

THE HIDDEN WILDFIRE IN THE WORKPLACE- INVESTIGATING BURNOUT AMONG RESIDENT PHYSICIANS IN PESHAWAR, PAKISTAN

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ABSTRACT

Objective: To compare levels of burnout among resident physicians in care Public and Private sector hospitals in Peshawar, Pakistan.

Materials and Methods: A cross-sectional descriptive study was conducted from 1st August to 30th October 2023 in four randomly selected Tertiary care hospitals of Peshawar district. The non-probability convenience sampling method was employed to gather data from 200 resident doctors. The study integrated the Maslach Burnout Inventory - Human Services Survey (MBI-HSS), a comprehensive 22-item questionnaire measuring burnout across three domains: Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA). Data was organized and analyzed by using SPSS 25.

Results: This study revealed that 43.8% of resident physicians demonstrated high Emotional Exhaustion, 46.1% had high Depersonalization, whereas 78.7% scored low in Personal Accomplishment. A positive correlation ($r=0.16$, $p=0.03$) was observed between Emotional Exhaustion and residency year. Depersonalization has been positively associated with the type of employment, as public sector residents scoring higher ($p=0.02$) in this study, and Personal Accomplishment has been positively observed in private sector employment ($p=0.04$) and male gender ($p=0.01$).

Conclusion: This study highlights not only the prevalence of burnout among different medical specialties but also compares the level of burnout among the residents of public and private sector tertiary care hospitals in Peshawar. The study results emphasize the need for specific interventions for resident doctors to cope with burnout.

Keywords: Burnout, Resident doctors, Tertiary care hospital

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INTRODUCTION

Burnout, a condition resulting from unmanaged chronic workplace stress, is a multifaceted issue that affects professionals across various fields. ¹ It comprises three dimensions: Emotional Exhaustion, Depersonalization, and Personal Accomplishment, making it a continuous construct rather than a dichotomous one. ² Research on burnout has shown that its contributing factors vary across different occupations, suggesting that some professions are more prone to its development. Among these, resident doctors, who play a crucial role in the

healthcare system, face rigorous training programs and intense stress. ³

The global prevalence of burnout among resident physicians ranges from 17.6% to 76% across different medical specialties. In recent years, research has explored the multiple factors contributing to burnout among medical residents. ⁴ In recent years, focus has been directed toward understanding the multifaceted causes of burnout among medical residents. ² Burnout, often forced by chronic workplace stress, is also fueled by a complex interplay of systemic and individual challenges. Significant reasons include challenging workloads, extended duty hours, insufficient rest, and inadequate support from supervisors or institutions. Poorly structured work environment and lack of resources and emotional support can considerably intensify feelings of frustration and fatigue. ⁵ Moreover, the difficulty in maintaining a healthy work-life balance in residency training programs further exagger-

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ates the emotional strain experienced by residents.⁶

The experience of burnout among medical residents varies across different medical specialties. Empirical evidence suggests that each medical discipline is characterized by distinct stress profiles, defined clinical responsibilities, and cultural and institutional norms. For instance, residents working in high-intensity disciplines such as Emergency Medicine, Gynecology/Obstetrics, Surgery, and Critical Care are particularly susceptible to emotional exhaustion due to the intense and often unpredictable nature of their clinical environments.^{7,8} Conversely, those in primary care may be more affected by administrative burdens, limited professional recognition, and systemic inefficiencies. These specific stressors underscore the necessity of implementing targeted, context-sensitive interventions that address the unique challenges faced by residents within their specific fields, rather than relying on the same emotional wellness programs.^{5,9}

In certain regions, particularly in Pakistan, socio-political instability, deteriorating law and order conditions, and threats not only to personal safety but also pose a psychological burden on medical staff. These distinctive contextual factors not only amplify the day-to-day challenges of medical training but can also lead to long-term mental & emotional health impacts if left unaddressed.^{10,11}

However, doctors in Pakistan's healthcare system, particularly in Peshawar, face distinct challenges such as heavy workloads, limited resources, and demanding working conditions. Among the few existing studies, a study conducted at a tertiary care hospital in Peshawar reported that 25% of practicing doctors were already experiencing burnout, while nearly one-third were identified as at a high risk of developing this condition.¹⁰ Understanding how these challenges differ between public and private sector hospitals is crucial to developing focused strategies and support systems for resident doctors.¹² Given the substantial research gap in this area, we have designed this study to determine not only the prevalence but also to compare the level of burnout syndrome among resident physicians of different domains at both public and private sector tertiary care hospitals. This comprehensive data will help in designing effective interventions and support systems to promote physician well-being and sustain the overall quality of health care.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted in two randomly selected Public sector tertiary care hospitals and two private sector hospitals of Peshawar district from 1st August to 30th October 2023, after obtaining the Ethical Review Committee approval (RMI/RMI-REC/Article Approval/110). Khyber Teaching Hospital and Hayatabad Medical Complex were selected from the public sector, while Rehman Medical Institute and North West General Hospital were selected from the private Sector. All these hospitals were actively engaged in training resident physicians while handling substantial patient caseloads.

A Non-probability convenience sampling method was employed for collecting data from 200 resident doctors. A validated tool Maslach Burnout Inventory - Human Services Survey (MBI-HSS), was used for data collection.² It consisted of two sections: the first section recorded demographic information, whereas the second part of this tool consisted of the 22-item questionnaire, widely recognized for its reliability and frequently employed in studies investigating burnout. It measures the degree of burnout across three domains: Emotional Exhaustion (items 1-9), Depersonalization (items 10-14), and Personal Accomplishment (items 15-22). Participants responded on the Likert scale ranging from 0 (never) to 6 (every day). Scoring was performed according to the Maslach Burnout Inventory (MBI) guidelines. Emotional Exhaustion (EE) was considered high with a score of ≥ 27 , while Depersonalization (DP) was considered high with the score of ≥ 10 , and low Personal Accomplishment (PA) was indicated by a score of ≤ 33 . These cutoff values are consistent with the most commonly used criteria in the literature.¹³ According to MBI guidelines, higher scores in the Emotional Exhaustion and Depersonalization scales, with lower scores in the Personal Accomplishment Scale, indicate a higher level of burnout.

Data was organized and analyzed for descriptive statistics by using SPSS version 25.0, keeping the p-value ≤ 0.05 significant. Demographic data were summarized as frequencies and percentages. Independent t-tests were conducted to compare the means of the two groups, assessing the differences between public and private sector hospital scores in each domain of burnout. Furthermore, bivariate Pearson correlation analysis was done to identify associations between the raw scores and other continuous variables.

RESULTS

The study was conducted among 200 residents in four randomly selected tertiary care hospitals in Peshawar. The response rate was 89%. The mean age of the study participants was 28.58 ± 2.19 . A total of 111 (62%) study participants were males, and 67 (38%) were females. Most of the study participants (52.8 %) were single, as shown in Table 1.

This study revealed that male residents had higher mean scores in depersonalization (DP = 9.95) and personal accomplishment (PA = 29.29) compared to female residents (DP = 8.58; PA = 25.85). Additionally, unmarried residents reported greater emotional exhaustion (EE = 25.68) and personal accomplishment (PA = 28.73)

than married residents (EE = 24.63; PA = 27.22). Among specialties, residents in the Obstetrics and Gynecology (Gynae/OBS) department exhibited the highest levels of emotional exhaustion and the lowest scores in the personal accomplishment domain. In contrast, residents in the Surgery & Allied departments showed the highest depersonalization scores. Anesthesiology residents reported the lowest levels of both emotional exhaustion and depersonalization, while those in the Medicine & Allied departments attained the highest scores in the personal accomplishment dimension of burnout (Table 2).

The prevalence of high burnout levels among resident physicians has been observed, as shown in Table 3.

Table No 1: Distribution of Demographic Variables

Total (n= 178)	Frequency(n)	Percentage (%)
Gender		
Male	111	62.4
Female	67	37.6
Marital status		
Single	94	52.8
Married	82	46.1
Divorced	2	1.1
Year of residency		
PG1	41	23
PG2	61	34.3
PG3	39	21.9
PG4	30	16.9
PG5	7	3.9
Employment sector		
Private	89	50
Public	89	50

Table No 2: Domain Scores of Residents of Different Medical Specialties

N= 178	Percent	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Medicine & Allied	47.2	24.77±9.70	8.83±4.45	28.55±7.44
Surgery & Allied	37.1	24.98±10.22	10.92±4.97	28.33±5.99
Gynae/OBS	10.1	30.22±12.35	8.17±5.69	25.22±8.34
Anesthesiology	3.4	22.50±7.71	6.17±4.36	25.33±4.27
ENT	2.2	23.00±10.80	8.25±3.20	27.25±7.27

Table No 3: Percentage of Residents exhibiting high Burnout across Domains

Burnout Domain	High Burnout (%)	Burnout Score (Mean±SD)
Emotional Exhaustion	43.8	25.29 ±10.19
Depersonalization	46.1	9.44 ±4.87
Personal Accomplishment	78.7	27.99 ±6.96

Note: High burnout is defined as follows: Emotional Exhaustion (EE) ≥ 27 , Depersonalization (DP) ≥ 10 , and Personal Accomplishment (PA) ≤ 33 .

EMOTIONAL EXHAUSTION (EE)

A positive correlation was observed between EE and Year of residency ($r = 0.163$ and $p = 0.03$), as the year of residency increased, so did the EE score. No association was found between EE and the category of hospital.

DEPERSONALIZATION (DP)

A significant association was found between DP and the category of hospital. Residents enrolled in public sector hospitals (8.58 ± 4.55) had significantly higher DP score compared to those in private sector (10.29 ± 5.05), $P = 0.02$. When asked if the residents had become callous towards patients, 29.8 % of residents responded “sometimes”. Moreover, 44% reported having “never” treated some patients as perceived them as impersonal objects.

PERSONAL ACCOMPLISHMENT (PA)

A significant association was found between PA and the category of hospital. The mean PA score of residents in Private sector hospitals (29.10 ± 7.87) was significantly higher compared to that in the public sector (26.90 ± 5.74), $P = 0.04$. Moreover, Higher PA was associated with the male gender (29.30 ± 6.74) compared to the female gender (25.85 ± 6.83), $P = 0.01$. While answering the question of whether the residents felt that they were positively influencing other people’s lives, 27% responded as “often”.

Inter-correlation between the individuals’ subscales revealed a noteworthy positive relationship between emotional exhaustion and depersonalization ($r = 0.348$, $p = 0.00$), and a substantial negative correlation between emotional exhaustion and personal accomplishment. ($r = -0.213$, $p = 0.004$).

DISCUSSION

This study explored burnout among resident physicians across various specialties, revealing significant differences in burnout levels between public and private hospitals. Our findings highlight notable levels of burnout among residents, characterized by high Emotional Exhaustion, Depersonalization, and low Personal Accomplishment scores.

These results underscore residents’ significant emotional and professional challenges during their training. Factors such as poor work-life balance, inadequate support systems, and the demanding nature of residency programs likely contribute to these dimensions of burnout, as supported by comprehensive studies showing a high rate of burnout among various specialties, which also identify multiple contributors to physician burnout, including excessive workload, inefficient work processes, lack of

control, and work-life imbalance.^{14, 15, 16}

A noteworthy finding was the positive correlation between EE and the year of residency, indicating that as the year of residency increased, so did the EE score. This may be attributed to the escalating responsibilities and cumulative stressors encountered throughout the training period, a pattern identified in the University of Pennsylvania School of Medicine.¹⁷

On the other hand, the study conducted in Nepal has found no association between the level of residency and burnout.¹⁸ In a comprehensive review encompassing seven studies with a total of 1,000 medical residents across various specialties, the overall prevalence of burnout was found to be 82.1%. Among the residents, 84.8% reported high levels of emotional exhaustion (EE), 96.9% exhibited elevated depersonalization (DP), and 89.2% demonstrated low scores in personal accomplishment (PA).

Statistical analysis revealed significant associations between burnout and several demographic and professional variables, including age, gender, and year of residency, marital status, academic rank, parental status, and frequency of monthly on-call duties, work sector, clinical learning environment, and availability of leisure time ($p < 0.05$). Notably, depersonalization scores were significantly greater among internal medicine residents compared to their counterparts in surgical specialties ($p = 0.04$). Furthermore, emotional exhaustion was more pronounced in single and first-year residents relative to married and more senior residents ($p < 0.05$).¹⁹ A study conducted in a public sector hospital in Peshawar showed that 25.39% of study participants had high levels of burnout, while 32.93% were identified as being at high risk. Based on the Maslach Burnout Inventory (MBI), 34.92% of participants exhibited high emotional exhaustion, 95.23% demonstrated elevated depersonalization, and 95.63% reported low personal accomplishment scores. Among the various specialties, the highest mean burnout scores were recorded in orthopedics (80.14), followed by obstetrics and gynecology (75.35). Burnout was more frequently reported among younger physicians aged 25–30 years (68.85%), with a higher prevalence observed among female doctors (71.58%) compared to their male counterparts.¹⁰

The most notable finding in our study was the significantly higher Depersonalization (DP) and lower Personal Accomplishment (PA) scores among residents in public hospitals compared to those in private hospitals.

Public hospitals, characterized by higher patient volumes and limited resources, likely contribute to residents feeling more depersonalized.

The exposure to complex cases, chronic conditions, and socioeconomic challenges in these settings may affect their sense of personal achievement, especially if they perceive limited positive results. A study conducted at Mayo Hospital, Lahore, showed that 70% of participants experienced high levels of burnout in at least one subscale of the Maslach Burnout Inventory (MBI), emphasizing serious concerns about the quality of life and working conditions for healthcare professionals.²⁰

However, the study has certain limitations that must be acknowledged. These results cannot be generalized to a broader population because this survey was conducted in only four tertiary care hospitals in the Peshawar district. Additionally, the convenience sampling method further confines the generalizability of the study. Further research should be considered to find out the prevalence of burnout and to explore interventions to address the unique challenges among residents in different healthcare settings.

CONCLUSION

This study emphasizes the fundamental need for targeted interventions to address burnout among residents in Peshawar. Variances across medical specialties and hospitals underscore the importance of tailored strategies. Striking differences between public and private hospitals highlight the necessity for specific interventions in resource-limited settings. Future research should explore causation, employ longitudinal designs, and devise interventions for diverse healthcare contexts.

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Authors Contribution:

Following authors have made substantial contributions to the manuscript as under

Authors	Conceived & designed the analysis	Collected the data	Contributed data or analysis tools	Performed the analysis	Wrote the paper	Other contribution
Ahmed S	✓	✓	✗	✗	✓	✗
Aliya B	✓	✓	✓	✓	✓	✓
Khan MM	✗	✗	✗	✗	✓	✓
Qazi A	✓	✓	✓	✓	✓	✗
Sahar NU	✗	✗	✗	✗	✓	✓
Khattak STM	✓	✓	✓	✓	✓	✗

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Ethical Approval:

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