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P(ISSN) : 3007-0031

E(ISSN) : 3007-004X

<https://rc-archive.com/index.php/Journal/about>



Investigating Relationship Among The Causes & Factors Influencing Work Life And Quality Of Healthcare Among Postgraduate Trainee Doctors (PTDS)

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Publisher : EDUCATION GENIUS SOLUTIONS

Review Type: Double Blind Peer Review

ABSTRACT

This study investigates the intricate dynamics between workplace conditions, achievement motivation, communication challenges, burnout, work-life balance, and the perceived quality of healthcare as experienced by postgraduate trainee doctors (PGTDs) in tertiary hospitals across Pakistan. Adopting a quantitative correlational approach, data were gathered from a sample of 500 PGTDs using well-established psychometric tools. The analysis revealed notable relationships among the studied variables: better work conditions were associated with higher achievement motivation, improved work-life balance, and enhanced perceptions of healthcare quality. Conversely, poor work environments were linked to greater burnout and increased communication barriers. These findings highlight the critical importance of a supportive work setting in reducing professional stress and fostering better healthcare outcomes. The study contributes both theoretical insights and practical guidance for strengthening healthcare systems by refining human resource practices and institutional policies.

Keywords: Work conditions, Achievement motivation, Communication barriers, Burnout, Work-life balance, Quality of healthcare, Postgraduate trainee doctors

Introduction

In Pakistan, the healthcare sector is grappling with numerous challenges that significantly impact the working conditions and mental health of healthcare professionals. Postgraduate trainee doctors encounter a range of challenges regarding work conditions, which have significant effects on their professional development and personal well-being. PGTs work long hours, leading to mental and physical fatigue adversely affecting their well-being and quality of healthcare they provide (Ahmed et al., 2024). The demanding nature of medical training makes it difficult for PGTs to maintain a healthy work-life balance leading to personal disruptions and decreased job satisfaction (Zaheer et al., 2023).

Recent studies have underscored the challenging working conditions faced by healthcare workers in Pakistan, painting a concerning picture of long working hours, understaffing, and significant physical demands. A study conducted by Abbas et al. (2021) revealed that over 60% of healthcare professionals, including doctors and nurses, reported working more than 60 hours per week, often without adequate breaks, contributing to high levels of physical fatigue and job dissatisfaction. Research by Hafeez et al. (2023) focused on understaffing issues, finding that many healthcare facilities, particularly in rural areas, operate with less than half the required staff according to national healthcare standards. This shortage places undue pressure on existing staff, often leading to compromised patient care and increased stress levels among workers.

Junior doctors frequently report unfavorable working conditions, including high workload and stretched working hours. Particularly,

during residency PGTs feel overburdened: while being apprentices in their profession they have to perform their duties along with high job demands simultaneously. This burden further aggravates intention of junior doctors to quit clinical practice when adverse training and poor working conditions are combined. Moreover, getting lower pays compared to the hours they work and difficulty to maintain a healthy work life balance are the frequent complaints reported by junior doctors. (Freeman et al., 2021).

Despite of increasing incidences of doctors' attrition, there is scarcity of researches on intention of these professionals to quit clinical practice. Healthcare professionals raise the bar high by being among the first six most stressed ones. Not all healthcare providers experience same level of stress, and similarly not all of them face professional burnout. The heavy responsibility of human lives and realization that their actions or lack of actions have significant impact on patients, lead to stress and burnout among doctors. (Hirayama & Fernando, 2016).

The dynamic nature of work environments has brought significant attention to factors influencing employee performance, satisfaction, and well-being. Among these factors work conditions, achievement motivation, burnout, work-life balance, communication barriers and their implications for quality of healthcare are particularly critical. Understanding how these elements interplay can inform strategies to create healthier workplace and improve outcomes in various fields, especially in healthcare.

Research Objectives

1. To investigate major factors which influence work life of trainee doctors?
2. To identify factors which affect quality of healthcare of trainee doctors?
3. To determine the relationship among these factors with work life and healthcare quality of trainee doctors?

Research Questions

1. What are the major factors which influence work life of trainee doctors?
2. How these factors affect quality of healthcare of trainee doctors?
3. Is there any relationship among these factors with work life and healthcare quality of trainee doctors?

Literature Review

Work conditions at public sector tertiary care hospitals have raised serious concerns among healthcare professionals throughout the world when they try to deliver quality medical care services (Yusefzadeh & Nabilou, 2020). This is owing to the fact that employees consider their work conditions as critical components of job satisfaction. Therefore, Llop Gironés et al. (2021) declared that the overall productivity and efficiency of the workforce of an organization are in a straight line related to the type of working conditions they encounter. Due to this, employees work being less

considerate about their wellbeing in environments with good work conditions; however, in the opposite situations, there is no certainty regarding the productivity of the employees (Attah et al., 2023).

Postgraduate trainee doctors often face demanding work environments characterized by long working hours, high workloads, and significant stress levels. Junior doctors experience substantial workloads in hospital practice and intense specialty training requirements, which can lead to considerations of leaving clinical practice after residency (Degen et al., 2014). Trainee physicians are at a particularly high risk of experiencing burnout and stress due to these demanding work conditions (Zhou AY et al., 2020).

Work Life Balance

The issue of striking a balance or not between one's personal and professional lives has become increasingly important. One of the most important consequences of a poor work-life balance is declining both mental and physical wellness (Davis et al., 2017).

Work-life balance is defined as a harmonic, conflict-free, satisfactory interaction between the social roles that people play in their personal and professional lives that supports effective functioning in both areas (Rantanen et al., 2011). The constant demands of work often leave little room for self-care, family time, or leisure activities, leading to stress, burnout, and a decrease in productivity. The negative effects of this imbalance are evident in physical health problems such as fatigue, sleep disturbances, and even chronic illnesses. Mentally, individuals may experience anxiety, depression, and a lack of fulfillment, as the pursuit of career goals comes at the expense of personal happiness and growth.

Complex definitions have also included the following: the existence of multiple dimensions/aspects in which the conflict/balance occurs, such as time, behavior, engagement, and satisfaction (Greenhaus et al., 2003); the distinction between conflict and balance, which can be treated as separate dimensions since it is possible to witness both of them simultaneously (Bell et al., 2012); the path of conflict: the consequences of the interplay between work and life can be positive or negative. Conflict between professional and non-professional roles occurs in work-life conflict, and conflicts between non-professional and professional roles occur in life-work conflict (Grzywacz and Marks, 2000).

Quality of healthcare is a multifaceted concept that can be viewed from the perspectives of both doctors and patients. Both perspectives converge on the need for effective communication, as doctors who communicate well with their patients tend to foster better patient satisfaction and adherence to treatment (Roberts et al., 2023). While doctors might prioritize technical proficiency and outcomes, patients often highlight the interpersonal aspects of care as essential to their sense of well-being (Nguyen et al., 2021). Thus, integrating both doctors' and patients' perspectives is crucial in defining quality of healthcare. A holistic approach that combines clinical excellence with compassionate, patient-centered care can

lead to an optimal healthcare experience for all those who are involved (Brown et al., 2022).

The quality of healthcare in Pakistan remains a pressing concern, with multiple factors influencing the delivery and accessibility of healthcare services. Despite efforts to improve healthcare systems, challenges such as limited resources, infrastructural weaknesses, and disparities in service availability continue to affect the quality of care provided to the patients.

From a structural perspective, Pakistan's healthcare system faces significant challenges. The country has a high burden of disease, especially with communicable diseases and non-communicable diseases (NCDs) like diabetes and cardiovascular conditions (Ali et al., 2020). The shortage of medical professionals, particularly in rural areas, further exacerbates the problem, with many citizens unable to access timely care (Shah et al., 2020). In a study by Ahmad et al. (2024), it was highlighted that Pakistan's healthcare sector is often characterized by overcrowded hospitals, inadequate diagnostic facilities, and substandard medical equipment, which directly impacts the quality of patient care.

Research on Healthcare Quality in Pakistan is crucial for understanding the nuanced barriers to care and the multi factorial challenges within the system. Although some studies have been conducted, the body of research is still limited, and there is a clear need for more comprehensive studies that evaluate both patient and provider experiences, as well as the effectiveness of healthcare interventions (Bashir et al., 2020). Research focusing on the social determinants of health, healthcare financing, and healthcare delivery models would provide valuable insights to policymakers and health professionals. In particular, addressing the gap in healthcare access between rural and urban populations requires further investigation to devise solutions that are both effective and sustainable (Tariq et al., 2018).

Relationship among Work Conditions, Burnout, Work Life Balance and Quality of Healthcare

In the complex interplay between professional and personal life, the mediation model offers a profound insight into how work-family conflicts and burnout can significantly impact job performance. This relationship is encapsulated within the framework of the Conservation of Resources (COR) theory, which serves as the theoretical underpinning of the model. The COR theory suggests that individuals strive to acquire, retain, and protect their valued resources. In the context of employment and family life, these resources can be tangible, such as time and energy, or intangible, such as job satisfaction and emotional well-being. The depletion of these resources often leads to stress and burnout, directly influencing job performance across various sectors, including healthcare.

Research Design

The current study employed mixed method research design using

exploratory sequential approach that helped in identifying the indigenous variables through qualitative findings followed by quantitative phase of data collection and analysis.

To gain a deeper understanding of the factors impacting quality of healthcare, perspective of patients under treatment of the same doctors was also included in the research. For the said purpose 15 in-depth interviews were conducted with patients from different public and private sector tertiary care hospitals of Rawalpindi and Islamabad.

The Study was designed to study the relationships among study variables and to find out the roles of multiple mediating and moderating factors on relationship between work conditions and quality of healthcare. The purpose of the study was to determine the extent to which the factors like work life balance, burnout, achievement motivation and communications barriers are mediating or moderating the relationship between the work conditions and the quality of healthcare among postgraduate trainee doctors.

The data was collected from postgraduate trainee doctors (N=500) and their on-treatment patients (N=500). These participants were selected from different departments of private and public sector tertiary care hospitals of Rawalpindi and Islamabad.

Seven scales were used to collect data including, HSE's Management Standards Indicator Tool (Health and Safety Executive, 2004), Achievement Motivation Scale Revised (AMS-R; Lang & Fries, 2006).

Sample

Sample included postgraduate trainee doctors from both private and public sectors in tertiary care hospitals of Rawalpindi and Islamabad. The PGTs of both genders were included from the department of surgery, medicine, gynae and obstetrician, pediatrics, cardiology, pulmonology, gastroenterology, ophthalmology, dentistry and neurology were part of the study. Only those PGTs were included who had completed 1 year of FCPS training in respective area of specialization.

Data Analysis & Interpretation

The semi-structured interview and focus group discussions were conducted to collect the proposed study data. The semi-structured interviews were conducted with both postgraduate trainee doctors and patients. The interviews conducted with PGT doctors aimed at getting in-depth insight into their work conditions and the interviews with patients were conducted to get an in-depth insight into their perception of quality of healthcare. Questions of the interview guide were designed through brain storming sessions with the research supervisor to explore the work conditions for postgraduate resident doctors and to have an insight into patients' perception of quality of healthcare. Literature review and relevant research articles were systematically reviewed for guidance. Important themes and opinions were secluded and specific questions were developed to ensure maximum responses by the

participants. (Taherdoost, 2022) suggests using simple and clearly stated questions with special attention to wording might have an impact on answers. These points were kept in mind while finalizing the questions for interviews (Appendix -A) (Appendix-C).

The FGDs were conducted with postgraduate trainee doctors. The FGD guide was prepared in light of prior researches to explore the problems associated to work conditions of postgraduate trainee doctors (Appendix-B). Participants in each focus group had some mutual characteristics such as age, sex, educational background, religion, and career. While core themes remained consistent, interview questions were structured to elicit personal experiences, whereas FGDs were designed to facilitate group discussions and shared perspectives.

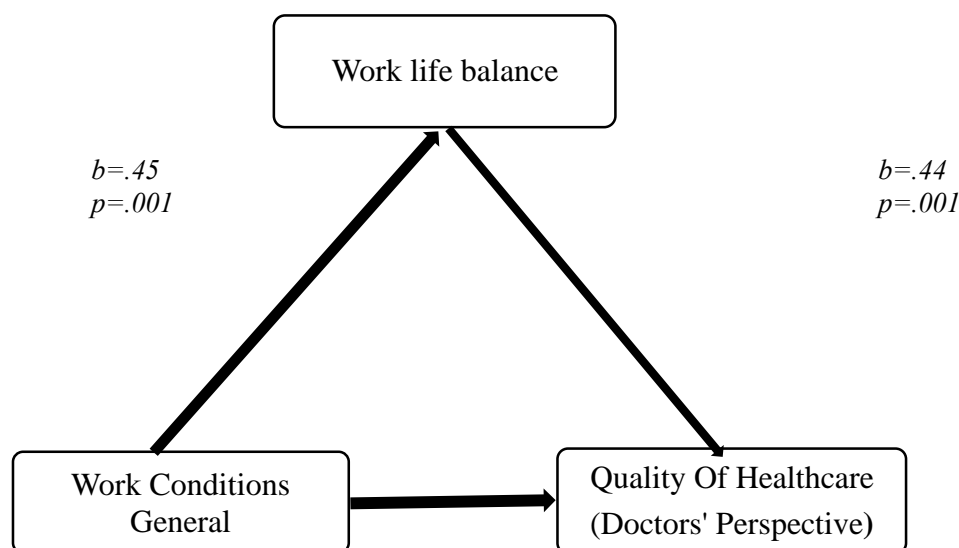
Table 1: Mediating Role of Work Life Balance between Work Conditions General and Quality of Healthcare (Doctors' Perspective) (N=500)

Predictor	Total Effect				Direct Effect				Indirect Effect		95% LL
	b	SE	T	p	B	SE	t	p	b	SE	
WCG	.50	.11	5.01	.001	.30	.10	2.71	.007	.20	.07	.30
WLB					.44	.10	4.45	.001			.24

Note. WCG=Work Conditions General; WLB=Work Life Balance

Table shows indirect effect of work life balance between work conditions general and quality of healthcare (doctors' perspective). The total effect of WCG on quality of healthcare (doctors' perspective) was significant, indicating a positive relationship. WCG significantly predicted WLB and WLB significantly predicted quality of healthcare (doctors' perspective). The indirect effect of WCG on quality of healthcare (doctors' perspective) via WLB was $b=20$, $SE=.07$, $95\%CI [.08,.32]$, confirming a statistically significant mediation effect ($p=.002$). The results indicated significant mediating role of WLB in relationship between WCG and quality of healthcare (doctors' perspective).

Figure 1: Mediating Role of Work Life Balance between Work Conditions General and Quality of Healthcare (Doctors' Perspective)



Direct Effect, $b=.30$, $p=.001$, 95%CI [.08, .52]

Indirect Effect, $b=.20$, 95%CI [.08, .32]

Note. WCG=Work Conditions General; WLB=Work Life Balance; QHC=Quality of Healthcare

The figure above reveals the mediating role of work life balance between work conditions general and quality of healthcare (doctors' perspective). The results were indicating that WLB significantly mediates the relationship between WCG and quality of healthcare (doctors' perspective) with maximum variance of 35%.

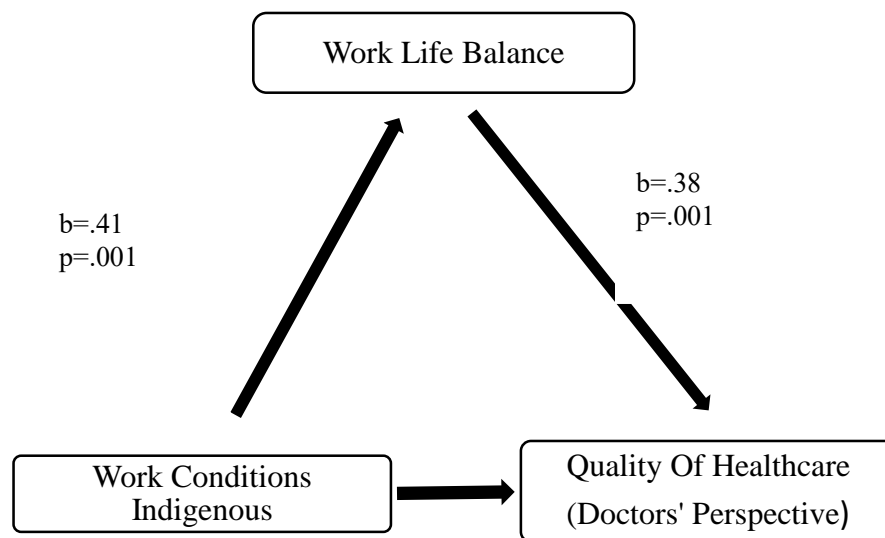
Table 2: Mediating Role of Work Life Balance between Work Conditions Indigenous and Quality of Healthcare (Doctors' Perspective) (N=500)

Predictor	Total Effect				Direct Effect				Indirect Effect			
	B	SE	T	p	B	SE	t	p	B	SE	LL	UL
WCI	.47	.10	4.36	.001	.32	.12	2.57	.009	.17	.05	.06	.28
WLB					.38	.11	3.55	.001			.24	.64

Note. WCI=Work Conditions Indigenous; WLB=Work Life Balance

Table shows indirect effect of work life balance between work conditions indigenous and quality of healthcare (doctors' perspective). The total effect WCI on quality of healthcare (doctors' perspective) was significant, indicating a positive relationship. WCI significantly predicted WLB and WLB significantly predicted quality of healthcare (doctors' perspective). The indirect effect of WCI on quality of healthcare (doctors' perspective) via WLB was $b=.17$, $SE=.05$, 95%CI [.06, .28], confirming a statistically significant mediation effect ($p=.004$). The results indicate significant mediating role of WLB in relationship between WCI and quality of healthcare.

Figure 2: Mediating Role of Work Life Balance between Work Conditions Indigenous and Quality of Healthcare (Doctors' Perspective)



Direct Effect, $b=.32$, $p=.009$, 95%CI [.08,.56]

Indirect Effect, $b=.17$, 95%CI [.06,.28]

The figure above reveals the mediating role of work life balance between work conditions indigenous and quality of healthcare (doctors' perspective). The results were indicating that WLB significantly mediates the relationship between WCI and quality of healthcare (doctors' perspective) with maximum variance of 31%.

Findings, Conclusions & Discussion

The study's findings provide substantial evidence supporting the hypothesized relationships among work conditions, achievement motivation, communication barriers, burnout, work life balance, and quality of healthcare, offering critical insights into the factors that influence healthcare delivery in tertiary care hospitals.

The hypothesis that achievement motivation significantly affects quality of healthcare was strongly supported. The data indicated that higher levels of achievement motivation among healthcare professionals correlated with improved quality of care. This finding aligns with previous literature, such as Reyasi (2013), which underscores motivation as a pivotal factor in healthcare settings. Motivated healthcare professionals are more likely to be engaged, exhibit higher performance levels, and provide superior patient care. This intrinsic drive to achieve and excel fosters a proactive approach to patient care, reducing errors and enhancing patient outcomes.

The study also hypothesized that burnout significantly impacts healthcare quality, and this was confirmed by the findings. Higher levels of burnout were associated with lower quality of healthcare, consistent with studies by Shanafelt et al. (2015) and West et al. (2018). Burnout, characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment, detrimentally affects physicians' performance. It leads to increased

clinical errors, decreased patient satisfaction, and overall poorer healthcare outcomes. This relationship highlights the critical need for interventions aimed at reducing burnout to maintain high standards of patient care.

The study further hypothesized that work life balance mediates the relationship between working conditions and quality of healthcare. The findings supported this hypothesis, revealing a significant mediating effect of work life balance. This aligns with research by Johnson (2023), which demonstrated that enhanced work life balance leads to greater job satisfaction and better performance, ultimately improving patient outcomes. The work life balance of healthcare professionals is integral to their ability to deliver high-quality care. When healthcare workers experience high levels of job satisfaction, work-life balance, and psychological health, they are more capable of providing attentive, empathetic, and effective patient care.

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