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Original article

COVID-19 pandemic fear among Health Care Professionals in Pakistan

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Abstract.

Objective: We attempted to investigate fear among Health Care Professionals (HCPs) due to COVID-19.

Materials and Methods: This cross-sectional, observational study was conducted during the first wave of COVID-19 in May 2020, in which physicians, dentists, nursing professionals, and pharmacists from different cities of Pakistan were included. A non-probability snowball sampling technique was applied. Previously validated Fear of Corona Virus scale (FCV-19S) was used to assess the fear. The data was analyzed using SPSS 21. $p \leq 0.05$ was considered significant.

Results: Data of 593 participants reported a significant difference in age group, gender, and HCPs ($p \leq 0.05$). More females (62.4%, n=370), participants below 30 years (42.0%, n=249), and higher number of dentist (32.0%, n=190). For the current study, the mean score of FVC-19S was 26.10 ± 5.10. Females reported more fear than males, and a significant difference has been observed among the gender ($t = -3.507$, $p = 0.001$). However, no significant difference was observed among the four categories of HCPs [F= 1.036, the value $p=0.376$].

Conclusion: Fear among health care professionals is highly prevalent due to COVID-19

Keywords: COVID-19, Fear, Doctors, Dentists, Nurses, Pharmacists.

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Introduction

Coronavirus disease 19 (COVID-19) is a pathogenic viral infection that presents as a global public health crisis globally.[1,2] It is highly transmissible and is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).[2] The initial cases of pneumonia of unknown cause were reported in December 2019 to the World Health Organization (WHO) country office in China. According to recent figures, it has affected millions of individuals.[3]

In response to this dire circumstance, certain public policies were introduced by governments globally.[4] These measures include self-quarantine, isolation, and social distancing.[5] Implementing these policies caused the closure of educational institutes, offices, workplaces, public places, and social gatherings. People were advised to stay at home and follow the advice proposed by the WHO to protect themselves and others from the spread of COVID-19. The variations in work routine and isolation have led to feelings of abandonment and helplessness globally. It has also caused heightened insecurity among people due to this pandemic's declining economic and social repercussions.[6] Subsequently, people are concerned about their jobs since firing and unemployment have been initiated in quite a few parts globally.

People may experience disappointment, irritability, and boredom under isolation measures.[7] The communication technologies, facilities and transmission of inaccurate or sensational information may increase unacceptable social reactions such as aggression and rage.[8]

Healthcare professionals (HCPs) are the most vulnerable group of individuals. Not just because of their direct interaction with the patients, HCPs are anxious due to the number of their colleagues who are severely either infected or passed away in a continuous battle of life and death.[9]

A recent study demonstrated that more than 50% of health professionals reported depression, insomnia, and anxiety.[10] In Pakistan, few other studies have been conducted to evaluate the knowledge, anxiety, and fear among physicians, dentists, and nurses.[11, 12] This study aimed to analyze the COVID-19 fear among the HCPs of Pakistan.

Materials and methods

Study Design

This cross-sectional study was conducted during the first wave of COVID-19 in May 2020. According to the World Health Organisation (WHO) health care professional criteria,[13] physicians, dentists, nurses, and pharmacists were included in the current study.

Data Collection

Data were collected online using Google forms via the convenience snowball sampling technique from HCPs working in different healthcare setups in different cities of Pakistan. We included only those HCPs working in Pakistan who had at least a basic degree in their respective fields for the current study. For physicians MBBS, dentists BDS, Pharmacist B-pharm or D-Pharm, and nurses, BScN or at least a diploma in nursing was compulsory. The participation was entirely voluntary. Informed consent was obtained electronically from each participant and they were requested to fill out the online survey form.

Sample Size

The sample size according to Rao Soft (www.raosoft.com) was 593 participants.

Study Instrument The current study used a previously validated Fear of Corona Virus Scale (FVC-19S).[4] The survey instrument was comprised of 2 parts: the first consists of demographic data, including age, gender, city of residence, and profession. The second part comprised seven questions from FVC-19S.

Statistical Analysis Socio-demographic variables were presented as frequencies and percentages. The Chi-square test was applied to determine the difference of variables among the genders. We executed the independent student t-test to find out the differences between mean fear among males and females.

One-way ANOVA was performed to find significance between different categories of HCP and different age groups.the value $p \leq 0.05$ was considered significant.

Results

For the current study, data of 619 HCPs were collected. After scrutinizing, data of 593 HCPs were analyzed. 370 (62.4%) females and 223 (37.6%) male HCPs participated in the current study. In the current study we observed a significant difference among genders ($p \leq 0.001$) age group ($p \leq 0.001$) and HCP category ($\chi 2 = 21.88$, $p \leq 0.001$). (Table 1)

We analyzed that the mean score of FCV-19S for the HCPs was 26.10 ± 5.125. (Figure 1)

Table 1: Demographic characteristics of the study participants

Variable		Total 593 (100%)	Males 223 (37.6%)	Females 370 (62.4%)	*p*-value
Age Group	≤ 30 years	332 (56.0%)	83 (14%)	249 (42.0%)	<0.001
	31-40 years	171 (28.8%)	76 (12.8%)	95 (16.0%)	
	41-50 years	40 (6.7%)	21 (3.5%)	19 (3.2%)	
	51-60 years	24 (4.0%)	19 (3.2%)	5 (0.8%)	
	≥61 years	26 (4.4%)	24 (4.0%)	2 (0.3%)	
Healthcare Professional Category	Dentists	267 (45%)	77 (32.0%)	190 (32.0%)	<0.001
	Physicians	226 (38.1%)	110 (18.5%)	116 (19.6%)	
	Nurses	26 (4.4%)	7 (1.2%)	19 (3.2%)	
	Pharmacist	74 (12.5%)	29 (4.9)	45 (7.6%)	

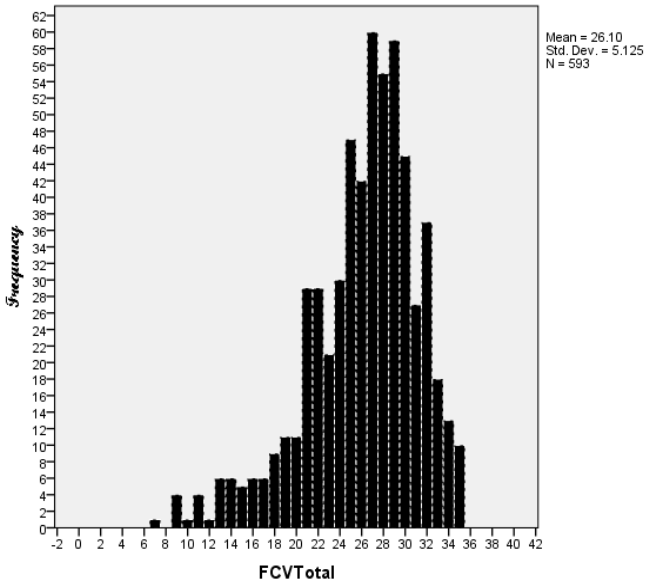

Figure 1: Mean score of FCV-19S among health care professionals

We calculated the mean score among the gender and found that females are more afraid of COVID-19 than males. The mean FVC-19S in females was 26.69 ± 4.746, and the Mean FVC-19S in males was 25.12 ±5.572. According to the independent sample t-test, we observed significant differences among the gender ($t = -3.507$, $p \leq 0.001$, CI -2.44 -0.688).

No significant difference was observed among the age groups [$F(4,588) = 1.441$, $p \leq 0.219$]. However, HCPs between 51- 60 years showed the highest mean score of FVC-19S (27.33 ± 5.75). In the current study, we analyzed that the mean fear score of nurses is more than dentists, physicians, and pharmacists. However, no significant difference was observed among the four categories of HCPs [$F(3,589) = 1.036$, $p \leq 0.376$]. As shown in Table 2.

Table 2: Values of FCV-19S in different study groups.

Demographic character		N	Mean	SD	Min	Max	T¶ or F Ω	*p*-value
Gender	Males	223	25.125	5.572	9.00	35.00	-3.507 ¶	0.001
	Female	370	26.694	4.746	7.00	35.00		
Age group	≤ 30 years	332	26.334	4.901	7.00	35.00	1.441 Ω	0.219
	31-40 years	171	25.391	5.351	10.00	35.00		
	41-50 years	40	26.600	5.386	9.00	35.00		
	51-60 years	24	27.333	5.753	11.00	35.00		
	> 61 years	26	25.961	5.234	13.00	35.00		
Healtcare professional category	Dentists	267	26.292	4.864	9.00	35.00	1.036 Ω	0.376
	Physicians	226	25.809	5.531	7.00	35.00		
	Nurses	26	27.461	3.668	21.00	34.00		
	Pharmacist	74	25.851	5.172	11.00	35.00		

T¶ = Independent Sample t- Test, FΩ =ANOVA

Discussion

We observed that fear is prevalent among the health care professionals of Pakistan due to COVID-19. In the current study, data was collected from more than 30 cities of Pakistan. Mainly the data was from the eight metropolitan cities, including Karachi, Lahore, Islamabad/ Rawalpindi, Multan, Peshawar, Hyderabad, Quetta, and Gujranwala.

In the current study, we analyzed that the mean fear score among Pakistan's nurses is higher than the other pillars of the healthcare industry. Nurses have an intense workload due to comprehensive monitoring, prompt recognition, prevention of several complications, close contact with physicians, and symptomatic and psychological support.[14] Another study performed exclusively on nurses managing the COVID-19 patients in Karachi, Pakistan, exhibited similar results.[15]

Moreover, the results of different studies performed in Pakistan to analyze the anxiety and fear of HCPs during the current pandemic are in accordance with the current study's findings.[11, 16] According to the results of this study, females have more fear and anxiety than males, which is in agreement with the outcome of other studies.[17,18] In contrast to the previous studies conducted in Pakistan on HCP, we have a sufficient number of dentists in the current study. Fear and anxiety among dentists are nearly close to the nurses, Dentists are categorized in the high-riskzone due to aerosol-generating procedures and close contact with the patients.[19] In another study conducted in Pakistan during the first wave of COVID-19 reported that 80% of the dentists are suffering from a dysfunctional state of anxiety.[20] Moreover, due to the closure of dental clinics, teaching hospital dentists and dentistry students are also under stress and fear.[20, 21]

Health care professionals experience a higher chance of exposure risk and face extreme workloads, moral dilemmas, and rapidly varying working environments. However, at the same time, they handle societal shifts and emotional stress experienced by patients.[22,23] Fear among the HCPS is because of the highly contagious nature of the virus. Pakistan is a developing country with limited healthcare facilities; hence there's an immense burden on the health care system during the current pandemic. HCPs being frontline workers, are at a higher risk of disease transmission. They experience a higher chance of exposure risk and face extreme workloads, moral dilemmas, and rapidly varying working environments, but at the same time, they handle societal shifts and emotional stress experienced by patients.[24]Despite the fear of getting infected, HCPs still took up

their charge, focused on their duties, and showed a spirit of dedication and unity during the current pandemic.[14]Past studies reported extraordinary stress among health care providers during the SARS and MERS epidemic due to high infection risk, understaffing, stigmatization and uncertainty, and comprehensive support highlighted during and after the outbreak. [25, 26]

A large percentage of HCPs have a high moderate to severe anxiety prevalence. Similar findings from other countries back up our results.[27] Furthermore, a prior study on the SARS pandemic found that more than half of healthcare personnel were anxious. [28] Knowledge of infection control and protection of personnel skills should be improved among health care providers. Previous studies have shown that the knowledge among the HCPs of Pakistan is satisfactory.[12,29] Hospitals should play a role in providing a safe working atmosphere and providing sufficient protective supplies.[14] Concern about disease transmission to loved ones should be addressed. Health care providers should practice supportive measures such as separating living rooms, immediately showering, and changing clothing after work to reduce anxiety.

Conclusion

Our study concludes that there's a high level of fear among health care professionals in Pakistan during the current pandemic. Considering that stable mental health is essential and plays a significant role in strengthening immunity, specific measures need to be taken to reduce the fear and anxiety level among health care providers.

Ethical approval

Ethical approval was granted from the ethics and review committee of Altamash Institute of Dental Medicine, Karachi, Pakistan (AIDM/EC/4/20/4).

Authors Contribution

1. Z.S: Conceieved and designed the analysis , data collection, Wrote the paper.

2. M.M.M: Conceieved and designed the analysis , data collection, Wrote the paper,contributed data or analysis tools, Performed the analysis,Wrote the Paper.

3. H.T: Data Collection, contributed data or analysis tools,Literature search, Critical Analysis.

4. A.M: Data collection,contributed data or analysis tools, wrote the paper.

5. Z.J.A:.Data collection,contributed data or analysis tools,critical analysis.

6. D.G: Conceieved and designed the analysis,data collection, critical analysis.

7. Z.S: Data collection, contributed data or analysis tools.

8. S.R: Data Collection, literature search .

Conflict of Interest no

The preprint is available at https://assets.researchsquare.com/files/rs-37608/v2/e7b62fa4-6fda-480a-b76d-013d2bb6ed62.pdf?c=1631847760

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References

1. Shereen MA, Khan S, Kazmi A, Bashir N, Siddique R. COVID-19 infection: Origin, transmission, and characteristics of human coronaviruses. Journal of advanced research. 2020;24:91-8.

2. Singhal T. A review of coronavirus disease-2019 (COVID-19). The indian journal of pediatrics. 2020;87(4):281-6.

3.WHO. Weekly operational update on COVID-19 - 30 November 2021. 2021.

4. Ahorsu DK, Lin C-Y, Imani V, Saffari M, Griffiths MD, Pakpour AH. The fear of COVID-19 scale: development and initial validation. International journal of mental health and addiction. 2020:1-9.

5. Anderson RM, Heesterbeek H, Klinkenberg D, Hollingsworth TD. How will country-based mitigation measures influence the course of the COVID-19 epidemic? The lancet. 2020;395(10228):931-4.

6. Ornell F, Schuch JB, Sordi AO, Kessler FHP. "Pandemic fear" and COVID-19: mental health burden and strategies. Brazilian Journal of Psychiatry. 2020;42(3):232-5.

7. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. The lancet. 2020;395(10227):912-20.

8. Wang Y, McKee M, Torbica A, Stuckler D. Systematic literature review on the spread of health-related misinformation on social media. Social Science & Medicine. 2019;240:112552.

9. Erdem H, Lucey DR. Healthcare worker infections and deaths due to COVID-19: A survey from 37 nations and a call for WHO to post national data on their website. International Journal of Infectious Diseases. 2021;102:239.

10 .Bo H-X, Li W, Yang Y, Wang Y, Zhang Q, Cheung T, et al. Posttraumatic stress symptoms and attitude toward crisis mental health services among clinically stable patients with COVID-19 in China. Psychological medicine. 2020:1-2.

11.Urooj U, Ansari A, Siraj A, Khan S, Tariq H. Expectations, fears and perceptions of doctors during Covid-19 pandemic. Pakistan journal of medical sciences. 2020;36(COVID19-S4):S37.

12. 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. International journal of environmental research and public health. 2020;17(8):2821.

13. Organization WH. Transforming and scaling up health professionals' education and training: World Health Organization guidelines 2013: World Health Organization; 2013.

14. Liu Q, Luo D, Haase JE, Guo Q, Wang XQ, Liu S, et al. The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. The Lancet Global Health. 2020;8(6):e790-e8.

15. Alwani SS, Majeed MM, Ramzan Z, Rauf S, Syed MS, Shah SH, et al. Evaluation of Knowledge, Practices, Attitude, and Anxiety of Nurses towards COVID-19 during the Current Outbreak in Karachi, Pakistan. Pakistan Journal of Public Health. 2020;10(2):82-90.

16. Amin F, Sharif S, Saeed R, Durrani N, Jilani D. COVID-19 pandemic-knowledge, perception, anxiety and depression among frontline doctors of Pakistan. BMC psychiatry. 2020;20(1):1-9.

17. Rajkumar RP. COVID-19 and mental health: A review of the existing literature. Asian journal of psychiatry. 2020;52:102066.

18. Rapp M, Kaiser M, Grauel F, Gielok C, Illing P. Femoral shaft fractures in young children (< 5 years of age): operative and non-operative treatments in clinical practice. European Journal of Trauma and Emergency Surgery. 2016;42(6):719-24.

19. Ather A, Patel B, Ruparel NB, Diogenes A, Hargreaves KM. Coronavirus disease 19 (COVID-19): implications for clinical dental care. Journal of endodontics. 2020;46(5):584-95.20. Majeed MM, Sarwar H, Ramzan Z. The Psychology of Coronavirus Fear: Are Dentists of Pakistan Suffering from Corona-Phobia? JPDA. 2021;30(01).

21. Majeed MM, Durrani MS, Bashir MB, Ahmed M. COVID-19 and Dental Education in Pakistan. J Coll Physicians Surg Pak. 2020:115-7.

22. Chen Q, Liang M, Li Y, Guo J, Fei D, Wang L, et al. Mental health care for medical staff in China during the COVID-19 outbreak. The Lancet Psychiatry. 2020;7(4):e15-e6.

23.Chen K-Y, Yang C-M, Lien C-H, Chiou H-Y, Lin M-R, Chang H-R, et al. Burnout, job satisfaction, and medical malpractice among physicians. International journal of medical sciences. 2013;10(11):1471.

24. Shanafelt T, Ripp J, Trockel M. Understanding and addressing sources of anxiety among health care professionals during the COVID-19 pandemic. Jama. 2020;323(21):2133-4.

25. Lee SM, Kang WS, Cho A-R, Kim T, Park JK. Psychological impact of the 2015 MERS outbreak on hospital workers and quarantined hemodialysis patients. Comprehensive psychiatry. 2018;87:123-7.

26. Maunder R, Hunter J, Vincent L, Bennett J, Peladeau N, Leszcz M, et al. The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. Canadian Medical Association Journal. 2003;168(10):1245.

27. Cai H, Tu B, Ma J, Chen L, Fu L, Jiang Y, et al. Psychological impact and coping strategies of frontline medical staff in Hunan between January and March 2020 during the outbreak of coronavirus disease 2019 (COVID-19) in Hubei, China. Medical science monitor: international medical journal of experimental and clinical research. 2020;26:e924171-1.

28. Mak IWC, Chu CM, Pan PC, Yiu MGC, Chan VL. Long-term psychiatric morbidities among SARS survivors. General hospital psychiatry. 2009;31(4):318-26.

29. Saqlain M, Munir MM, Rehman SU, Gulzar A, Naz S, Ahmed Z, et al. Knowledge, attitude, practice and perceived barriers among healthcare workers regarding COVID-19: a cross-sectional survey from Pakistan. Journal of Hospital Infection. 2020;105(3):419-23.

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