
https://doi.org/10.1016/j.ajp.2020.102066

5. Khalid I, Khalid TJ, Qabajah MR, Barnard AG, Qushmaq IA. Healthcare workers emotions, perceived stressors and coping strategies during a MERS-CoV outbreak. Clin Med Res. 2016;14:7-14.
https://doi.org/10.3121/cmr.2016.1303

6. Kang L, Li Y, Hu S, Chen M, Yang C, Yang BX, et al. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. Lancet Psychiatry. 2020;7:e14.
https://doi.org/10.1016/S2215-0366(20)30047-X

7. Shanafelt T, Ripp J, Trockel M. Understanding and addressing sources of anxiety among health care professionals during the COVID-19 pandemic. J Am Assoc.2020;32:2133-4.
https://doi.org/10.1001/jama.2020.5893

8. Zohra S, Majeed MM, Sara R, Zarah S, Dinaz G, Hira T, et al. COVID-19 pandemic fear and anxiety among healthcare professionals in Pakistan. Research Square
https://doiorg/1021203/rs3rs-37608/v2.

9. Lu W, Wang H, Lin Y, Li L. Psychological status of medical workforce during the COVID-19 pandemic: A cross-sectional study. Psychiatry Res. 2020:112936.
https://doi.org/10.1016/j.psychres.2020.112936

10. Wu KK, Chan SK, Ma TM. Posttraumatic stress after SARS. Emerg Infect Dis. 2005;11:1297.
https://doi.org/10.3201/eid1108.041083

11. Shabbir Hussain JM. Covid-19 infects 10,000 health staff. The Express Tribune. 2020 22nd November.

12. Zemouri C, de Soet H, Crielaard W, Laheij A. A scoping review on bio-aerosols in healthcare and the dental environment. PloS one. 2017;12:e0178007.
https://doi.org/10.1371/journal.pone.0178007

13. Samaranayake LP, Peiris M. Severe acute respiratory syndrome and dentistry: a retrospective view. J Am Dent Assoc. 2004;135:1292-302.
https://doi.org/10.14219/jada.archive.2004.0405

14. Ahorsu DK, Lin CY, Imani V, Saffari M, Griffiths MD, Pakpour AH. The Fear of COVID-19 Scale: Development and Initial Validation. Int J Mental Health Addict. 2020:1-9.
https://doi.org/10.1007/s11469-020-00270-8

15. Tariq R, Hamid H, Mashood S, Tariq Y, Tariq S, Asiri FYI, et al. Common misconceptions regarding COVID-19 among health care professionals: an online global cross-sectional survey. J Oral Res. 2020:36-45.
https://doi.org/10.17126/joralres.2020.049

16. Meng L, Hua F, Bian Z. Coronavirus disease 2019 (COVID-19): emerging and future challenges for dental and oral medicine. J Dent Res. 2020;99:481-7.
https://doi.org/10.1177/0022034520914246

17. Lancet T. The gendered dimensions of COVID-19. Lancet. 2020;395:1168.
https://doi.org/10.1016/S0140-6736(20)30823-0

18. Conklin AI, Guo SX, Tam AC, Richardson CG. Gender, stressful life events and interactions with sleep: a systematic review of determinants of adiposity in young people. BMJ open. 2018;8: e019982.
https://doi.org/10.1136/bmjopen-2017-019982

19. Erdur B, Ergin A, Turkcuer I, Parlak I, Ergin N, Boz B. A study of depression and anxiety among doctors working in emergency units in Denizli, Turkey. Emergency Med J. 2006;23:759-63.
https://doi.org/10.1136/emj.2006.035071

20. Hasan SR, Hamid Z, Jawaid MT, Ali RK. Anxiety among doctors during COVID-19 pandemic in secondary and tertiary care hospitals. Pak J Medical Sci. 2020;36:1360.
https://doi.org/10.12669/pjms.36.6.3113

21. Chatterjee SS, Bhattacharyya R, Bhattacharyya S, Gupta S, Das

S, Banerjee BB. Attitude, practice, behavior, and mental health impact of COVID-19 on doctors. Indian J Psychia. 2020;62:257.
https://doi.org/10.4103/psychiatry.IndianJPsychiatry_333_20

22. Taghizadeh F, Hassannia L, Moosazadeh M, Zarghami M, Taghizadeh H, Dooki AF, et al. Anxiety and Depression in Health Workers and General Population During COVID-19 Epidemic in IRAN: A Web-Based Cross-Sectional Study. medRxiv. 2020.
https://doi.org/10.1101/2020.05.05.20089292

23. Majeed MM, Durrani MS, Bashir MB, Ahmed M. COVID-19 and Dental Education in Pakistan. J Coll Physicians Surg Pak. 2020;30:S115-S7.
https://doi.org/10.29271/jcpsp.2020.Supp2.115

24. Mahmood QK, Jafree SR, Qureshi WA. The psychometric validation of FCV19S in Urdu and socio-demographic association with fear in the people of the Khyber Pakhtunkhwa (KPK) province in Pakistan. Int J Mental Health Addict. 2020:1-11.
https://doi.org/10.1007/s11469-020-00371-4

25. Lee SM, Kang WS, Cho A-R, Kim T, Park JK. Psychological impact of the 2015 MERS outbreak on hospital workers and quarantine hemodialysis patients. Comprehensive psychiatry. 2018;87:123-7.
https://doi.org/10.1016/j.comppsych.2018.10.003

26. Verma S, Mythily S, Chan Y, Deslypere J, Teo E, Chong S. Post-SARS psychological morbidity and stigma among general practitioners and traditional Chinese medicine practitioners in Singapore. Ann Acad Med Singapore. 2004;33:743-8.

27. Alwani SS, Majeed MM, Hirwani MZ, Rauf S, Saad SM, Shah SH, et al. Evaluation of Knowledge, Practices, Attitude and Anxiety of Pakistans Nurses towards COVID-19 during the Current Outbreak in Pakistan. medRxiv. 2020
https://doi.org/10.1101/2020.06.05.20123703

28. Urooj U, Ansari A, Siraj A, Khan S, Tariq H. Expectations, Fears and Perceptions of doctors during Covid-19 Pandemic. Pak J Med Sci. 2020;36(COVID19-S4).
https://doi.org/10.12669/pjms.36.COVID19-S4.2643

29. Ather A, Patel B, Ruparel NB, Diogenes A, Hargreaves KM. Coronavirus Disease 19 (COVID-19): Implications for Clinical Dental Care. J Endod. 2020;46:584-95.
https://doi.org/10.1016/j.joen.2020.03.008

30. Ahmed N, Jouhar R, Adnan S, Ahmed MA. Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Pandemic: A Dilemma for Dental Health Care Professionals. Ann Jinnah Sindh Med Uni. 2020;6:33-4.
https://doi.org/10.46663/ajsmu.v6i1.33-34

31. Ahmed MA, Jouhar R, Ahmed N, Adnan S, Aftab M, Zafar MS, et al. Fear and practice modifications among dentists to combat Novel Coronavirus Disease (COVID-19) outbreak. Int J Environmental Res Pub Health. 2020;17:2821.
https://doi.org/10.3390/ijerph17082821

32. Harrel SK, Molinari J. Aerosols and splatter in dentistry: a brief review of the literature and infection control implications. J Am Dent Assoc. 2004;135:429-37.
https://doi.org/10.14219/jada.archive.2004.0207

33. Uddin KB. Work from home: New routines, unexplored territories, and unexpected shortcomings 2020 [Available from: *https://www.geo.tv/latest/283327-work-from-home-new-routines-unexplored-territories-andunexpected-shortcomings.*