

Measuring the Mental Health and Well-Being in Dental Graduates by Using Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) in Private Hospital Karachi Pakistan



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OBJECTIVE: Mental health and well-being are critical components of overall health and play a significant role in determining an individual's quality of life. This study aimed to evaluate the mental well-being of dental graduates using the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) in a private dental college in Karachi, Pakistan

METHODOLOGY: This cross-sectional survey was conducted to assess the mental well-being of dental graduates from Baqai Dental College, Karachi. Ethical approval was obtained (BDC/ERB/2023/048, dated July 31, 2023), and informed consent was obtained from all eligible participants before data collection. A self-administered, validated questionnaire incorporating the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) was used. The questionnaire was disseminated digitally via email and WhatsApp to maximize outreach and ensure participant convenience. All dentists currently in practice and graduates of Baqai Dental College were considered eligible for inclusion. The required sample size was calculated as 384 using OpenEpi software. Data was collected over the duration of one year and analyzed using SPSS version 21. Descriptive statistics were generated, and associations were assessed using the Chi-square test, with a significance level set at $p < 0.05$.

RESULT: The participants' average age was 30.32 ± 0.317 years. The dentists' levels of experience varied, with 225 (58.59%) having less than five years of experience, 132 (34.28%) having more than five years, and 27 (17.18%) having more than fifteen years. Significant correlations were found between years of experience and practice specialty, with clinical specialists predominating among those with less than five years of experience.

CONCLUSION: The study concluded that dental graduates' mental health varies significantly based on their amount of experience. While optimism, calmness, and energy levels remain consistent, more experienced dentists tend to feel a greater sense of value and are more proficient in problem-solving.

KEYWORDS: Mental Health, Well-Being, Dental Graduates, Stress, Burnout

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INTRODUCTION

Mental health encompasses an individual's emotional, psychological, and social well-being, shaping their cognition, behavior, and ability to

manage everyday stressors.¹ The concept of well-being extends beyond emotional stability, integrating physical health, social connectivity, and a sense of purpose.² Within the dental profession, students and recent graduates are frequently exposed to considerable academic demands, clinical responsibilities, and ethical complexities, rendering them particularly susceptible to mental health challenges such as stress, burnout, and depression.³

Empirical evidence indicates that young dentists and early-career practitioners experience heightened psychological distress relative to their counterparts in other health-related

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disciplines.^{4,5} Contributing factors include the intensity of dental training programs, characterized by substantial workloads, time constraints, and performance pressures.⁶ These stressors are often exacerbated by limited coping mechanisms, inadequate institutional support, and persistent social stigma surrounding mental health.^{7,8} Moreover, the need for technical precision in clinical settings can further intensify emotional exhaustion.⁹

These cumulative stressors adversely influence the quality of life (QOL) and job satisfaction among dental professionals.¹⁰ Although international research¹¹ has extensively investigated undergraduate dental students' mental health, there remains a paucity of data concerning dental graduates, particularly during the critical transition from academia to clinical practice in low- and middle-income countries such as Pakistan.^{12,13} This period is typically characterized by increased professional responsibility and reduced academic supervision, thereby underscoring the need to assess the mental health status of emerging healthcare professionals.¹⁴

This study aimed to evaluate the mental well-being of dental graduates from Baqai Dental College using the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) in a private dental college in Karachi, Pakistan. It specifically examines how mental health outcomes vary according to years of clinical experience. The finding will inform the development of targeted mental health interventions and enhance understanding of the psychological impact of stress and burnout in early- and mid-career dental professionals.

METHODOLOGY

Study Design, Population, and Setting *Ethical Considerations*

Ethical approval for the study was obtained from the Ethical Review Committee of Baqai Dental College (Approval No. BDC/ERB/2023/048, dated 31st July 2023). Confidentiality was confirmed, and consent was taken from the study participants.

This cross-sectional survey was conducted at Baqai Dental College, Karachi, over one year from July 2023 to July 2024. The study population comprised dental graduates of Baqai Dental College, who were assessed for their mental health and overall well-being.

Data Collection Tool and Procedure

Data were collected using the Warwick-Edinburgh Mental Well-being Scale (WEMWBS), a validated instrument developed by researchers at the University of Warwick and the University of Edinburgh in 2006, commissioned by the Scottish Government to monitor population mental well-

being.¹⁵ The self-administered questionnaire was disseminated digitally via email and WhatsApp to facilitate greater reach and minimize logistical challenges, enabling participants to respond in a private and convenient environment. The tool comprised two sections: the first section included demographic questions (name, age, gender, and graduation year), while the second section consisted of the 14-item WEMWBS, which measures subjective mental well-being across domains such as positive affect, interpersonal relationships, and positive functioning. Each item was scored on a 5-point Likert scale ranging from 1 ("None of the time") to 5 ("All of the time"), with total scores ranging from 14 to 70. The WEMWBS has been shown to have high internal consistency (Cronbach's alpha = 0.89) and good test-retest reliability, as well as established construct, content, and face validity across diverse populations.¹⁶

Eligibility Criteria

All dental graduates from Baqai Dental College were eligible to participate. Individuals who could not comprehend or complete the survey in English were excluded.

Sample Size and Technique

The sample size was determined using OpenEpi software, assuming a 50% prevalence, a 5% margin of error, and 80% power, resulting in a required sample of 384 participants. Non-probability convenience sampling was employed to recruit both dental graduates and undergraduates. Participants were allotted one hour to complete the survey.

Statistical Analysis

Data analysis was performed using SPSS version 21. Descriptive statistics, including means and standard deviations, were used to summarize demographic information and WEMWBS scores. For inferential analysis, the chi-square test was applied to examine associations between years of clinical experience and mental well-being. Specifically, groups with more than 15 and 20 years of experience were analyzed to explore their relationship with mental health outcomes. A p-value of less than 0.05 was considered statistically significant.

RESULT

The mean age of participants was 30.32±0.317 years, with respondents exhibiting diverse levels of clinical experience. Among them, 225 (58.59%) had less than 5 years of experience, 132 (34.28%) had more than 5 years, and 27 (17.18%) had over 15 years of professional experience. A significant association was observed between practice specialty and years of experience, with clinical specialists

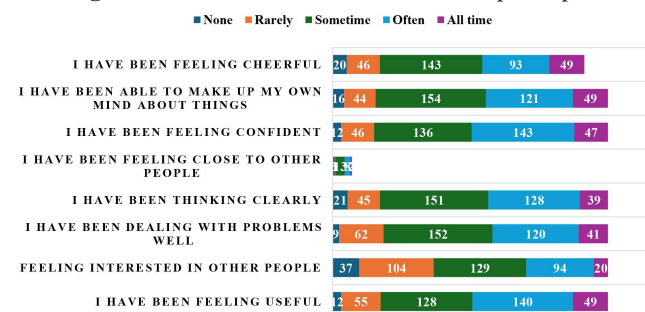
Table 1: Association between mental health characteristics and years of clinical experience among dental graduates

Mental Health Characteristics	Experience less than 5 years	Experience More than 5 years	Experience More than 15 years	P value
Specialty				
Clinical	203 (60.78)	107 (32.04)	24 (7.19)	0.044
Non-clinical	22 (44.00)	25 (50.00)	3 (6.00)	
I have been feeling optimistic about the future				
Rarely	47 (64.38)	22 (30.14)	4 (5.48)	0.646
some time	79 (54.58)	58 (40.00)	8 (5.52)	
Often	47 (55.95)	28 (33.33)	9 (10.71)	
All time	28 (63.64)	13 (29.55)	3 (6.82)	
None	24 (63.17)	11 (28.95)	3 (7.89)	
I have been feeling Useful				
None	7 (58.33)	5 (41.67)	0 (0)	0.007
Rarely	40 (72.73)	12 (21.82)	3 (5.45)	
some time	83 (64.84)	42 (32.81)	3 (2.34)	
Often	68 (48.57)	54 (38.57)	18 (12.86)	
All time	27 (55.10)	19 (38.78)	3 (6.12)	
Feeling Interested in other people				
None	29 (78.38)	6 (16.22)	2 (5.41)	0.053
Rarely	66 (63.46)	35 (33.65)	3 (2.88)	
some time	75 (58.14)	43 (33.33)	11 (8.53)	
Often	44 (46.81)	41 (43.62)	9 (9.57)	
All time	11 (55.00)	7 (35.00)	2 (10.00)	
I have been dealing with problems well				
None	6 (66.67)	3 (33.33)	0 (0.00)	0.020
Rarely	46 (74.19)	12 (19.35)	4 (6.45)	
some time	95 (62.50)	48 (31.58)	9 (5.92)	
Often	60 (50.00)	52 (43.33)	8 (6.67)	
All time	18 (43.90)	17 (41.46)	6 (14.63)	
I have been thinking clearly				
None	15 (71.43)	4 (19.05)	2 (9.52)	0.035
Rarely	34 (75.56)	10 (22.22)	1 (2.22)	
some time	93 (61.59)	51 (33.77)	7 (4.64)	
Often	66 (51.56)	50 (39.06)	12 (9.38)	
All time	17 (43.59)	17 (43.59)	5 (12.82)	
I have been feeling close to other people				
None	13 (54.17)	8 (33.33)	3 (12.50)	0.043
Rarely	66 (75.00)	21 (23.86)	1 (1.14)	
some time	70 (52.24)	51 (38.06)	13 (9.70)	
Often	59 (54.63)	41 (37.96)	8 (7.41)	
All time	17 (56.67)	11 (36.67)	2 (6.67)	
I have been feeling confident				
None	9 (75.00)	2 (16.67)	1 (8.33)	0.001
Rarely	35 (76.09)	9 (19.57)	2 (4.35)	
some time	88 (64.71)	46 (33.82)	2 (1.47)	
Often	73 (51.05)	54 (37.76)	16 (11.19)	
All time	20 (42.55)	21 (44.68)	6 (12.77)	
I have been able to make up my own mind about things				
None	12 (75.00)	4 (25.00)	0 (0.00)	0.024
Rarely	31 (70.45)	13 (29.55)	0 (0.00)	
some time	94 (61.04)	54 (35.06)	6 (3.90)	
Often	64 (52.89)	42 (34.71)	15 (12.40)	
All time	24 (48.98)	19 (38.78)	6 (12.24)	
I have been feeling loved				
None	11 (68.75)	4 (25.00)	1 (6.25)	0.738
Rarely	36 (63.16)	20 (35.09)	1 (1.75)	
some time	84 (60.43)	44 (31.65)	11 (7.91)	
Often	71 (55.91)	46 (36.22)	10 (7.87)	
All time	23 (51.11)	18 (40.00)	4 (8.89)	
I have been interested in new things				
None	13 (76.47)	4 (23.53)	0 (0.00)	0.171
Rarely	32 (0.4)	14 (28.57)	3 (6.12)	
some time	80 (59.70)	49 (36.57)	5 (3.73)	
Often	64 (52.03)	44 (35.77)	15 (12.20)	
All time	36 (59.02)	21 (34.43)	4 (6.56)	
I have been feeling cheerful				
None	13 (65.00)	3 (15.00)	4 (20.00)	0.038
Rarely	33 (71.74)	11 (23.91)	2 (4.35)	
some time	87 (60.84)	50 (34.97)	6 (4.20)	
Often	68 (48.98)	22 (44.90)	3 (6.12)	
All time	24 (48.98)	22 (44.90)	3 (6.12)	

P value of 0.05 is considered as significant

Chi-Square test is used between each category to check the association.

predominantly represented among those under 5 years of experience. Certain mental health indicators-such as feeling optimistic about the future, feeling relaxed, and having energy to spare-did not vary significantly across experience categories. In contrast, several others, including feeling useful, effectively dealing with problems, thinking clearly, feeling confident, making decisions, feeling emotionally connected to others, and experiencing cheerfulness,

Figure 1: Mental health characteristics of participants

demonstrated statistically significant associations with different levels of clinical experience (Figure 1). The chi-square test was used to assess these relationships, and a p-value of <0.05 was considered statistically significant (Table 1).

DISCUSSION

This study provides critical insights into the mental well-being of dental graduates across different stages of their professional development. The results indicate that mental health indicators vary with the level of clinical experience. Graduates with fewer than five years of experience reported higher levels of cheerfulness, optimism, and social connectedness, which may be attributed to recent academic engagement and sustained peer interaction. In contrast, participants with more than five years of experience demonstrated stronger feelings of usefulness and problem-solving capacity, reflecting the psychological advantages gained through accumulated clinical practice and increased professional autonomy.¹⁷ While the variables "Feeling Relaxed," "Having Energy to Spare," and "Feeling Optimistic about the Future" were statistically insignificant across different experience groups, indicating that these aspects of mental well-being may not vary significantly with clinical experience.

These observations are in line with global literature reporting heightened psychological stress among early-career dental professionals. Studies from India, the United Kingdom, and Australia have similarly documented elevated levels of burnout, anxiety, and emotional fatigue in junior dentists

and dental students.^{18,19} Such trends are likely due to universally shared stressors in dental education and practice, including high workloads, performance-related pressures, limited coping mechanisms, and inadequate institutional mental health support-factors that transcend economic and regional contexts.²⁰

Notably, some divergence was observed in the responses of mid-career professionals compared to findings from Western literature. While this study found increased self-efficacy among mid-career Pakistani dentists, European studies have reported a decline in motivation and job satisfaction at similar stages.²¹ These disparities may be influenced by socio-cultural and economic factors; in Pakistan, career progression often correlates with greater job security, professional respect, and autonomy, which may act as protective factors against burnout. In contrast, Western systems, characterized by extensive administrative oversight and regulatory demands, may contribute to reduced job satisfaction.^{22,23}

Although gender-based differences were not directly explored in this study, existing literature indicates that female dental professionals often experience higher stress levels due to the dual demands of professional and familial responsibilities.^{24,25} This highlights an important area for future research, particularly within culturally specific frameworks.

The progression from unmanaged stress to burnout, marked by emotional exhaustion, depersonalization, and reduced professional accomplishment, is especially pronounced during the early transition from academic to clinical practice.³ This model is supported by the current findings, which emphasize the urgency of proactive mental health interventions tailored to the needs of young professionals.²⁶

A major strength of this study lies in its targeted focus on dental graduates, a relatively underexplored demographic in mental health research, as well as its use of a validated instrument (WEMWBS) and stratified analysis by clinical experience. These findings advocate for the implementation of experience-specific mental health strategies within dental institutions.

However, some limitations should be reported. The use of self-reported data introduces the potential for social desirability bias, particularly in cultural settings where mental health stigma persists. Moreover, the cross-sectional nature of the study precludes causal inferences. Future research should adopt longitudinal designs and incorporate more objective mental health assessments, such as clinical interviews or validated psychological screening tools. To mitigate stress and promote mental well-being among dental professionals, a comprehensive, multi-tiered support

system is essential. Educational institutions should establish structured wellness initiatives, integrate mental health literacy into the curriculum, and provide access to qualified mental health professionals. Simultaneously, individuals are encouraged to adopt effective stress-management strategies, such as mindfulness, cognitive-behavioral techniques, and peer support. Families also play a vital role by offering emotional support, encouraging work-life balance, and fostering open communication. Collectively, these efforts can contribute to a more resilient, satisfied, and mentally healthy dental workforce.

CONCLUSION

In conclusion, our findings emphasize the need to develop mental health interventions that are tailored to the diverse experiences and needs of dental professionals across various stages of their careers. The significant differences in mental health observed in our study highlight the importance of offering targeted support, especially to early-career professionals who may not have developed the coping mechanisms that their more experienced colleagues possess. Moreover, cultural factors, such as societal stigma, must be addressed to ensure that mental health initiatives are effective and widely accepted.

CONFLICT OF INTEREST

None to declare

ETHICS APPROVAL /DISCLOSURE

The study titled "Measuring the Mental Health and Well-Being in Dental Graduates by Using Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) in Private Hospital Karachi, Pakistan" is approved by the Ethical Review Board of Baqai Dental College under the reference # BDC/ERB/2023/048 dated 31st July, 2023.

AUTHOR'S CONTRIBUTIONS

AS conceptualized and designed the study, analyzed data, and prepared the first draft of the manuscript. **AS** and **AW** provided guidance and ensured the quality of data collection and supervision. **MK** and **AI** performed data analysis and assisted in the manuscript draft. **MK**, **HM** and **ZZ** did the data collection and execution of the whole project. **AS** and **HM** is involved in the literature search and editing manuscript. All authors reviewed the manuscript several times and provided critical feedback. All authors read and approved the final version of the manuscript.

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