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# How severe is burnout among postgraduate medical trainees? A cross-sectional study at HMC, Peshawar.

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**ABSTRACT... Objective:** To assess the prevalence and dimensions of burnout among postgraduate medical trainees at HMC, Peshawar, focusing on senior residents within general departments. **Study Design:** Cross-sectional study. **Setting:** Hayat Abad Medical Complex. **Period:** March 2023 to June 2023. **Methods:** Involving 105 postgraduate trainees in their fourth year of training using the Copenhagen Burnout Inventory (CBI). Data analysis was performed using SPSS. **Results:** Mean total burnout score was 51.6, with differences observed based on age and gender. Personal, work-related, and client-related burnout scores were 54.21, 51.75, and 49.0, respectively. Specialty-wise, burnout varied significantly, with higher rates observed in surgical and allied specialties. **Conclusion:** Burnout remains a significant concern in healthcare settings, necessitating further exploration of its relationship with quality of care. Interventions aimed at mitigating burnout should be prioritized to promote trainee well-being and enhance patient care quality. Study's limitations, including its single-center focus and exclusion of trainees from other years, warrant consideration in future research efforts.

**Key words:** Burnout, Professional, Internship and Residency, Job Satisfaction, Work Load.

## INTRODUCTION

Burnout is a psychological syndrome resulting from chronic workplace stress, characterized by emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment. It has significant implications for individuals physical and mental health, job performance, and overall well-being.

Burnout is defined by three dimensions: emotional exhaustion, cynicism (depersonalization), and inefficacy (reduced personal accomplishment).[1,2] It is particularly prevalent among healthcare professionals, including physicians, nurses, and midwives, due to the demanding nature of their work environments.[3,4] Many factors can lead to burnout, in the domain of work environment, they can be high job demands, long working hours, and work overload as significant risk factors.[5] Poor work-life balance and lack of autonomy also contribute to burnout.[6] In the realm of social and organizational support, there can be low social support from colleagues and supervisors which increases the risk of burnout.[4] Conversely, high levels of job support and workplace justice are protective against emotional exhaustion.[4] Personal Factors responsible are younger age, being single, and having less professional experience are associated with higher burnout levels.[7] Insufficient sleep and preoccupation with work during leisure time are significant predictors of burnout.[8] Specific Professional risks which contribute are healthcare professionals, especially those in high-stress environments like ICUs and surgical specialties.[9] While midwives and nursing managers also show high levels of burnout due to work overload and lack professional recognition. Studies have also shown that psychological symptoms are developed in physiotherapy students which work under stress full conditions.[10] Burnout also have health implications. It is linked to increased risk of cardiovascular diseases and other health issues due to chronic stress and associated physiological changes.[11,5]

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Burnout among healthcare providers has a profound negative impact on patient care and outcomes.[11] It is associated with decreased patient safety[12], poorer quality of care, lower patient satisfaction, reduced professionalism, and decreased organizational commitment and productivity.[11] Addressing burnout is crucial for improving the overall quality of healthcare and ensuring better patient outcomes. Efforts to mitigate burnout should be a fundamental health care policy goal to enhance both provider well-being and patient care quality.

The implications of burnout extend far beyond individual well-being, exerting a profound influence on patient care quality and the overall efficacy of healthcare systems. Consequently, the phenomenon has garnered considerable attention from both the research community and policymakers alike, as efforts are directed toward understanding its prevalence, causes, and potential interventions.

Within the realm of healthcare, postgraduate medical trainees represent a crucial demographic, poised at the intersection of learning, practice, and professional development.[13] These individuals, immersed in the rigors of advanced medical education, are uniquely positioned to offer insights into the prevalence and impact of burnout within their ranks. Against this backdrop, our study seeks to illuminate the frequency of burnout experienced by postgraduate trainees within the context of our medical teaching institute.

The Maslach Burnout Inventory (MBI) is the most commonly used tool to measure burnout.[1] Many other measurement scales for burnout were also developed like Copenhagen burnout inventory[14] and Depression, anxiety and stress scale.[15]

Burnout among healthcare providers, including nurses and physicians, is a significant issue that affects not only the well-being of the providers themselves but also the quality of patient care and outcomes. By employing a cross-sectional study design, we endeavor to capture a snapshot of the prevailing levels of burnout among this cohort, shedding light on its multifaceted dimensions and potential variations across demographic and departmental lines. Through the utilization of the Copenhagen Burnout Inventory (CBI) scale, we aim to provide a comprehensive assessment of burnout encompassing personal, work-related, and patient-related dimensions.

The rationale underlying this study stems from a recognition of the critical role played by postgraduate trainees in the healthcare ecosystem and the potential ramifications of burnout on their well-being, patient care quality, and the broader healthcare landscape. By gaining insights into the prevalence and correlates of burnout among this cohort, we aspire to inform targeted interventions aimed at mitigating its impact and fostering a more supportive and sustainable training environment. Moreover, situated within the context of HMC, Peshawar, this study holds the promise of offering locally relevant data that can inform institutional policies and practices aimed at promoting trainee well-being and professional fulfillment.

The primary aim of this research endeavor is to assess the extent of burnout among postgraduate medical trainees, with a specific focus on senior residents within general departments at HMC, Peshawar.

## METHODS

Simple observational, cross sectional study design was used. Study was conducted at Hayat Abad Medical Complex from March 2023- June 2023. Permission was taken from “Institutional Ethical Review Board” (IERB approval no: 1419 dated: 22-06-23). A survey sample design was used. All the post graduate trainees who were in their fourth year of training were our inclusion criteria. Informed consent was taken. Our response rate was 94.28%. Data of 105 respondents were received back. Data collection tool comprised of a questionnaire. It consisted of simple demographic data along with English version of Copenhagen Burnout Inventory (CBI-scale). This scale contains three dimensions which are personal burnout (06 questions), work related burnout (07) and client related burnout (06). For data analysis, SPSS version (29) was used to calculate different scores and Crohn back

Alpha values.

## RESULTS

It was observed that the mean of total burnout score was 51.6. The score in health care workers who were less 30 years of age was 54.26 ± 15.2 and it was 49.67 ± 17.0 in workers more than 30 of age. In females it was 54.62 ± 18.3 and in males it was 49.2 ± 17.74

| Characteristic | N % |
|---|---|
| **Age profile** | |
| Less than 30 years old | 53 (53.5) |
| More than 30 years of age | 46(46.46) |
| **Gender** | |
| Male | 52(52.5) |
| Female | 47(47.47) |

**Table-I. Demographic profile of participants**

| Measure | M(SD) | Prevalence cut-off N (%) | Subscale Cronbach Alpha |
|---|---|---|---|
| CBI | | | |
| Personal burnout N=100 | 54.21 (19.59) | <50 =41(41.4) No burnout | 0.872 |
| | | 50-<75=33(33.3) Moderate burnout | |
| | | 75-<100=20(20.2) Severe burnout | |
| Work Burnout | 51.75 (21.25) | <50= 40(40.4) | 0.879 |
| N=99 | | 50-<75=41(41.4) | |
| | | 75-<100=15 (15.2) | |
| Client Burnout | 49.0 (21.25) | <50= 35 (35.4) | 0.845 |
| N=99 | | 50-<75=51(51.5) | |
| | | 75-<100= 11(11.1) | |

**Table-I. Average Burnout score in three domains of personal, work related and client related**

## DISCUSSION

The internal consistency on Cronbach's alpha scale was 0.87, 0.87, 0.84 which showed good internal consistency of the CBI scale used in our study. Similar score .91, 0.89, 0.92 reported in other studies.

The average burnout as seen in our study was 51.6 (54.61, 51.75 & 49.0) It was consistent with similar studies from other researchers. In comparison, average burnout score 55.9(personal) & 44.69 (work related) was reported by a study on midwives in Australia.[15] A study done in Jordan 2023 reported eight out of ten participants reported some kind of burnout.[16]

These studies suggest that burnout is prevalent across various healthcare settings, with higher rates among surgical/urgency residencies, frontline nurses in low and middle-income countries[12], and primary health care workers in sub-Saharan Africa and Iran.[17]

### Burnout in Specific Professions

High prevalence of burnout is observed among physicians, especially in surgical specialties, with severe consequences such as substance abuse, absenteeism, and strained personal relationships.[2,18,17] Similarly, specialty of Nurses experience burnout due to high workload, low staffing levels, long shifts, and low control, leading to poor job performance and adverse patient outcomes.[11] In physiotherapy students in S Africa it was reported[10] Physiotherapist burnout during the COVID-19 pandemic in Japan was 17.5%, associated with factors such as year of experience, infection control burden, staffing standards, relaxation time, and self-improvement time.[19] In physiotherapy students in S Africa it prevalence of depression & stress to be 79.9% & 81.6% respectively.[10] The prevalence of burnout in medical students was estimated to be 37.23%.[20]

### Specialty Wise Comparison

The prevalence of burnout in healthcare specialties varies widely, with significant rates observed during the COVID-19 pandemic[21] and among specific groups such as primary health-care professionals[22], ICU nurses, and surgical specialists. Burnout syndrome has a higher prevalence among surgical/urgency residencies (40.8%) than in clinical specialties (30.0%).[17]

| | Always or very high degree (Scoring 100%) | Always a or To a very high degree b (Scoring 100) % Often or to a high degree (Scoring 75%) | Sometime or somewhat (scoring 50%) | Seldom or to a low degree (scoring 25%) | Never or almost never (scoring 0%) | Mean score (SD) Std. Deviation |
|---|---|---|---|---|---|---|
| **Personal burnout (N=95)** | | | | | | |
| 1.Feel tired | 18.2 | 36.4 | 40.4 | 5.1 | 0 | 66.92 ± 20.772 |
| 2.Physically exhausted | 14.1 | 33.3 | 43.4 | 9.1 | 0 | 63.13 ± 21.232 |
| 3.Emotionally exhausted | 15.2 | 24.2 | 41.4 | 14.1 | 5.1 | 57.58 ± 26.355 |
| 4.“can't take it anymore” | 13.1 | 11.1 | 36.4 | 25.3 | 14.1 | 45.96 ± 30.031 |
| 5.Feel worn out | 6.1 | 20.2 | 39.4 | 23.2 | 9.1 | 47.68 ± 25.790 |
| 6.Weak & susceptible to illness | 7.1 | 18.2 | 35.4 | 30.3 | 8.1 | 46.43 ± 26.134 |
| Total averg personal burout | | | | | | 54.61 |
| **Work related burnout (N=97)** | | | | | | |
| 1. Worn out at end of day (emotionally exhausted) | 23.2 | 21.2 | 36.4 | 11.1 | 8.1 | 60.10 ± 29.863 |
| 2. Feel burnout | 16.2 | 27.3 | 34.3 | 16.2 | 6.1 | 57.83 ± 27.813 |
| 3. Frustration | 10.1 | 19.2 | 29.3 | 21.2 | 20.2 | 44.44 ± 31.452 |
| 4. Feel worn out at the end of day | 19.2 | 26.3 | 34.3 | 15.2 | 5.1 | 59.85 ± 27.852 |
| 5. Exhausted in the morning | 18.2 | 19.2 | 25.3 | 16.2 | 20.2 | 49.74 ± 34.711 |
| 6. Every working hour is tiring | 7.1 | 20.2 | 26.3 | 26.3 | 20.2 | 41.92 ± 30.268 |
| 7. *Energy for family & friends | 11.1 | 22.2 | 30.3 | 25.3 | 11.1 | 50.76 ± 29.33 |
| Total average work-based | | | | | | 52.09 |
| **Client related burnout (N=98)** | | | | | | |
| 1. Hard to work with clients | 4.0 | 23.2 | 39.4 | 17.2 | 16.2 | 45.45 ± 27.284 |
| 2. Frustrating to work with clients | 4.0 | 17.2 | 43.4 | 18.2 | 17.2 | 43.18 ± 26.683 |
| 3. Drain your energy to work with clients | 12.1 | 27.3 | 39.4 | 15.2 | 6.1 | 56.06 ± 26.267 |
| 4. Give more than you get back | 19.2 | 22.2 | 30.3 | 20.2 | 7.1 | 56.63 ± 29.938 |
| 5. Tired of working with clients | 8.1 | 15.2 | 43.4 | 18.2 | 15.2 | 45.71 ± 27.903 |
| 6. Able to continue working with clients | 15.2 | 20.2 | 33.3 | 20.2 | 15.2 | 46.97 ± 28.854 |
| Total average client-based | | | | | | 49 |

**Table-II. Mean & Percentage of individual responses (Question wise)**
***Scoring in reverse order for work burnout question 7**

| Specialty | N | Mean Std. Deviation |
|---|---|---|
| Surgery | 13 | 44.36 ± 12.15 |
| Medicine | 16 | 48.22 ± 16.68 |
| Gynae & obstetrics | 18 | 62.90 ± 15.10 |
| Pediatrics | 12 | 54.13 ± 15.84 |
| Radiology | 9 | 57.40 ± 11.82 |
| Ear, nose & throat | 5 | 47.74 ± 24.86 |
| Ophthalmology | 7 | 62.10 ± 17.59 |
| Anesthesia | 3 | 31.15 ± 21.74 |
| Pathology | 5 | 24.44 ± 2.35 |
| Oral maxillo-facial surgery | 6 | 55.52 ± 20.57 |

**Table-III. Specialty wise burnout score**

Similar findings were found in our study too where specialties of surgery and allied specialties showed higher burnout rates then medicine.

### On Personal Burnout Scale

Our study showed 54.61 while other studies showed the mean score of personal burnouts among frontline healthcare workers during the COVID-19 pandemic was 67.23.[23] Significant emotional exhaustion, depersonalization, and low personal achievement were reported.[11]

### While Comparing Geographically

Studies done in Sub Saharan Africa are mostly in Nursing[24] and physiotherapy[10] domains which have shown higher burnout rates. Studies done in Arab countries reports moderate to high level of burnouts[25] as seen similar trends in Western countries.

## LIMITATIONS

As the study was conducted in one hospital so findings cannot be generalized to all trainees. It has focused mainly on fourth year trainees while trainees in other years could have been included in it.

## CONCLUSION

Burnout is a widespread issue across various healthcare settings, with significant prevalence among primary healthcare providers. Common factors contributing to burnout include high job stress, workload, and lack of support. There is need to further explore relationship between burnout and quality of care.

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## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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| 1 | **Raheelah Amin:** Write up, analysis, interpretation of data. |
| 2 | **Muzdah Anwar:** Design, data acquisition. |
| 3 | **Ayesh Anwar:** Data analysis, write up, drafting. |
| 4 | **Mohammmad Nowsherwan Kundi:** Data analysis, draft, revising of article. |