Contributors and potential solutions to professional burnout amongst dental surgeons of Islamabad: A mixed method study

Saba Masoud[1], Anbreen Aziz[2], Sheze Haroon Qazi[3], Hajra Shahid[4], Rubina Mumtaz[5]

Abstract

Objective: To assess professional burnout among dentists in an urban setting of Islamabad using Maslach Burnout Inventory, alongside conducting their semi structured interviews to investigate the contributors and potential management strategies over a period of six months.

Method: The observational, mixed method study was conducted at a tertiary care teaching hospital in Islamabad, Pakistan, from January to June 2024, and comprised fulltime faculty members from two other private dental teaching hospitals in the city having a minimum of three years of professional experience. Maslach Burnout Inventory, comprising emotional exhaustion, depersonalization and personal accomplishment components, was shared online with the subjects. Subsequently, semi-structured interviews were conducted with those who were filtered to be burnout cases. Qualitative data was subjected to thematic analysis.

Results: Of the 36 subjects, 8(22.2%) with age ranging 31-55 years were found to be burnout cases in two out of three categories; 6(75%) females and 2(25%) males. All the 8(100%) subjects were involved in both clinical and academic pursuits. Qualitative data led to the emergence of 8 major themes; excessive workload, weak employee-employer relationship, lack of resources, lack of monetary benefits, lack of acknowledgement, disturbed work-life balance, administrative issues, and pressure to deliver.

Conclusion: Healthcare institutions should strive to provide a supportive and sustainable environment for professionals, and implement interventions that may enhance their wellbeing. This will ultimately improve work efficiency.

Key Words: Professional burnout, Qualitative research, Maslach burnout inventory, Emotional exhaustion, Depersonalisation.

(JPMA 75: 1549; 2025) **DOI: https://doi.org/10.47391/JPMA.21393**

Introduction

Professional burnout is a multifarious psychological syndrome caused by chronic workplace stressors.[1] Chronic stress emerging from harsh work environment gives rise to backlash at individual and social levels, leading to a negative reaction. There may be underlying personal reasons to this negative reaction, but most commonly it is attributed to external work-related factors.[2] Mostly, it is observed in those whose occupation involves daily interactions with other people, like personnel related to health and education sectors, making individuals, including dentists, vulnerable.[3] In addition to pushing the individual to the brink of suicide, professional burnout indirectly impacts healthcare facilities and organisations. This leads to substandard

[1,3,4] Department of Community Dentistry, Islamabad Medical & Dental College, Islamabad, Pakistan. [2] Department of Medical Education, HBS Medical and Dental College, Islamabad, Pakistan. [5] Department of Community Dentistry, Rawal Institute of Health Sciences. Islamabad, Pakistan.

Correspondence: Saba Masoud. **Email:** dr.sabamasoud@gmail.com
ORCID ID: 0000-0002-8421-0149

patient care, financial setbacks, and other negative ramifications.

The process of burnout is imperceptible, and occurs gradually, moving from low to moderate to high levels. The Maslach Burnout Inventory (MBI), a psychological assessment tool, categorises occupational burnout into three dimensions; emotional exhaustion (EE), depersonalisation (DP) and personal accomplishment (PA).[4] EE involves the feeling of constant fatigue, lacking strength and feeling physical and emotional exhaustion. DP describes a sense of disengagement, irritability, bad mood and lack of empathy. If left untreated, it can progress to the PA phase that is characterised by poor performance, bad attitude, depression, poor social relationships or social isolation.[4]

A 2021 systematic review noted that the overall prevalence of burnout syndrome in dentists is 13%.[5] Studies from the United States, Germany and China have reported the prevalence of burnout among surgeons to be 40%, 48.7% and 85.1%, respectively.[6] Apart from having high burnout prevalence, surgeons also have one of the highest suicide rates, and they have been reported

to be the least likely to seek professional help.[7] The situation is not any different in Pakistan, with numerous studies revealing that professional burnout is prevalent among Pakistani healthcare workers,[8, 9] indicating the need to explore the reasons behind it with the aim of effectively combatting the rising levels of burnout. The current study was planned to assess professional burnout among dentists in an urban setting.

Subjects and Methods

The observational, mixed method study was conducted at a tertiary care hospital in Islamabad, Pakistan, from January to June 2024 after approval from the institutional ethics review board.

Full-time working faculty from all private dental teaching hospitals in the city having a minimum of three years of professional experience and holding the post of assistant professors or above were included using the complete enumeration method. They were requested to fill out the MBI questionnaire[4] which was sent online. For the qualitative part, purposive sampling technique was used to include those who showed burnout signs on the basis of responses to MBI. Those who did not reply to the email to set time for the interview were excluded.

The reason for choosing complete enumeration was to ensure that no potential cases of burnout were overlooked. Besides, the online questionnaire served as a comprehensive screening tool rather than a standalone quantitative analysis. This method allowed for more reliable data, ensuring that the subsequent qualitative interviews with those identified as burntout cases were both meaningful and representative of the broader population.[10]

The Google Form consisting of MBI and a consent statement was distributed through the institutional WhatsApp group of the participating teaching hospitals of Islamabad. It also notified that those who will have high burnout scores would be contacted later for individual interviews.

The three components of MBI comprised 22 questions; 7 each for EE and DP, and 8 for PA. The questions were scored on a 7-point scale, ranging from 0 = never to 6 = every day, which basically described the frequency of burntout feeling. Higher scores indicated more severe burnout in EE (>32) and DP (12), while a lower PA score (<33) indicated higher burnout[4].

Analysis of the quantitative data was done alongside to label burnout cases. Those who showed burnout in two of the three categories were preferred, followed by those showing burnout in one of the three categories for the

interviews. By utilising an interview guide, in-depth semi-structured interviews were conducted side by side by the primary researcher on WhatsApp calls in the evening time to avoid any bias pertaining to work-related stress. An informed consent was taken before starting the interview. The interview guide had interview protocols (audio recording and side notes) and open-ended interview questions which were constructed by utilizing few steps from the seven-step process provided by Association for Medical Education in Europe (AMEE) Guide no 87.[11] The steps utilized were conducting of literature search, item development, expert validation (three medical education experts), conducting of pilot testing (two burnout cases which were not included in the final analysis).[1,6] The open-ended questions basically explored how the individuals felt at their workplace, what were the contributing factors to their burnout, what possible solutions could they come up with, and how burnout could be avoided for the new inductions at healthcare facilities. All the interviews were audio-recorded and later transcribed verbatim. The transcripts were anonymised before data analysis. The data was analysed by an approach to thematic analysis provided by Braun and Clark.[12] All researchers analysed the data independently to promote the element of research rigour, to reduce personal bias, and to achieve multiple perspectives to get rich description of the themes.[13] Initially, the researchers familiarised themselves with the data by reading and re-reading carefully, and in-vivo analytic codes were developed in the first coding cycle. The codes were then arranged to form subthemes. The second cycle of coding comprised discussion among all the researchers regarding the subthemes, and consensus was generated before finalising the themes.

Quality assurance parameters in the current study were in line with literature regrading naturalistic studies.[14] The strategies included sending the interview transcripts to the respective participants for member checking to ensure credibility.[15]

Results

Data saturation was achieved during iterative collection and analysis at participant no. 36, from two more institutions of the city, indicating a response rate of 33%. Literature suggests that a 30-40% response rate in organisational research, like healthcare settings, is common, but on sensitive topics, like the current one, the response rate can be compromised.[16]

Of the 36 subjects, 8(22.2%), with age ranging 31-55 years, were found to be burnout cases in two of the three categories; 6(75%) females and 2(25%) males. All the 8(100%) subjects were involved in both clinical and

Table-1: Descriptive characteristics of the participants (n=8).

Participant number	Level of burnout in EE	Level of burnout in DP	Level of burnout in PA	Age group (years)	Gender	Designation	Type of responsibility
01	High	High	low	31-35	M	AP	Clinical and academia
02	Moderate	High	high	31-35	F	AP	Clinical and academia
03	Moderate	High	high	31-35	F	AP	Clinical and academia
04	Moderate	moderate	high	36-40	F	Professor	Clinical and academia
05	Moderate	moderate	high	41-45	M	AP	Clinical and academia
06	Moderate	moderate	high	51-55	M	Associate	Clinical and academia
07	Low	moderate	high	51-55	M	Associate	Academia
08	High	moderate	moderate	51-55	M	Professor (Part of administration too)	Clinical and academia

EE: Emotional exhaustion, DP: Depersonalisation, PA: Personal accomplishment.

Table-2: Causes of professional burnout.

Subthemes	Participant Quotations
Theme 1: Excessive workload	
Excessive paperwork/ Irrelevant Multitasking	"They want us to do irrelevant work; make schedules, update timetables & student attendance, task of audit or clerical departmental work." (P# 3)"The paperwork is too much, too many extra responsibilities." (P# 5) "We have to look after a lot of student committees and co-curricular activities." (P# 1)"I am in a rush all the time because I have to meet multiple tasks in a day." (P# 2)"I assume, I work in place of 10 people. Although it is not directly related to us but if any student comes to us, we have to counsel him/her, we have to do the catharsis and we have to boost them up because we are sitting in the fore front." (P# 8) "One line, very generic, is added to the job description at the end saying, 'task assigned by the higher management has to be done'. Now that bracket is so elaborative." (P# 8) "I have communicated multiple times verbally as well as in the written form that please free me from the administrative tasks and let me work in my clinical department only." (P# 8)
Untrained support staff	"Untrained assistants are hired, and we have to train them first." (P# 3)
Lack of relaxation time	"Faculty is discouraged to sit together at the morning tea which is suffocating. Having tea together might help them discuss things and relax." (P# 4)
More working hours per week	"The working hours should be a little less than what we have and Saturdays should be off." (P# 2)"Saturdays should be off" (P# 3)
Theme 2: Weak employee-employer relationship	
Trust on the employee	"There should be a little bit trust on the employee that the decision they are making would be okay according to the circumstances." (P# 3)
No feeling of ownership	"We have no feeling of ownership that we belong to the organisation or not." (P# 3)
Communication gap	"If I demand for certain things which can enhance my department's efficiency, demands are not fulfilled." (P# 5)"We are not getting the right demand fulfilled at the right time." (P# 2)"We addressed higher administration about all these problems but no solution yet." (P# 1)"There is no formal mode of communication, and I don't see any way to communicate with seniors and administrators and no one takes feedback from you." (P# 7)
Theme 3: Lack of resources	
Lack of human resource	"There is less manpower in the department, less people have more responsibilities." (P# 2)
Lack of good quality material and equipment	"Quality of clinical work depends on the quality of material; low quality material can challenge my expertise." (P# 3)"Dental units need a lot of improvement. Moreover, we don't have high speed internet at our workplace which badly hinders our work." (P# 1)"Sometimes the units are not working properly, materials are not provided, lack of proper internet and audiovisual resources. All these things waste a lot of energy." (P# 2)
Infrastructure	"Offices as well as lecture halls are not well-equipped." (P# 1)"We don't have any proper offices here. There is no cafeteria and washrooms are also bad." (P# 4)"We don't have proper sitting space, don't have a relaxation time like for coffee tea etc., no breathing space, natural light & fresh air. All that is due to lack of purpose-built buildings." (P# 8)

Continuued from previous Page...

Theme 4: Lack of monetary benefits	
Lack of annual appraisals and incentives	"I didn't care about my salary before but now I have started to think about it. It may be due to inflation. I use college transport and its charges are increasing regularly every year whereas the salary is not. If they are taking extra work from the faculty, there should be an incentive for it." (P# 4) "The salaries are not in accordance with our input." (P# 1)
Theme 5: Lack of acknowledgement	
Lack of acknowledgement	"I think reward/acknowledgement does not reciprocate with the efforts I put in." (P# 5)"The input I'm giving at my workplace in terms of teaching/ treating the patients, I am not getting the right reward." (P# 1)
Theme 6: Disturbed work-life balance	
Compromised family time	"Being engaged in so many things, we end up doing some tasks at home which compromises our family time. We have to check thesis, research work, make MCQs etc. We can't do them in the morning therefore we all end up doing it in our family time." (P# 8)
Theme 7: Administrative issues	
Undue strictness	"Undue strictness is not a minor issue, perhaps it is a major contributor to my burnout." (P# 6)"Seniors here assert authority on people below them, ridicule them a little bit once a week, so that the juniors remain in pressure forever." (P# 7)
Lack of training	"They don't have an education in administration, or anything related to management. The system is running on the basis of their experiences, folklore, folk wisdom, personal like/dislike, and personal experiences from life. The lessons they have learned from life, they are only applying those on us." (P# 7)
Lack of support	"Whenever there is an issue, the administration has never been there." (P# 4)
Theme 8: Pressure to deliver	
Peer pressure	"There is peer pressure because I guess everybody has different sets of responsibilities, but they are being compared like apples and oranges. (P# 2)
No Job security	"It is a private job that too without any job security, makes you bound not to say no. Many times, you absorb all that stuff and continue." (P# 8)

Table-3: Strategies suggested to overcome professional burnout.

Subthemes	Participant Quotations
Theme 1: Balancing workload	
Equal distribution of workand implementation of job description	"They should hire more people to distribute that workload." (P# 2)"Workload should be equally distributed among the faculty members. Extra departmental responsibilities should be equally distributed." (P# 5)"Administration should involve faculty equally in everything especially in co-curricular activities." (P# 4)"People should be assigned work based on their qualifications e.g. if we have done FCPS we are supposed to do clinical work, so engage us in clinical work don't engage us in clerical work." (P# 3)"We should be given a job description so that we know beforehand that our job entails these things. There should be no hidden agendas or hidden tasks that you find out after joining." (P# 2)"There should be no multi-tasking and only relevant work should be allotted." (P# 8)"Job description should not be given just for the sake of formality. It should be documented and then it should be acted upon." (P# 7)
Training of the support staff	"Trained staff should be hired" (P# 2)"Proper training should be given to the staff after hiring." (P# 3)
Incorporation of break time	"Break time should be given to the workers, to let them breathe." (P# 8)"There should be recreational trips for faculty at least once in six months." (P# 4)
Five working days	"If the working days are five days in a week, then one can have work life balance and it might reduce burnout." (P# 2)"The sign-in and sign-out timings should be flexible. If we sign out one minute before the time to sign out, they deduct our salary." (P# 1)
Theme 2:Improving employee-employer relationship	
Open communication and anonymous employee feedback system	"One should get an opportunity for open communication where we can openly communicate with our superiors, without the fear of being judged or peer pressure." (P# 2)"Administration should listen to what the faculty has to say." (P# 4)"There should be some form of anonymous employee feedback system, where one could say something anonymously." (P# 7)
Theme 3: Sufficient resources	
Hiring of required faculty	"At least the minimum required faculty should be hired so that workload can be distributed." (P# 5)
Provision of required material and equipment with its maintenance	"The designated workplace should provide enough resources such as material, space, units should be working, things should have regular maintenance, audiovisual aids are required for teaching, internet is required, these things should be provided." (P# 2)A lot of activities are dependent on the internet in modular academic system. Availability of speedy internet should be assured. (P# 1)

Continued from previous page...

Facilitation of Infrastructure audiovisual aids	"Facilities of infrastructure should be improved." (P# 5)"There should be a better multimedia or projector over there for the better delivery of our lectures. Moreover, there should be a proper mic installed in the lecture rooms." (P# 1)"If our organisations spend all the money intended to be spent on the organisation, actually on the organisation, maybe things get balanced out." (P# 8)
Theme 4: Monetary benefits	
Annual appraisals and revision of pay scale	"Fixed pay package for every scale should be offered. There should be no discrimination. There should be annual increments too." (P# 5)"The pay scale should be revised, and we should have like...yearly increments as well." (P# 1)
Theme 5: Acknowledgement	
Acknowledgement	"Any faculty member who is giving the input in anything should be given due acknowledgement." (P# 5)
Theme 6: Balancing work-life	
Counseling sessions for faculty	"If the workplace could provide a counsellor for the workforce, then eventually it will benefit the workplace itself, because people will come more happily (to work)." (P# 2) "Ideally, clinical psychologists should be there to counsel the students and the faculty." (P# 8)
Theme 7: Good Administration	
Friendly workplace	"Unnecessary strictness and round the clock implementation of a particular mindset should be avoided." (P# 6)"The workplace should be comfortable enough for the faculty; they should not get the student vibes after all those years of hard work and study." (P# 2)
Training for people in administration	"Every person on the administrative level should be trained for administration." (P# 7)
Lack of support	The administration should support the faculty and the employees should be heard. (P# 4)
Theme 8: Job Security	
Job security	"I wish people have job security that they don't have to accept any undue thing or task." (P# 7)Only provision of job security can make the employees feel relaxed (P# 9)

academic pursuits (Table 1). Besides, 11(30.6%) subjects had burnout in one of the three categories; 7(63.6%) females and 4(36.4%) males. Among them, 6(54.5%) were associated with both clinical and academic activities, while 5(45.5%) were involved in academic activities alone.

Qualitative data led to the emergence of 8 major themes; excessive workload, weak employee-employer relationship, lack of resources, lack of monetary benefits, lack of acknowledgement, disturbed work-life balance, administrative issues, and pressure to deliver. These themes had 18 subthemes (Table 2). With respect to the solutions identified by the respondents, there were 8 themes with 15 subthemes (Table 3).

The participants attributed several key factors contributing to their condition. These included tasks outside their job descriptions (JDs), such as administrative duties and irrelevant paperwork, as well as undue administrative strictness. Additionally, the lack of purpose-built facilities and resources was a significant issue. Inadequate infrastructure meant that lecture halls were not well-equipped, employees lacked comfortable seating areas to perform at their best, and essential amenities, such as cafeterias and restrooms, were insufficient. Resource shortages further compounded these problems, with institutions being understaffed, and support staff inadequately trained. The participants also experienced the lack of smoothly functioning dental units, equipment and materials as contributing factors. Moreover, the absence of recognition, annual appraisals, and other incentives significantly impacted morale. The excessive workload led to a poor work-life balance among the participants, exacerbating their burnout.

The participants suggested several measures to address the issue of excessive workload and improve overall working conditions. Firstly, strict implementation of JD was recommended with an equal distribution of tasks. Ensuring adequate resources was crucial, including hiring the necessary faculty and adequately training support staff. High-quality equipment and materials should be consistently provided and maintained. The participants emphasised the importance of providing proper sitting and working spaces to maximise output. Improving infrastructure with better audio-visual aids was also suggested. The construction of purpose-built buildings was seen as a comprehensive solution to many of these challenges.

Reducing the number of working days to five, and introducing flexible working hours would help accommodate unforeseen domestic commitments. Open communication channels with superiors free from fear of retribution, having morning tea with colleagues etc., should be encouraged. Implementing a system for collecting anonymous employee feedback would be beneficial. Annual appraisals and regular revision of pay

scales should be instituted, and employees should receive appropriate recognition for their work.

The inclusion of a counsellor, ideally a clinical psychologist, was recommended to support both students and employees. Unnecessary strictness should be avoided, fostering a friendly and supportive workplace environment. Additionally, thorough training for all administrative personnel was essential to ensure they actively supported employees and genuinely addressed their concerns and suggestions.

When asked how the new inductees could be prevented from experiencing burnout, the participants particularly suggested that seniors should be welcoming and accommodating.

Discussion

The current study aimed at achieving two goals: to investigate the primary factors contributing to dentists' burnout, and to understand how it can be managed in their work environment. The results revealed that dentists encounter a multitude of stressors, stemming from both the inherent demands of their profession and interpersonal / organisational challenges, like insufficient resources, multitasking, lack of monetary benefits, lack of purpose-built campuses, work-life and effort-reward imbalances, etc. None of the participants had any issues related to patient outcomes or increased patient flow, managing anxious or difficult patients, taking lectures, demonstrations, etc. which are supposed to be a regular part of their professional commitments at their workplaces. The study also revealed various strategies that they could employ to cope with burnout, such as seeking social support, provision of needful resources, having morning tea with the colleagues, provision of counselling facility to the faculty, incentives and acknowledgement for extra tasks and recreational trips, etc.

None of the study participants pointed out anything related to patients as a contributor to their burnout. This aligns with a cross-sectional study which concluded that each additional work hour increases the compassion satisfaction instead of exposing them to burnout.[17] However, what the current study found was that relationships and constant need of communication among professionals and patients played an essential role in dentists' burnout. The current findings are consistent with the literature, where interpersonal conflicts appear to be the primary factor explaining a significant portion of the variance in mental health outcomes.[18] Responsibilities in addition to patient-care, such as documentation, interpersonal dealings and the substantial workload, are

significant contributors to dentist burnout, a fact well-documented in the literature, with irrelevant workload being the most consistent contributor.[6]

Achieving work-life balance was found to be a challenge for the current participants pertaining to extended work days and hours. The demanding nature of the healthcare profession, coupled with extensive responsibilities, often disrupts work-life balance, further exacerbating the risk of burnout.[19] The lack of resources, including human resource and quality of technical equipment and instruments, was also labelled as the leading contributor to burnout. If the number of human resources is not as per recommended, then multitasking and the additional challenges of working with subpar equipment add to the already demanding nature of the profession, hindering the performance of dental procedures and leading to increased stress and frustration. This, in turn, can contribute to higher levels of burnout.[20]

The important contributors extracted from the current interviews included high job demand, low job control, low workplace social support, less number of clerical and administrative staff, effort-reward imbalance, low organisational justice, job insecurity, temporary employment status, and atypical working hours. All these factors have been scientifically substantiated as significant contributors through extensive research conducted worldwide.[21]

Physically and socially supportive environment, leadership support, supportive middle management, peer encouragement, team building, employee involvement and engagement were the solutions stressed by the participants, and these suggestions aligned with the literature.[22]

One of the potential solutions for effort-reward imbalance suggested by the participants was providing incentives for extra tasks and acknowledging the hard work put in. Addressing the imbalance between effort and reward as part of an intervention based on psychosocial work factors was found to be effective in preventing mental health problems in a Canadian study.[23]

Where the correlation between poor work-life balance and increased burnout is well-documented in academic research, it is also sufficiently advocated that work-life balance entails active engagement in both professional and personal spheres, with minimal conflict between the two roles. Achieving a good work-life balance leads to enhanced organisational performance, increased job satisfaction, and stronger organisational commitment. Additionally, it plays a crucial role in an individual's health,

family dynamics, and overall life satisfaction.[19] The current participants favoured a decrease in the working days, from six to five, with flexible working hours to accommodate any unforeseen domestic issues.

In addition to human resources, providing access to a range of other resources, like properly functioning dental units, equipment and materials is also crucial. Literature is indicative of the fact that resources are an ultimate requirement for the longevity of the workforce and the organisation.[24] As healthy employees play a mediating role in the positive correlation between social job resources and favourable organisational outcomes, it becomes imperative for organisations to prioritise the wellbeing of their employees.

The current findings indicate that effective burnout interventions should concentrate on strategies to reduce surgeons' workloads. One key approach is to provide sufficient clerical and administrative support. By alleviating the burden of non-clinical tasks, dentists can be encouraged to devote more time and energy to patient care and their core professional academic duties. This not only enhances their productivity and job satisfaction, but also helps mitigate the risk of burnout. Implementing such support systems is crucial in fostering a more sustainable and healthy work environment for dental surgeons.

The current study faced challenges as obtaining prompt responses from the professionals on a sensitive topic was a tough task, and affected the response rate, which was a limitation. Additionally, the sample was limited to subjects from three institutions in Islamabad, which limited the diversity of perspectives.

Conclusion

Burnout among dentists was influenced by excessive workload, lack of work-life balance, inadequate resources, and interpersonal conflicts. Interventions, such as workload management, improving work-life balance, providing adequate resources, incentivising extra tasks and fostering a supportive work environment, could help mitigate burnout and improve patient care.

References

1. Gómez-Polo C, Casado AMM, Montero J. Burnout syndrome in dentists: Work-related factors. J Dent 2022;121:104143. doi: 10.1016/j.jdent.2022.104143.
2. Bouza E, Gil-Monte PR, Palomo E, Cortell-Alcocer M, Del Rosario G, González J et al. Work-related burnout syndrome in physicians in Spain. RevistaClínica Española (English Edition) 2020;220:359-63.
3. Gleason F, Baker SJ, Wood T, Wood L, Hollis RH, Chu DI. Emotional Intelligence and Burnout in Surgical Residents: A 5-Year Study. J Surg Educ 2020;77:e63-70. doi: 10.1016/j.jsurg.2020.07.044.
4. Štěpánek L, Nakladalová M, Janošíková M, Ulbrichtová R, Svihrova V, Hudeckova H, et al. Prevalence of Burnout in Healthcare Workers of Tertiary-Care Hospitals during the COVID-19 Pandemic: A Cross-Sectional Survey from Two Central European Countries. Int J Environ Res Public Health 2023;20:3720. doi: 10.3390/ijerph20043720.
5. Moro JdS, Soares JP, Massignan C, Oliveira LB, Ribeiro DM, Cardoso M, et al. Burnout Syndrome among dentists: A Systematic Review And Meta-Analysis. J Evid Based Dent Pract 2022;22:101724. doi: 10.1016/j.jebdp.2022.101724.
6. Al-Ghunaim T, Johnson J, Biyani CS, O'Connor DB. Burnout in surgeons: A qualitative investigation into contributors and potential solutions. Int J Surg 2022;101:106613. doi: 10.1016/j.ijsu.2022.106613
7. Petrie K, Crawford J, Baker STE, Dean K, Robinson J, Veness BG et al. Interventions to reduce symptoms of common mental disorders and suicidal ideation in physicians: a systematic review and meta-analysis. Lancet Psychiatry 2019;6:225-34. doi: 10.1016/S2215-0366(18)30509-1
8. Asghar AA, Faiq A, Shafique S, Siddiqui F, Asghar N, Malik S, et al. Prevalence and Predictors of the Burnout Syndrome in Medical Students of Karachi, Pakistan. Cureus 2019;11:e4879. doi: 10.7759/cureus.4879.
9. Andlib S, Inayat S, Azhar K, Aziz F. Burnout and psychological distress among Pakistani nurses providing care to COVID-19 patients: A cross-sectional study. Int Nurs Rev 2022;69:529-37. doi: 10.1111/inr.12750.
10. Creswell JW, Creswell JD. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 5th ed. Thousand Oaks, CA: SAGE Publications; 2018.
11. Artino AR, Rochelle JSLA, Dezee KJ, Gehlbach H. Developing questionnaires for educational research: AMEE Guide No. 87. Med Tech 2014;36:463–74
12. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol 2006;3:77–101. doi: 10.1191/1478088706qp063oa
13. Olmos-Vega FM, Stalmeijer RE, Varpio L, Kahlke R. A practical guide to reflexivity in qualitative research: AMEE Guide No. 149. Med Teach 2023;45:241-51. doi: 10.1080/0142159X.2022.2057287
14. Guba EG, Lincoln YS. Epistemological and methodological bases of naturalistic inquiry. Educ Commun Technol J 1982;30:233-52. Doi: 10.1007/BF02765185
15. Johnson JL, Adkins D, Chauvin S. A Review of the Quality Indicators of Rigor in Qualitative Research. Am J Pharm Educ 2020;84:7120. doi: 10.5688/ajpe7120
16. Edwards PJ, Roberts I, Clarke MJ, Diguiseppi C, Wentz R, Kwan I, et al. Methods to increase response to postal and electronic questionnaires. Cochrane Database Syst Rev 2009;2009:MR000008. doi: 10.1002/14651858.MR000008.pub4.
17. Meyerson J, Gelkopf M, Eli I, Uziel N. Stress Coping Strategies, Burnout, Secondary Traumatic Stress, and Compassion Satisfaction Amongst Israeli Dentists: A Cross-sectional Study. Int Dent J 2022;72:476-83. doi: 10.1016/j.identj.2021.09.006
18. Harvey SB, Epstein RM, Glozier N, Petrie K, Strudwick J, Gayed A, et al. Mental illness and suicide among physicians. Lancet 2021;398:920-30. doi: 10.1016/S0140-6736(21)01596-8

19. Pai S, Patil V, Kamath R, Mahendra M, Singhal DK, Bhat V. Work-life balance amongst dental professionals during the COVID-19 pandemic-A structural equation modelling approach. PLoS One 2021;16:e0256663. doi: 10.1371/journal.pone.0256663

20. Gander P, Purnell H, Garden A, Woodward A. Work patterns and fatigue-related risk among junior doctors. Occup Environ Med 2007;64:733-8. doi: 10.1136/oem.2006.030916

21. Gray P, Senabe S, Naicker N, Kgalamono S, Yassi A, Spiegel JM. Workplace-Based Organisational Interventions Promoting Mental Health and Happiness among Healthcare Workers: A Realist Review. Int J Environ Res Public Health 2019;16:4396. doi: 10.3390/ijerph16224396

22. Kent K, Goetzel RZ, Roemer EC, Prasad A, Freundlich N. Promoting Healthy Workplaces by Building Cultures of Health and Applying Strategic Communications. J Occup Environ Med 2016;58:114-22. doi: 10.1097/JOM.0000000000000629

23. Bourbonnais R, Brisson C, Vézina M. Long-term effects of an intervention on psychosocial work factors among healthcare professionals in a hospital setting. Occup Environ Med 2011;68:479-86. doi: 10.1136/oem.2010.055202

24. San Román-Niaves M, Coo C, Llorens S, Salanova M. The Mediating Role of Compassion between Social Job Resources, and Healthy Healthcare Professionals: A Cross-Sectional Study with Gender Perspective. Int J Environ Res Public Health 2022;19:7500. doi: 10.3390/ijerph19127500.

AUTHOR'S CONTRIBUTION:
SM: Concept, design, data acquisition, analysis, drafting and revision.
AA: Data analysis and drafting.
SHQ: Data collection and final approval.
HS: Data analysis and final revision.
RM: Final approval.