

Work-life Balance and Mental Health Among dental and Medical Professionals: Insights into Stress and Burnout- A Cross-sectional Study

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KEYWORDS

Mental health, work-life balance, stress, burnout, dental professionals, coping mechanisms, clinical settings, academic settings.

ABSTRACT

Background: The dental profession is inherently demanding, requiring a combination of clinical expertise, patient management skills, and administrative efficiency. While the field of dentistry is highly rewarding, it is also associated with significant stressors that can adversely affect the mental health and overall well-being of practitioners. These stressors include long working hours, patient expectations, financial pressures, and the need for continuous professional development. Furthermore, the growing complexity of dental treatments and advancements in technology add to the challenges faced by dental professionals.

Materials and Methods: A cross-sectional survey was conducted among dental professionals in clinical and academic roles. A validated questionnaire, covering demographics, work environment, perceived stress, burnout indicators, and coping strategies, was distributed. Responses were collected and analyzed using statistical tools to identify key stressors and the prevalence of burnout, comparing variations across clinical and academic settings. The study also examined correlations between demographic factors (age, gender, years of experience) and mental health indicators.

Results: Findings indicated a high prevalence of stress and burnout among dental professionals, with notable differences between clinical and academic roles. Clinical practitioners reported higher levels of occupational stress due to patient demands and procedural pressures, whereas academic professionals highlighted administrative burdens and workload imbalance as primary stressors. Both groups demonstrated significant burnout markers, including emotional exhaustion and depersonalization. Common coping mechanisms reported included social support, physical activity, and mindfulness practices, though their effectiveness varied across different roles.

Conclusion: The study underscores the pressing need for mental health support tailored to the unique demands of dental professionals in clinical and academic settings. Addressing stressors specific to each environment, while promoting effective coping strategies, is essential for enhancing work-life balance and mitigating burnout in dental careers. Organizational policies focused on mental health awareness and supportive work environments are recommended to foster better mental well-being among dental professionals.

1. Introduction

The dental profession is inherently demanding, with a blend of clinical precision, patient management, and administrative responsibilities. Dental professionals, both in clinical and academic settings, face pressures that stem from long hours, challenging cases, and the continuous need for professional development^{1,2,3}. Over time, these factors contribute to increasing levels of stress, which can significantly affect their mental well-being. The topic of mental health in the dental field is becoming more critical, as the industry grapples with the long-term effects of these stressors on individuals' personal and professional lives. Burnout is a common consequence of prolonged stress^{4,5,6}, characterized by emotional exhaustion, depersonalization, and a reduced sense of accomplishment. Dentists, dental specialists, and educators are particularly vulnerable to burnout due to the combination of patient expectations, clinical outcomes, and teaching responsibilities. As they navigate the demands of their roles, maintaining motivation and emotional resilience becomes challenging. This study aims to explore how these professionals experience burnout and what factors contribute to their mental health challenges^{7,8,9}.

Work-life balance is another critical factor affecting mental health in dental professionals. Achieving equilibrium between professional duties and personal life has become a growing concern in modern healthcare settings^{10,11}. The intense time commitments required in clinical practice, coupled with academic duties for educators, often lead to an imbalance that affects relationships, leisure time, and overall quality of life^{12,13}. This imbalance, if unaddressed, can exacerbate mental health issues, contributing to increased stress and dissatisfaction in both personal and professional realms^{14,15}. The coping mechanisms employed by dental professionals to manage stress and maintain work-life balance vary. Some may turn to adaptive strategies such as mindfulness, physical activity, or seeking professional support, while others might resort to maladaptive behaviors such as isolation or substance use. Identifying the range of coping strategies used by dental professionals is crucial in understanding how they navigate their mental health challenges and what interventions can be put in place to support their well-being^{16,17,18}. This study seeks to evaluate the perceptions of mental health, stress, burnout, and work-life balance among dental professionals across clinical and academic settings. By exploring their experiences and identifying the factors that impact their mental health, this research aims to provide valuable insights into the broader implications for the profession. Ultimately, the findings of this study could inform the development of support systems and resources to improve the mental health and work-life balance of dental professionals, enhancing their overall quality of life and professional satisfaction.

2. Materials and Methods

This study employed a cross-sectional survey design to evaluate the perceptions of mental health, work-life balance, stress, burnout, and coping mechanisms among dental professionals. The study targeted both clinical practitioners and academic faculty members in dental institutions to provide a comprehensive understanding of these challenges across different professional environments. Ethical clearance approval was obtained from the institutional review board. The study population included licensed dental professionals actively engaged in clinical practice and/or academic roles. A stratified random sampling method was used to ensure representation from various specializations within dentistry, including general practitioners, orthodontists, prosthodontists, and oral surgeons, as well as dental educators from different academic institutions. The sample size was calculated based on a desired confidence level of 95% and an acceptable margin of error of 5%, with the final sample consisting of approximately 500 participants. Data were collected using a structured, self-administered questionnaire that included both quantitative and qualitative items. The questionnaire was developed based on validated instruments used in previous research on mental health, burnout, and work-life balance among healthcare professionals. It consisted of four main sections: demographic information, stress and burnout levels, work-life balance, and coping mechanisms. The questionnaire also included open-ended questions to capture personal experiences and suggestions for improving mental health and work-life balance in the dental profession. Participants were given the option to complete the survey electronically through an online platform or via paper forms distributed at dental conferences and academic institutions. Quantitative data were analyzed using statistical software (SPSS Version 26). Descriptive statistics, including frequencies, means, and standard deviations, were calculated to summarize the demographic information and responses to the questionnaire. Inferential statistical tests such as chi-square tests and t-tests were used to determine significant differences in stress, burnout, and work-life balance perceptions across demographic subgroups (e.g., gender, years of experience, and practice setting). Additionally, Pearson's correlation coefficients were calculated to assess the relationship between burnout levels, work-life balance, and coping mechanisms. Qualitative data from open-ended responses were analyzed using thematic analysis to identify common themes and patterns in participants' experiences. The study received ethical approval from the institutional review board of the participating institutions. All participants were informed about the purpose of the study and provided written informed consent before participation. The anonymity and confidentiality of participants were maintained throughout the study, and all data were stored securely in accordance with institutional guidelines. This study relied on self-reported data, which may be subject to response bias. Additionally, the cross-sectional design does not allow for the establishment of causal relationships. However, the findings provide valuable insights into the mental health challenges and coping mechanisms of dental professionals, offering a foundation for future longitudinal studies.

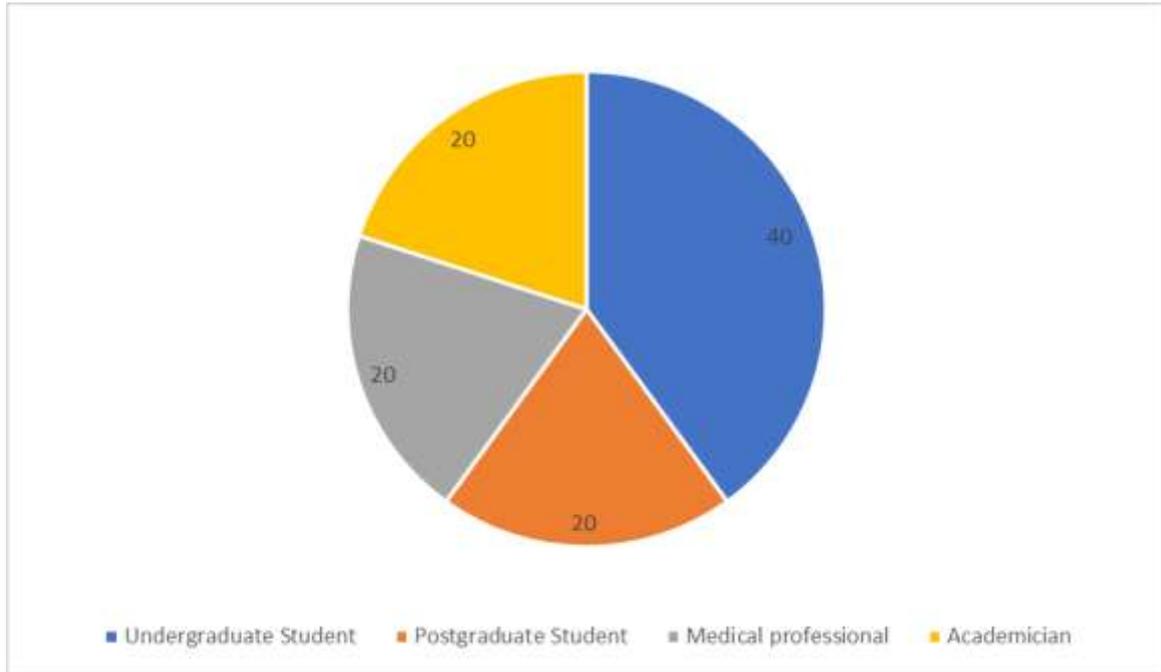
3. Results

Table 1 shows, that majority of participants in this study were aged between 20 and 30 years, representing 40% of the sample, followed by equal representation in the 31–40, 41–50, and above 50 age groups (20% each). A significant portion of the participants were female (75.4%), with male participants constituting 24.6%.

Regarding educational and professional status, undergraduate students formed the largest group (40%), followed by equal representation from postgraduate students, medical professional and academicians (20% each). Among professionals, most had 4–6 years of experience (36%), while fewer had more than six years (22%). The table 2 highlights differences in working hours and perceived workload across professional groups. Undergraduate students predominantly worked less than 20 hours per week (70%), while postgraduate students worked slightly more, with 67% falling in the 20–30 hours category. Academicians and medical professional often worked more than 40 hours per week (62% and 20%, respectively). Regarding workload manageability, 75% of undergraduates reported their workload was manageable, but only 20% of medical professional agreed. Stress levels varied, with undergraduates reporting the highest regular stress levels (70%) compared to 32% among dental practitioners. Tables 3 shows the mental health awareness and burnout. A notable proportion of postgraduate students strongly agreed on the importance of mental health in the dental profession (60%), while only 20% of academicians and dental surgeons held the same view. Burnout symptoms were reported by a majority of undergraduates (60%) and half of the postgraduate students (50%). Table 4 shows the support for mental health appeared insufficient, with a significant percentage of participants across all groups unsure about the availability of mental health resources. Physical exercise was the most reported coping mechanism among postgraduate students (50%), while undergraduates leaned toward hobbies such as reading or music (50%). Meditation and mindfulness practices were adopted by 23% of undergraduates and 15% of academicians. Participation in mental health workshops was moderate across groups, with 60% of undergraduates reporting involvement, compared to 50% among postgraduate students.

Table 1: Assessment Of Demographic Details

| QUESTIONNAIRE | OPTIONS | FREQUENCY (N) | PERCENTAGE (%) |
|--|-----------------------|---------------|----------------|
| Age distribution | 20-30 | 200 | 40 |
| | 31-40 | 100 | 20 |
| | 41-50 | 100 | 20 |
| | Above 50 | 100 | 20 |
| Gender distribution | Male | 123 | 24.6 |
| | Female | 377 | 75.4 |
| What is your current level of education/professional status? | Undergraduate Student | 200 | 40 |
| | Postgraduate Student | 100 | 20 |
| | Medical professional | 100 | 20 |
| | Academician | 100 | 20 |
| How many years of experience do you have in the dental field? (Applicable for dental surgeon and academician) | Less than 1 year | 16 | 8 |
| | 1-3 years | 68 | 34 |
| | 4-6 years | 72 | 36 |
| | More than 6 years | 44 | 22 |



Graph 1: Current Level of Education/Professional Status

Table 2: Distribution Of Work Environment Related Questionnaire

| Questionnaire | Options | Undergraduate students | | Post graduate students | | Academician | | Medical professional | | P-value |
|--|---------------------------|------------------------|----------------|------------------------|----------------|---------------|----------------|----------------------|----------------|---------|
| | | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | |
| How many hours do you work on average per week | Less than 20 hours | 140 | 70 | 67 | 67 | 0 | 0 | 32 | 32 | 0.014* |
| | 20–30 hours | 45 | 22.5 | 14 | 14 | 19 | 19 | 16 | 16 | |
| | 31–40 hours | 15 | 7.5 | 10 | 10 | 4 | 4 | 32 | 32 | |
| | More than 40 hours | 0 | 0 | 9 | 9 | 62 | 62 | 20 | 20 | |
| Do you feel that your current workload is manageable? | Yes | 150 | 75 | 69 | 69 | 52 | 52 | 20 | 20 | 0.67 |
| | No | 45 | 22.5 | 12 | 12 | 19 | 19 | 16 | 16 | |
| | Sometimes | 5 | 2.5 | 14 | 14 | 15 | 15 | 31 | 31 | |
| | Not at all | 0 | 0 | 5 | 5 | 14 | 14 | 33 | 33 | |
| Do you experience work-related stress on a regular basis | Yes | 140 | 70 | 67 | 67 | 62 | 62 | 32 | 32 | 0.32 |
| | No | 45 | 22.5 | 14 | 14 | 19 | 19 | 16 | 16 | |
| | Sometimes | 15 | 7.5 | 11 | 11 | 15 | 15 | 32 | 32 | |
| | Not at all | 0 | 0 | 8 | 8 | 4 | 4 | 20 | 20 | |
| What do you believe is the primary cause of stress in your work? | Long working hours | 72 | 36 | 39 | 39 | 62 | 62 | 54 | 54 | 0.032* |
| | Difficult patients | 84 | 42 | 48 | 48 | 31 | 31 | 41 | 41 | |
| | Administrative work | 44 | 22 | 13 | 13 | 7 | 7 | 5 | 5 | |
| | Financial pressure | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Lack of work-life balance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Table 3: Distribution of Mental Health Awareness

| Questionnaire | Options | Undergraduate students | | Post graduate students | | Academician | | Medical professional | | P-value |
|--|-------------------|------------------------|----------------|------------------------|----------------|---------------|----------------|----------------------|----------------|---------|
| | | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | |
| Do you believe mental health is an important issue within the dental profession? | Strongly agree | 15 | 7.5 | 60 | 60 | 20 | 20 | 20 | 20 | 0.039* |
| | Agree | 40 | 20 | 10 | 10 | 15 | 15 | 14 | 14 | |
| | Neutral | 20 | 10 | 10 | 10 | 20 | 20 | 14 | 14 | |
| | Disagree | 25 | 12.5 | 10 | 10 | 20 | 20 | 15 | 15 | |
| | Strongly disagree | 100 | 50 | 10 | 10 | 25 | 25 | 37 | 37 | |

| Questionnaire | Options | Undergraduate students | | Post graduate students | | Academician | | Medical professional | | P-value |
|--|----------|------------------------|----------------|------------------------|----------------|---------------|----------------|----------------------|----------------|---------|
| | | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | |
| Have you experienced symptoms of burnout (e.g., emotional exhaustion, detachment, reduced performance)? | Yes | 120 | 60 | 50 | 50 | 43 | 43 | 49 | 49 | 0.47* |
| | No | 17 | 8.5 | 40 | 40 | 29 | 29 | 32 | 32 | |
| | Not sure | 63 | 36.5 | 10 | 10 | 28 | 28 | 29 | 29 | |
| Do you think there is sufficient mental health support available to dental professionals in your institution/clinic? | Yes | 120 | 60 | 50 | 50 | 43 | 43 | 49 | 49 | 0.044* |
| | No | 17 | 8.5 | 40 | 40 | 29 | 29 | 32 | 32 | |
| | Not sure | 63 | 36.5 | 10 | 10 | 28 | 28 | 29 | 29 | |

Table 4: Distribution of Coping Mechanisms and Support

| Questionnaire | Options | Undergraduate students | | Post graduate students | | Academician | | Medical professional | | P-value |
|---|---------------------------------|------------------------|----------------|------------------------|----------------|---------------|----------------|----------------------|----------------|---------|
| | | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | |
| Do you feel you have a good work-life balance? | Yes | 120 | 60 | 50 | 50 | 43 | 43 | 49 | 49 | 0.039* |
| | No | 17 | 8.5 | 40 | 40 | 29 | 29 | 32 | 32 | |
| | Sometimes | 63 | 36.5 | 10 | 10 | 28 | 28 | 29 | 29 | |
| Which of the following activities do you use to cope with work-related stress? | Physical exercise | 10 | 5 | 50 | 50 | 20 | 20 | 20 | 20 | 0.039* |
| | Meditation/mindfulness | 46 | 23 | 10 | 10 | 15 | 15 | 14 | 14 | |
| | Socializing with friends/family | 10 | 5 | 20 | 20 | 10 | 10 | 15 | 15 | |
| | Professional counseling | 34 | 17 | 10 | 10 | 20 | 20 | 14 | 14 | |
| | Hobbies (reading, music, etc.) | 100 | 50 | 10 | 10 | 35 | 35 | 37 | 37 | |
| Have you participated in any mental health workshops or programs provided by your institution or professional body? | Yes | 120 | 60 | 50 | 50 | 43 | 43 | 49 | 49 | 0.212 |
| | No | 17 | 8.5 | 40 | 40 | 29 | 29 | 32 | 32 | |
| | Not aware | 63 | 36.5 | 10 | 10 | 28 | 28 | 29 | 29 | |

4. Discussion

The dental profession is known for its high demands, both physically and mentally, which can significantly affect the well-being of professionals¹⁹. The balance between clinical responsibilities, patient care, academic obligations, and personal life often places dental professionals at risk for heightened stress levels and burnout. Mental health concerns such as anxiety, depression, and emotional exhaustion have become increasingly prevalent, affecting both clinical and academic practitioners^{20,21,22}. Work-life balance, once considered a secondary issue, has emerged as a critical factor in maintaining the overall well-being and job satisfaction of

these professionals. This study seeks to evaluate the perceptions of mental health, the impact of work-life balance, and the coping mechanisms employed by dental professionals in various settings^{23,24}. By understanding these factors, this research aims to contribute valuable insights into how the dental community can better address and manage mental health challenges in the workplace. The findings of this study provide significant insights into the mental health and work-life balance challenges faced by dental professionals. The results indicate a high prevalence of stress and burnout across both clinical and academic settings, reflecting the demanding nature of the dental profession. These findings align with previous research showing that dental professionals are particularly vulnerable to mental health issues due to the physical and emotional demands of patient care, administrative duties, and academic responsibilities²⁵.

One of the key observations is the strong association between work-life imbalance and increased levels of stress and burnout. Many participants reported difficulties in maintaining personal relationships and engaging in leisure activities due to the time-consuming nature of their work²⁶. This supports the notion that dental professionals often struggle to disconnect from their professional duties, which can have a detrimental effect on their mental health. These findings emphasize the need for better work-life balance initiatives within the profession, such as flexible work schedules, mental health resources, and strategies that allow dental professionals to manage both their professional and personal lives more effectively. Another important aspect of this study is the examination of coping mechanisms employed by dental professionals to manage stress and burnout^{26,27}. The majority of participants reported using adaptive strategies such as exercise, mindfulness, and social support to cope with the challenges they face. However, some participants indicated reliance on maladaptive behaviours, such as excessive work or social withdrawal, which can exacerbate mental health issues. These mixed coping strategies highlight the need for targeted interventions to promote healthy coping mechanisms and prevent the use of negative behaviours that can worsen stress and burnout over time²⁸.

A notable finding was the difference in stress and burnout levels between clinical practitioners and dental academics. While both groups face significant challenges, academic professionals reported higher levels of burnout, possibly due to the dual demands of teaching, research, and clinical responsibilities²⁹. This suggests that academic institutions should consider implementing support systems specifically designed to address the unique pressures faced by dental educators, such as mentorship programs, mental health counselling, and workload management strategies. Overall, the study underscores the pressing need for systemic changes within the dental profession to address mental health concerns and promote work-life balance^{30,31}. Implementing wellness programs, offering professional support, and fostering a workplace culture that prioritizes mental well-being are critical steps toward reducing burnout and improving the overall quality of life for dental professionals. Future research could explore longitudinal data to better understand how these interventions impact mental health outcomes over time, as well as examining the role of institutional policies in supporting mental health and work-life balance.

5. Conclusion

This study highlights the significant challenges faced by dental professionals in managing their mental health and maintaining a work-life balance. High levels of stress and burnout were observed among both clinical and academic practitioners, stemming from demanding work environments, long hours, and insufficient mental health support. While adaptive coping mechanisms such as physical activity, mindfulness, and social support were employed by some participants, others resorted to maladaptive strategies, indicating the need for targeted interventions. The findings underscore the importance of promoting mental health awareness within the dental profession and implementing organizational policies that support work-life balance. Tailored initiatives, including flexible schedules, mental health workshops, and access to counselling services, are essential to address the specific needs of dental practitioners and academicians. Future research should focus on longitudinal studies to better understand the long-term effects of these interventions and their impact on the overall well-being and professional satisfaction of dental professionals.

Conflict Of Interest: Nil

Acknowledgement: Nil

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