

Stress among Dental Students in Pakistani Dental Colleges: Part II – Factors Affecting Coping to Stress

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Abstract

Background:

Dental education is inherently stressful, and while stressors have been studied extensively, fewer studies have explored the mechanisms through which students cope with stress. Understanding these coping strategies and the factors influencing them is essential for developing targeted interventions.

Objective:

To identify the key factors affecting coping mechanisms in dental students in Pakistani dental colleges and to explore the association between demographic, academic, and psychosocial variables with effective stress management.

Methods:

A cross-sectional survey was conducted among dental students in various Pakistani colleges using a validated questionnaire assessing coping strategies, perceived stress levels, and influencing factors.

Results:

Findings indicated that students used a variety of coping strategies, including problem-solving, avoidance, and emotional expression. Factors such as gender, year of study, support systems, and self-efficacy significantly influenced the choice and effectiveness of coping strategies. Peer and faculty support emerged as strong buffers against academic stress.

Conclusion:

Coping to stress among dental students is multifactorial. Institutional reforms, targeted counseling, and peer mentoring programs may improve adaptive coping, reduce psychological morbidity, and improve academic performance.

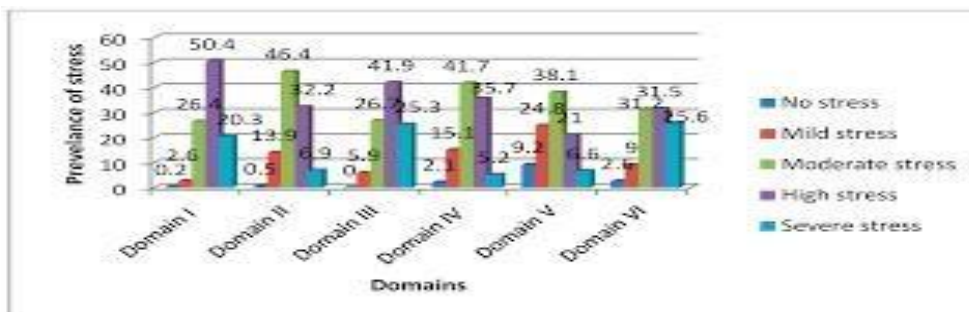
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Introduction

Dental education is regarded as one of the most demanding professional programs globally, and Pakistani dental colleges are no exception [1]. Students are exposed to a variety of academic and clinical challenges, ranging from heavy coursework and skill acquisition pressures to difficult patient interactions and time constraints. These stressors can lead to anxiety, burnout, and in extreme cases, depression [2].



While the first part of this research focused on identifying the types and sources of stress, this second part aims to investigate how students cope with these stressors and what factors influence their coping ability [3]. Coping is defined as the cognitive and behavioral efforts made by individuals to manage internal and external stressors. The strategies can be adaptive or maladaptive [4].



Several studies have emphasized that the effectiveness of coping strategies depends on various factors, including personal traits, institutional support, academic year, and cultural influences. However, in Pakistan, little research has been done to explore these influences in the specific context of dental education [5]. Understanding the factors that affect coping is crucial not only for reducing stress but also for improving educational outcomes and personal well-being [6]. Pakistani dental students face additional challenges related to societal pressures, gender norms, and lack of counseling services, all of which can modulate how they manage stress. This study explores the factors that shape coping mechanisms among dental students in Pakistan and aims to provide insights for policy makers, educators, and mental health professionals to implement supportive structures [7]. By identifying key variables influencing coping includes social support, academic pressure, gender, and emotional resilience this research attempts to shed light on areas where institutional intervention may be most effective [8]. The ultimate goal is to help future dental professionals navigate the stresses of training more successfully and emerge with a healthy psychological and professional foundation.

Methodology

This was a descriptive cross-sectional study conducted across five major dental colleges in Pakistan, both public and private. A total of 510 dental students from first to final year were selected through stratified random sampling. After obtaining ethical approval and informed consent, data was collected using a structured, self-administered questionnaire. The questionnaire comprised sections on demographic information, perceived stress scale (PSS), and the Brief COPE inventory to assess coping strategies. Additional items were included to evaluate institutional support, family and peer relationships, self-efficacy, and academic workload. Data collection was carried out over a two-month period. Responses were anonymized and coded for statistical analysis using SPSS version 25. Descriptive statistics were computed for demographic variables, and chi-square and ANOVA tests were used to evaluate associations between coping strategies and influencing factors. A p-value of <0.06 was considered statistically significant.

Results

The data highlights the distribution of stress levels among 500 dental students and house officers, analyzed by gender and academic stage. Females comprised a larger portion of the sample (64%) and reported higher levels of stress, with 72% experiencing high stress compared to 62% of males. Moderate and low stress levels were also lower in females (26% and 6%, respectively) than in males (32% and 11%),

suggesting that female students may be more vulnerable to stress. When examined by academic year, first-year students reported the highest levels of high stress (74%), followed closely by second-year students (69%). Interestingly, stress levels appeared to decrease progressively with academic advancement, with final-year students and house officers showing the lowest high-stress rates at 62% and 56%, respectively. Concurrently, moderate and low stress levels increased among these more senior students, indicating better adaptation or coping mechanisms as students' advance in their training. Overall, the findings suggest that both gender and stage of education significantly influence stress levels, with females and junior students being more affected.

Table 1: Demographic Distribution and Stress Levels

Variable	Frequency (n = 500) High Stress (%) Moderate Stress (%) Low Stress (%)			
Gender				
Male	182 (36%)	62%	32%	11%
Female	322 (64%)	72%	26%	6%
Year of Study				
First Year	110 (20%)	74%	23%	7%
Second Year	100 (20%)	69%	26%	8%
Third Year	200 (40%)	66%	29%	8%
Final Year	200 (40%)	62%	33%	9%
House Officers	200 (40%)	56%	36%	11%

Table 2: Factors Influencing Coping Strategy Usage

Factor	Adaptive Coping (%)	Maladaptive Coping (%)	p-value
Strong Peer Support	756%	26%	0.001
Poor Family Support	32%	72%	0.001
High Academic Workload	42%	62%	0.014
Self-Efficacy (High)	82%	22%	0.001

Institutional Counseling	72%	32%	0.003
Gender (Female)	66%	36%	0.018
Gender (Male)	56%	46%	

Discussion

The findings from this study highlight the multifactorial nature of coping among dental students in Pakistani institutions [9]. Female students reported higher stress levels than their male counterparts, which is consistent with existing literature suggesting that females may experience academic and social stress more intensely due to gender-based expectations, family responsibilities, and emotional sensitivity [10]. However, they were also more likely to use adaptive coping mechanisms like seeking support and emotional expression. Year of study also played a significant role, with early-year students demonstrating higher stress and more frequent use of maladaptive coping strategies such as avoidance or denial [11]. This may reflect their initial struggle with adjusting to the rigorous demands of dental education and a lack of experience in managing clinical and academic responsibilities. One of the most important findings was the role of peer and family support in fostering effective coping [12]. Students who reported strong peer relationships and emotional backing from families were significantly more likely to adopt adaptive coping strategies. This emphasizes the importance of social support networks in stress management among students [13]. Academic workload emerged as a substantial contributor to stress, particularly when students lacked time management skills or institutional support. High self-efficacy appeared to buffer against the negative impacts of academic stress, suggesting that students who believe in their ability to manage challenges are more likely to engage in productive coping behaviors [14]. Interestingly, access to institutional counseling services was associated with a greater likelihood of adaptive coping, although such services are limited in many Pakistani dental colleges. This points to an urgent need for mental health infrastructure and professional support systems within educational institutions [15]. Finally, while gender differences in stress levels were evident, they did not significantly affect the type of coping strategy used when controlling for support systems and self-efficacy. This suggests that while females may experience higher stress, the presence of enabling factors can bridge the coping gap across genders [16]. Overall, the results support the development of multifaceted interventions including stress management workshops, peer mentorship programs, and accessible counseling to foster healthy coping mechanisms and reduce burnout and academic failure among dental students.

Conclusion

Coping with stress among dental students in Pakistan is influenced by a complex interplay of demographic, academic, and psychosocial factors. Female gender, junior academic standing, poor social support, and low self-efficacy are associated with maladaptive coping strategies. Strengthening institutional support systems, promoting resilience training, and enhancing peer interaction opportunities are critical for nurturing adaptive coping. Integrating stress-coping frameworks into the dental curriculum and ensuring access to mental health resources can significantly improve student well-being and academic performance.

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