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RESEARCH ARTICLE
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BURNOUT AMONG HEALTHCARE PROFESSIONALS: A CROSS-SECTIONAL ANALYSIS IN GILGIT-BALTISTAN AND PUNJAB, PAKISTAN

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Abstract

Objective: The purpose of this study was to investigate the prevalence of burnout and its contributing factors among doctors employed in hospitals located in Gilgit-Baltistan and Punjab, Pakistan.
Method: A cross-sectional study was conducted, including a sample of 175 healthcare professionals from hospitals in Gilgit-Baltistan and Punjab during the period from November 2023 to May 2024. Convenience sampling was used to recruit participants, and the Maslach Burnout Inventory was utilized to measure burnout levels. Data analysis was performed using independent sample t-tests, independent measures ANOVA, and Pearson's product-moment correlation.
Results: The findings indicated significant gender-based differences in burnout, with male physicians exhibiting higher levels of emotional exhaustion and depersonalization compared to female doctors. Healthcare professionals from Punjab and those in tertiary care facilities experienced greater burnout. Doctors in general practice and surgical specialties reported particularly high emotional exhaustion. Moreover, burnout was found to increase with both age and years of professional experience.
Conclusion: Burnout is common among doctors, largely due to increased workload, and poses a risk to their well-being, potentially leading to diminished quality of patient care.

Introduction

Burnout is characterized as a physical and mental condition, frequently linked to chronic stress, particularly in the workplace. It involves physical exhaustion, fatigue, and feelings of hopelessness and desperation, often leading to a negative outlook on work, life, and interactions with others.1Doctors play a vital role not only in treating illnesses but also in promoting overall health and wellness. Their responsibilities include diagnosing conditions, prescribing treatments, and conducting medical procedures, but their impact goes further. They significantly contribute to public health by educating and advocating for healthier lifestyles.2 Burnout is prevalent among doctors worldwide, though the specific rates differ based on factors such as country, medical specialty, practice environment, gender, and career stage. Assessing burnout among doctors is essential, as their well-being directly affects the stability of the healthcare workforce and the quality of care provided to patients.3 Burnout is a significant concern, and researchers have sought ways to reduce its levels in order to minimize its negative effects.4

Achieving work-life balance is vital for doctors, as it enables them to handle their professional duties while also addressing personal obligations and enjoying a fulfilling life beyond their work.5 A demanding work environment can greatly contribute to elevated turnover rates among doctors.3 As a result, doctors may neglect their physical and emotional health while fulfilling their duties, with neither their fellow physicians nor hospital administrators giving sufficient attention to their challenges. This can have a profoundly negative effect on both patient care and the well-being of the doctors themselves.6 Some studies have indicated that physician burnout is linked to a rise in medical errors, reduced patient satisfaction, extended recovery times after discharge, and diminished professional effort.7 This study aimed to raise awareness of the critical issue of burnout among doctors in Pakistan. Specifically, it investigated the relationship between various factors contributing to burnout among physicians working in different hospitals in the Gilgit-Baltistan and Punjab regions.

Materials and Methods: Study design, Population, and sampling

For the current study a cross-sectional research design to examine burnout among healthcare professionals. The sample consisted of 175 participants, determined using G*Power, and included 95 men and 80 women, with an average age of 31.47 years and a standard deviation of 8.39. The participants were selected from secondary and tertiary care hospitals located in Gilgit Baltistan and Punjab, Pakistan, through a non-probability convenience sampling method. The sample included both physicians and surgeons, all of whom had a minimum of one year of experience in their respective fields of specialization.

Data Collection

The data collection spanned from November 2023, to May 2024, and involved a comprehensive two-part assessment. The first part included a detailed demographic information sheet that gathered data on participants' gender (male and female), province of residence (Gilgit Baltistan and Punjab), marital status (married or unmarried), age, and years of work experience. Participants were also categorized by their medical specializations, which were divided into five key groups: general and internal medicine, surgical specialties, women’s and children’s health, diagnostic and support specialties, and specialized medicine. Furthermore, the type of healthcare facility where they worked—whether a secondary or tertiary care hospital—was recorded. In the second part of the assessment, healthcare professionals were evaluated using the Maslach Burnout Inventory to measure their levels of burnout across various dimensions.

Maslach Burnout Inventory (MBI)

The Maslach Burnout Inventory (MBI) is a widely recognized tool for evaluating burnout, particularly in professions that involve caregiving, such as healthcare, education, and social work. It assesses burnout through three dimensions: emotional exhaustion, depersonalization, and personal accomplishment. The MBI consists of 22 items, rated on a 7-point Likert scale from 0 (Never) to 6 (Every day). Emotional exhaustion, with 9 items, measures the feeling of being emotionally drained by work, while depersonalization, with 5 items, evaluates a detached and impersonal attitude toward those being cared for. The personal accomplishment subscale, comprising 8 items, gauges feelings of competence and success at work, with lower scores indicating a sense of inefficacy. Through these subscales, the MBI provides a comprehensive measure of burnout levels in caregiving-related occupations.

Data Analysis:

The data were analyzed using IBM SPSS version 26 (Statistical Package for Social Sciences), following a structured three-step approach. Initially, descriptive statistics were employed to provide a detailed overview of the demographic characteristics, including frequencies, percentages, means, and standard deviations. This offered a foundational summary of the data. In the second phase, further descriptive statistics were calculated, alongside reliability analysis and the evaluation of skewness and kurtosis for the burnout inventory, ensuring the data’s normality and consistency. In the final

stage, an independent samples t-test was applied to identify any significant differences in burnout levels across various groups, such as province, gender, and hospital types. Moreover, a one-way ANOVA was performed to examine variations in burnout among different medical specializations. All statistical tests were carried out with a 95% confidence interval, and the significance level was set at $\alpha = .05$ for accurate interpretation of the results.

Results

Table 1 *Descriptive Statistics of Demographic Characteristics of Participants (175)*

Variables	*f*	%	*M*	*SD*
Gender				
Male	95	54.28		
Female	80	45.71		
Age (in Years)			31.47	8.39
Working Experience (years)			8.12	9.45
Province				
Gilgit-Baltistan	65	37.15		
Punjab	110	62.85		
Marital Status				
Single	36	20.57		
Married	139	79.42		
Specialization				
General & Internal Medicine	31	17.71		
General Medicine				
Nephrology				
Gastroenterology				
Cardiology				
Surgical Specialties	35	20.00		
Surgery (General Surgery)				
Orthopedic Surgery				
Urology				
Dental Surgery				
Women's & Children's Health	40	22.85		
Pediatrics				
Gynecology				
Diagnostic & Support Specialties	37	21.14		
Radiology				
Pathology				
Anesthesia				
Specialized Medicine	32	18.28		
Dermatology				
ENT (Ear, Nose, Throat)				
Types of Hospital				
Secondary Care Hospitals	69	39.42		
Tertiary Care Hospitals	106	60.57		

Note: f=frequency, %=percentage

Table 1 presents the demographic characteristics of the participants. The sample consisted of 54.28% males and 45.71% females, with an average age of 31.47 years (SD = 8.39). Regarding geographical distribution, 37.15% of healthcare professionals were from Gilgit Baltistan, while 62.85% were from Punjab province. The participants represented various specializations: General & Internal Medicine (7.71%), Surgical Specialties (20%), Women's & Children's Health (22.85%), Diagnostic & Support Specialties (21.14%), and Specialized Medicine (18.28%).

In terms of marital status, a smaller percentage of participants were single (20.57%), while the majority were married (62.85%). Additionally, 39.42% of healthcare professionals worked in secondary care hospitals, whereas 60.57% were employed in tertiary care hospitals.

Table 2 *Descriptive Statistics and Reliability Analysis of Study Variables (N=240)*

Variable					*Ranges*		*Normality*	
	k	α	*M*	*SD*	*Actual*	*Potential*	*Skewness*	*Kurtosis*
Burnout	22							
Emotional Exhaustion	9	.81	36.12	8.21	0-54	10-51	-0.98	3.41
Depersonalization	5	.74	16.75	7.04	0-30	8-29	-0.75	2.17
Personal Accomplishment	8	.78	31.41	16.40	0-48	15-48	-0.22	0.79

Note. K=number of items, α= Cronbach's alpha. SD= standard deviation.

Table 2 indicates the number of items, reliability, mean, standard deviation, range (actual and potential), skewness and kurtosis. The reliability analysis showed that Cronbach Alpha reliability coefficients for emotional exhaustion, depersonalization, and personal accomplishment was .81, .74, and .78 respectively.

Table 3 *Independent Sample t-test comparing Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) across Genders (175)*

Variable	Men = 95		Women = 80		*t (173)*	*p<*	*Cohen's d*
	M	*SD*	*M*	*SD*			
Emotional Exhaustion	36.20	11.76	32.12	8.21	6.51	.001	0.40
Depersonalization	18.75	7.04	15.57	6.75	4.49	.001	0.46
Personal Accomplishment	30.41	16.10	29.75	15.85	0.79	.319	0.04

The results of table 3 indicated that significant gender differences were found in-terms of burn-out including emotional exhaustion and depersonalization, which indicated that men experienced high level of emotional exhaustion and depenalization as compare to women. The magnitude of the differences was medium for both emotional exhaustion and depersonalization. However, there were no significant differences found in personal growth across men and women.

Figure 1 *Mean Comparison of Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) across Genders*

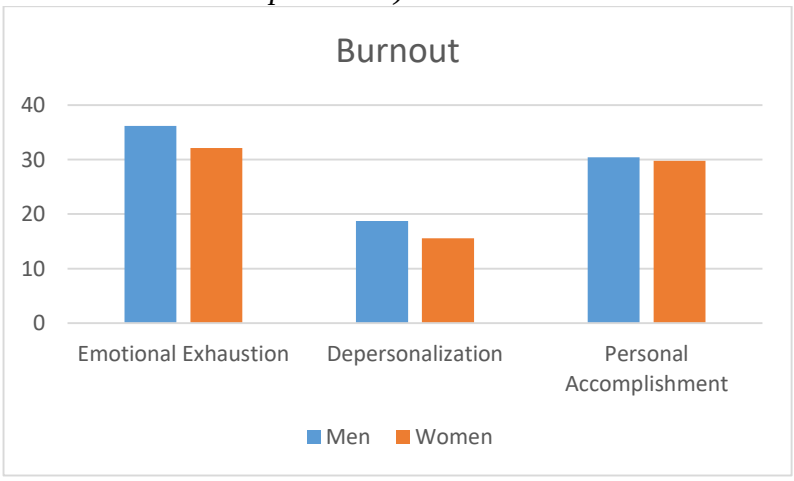

Table 4 *Independent Sample t-test comparing Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) across Genders (175)*

Variable	Gilgit-Baltistan = 65		Punjab = 105		*t (173)*	*p<*	*Cohen's d*
	M	*SD*	*M*	*SD*			
Emotional Exhaustion	29.95	9.74	37.10	8.41	6.78	.001	0.48
Depersonalization	14.67	6.25	21.87	9.15	5.57	001	0.46
Personal Accomplishment	27.54	13.34	29.75	16.29	1.07	.112	0.09

The results of table 4 indicated that there were significant differences of provinces (Gilgit-Baltistan and Punjab) found in emotional exhaustion and depersonalization, which indicated that healthcare professionals from Punjab province experienced high level of emotional exhaustion and depenalization as compared to health care professionals form Gilgit-Baltistan. The magnitude of the differences was medium for both emotional exhaustion and depersonalization. On contrary, there were no significant differences found in personal growth across provinces, i.e., Gilgit-Baltistan and Punjab.

Figure 2 *Mean Comparison of Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) across Province.*

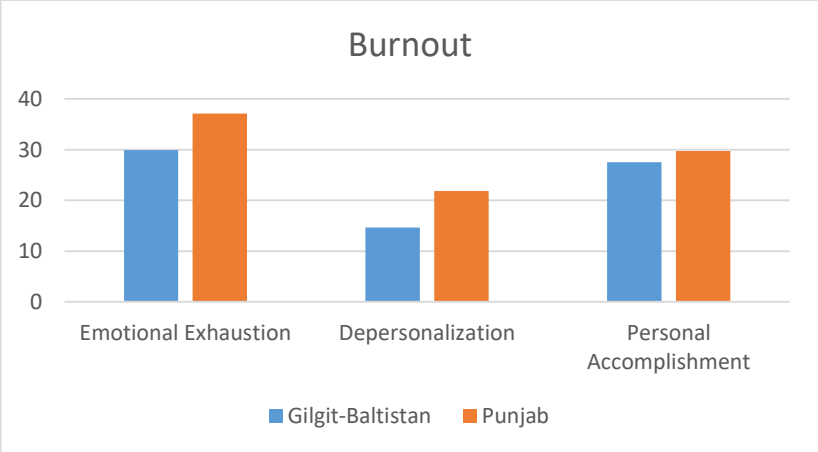

Table 5 *Independent Sample t-test comparing Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) across Types of Hospitals (175)*

Variable	Secondary Care = 69		Tertiary Care = 106		*t (173)*	*p<*	*Cohen's d*
	M	*SD*	*M*	*SD*			
Emotional Exhaustion	32.24	12.97	38.87	14.74	6.31	.001	0.43
Depersonalization	16.19	7.24	20.93	10.08	4.12	001	0.46
Personal Accomplishment	29.57	14.84	34.42	17.87	4.07	.001	0.39

The results of table 5 indicated that there were significant differences of types of hospitals (secondary care and tertiary care) found in burnout including emotional exhaustion, depersonalization, and personal accomplishment which indicated that healthcare professionals from tertiary care experienced high level of emotional exhaustion, depenalization and personal accomplishment as compared to health care professionals form secondary care hospitals. The magnitude of the differences was medium for emotional exhaustion, depersonalization and personal accomplishment.

Figure 3 *Mean Comparison of Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) across Types of Hospitals.*

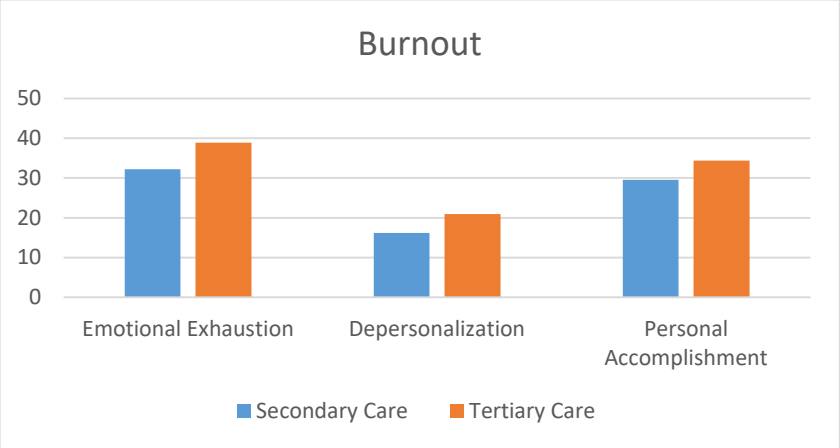

Table 6 *Independent Sample t-test comparing Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) across* Specialization *(175)*

Variables	General & Internal Medicine = 31		Surgical Specialties = 35		Women's & Children's Health = 40		Diagnostic & Support Specialties = 37		Specialized Medicine = 32				
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F(4,170)*	*p*	η^2
Emotional Exhaustion	38.12	16.27	38.87	16.74	29.21	11.24	21.23	7.41	28.87	12.11	18.07	.001	.241
Depersonalization	17.24	7.23	20.93	10.08	16.74	6.25	16.85	7.75	17.22	7.87	1.24	.145	.004
Personal Accomplishment	28.57	13.17	29.21	16.21	27.97	13.77	29.45	16.20	30.12	17.52	1.07	.101	.001

The results of table 6 indicated that there were significant differences of specializations (general and internal medicine, surgical specialties, women's and children's health, diagnostic and support specialties and specialized medicine) found in emotional exhaustion, with large effect size. Further post hoc analysis (Gabriel) was carried out for pairwise comparisons. It found that the healthcare providers with general health medicine and surgical specialties experience high level of emotional exhaustion as compare the health care providers with the specialties in women's and children's health, diagnostic and support specialties and specialized medicine. It has been also observed that the health care providers with diagnostic and support specialties experienced low level of emotional exhaustion as compared to the rest of specializations.

However, there were no significant differences of specializations (general and internal medicine, surgical specialties, women's and children's health, diagnostic and support specialties and specialized medicine) found in depersonalization and personal accomplishment.

Figure 4 *Mean Comparison of Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) across Specializations.*

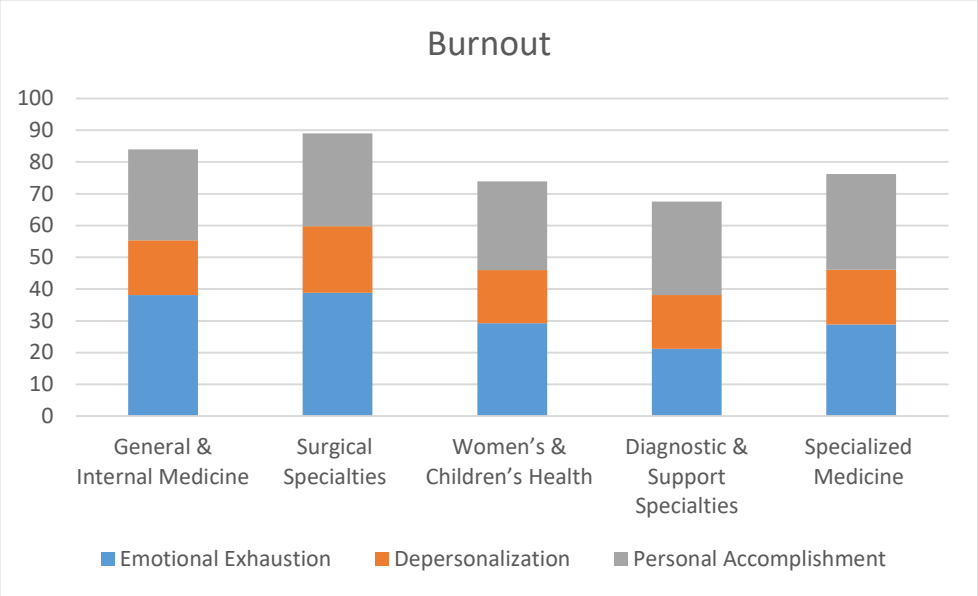

Table 7 *Pearson correlation between Age, Working Experience, Burnout (Emotional Exhaustion, Depersonalization, and Personal Accomplishment) (N=240).*

Variables		*1*	*2*	*3*	*4*	*5*
1	Age	-	.47***	.32**	.49***	-.01
2	Working Experience			.46***	.29*	.37**
3	Emotional Exhaustion				.27*	.36***
4	Depersonalization					.42***
5	Personal Accomplishment					-

**p<.05., **p<.01, ***p<.001.*

Table 7 showed that age was found to be significantly positively associated with emotional Exhaustion and depersonalization, however it was found to be non-significantly correlated with Personal Accomplishment. Meanwhile, working experience was found to be significantly positively correlates with emotional exhaustion, depersonalization, and personal accomplishment.

Discussion

The current study was undertaken to assess burnout among healthcare professionals in Gilgit-Baltistan and Punjab. The research was conducted in the walled city, which experiences a high patient inflow and bed occupancy rate. The objective was to evaluate burnout in doctors, as burnout and stress are closely related issues among healthcare workers. Elevated levels of personal accomplishment were found to increase stress levels, while depersonalization was associated with lower stress levels.8

Our study found that male doctors reported higher levels of burnout and work/home stress compared to their female counterparts. Burnout is common among healthcare professionals, who value the emotional and social support gained from attending debriefing sessions. A larger study is needed to determine whether such sessions can reduce the incidence of burnout among physicians.9

Our study revealed that healthcare professionals in Punjab province experienced higher levels of emotional exhaustion and depersonalization compared to those in Gilgit-Baltistan. The disparity in emotional exhaustion and depersonalization levels may be due to several factors, including patient volume and workload, resource availability, work environment, and training and support systems. These elements can contribute to increased stress and elevated burnout levels among these professionals.

Findings indicated that healthcare professionals in tertiary care settings experienced higher levels of emotional exhaustion, depersonalization, and personal accomplishment compared to those in secondary care hospitals. This may be attributed to various factors, such as managing more complex and severe cases in tertiary care facilities, handling a larger patient volume, and frequently working in interdisciplinary teams.10

This study also found that healthcare providers specializing in general health medicine and surgical fields experience greater emotional exhaustion compared to those in specialties like women's and children's health, diagnostic and support areas, and specialized medicine. This could be attributed to various factors, including longer and unpredictable working hours, high expectations and performance pressures, exposure to trauma and death, and the physical demands of the job.11

Another finding indicates that age is significantly positively correlated with emotional exhaustion and depersonalization, suggesting that as individuals get older, they tend to experience higher levels of these burnout-related symptoms. Several factors may contribute to this trend, including longer exposure to stress, diminished coping resources, physical and cognitive decline, and stagnation in career growth. A study conducted in the USA reported a similar correlation regarding emotional exhaustion, particularly among resident doctors.13

Conclusion:

The study emphasizes the seriousness of burnout among doctors in Gilgit-Baltistan and Punjab. To effectively prevent and address this issue—especially considering its widespread effects on individuals, patient care, and healthcare systems—significant organizational changes are necessary. Burnout in healthcare professionals not only impacts their personal and professional well-being but also undermines the quality of care delivered to patients and places strain on healthcare systems. Further research is urgently needed to explore the effects of doctors' mental and physical well-being on their personal lives and work performance, as well as to investigate the institutional factors that contribute to burnout.

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