Original Article

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The Incidence of Burnout among Surgery, Orthopedics and Medicine residents in a Public sector Hospital of Punjab

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ABSTRACT

Introduction: Burnout among healthcare professionals is a growing concern worldwide, affecting both their well-being and the quality of patient care.

Objective: This study aims to assess the occurrence and influence of burnout among surgery, orthopedics and medicine residents at a public sector hospital in Punjab, Pakistan, over a 6-month period.

Methods: In this observational cross sectional study the levels of burnout were assessed using the American Public Welfare Association (APWA) inventory to measure the levels of burnout among the study participants. This study was conducted over the period of 3 months (Sept - Oct 2022) and data was collected from the residents of surgery and medicine department.

Results: This study provides important insights into the well-being of surgery, orthopedics and medicine residents in a tertiary care hospital setting and highlights the need for effective burnout prevention and intervention programs. The findings of this study can inform the development of strategies to support the well-being of healthcare professionals and to improve the quality of patient care.

Conclusion: It underscores the need for proactive measures to support the well-being of healthcare professionals and improve the overall quality of patient care in public sector hospital**s.**

Keywords: Burnout, Surgery, Medicine, Residents, Medical

Doi: https://doi.org/10.53708/hpej.v6i1.2624

INTRODUCTION

The field of medicine is one of the most challenging and demanding professions, requiring long hours, high levels of responsibility, and intense emotional and physical strain(Afshar K et al., 2022). In current years, it has been observed the high prevalence of burnout among physicians and healthcare professionals, particularly among those in residency training programs(Butt F et al., 2019). Burnout is a complex syndrome that affects physical, emotional, and psychological well-being, and can have serious consequences for both the individual and the healthcare system as a whole(Shannon et al., 2020).

In this article, we have examined the prevalence of burnout among surgery, orthopedics and medicine residents in a tertiary care hospital. Tertiary care hospitals are highly specialized facilities that provide comprehensive and complex medical services, including surgeries, treatments, and advanced medical procedures(Dalky HF., 2019). These hospitals serve as a primary source of care for patients with serious, life threatening, complex medical conditions, and the workload and stress levels for healthcare professionals working in these facilities can be extremely high(Javed K., 2018). Surgery, orthopedics and medicine residents, who are still in the process of completing their training, are particularly susceptible to burnout due to the combination of long working hours, intense responsibilities, and the pressure to perform at a high level. The high rate of burnout among these residents can have serious consequences for their health, as well as for patient safety and the quality of care(Heinen et al., 2017). In addition, burnout can result in high turnover rates and decreased productivity, which can have a significant impact on the healthcare system as a whole.

The objective of this study is to explore the prevalence of burnout among surgery, orthopedics and medicine residents in a tertiary care hospital, and to identify the factors that contribute to this phenomenon. By understanding the causes and effects of burnout, we can develop effective strategies to address this issue and improve the well-being and professional satisfaction of healthcare professionals.

METHODS

This cross-sectional observational study was approved by the Institutional Review Board and conducted over a three-month period at the Departments of General Surgery, orthopedics and Medicine at Lahore General Hospital, Lahore. Ninety-two residents were invited to participate, and Eighty-four responded to the questionnaire.

A total of 92 residents were invited to participate in the study through convenient sampling. The sample size for this cross-sectional observational study on the prevalence of burnout among surgery, orthopedics, and medicine residents in a public sector hospital of Punjab was 84 participants.The survey had two parts. One part asked for personal information like age, gender, department, how long they have been working, their marital status, number of children, work hours, how many calls they receive, how long each call takes, if they have a private practice, their income, and job status. The other part was a questionnaire about burnout with 28 questions, split into three sections, from the American Public Welfare Association (APWA). Using the APWA inventory, the burnout grades (as illustrated in Table-1)

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Received: October 15, 2022 **Revised:** January 11, 2023
Accepted: February 18, 2023 **Available online:** June 15, 2023

were established and the data was analyzed via SPSS 26.0. The statistical analysis involved the calculation of frequency and percentages for qualitative statistics, and the application of the chi-square test to determine quantitative correlations among variables, where a p-value of ≤ 0.05 was considered significant. The study calculated the frequency of different burnout grades, and performed a risk stratification based on department and position.

RESULTS

Out of the 84 participants, 46 were female (54.8%) and 38 were male (45.2%). The majority of the participants (75%) were in the age group of 26-30 years. 66 participants (78.5%) were married, with the largest group (45.2%) belonging to General Surgery, followed by Medicine (40.4%) and Orthopedics (21.4%). The majority of doctors (51.6%) worked between 60-80 hours per week, with 19.4% working more than 85 hours per week. The monthly income of the majority of doctors (90%) ranged from Rs. 70, 000 to 150,000.

Table 1. The American Public Welfare Association has classified burnout into different grades, as presented in Table 1.

Grades of Burnout	Scores	Interpretation
I	28-38	No stress or professional burnout
II	38-50	Stress, but no professional burnout
III	51-70	Fair chance of burnout
IV	71-90	Early burnout
V	90+	Advanced burnout

Table 2. Displays the occurrence rates of different grades of burnout. (n=84)

Grades of Burnout	Frequency	Percentage
No stress or professional burnout	2	2.38 %
Stress but no professional burnout	6	7.14 %
Fair chance of burnout	14	16.6 %
Early burnout	37	44.0 %
Advanced burnout	25	29.7 %

This study revealed that there was a statistically significant incidence of early and advanced burnout among both male and female participants (p=0.05) as shown in figure 1.

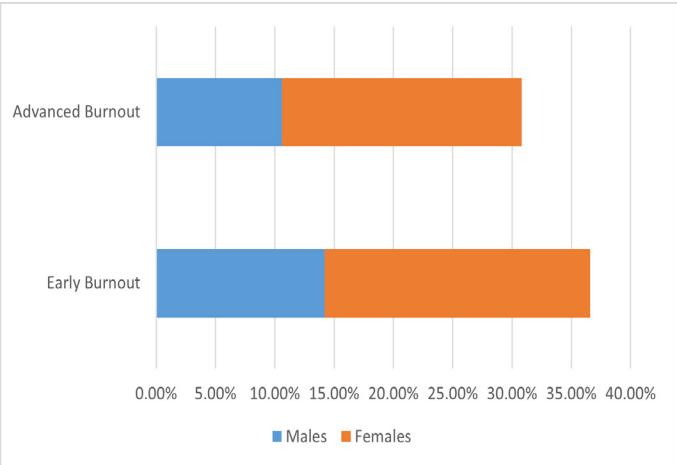

Fig 1. Advanced and Early burnout among male and female participants

Marital status and number of children did not have a statistical impact on the likelihood of developing burnout, as high rates of both early and advanced burnout were observed among both married and unmarried participants. However, a significant association (p= 0.00) was found between monthly income and burnout, with those earning between 70,000 and 150,000 rupees experiencing higher rates of both early (44.0%) and advanced (29.7%) burnout compared to those with higher incomes. The different departments' burnout levels are categorized and presented in Table 3.

Table 3. Burnout levels in the different departments

Department	Grades of Burnout					Total
	No Stress or Professional Burnout	Stress But no Professional Burnout	Fair Chance of Burnout	Early Burnout	Advanced Burnout	
Gen Surgery	1 (2.8%)	2 (5.7%)	6 (17.1%)	11 (31.4%)	15 (42.8%)	35
Medicine	1 (2.9%)	1 (2.9%)	3 (8.8%)	13 (38.2%)	16 (47.0%)	34
Orthopedics	0 (0%)	0 (0%)	4 (26.6%)	7 (46.6%)	4 (26.6%)	15

The study found a significant relationship between working hours and burnout, with participants who worked excessively reporting a higher level of burnout than those who worked moderately (p= 0.04). Specifically, 74.2% of those who worked over 85 hours/ week experienced burnout, compared to 60% of those working 65-85 hours and only 40% of those working less than 65 hours. The number of calls per month also had a significant association with burnout, with 55% of those with 3-7 calls/month experiencing early burnout and 42% experiencing advanced burnout. Additionally, job status had a statistically significant effect on burnout (p=0.004), with contract (adhoc) jobs showing a higher burnout rate (81%) compared to permanent jobs. Among the departments included in the study, general surgeons and medicine residents were more prone to early and advanced burnout, while orthopedic residents had an increased risk of developing burnout (see Table 3). In comparison of residents; Third and fourth year residents were more susceptible to burnout compared to 1st and 2nd year residents, most of whom had a moderate risk of developing burnout (see Table 4).

Table 4. Shows the relationship between job designation and burnout levels. (n=84)

Department	Grades of Burnout					Total
	No Stress or Professional Burnout	Stress But no Professional Burnout	Fair Chance of Burnout	Early Burnout	Advanced Burnout	
1st year residents	0 (0%)	0 (0%)	2 (14.2%)	8 (57.14%)	4 (28.5%)	14
2nd year residents	0 (0%)	0 (0%)	3 (17.6%)	6 (35.2%)	8 (47.0%)	17
3rd year residents	1 (4.1%)	1 (4.1%)	6 (25%)	7 (29.1%)	9 (37.5%)	24
4th year residents	1 (3.4%)	2 (6.89%)	2 (6.8%)	10 (34.4%)	14 (48.2%)	29

DISCUSSION

This study examined prevalence and severity of burnout among surgery, medicine and orthopedics residents, revealing a high overall rate of burnout that disproportionately affects general

surgeons and physicians(Wassif G et al., 2019). Our findings indicate that 31.4% of general surgeons experienced early burnout, with 42.8% experiencing advanced burnout, both higher rates than a survey of surgical residents reporting a 62.1% burnout rate. Additionally, our study found an 85.2% burnout rate among medicine residents, a higher figure than previous reports from Pakistan indicating 54% of medical residents were not happy with their career choice. We also explored an increased risk of burnout among orthopedic residents, field that has not been explored in Pakistan (El-Masry R et al., 2013). The lower rate of burnout among orthopedists may be due to better working conditions, timings of calls, and less burden.

This study reveals a significant correlation between the working hours and the frequency of burnout among participants who typically work 65-85 hours per week(Sattar K, 2023). This is of concern as it suggests an unfavorable trend towards increased burnout. Similar findings have been reported in various studies that compare burnout across medical students, doctors, paramedics, consultants and residents. Increased working hours have been associated with increased chances of errors, emotional exhaustion, and reduced quality of life, while working over 85 hours per week has been shown to significantly decrease efficiency and increase the risk of medical errors, with general surgeons being the most affected(Waheed and Sethi, 2019). Our study also found that low monthly income is significantly associated with burnout, with a 73.7% overall burnout rate among participants earning between 70,000 to 150,000 rupees per month. Other studies have identified low wages as a significant contributor to burnout, leading to poor job satisfaction and low feelings of accomplishment. In different studies, low income has been found to be a substantial influencer of high burnout rates among a majority of participants (Qutub, 2022). Although our study provides an important data from the largest referral center in Punjab, it is subject to several limitations. These include a small sample size and less engagement of orthopedics. Despite these limitations, the study's findings suggest several recommendations, including limiting working hours, reducing workloads and improving pay structures. It is crucial to implement these measures to improve burnout status and productivity at work (Zaman et al., 2020).

CONCLUSION

In conclusion, the issue of burnout among surgical residents in Pakistan is a pressing concern, particularly in light of the shortage of trained surgeons in the country. To address this issue, it is crucial to implement strategies that reduce workload, increase wages, and limit working hours, as well as promote psychological counseling and therapy to treat burnout. By taking these steps, we can hope to create a more equitable healthcare system that provides better access to quality care for all.

DECLARATION OF INTEREST

The author declare no conflict of interest.

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AUTHOR'S CONTRIBUTION

1.Umair Bin Nasir: Manuscript writing, Data collection,References and Paper Setting according to journal requirement.

2.Absar Nazir : Data collection and Proof reading