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PREVALENCE AND DETERMINANTS OF THE BURN OUT SYNDROME(BOS) AMONG THE HEALTHCARE PRACTITIONERS IN TERTIARY CARE HOSPITALS OF PUNJAB, PAKISTAN

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ABSTRACT

Background

Burnout is a significant psychological issue affecting individuals, communities, and organizations. It is characterized by emotional exhaustion, depersonalization, and reduced professional efficacy. Despite efforts for global recognition, it remains a complex issue with no consensus on analytic criteria or standard criteria, hindering targeted interventions and support systems.

Objective

The study investigates the prevalence and associations of burnout among healthcare specialists and paramedical staff in Punjab, Pakistan, identifying factors causing burnout, working hours, job dissatisfaction, and mental health outcomes.

Methods

This cross-sectional study used online surveys to collect data on burnout among healthcare practitioners. A validated questionnaire, Estudillo and Mendieta, was used for the study, which was divided into four parts. Data was collected from November 2024 to February 2025 and analyzed using IBM SPSS software 21 version.

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Results

The study surveyed 341 participants, primarily males, and found that Depersonalization was the most prevalent scale among the three MBI subscales. The profession was divided into various departments, including house officers, GPs, MOs, PGs, nursing, and pharmacy. HCPs reported higher levels of burnout due to improper shift work.

Conclusion

The research found a 25.5% incidence rate of burnout among female practitioners and younger healthcare professionals, with experienced practitioners reporting lower levels, possibly due to better-coping mechanisms in demanding practice.

Recommendations

Implement mental health prevention initiatives for healthcare practitioners to reduce burnout and improve stress management. Dynamic measures should be adopted to foster self-regulatory behaviors and reduce job-related negative consequences

INTRODUCTION

Background

The term “Burnout” was actually devised in 1970 in United States America(USA) elaborated as a group of diseases consisting of cynicism , emotional exhaustion , and depersonalization in relations with workers along with decreased personal accomplishment which may occur in any individual due to disproportionate work in stressful environment [1].

Healthcare professionals (HCP) who are working aggressively in hospitals often face these symptoms because of huge number of patients, long duty hours and employed in night shifts. The practice necessitates to transform for suitable and better working conditions within limited resources settings may exhume the underlying associated factors linked directly with significant health problems [2] .

The prime obligation of healthcare professionals is to provide all-inclusive and suitable care to all patients who requires medical services and care regardless of gender, race, ethnicity and culture. Moreover, Demanding and stressful lifestyle of majority of the Healthcare professionals may enforce the risk of emotional and mental stress which may be a source of burnout syndrome (BOS).The Burnout syndrome not only influences physical and mental health but also affects individual’s physical health instigating different health problems. There is a specific grade of stress in every healthcare professional due to substantial workload linked to job description. For example, Research and survey conducted in the palliative care nurses revealed almost half of the nurses (48%) were stressed and affected [3].

The nomenclature “Burnout” was initially introduced in the middle of 1970s by the renowned American psychologist Herbert Freudenberger [4] .Since that time, in excess of 6000 scholarly articles exploring the construct of burnout have been disseminated; however, a cohesive characterisation or diagnostic criteria has yet to be established [5] . The ICD-10 currently categorizes the term burnout as "a state of dynamic exhaustion," which has an impact on both cognitive and physical domains .It encompasses various aspects that are analogous to those of depression and neglect

of physical well-being (e.g., insufficient sleep, inadequate physical activity and poor nutritional balance [6-8]. As per already studied conservation theory, the phenomenon of burnout manifests when an person's capacity to manage different stressors (physical and emotional) becomes severely diminished [9]. Although myriad of different stressors physical or emotional may pose challenges to an individual, occupational stress, particularly discontentment with one's job, has frequently been associated with states of burnout[10].

It has the potential to jeopardize the credibility of the healthcare system and undermine public trust.

In light of the ramifications associated with burnout, it is imperative to devote significant attention to this pervasive issue and mitigate its potential to cause disruption at all levels (Individual, community, organizational).This endeavour necessitates comprehensive study to explore more into the phenomenon, which will yield enhanced understanding for effective management.

In western context , several investigations have been conducted and analysed regarding burnout and its determining factors affecting BOS.

In contrast , In Asian countries like India, a notable deficiency exists in scholarly work aimed at elucidating the matter with limited number of resources and studies available.

Therefore , the purpose of this research is mainly to asses prevalence of BOS and contributing factors amongst medical professionals within a tertiary care environment in an urban facilities . As working professional environment and framework of organization

are incompetently designed and directed, employees may come across adverse consequences. Rather than uplifting them, drain their cognitive vitality and diminish their psychological capitals which contributes to burnout and mental well being issues.

Burnout is considered as a substantial psychological peril in contemporary society i, which exerts a considerable pecuniary burden on both individuals , community and organizations. Eventually , they put burden on government and all stake holders .

The World Health Organization (WHO) has recognised BOS as a set of symptoms and characterizes it as "Burnout is precipitated by chronic occupational stress that is ineffectively managed and is regarded as three different dimensions: 1) emotional exhaustion termed as a sensation of depleted energy or fatigue 2) depersonalization termed as an increased psychological detachment from one's professional role or a sense of negativity towards the work; and 3) low personal achievement termed as reduced professional efficacy. Burnout is considered as an occupational phenomenon consisting of emotional depletion , depersonalization and reduced feelings of personal achievement .

However, During the 11th amendment of the International Classification of Diseases (ICD-11), Burnout is described as a group of diseases caused by chronic workplace stress which was not managed properly (WHO, 2019). The phenomenon of BOS among healthcare practitioners is a persistent global apprehension which eventually affects both the well-being of the healthcare providers and the excellence of patient care. Therefore , key indicators of BOS includes Emotional variability, cognitive detachment and a abridged feeling of personal accomplishment and achievement .

Despite extensive scholarly inquiry, a universally accepted diagnostic framework for burnout remains elusive.

The International Classification of Diseases ICD-10 formally recognizes the term burnout as both a mental and physical condition, referring to it as "a state of vital exhaustion. It has the potential to significantly jeopardize the well-esteemed esteemed character and confidence of the health-care system. Simultaneously, It helps in growing the trust and confidence that the community holds in such a system at considerable risk.

However , it is of supreme importance that we bestow extensive attention to this contemporary and pervasive issue while assuming the insightful consequences that

are related with the phenomenon of burnout .Therefore, we should implement effective strategies to avert it from causing extensive devastation both at the individual level and within organizational assemblies.

In developing counties , several effective coping mechanisms provide valuable insights as a comprehensive and meticulous research . Such researches and surveys aimed at thoroughly understanding the complexities of the problem, to identify contributing factors which will ultimately provide invaluable insights as coping mechanisms and policies.

In European countries, Many studies and researches have been conducted that delve into the intricacies of BOS and its various determinants. Eventually, it is shedding light on the substantial factors that contribute to this disconcerting condition affecting mental wellbeing.

Within the Indian and Asian context , in unambiguous contrast, there happens a prominent shortage of extensive research, surveys and knowledge which effectively discourses and irradiates this critical issue.

Due to this knowledge and research gap, this particular study was much needed and specifically intended to focus on medical practitioners and paramedical staff who are working within a more advanced and tertiary care environment situated in an urban catchment, with the aim of identifying contributing factors as curtaining the prevalence of burnout as well as identifying the associated factors. Among global healthcare, BOS institutes a significant and tenacious challenge regarding BOS information by healthcare professionals. Eventually, it is posing substantial risks not only to the overall well-being of the health care providers themselves but also to the excellence and safety of the care delivered to the patients.

A group of symptoms characterized by emotional exhaustion, sense of depersonalization and reduced personal accomplishment towards patients and community is termed as burnout syndrome (BOS).

Eventually, it concludes as an occupational phenomenon in what has been officially documented as in the 11th amendment of the International Classification of Diseases (ICD-11) . As per WHO and ICD-11, BOS defined as "a group of diseases resulting from chronic workplace stress which was not managed properly at healthcare facility (WHO, 2019).

The issue of burnout among healthcare workers is not only a confined and limited concern but it imposes a pervasive global dilemma. This issue specifically inflicting significant harm and instability on physical, mental, emotional and psychological wellbeing. Therefore, such factors are eventually undermining the quality of patient care that is essential for effective healthcare delivery. Main defining characteristics of BOS include heightened emotional instability, a significant sense of emotional detachment from patients and a noticeable reduction in the sense of personal fulfillment that one derives from their professional duties. Hence, underscoring the complex, multi centered and multifaceted nature of this condition. Despite many researches and studies , it continues complicating the efforts aiming at addressing these issues and mitigating these effects which results in inadequate policies and interventions . Regardless of extensive body of research highlighting burnout issue , there exists a notable absence of standardized set of diagnostic criteria and universal acceptance regarding BOS .

Despite many efforts to gain global recognition, policy makers couldn’t get a global worldwide recognition. However, BOS has received a global formal recognition from International Classification of Diseases (ICD) as a mental and physical health condition. In ICD-10 , BOS characterized as "a state of dynamic exhaustion," accentuating the profound impact it has on individuals who are subjected to chronic stress in the healthcare facility or workplace . This lack of accord and consensus on analytic criteria not only hinders the capability to effectively identify

those HCPs who are suffering from BOS but also it poses absence of standard criteria . It further challenges to the expansion and development of targeted interventions along with assistance of support systems which would be helpful in alleviating the burden experienced by healthcare workers.

As the global healthcare landscape continues to evolve and face new challenges, the pressing need for a comprehensive understanding of burnout and its implications for both healthcare providers and patients remains more critical than ever[11].

The Maslach Burnout Inventory (MBI) scale, which incorporates the aforementioned parameters of burnout, stands as the preeminent instrument among various validated methodologies for assessing burnout. Burnout is exclusively pertinent to issues associated with professional employment and should not be extrapolated to encapsulate conditions in alternative domains of existence.Contemporary discourse has increasingly focused on burnout, a pervasive public health concern impacting physicians, nurses, and other healthcare practitioners (HCPs). The incidence of burnout among healthcare workers has escalated in recent years, aligning with the hypothesis that individuals in this vocation possess a heightened susceptibility to its development2025/7/11.

With as many as 78% of physicians indicating episodes of burnout at least sporadically, authorities in the United States have recently designated burnout among healthcare providers as a significant public health crisis. The prevalence of burnout is reported to be 44.2%, 45%, and 50% among nursing professionals, medical students, and residents, respectively[13].

Healthcare practitioners encounter substantial levels of occupational stress, akin to other personnel. High-stress occupations, prolonged shifts devoid of respite, and persistent anxiety can lead to fatigue alongside physical and psychological distress. Furthermore, burnout syndrome may diminish job satisfaction and precipitate premature retirement by enhancing the likelihood of medical errors and diminishing engagement in the workplace. Among the manifestations of burnout, recurrent absences from work, a tendency to resign from employment, diminished self-esteem, and substance abuse are frequently observed. Burnout is directly correlated with the deterioration of patient care, an elevated occurrence of medical errors, compromised patient safety, and consequently inferior healthcare quality. Nonetheless, burnout may also adversely impact the quality of life of healthcare professionals[14].

In a developing nation such as Pakistan, the healthcare system frequently endures excessive and intricate workloads. The prevalence of burnout syndrome among healthcare practitioners fluctuates between 25-60% and is recognized as having detrimental effects on both personal and professional performance[15].

Nevertheless, it has been consistently documented that nursing professionals exhibit the highest incidence of burnout syndrome (BOS). A multicenter investigation assessing the prevalence of BOS among healthcare practitioners in Spain indicated that 39.8% of the participants demonstrated elevated levels of burnout[16].

The COVID-19 pandemic has significantly intensified these difficulties, with empirical evidence indicating an escalation in burnout rates and psychological distress among healthcare personnel on a global scale (Prasad et al., 2021). Specifically, the post-pandemic increase in workload coupled with apprehensions regarding potential infection exposure has heightened the incidence of burnout among medical health professionals[17].Findings from research exhibit variance between high- and low-income countries due to the critical factors contributing to burnout[18].

Medical residency, a critical phase in the professional journey of healthcare practitioners, is characterized by an exceptionally high level of work-related stress, which has been observed to be significantly more prevalent among those in training as compared to the overall

population at large. This pervasive issue is not confined to a single medical specialty but rather transcends across all fields of medicine, often continuing into the subsequent stages of professional practice, and has the potential to impede both personal growth and professional development, leading to far-reaching implications on overall healthcare delivery and individual well-being[19].

Among the various support personnel within healthcare settings, including but not limited to nurses and midwives, the estimated prevalence of burnout syndrome (BOS) is alarmingly high, with research suggesting that it impacts a significant proportion of individuals, ranging from 15% to as much as 85% depending on various contextual factors and workplace environments [20, 21].

Furthermore, studies conducted by researchers have elucidated that the incidence of burnout may not be uniform across the healthcare spectrum, as it can differ markedly among physicians, healthcare workers, and support staff who are engaged in various medical specialties, highlighting the complex dynamics of occupational stress in these diverse roles [22].

Notably, it has been consistently reported in the literature that nurses exhibit the highest rates of burnout syndrome when compared to their colleagues in other healthcare positions. A multicenter research initiative that assessed the frequency of burnout syndrome among healthcare professionals throughout Spain discovered that an alarming 39.8% of the participants in the study exhibited elevated levels of burnout, underscoring the urgent need for interventions aimed at mitigating this pervasive issue [16].

The demanding and stressful profession, with various studies underscore provision of healthcare services is widely acknowledged to be an acing the multifaceted challenges that healthcare providers face on a daily basis[23, 24] . The inherently serious nature of the work involved in healthcare delivery leaves practitioners with little room for error, which can exacerbate stress levels and contribute to feelings of inadequacy and burnout among professionals [24] .

Health care professionals, who are often at the forefront of patient care and well-being, may find themselves grappling with significant job dissatisfaction resulting from their inability to effectively navigate the competitive and demanding nature of their work environments, compounded by excessively long work hours frequently accompanied by overtime obligations, and further exacerbated by the encroachment of their professional responsibilities into their personal lives, which is largely driven by the reflective emotional , mental and psychological stress connected with the ethical dilemmas and critical decision making processes they must undertake on behalf of their patients[25-27] . Given the inherently emotionally taxing and physically demanding characteristics of their occupation, it is not surprising that the incidence of burnout among health care professionals is reaching alarming levels, with previous empirical studies indicating that burnout rates can soar as high as 54.3% among practicing professionals and approximately 45% among medical students, both of whom are subject to the rigors of this challenging field. In an extensive meta-analysis conducted in 2019, which synthesized data from a substantial cohort of 22,778 residents, it was revealed that an astonishing one in every two residents has experienced symptoms of burnout, highlighting a pervasive issue that demands urgent attention and intervention [28, 29].

During 2019, a study was conducted on burnout and those results on meta-analysis revealed that one out of two residents from 22,778 residents are experiencing agonizing effects of burnout [30].

The detrimental effects of prolonged exposure to burnout have been closely associated with a range of adverse mental health outcomes, including but not limited to the development of depression, anxiety, and heightened levels of stress, all of which can significantly impede the overall well-being of health care professionals and consequently

affect the excellence of care which is provided to community and patients [31, 32].

The phenomenon of frequent burnout renders healthcare professionals increasingly vulnerable to a spectrum of mental health disorders that exhibit physical symptoms, including but not limited to anxiety, depression, insomnia, fatigue, and lethargy. Empirical evidence has indeed indicated that elevated mortality ratios are prevalent in medical departments characterized by heightened levels of burnout [33].

The erosion of coping mechanisms may, in fact, precipitate the emergence of maladaptive coping strategies, which may encompass substance abuse and suicidal ideation [34].

Furthermore, such elevated stress levels not only detrimentally impact the physical health and emotional well-being of physicians but also pose a significant threat to the quality of healthcare that physicians are capable of providing to community and patients. Although the wellbeing of professional caregivers is of utmost importance, the alarming increase in burnout represent a direct challenge to the excellence of care that physicians can extend to their community of affected people [35].

The ramifications of this phenomenon include premature retirements, an escalation in the occurrence of sick leaves, and contracted daily productivity, all of which undermine the provision of empathy-infused "professional responsibility" by physicians [36].

In the modern era, the healthcare sector has evolved into a significant industry. The healthcare sector is not immune to the adverse effects of stress. Numerous empirical studies have implicated stress in a variety of adverse outcomes. One such outcome is referred to as BOS which is characterized as a state of despair and an incapacity to perform any professional responsibilities proficiently[37]. The term burnout was introduced to articulate the responses of employees to the persistent stress associated with professions that involve direct interaction with individuals[38].

Burnout within the realm of healthcare professionals denotes a psychological condition that arises following prolonged acquaintance to psychosocial perils such as excessive patient loads, extended working periods, and unrealistic expectations from affected role. This condition may manifest through sensations of profound fatigue, depersonalization (DP), or a cynical attitude towards individuals and one’s work, coupled with a pervasive sense of professional ineffectiveness[39].

The medical professional, specifically the physician, must be adequately prepared to provide timely assistance to the patient at any moment of necessity, which inherently implies that the doctor may be required to travel to the patient’s workplace or to any other location where the patient may currently be situated at that particular time. This demanding nature of the profession can occasionally lead to varying degrees of fatigue and a significant lack of restorative sleep, which can adversely affect the physician's overall health and well-being[40]. The phenomenon known as burnout may manifest in a multitude of interpersonal difficulties, persistent insomnia, heightened irritability, and in extreme cases, thoughts of self-harm or suicidal ideation.

Furthermore , BOS has been termed as closely related to terminology dysthymia which is mental and psychological disorder due to chronic depression , stress and low mood[41].

In addition , several studies have been established to asses correlation between burnout and its contributing factors which subsidize the progress of cardiovascular diseases. Specifically, the contributing factors mainly affecting cardiovascular system are being assessed by electrocardiographic assessments and tests . Such assessments revealed abnormalities like higher cholesterol , glucose , TAGs and uric acid . Eventually , such abnormalities severely affect cardiovascular system and

metabolism causing heart problems and type 2 diabetes mellitus . Additionally , BOS effects mentally , emotionally and physically aspects , eventually daily working ability and mental well being . The prevalence of BOS within a working workforce from organizational aspect may progress to a host of detrimental outcomes . It includes lack of concentration , persistent punctuality issues , reduced productivity levels , difficulty in grasping innovative operations and a noticeable decline in healthy and cooperative interactions among colleagues . Thereby , it results in compromising the overall effectiveness and organization aa a whole. Therefore, The presence of diseases in burnout can eventually increase the likelihood of errors made in medical and professional life[42].

In prior research, The Maslach Burnout Inventory (MBI) has been regarded as the premier tool for assessing burnout. Nevertheless, in more contemporary studies, the "Oldenburg Burnout Inventory (OLBI)" has been embraced for the quantification of burnout, particularly within the healthcare sector, due to its commendable validity[23, 43].

Factors associated with adverse organizational consequences such as diminished concentration, inadequate time management, suboptimal productivity, challenges in assimilating new protocols, deficiency in collaboration, irritability, hostility, resentment, and an escalated propensity for errors. The foundations constituting burnout are prevalent among working medical professionals, with 46% - 80% indicating moderate to elevated levels of emotional exhaustion, 22% - 93% reporting judicious to high degrees of depersonalization, and 16% - 79% reflecting PA levels from low to moderate . Several factors which correlate with burnout; these encompass time limitations, role conflicts, and ambiguities in roles,.In addition, they face insufficient support from supervisors and colleagues, the severity of patrons' issues, the rate of recurrence of interactions with chronically or terminally ill patients and encounters with mortality. Factors related to workload, including extended employed time, the occurrence of on-call responsibilities, and the interference between work and home life. Eventually , Such factors have been identified in prior research as contributors to workplace straining and BOS among medical practitioners. Furthermore, workplace stress (which is assessed via the General Health Questionnaire/GHQ) and job gratification are also critical factors linked to the phenomenon of burnout.

Since 2011 , A renowned hospital in Sahiwal, Sahiwal Teaching Hospital, linked with Sahiwal Medical College and affiliated with University of Health Sciences, Lahore. This teaching hospital is the only main tertiary care hospital with 1150 beds within 300 km radius on Lahore-Multan-Faisalabad road . Sahiwal Teaching Hospital, Sahiwal has total area of around 41 acres. In this Hospital, more than 600 healthcare employees are already working. This Teaching hospital is giving specialized healthcare services to the ailing community of division Sahiwal and next to districts. New Departments have been established as Emergency block with 73 beds capacity and new compact block named Surgical Tower with around 660 beds capacity have been working and entirely functional.

In additional , For FCPS College of Physician & Surgeons Pakistan ,For MS/MD University of Health Sciences, Lahore and Punjab Healthcare Commission, Lahore and Pakistan Medical Commission have also recognized Sahiwal Teaching Hospital, Sahiwal.

Almost 800 to 1000 patients came for check up in Emergency Department, Above 2000 thousand patients in OPD on daily basis, and approximately 750 patients are admitted daily. The 615 employees are employed in this Hospital.

The Aziz Fatima Hospital , Faisalabad ,a renounced teaching hospital affiliated with Aziz Fatima medical and dental college recognized by CPSP for post graduate training and house job rotations. This

hospital is 500 bedded and located in centre of Faisalabad city at area of almost 44 Kanals and 11 Marlas. Since 1978, This hospital is providing services to the people of Faisalabad on trust basis i.e: no loss and no profit.

Mayo Hospital Lahore is one of the oldest , renowned and larged healthcare facility of Punjab , Pakistan since 1871. This hospital is recognized by CPSP and world federation for house job and post graduation training ,linked with king Edward medical university. This hospital encircling around 54.6 acres,consisting of 2400 beds having all departments and facilities.

This hospital lies in heart of Lahore , in thickly populated area surrounded by commercial area in walled city of Lahore. In mayo hospital , thousands of people getting treatment in emergency , OPD and as in patients . This hospital does not run under conventional control anymore. This hospital used to be managed by the administrative control of Medical Superintendent till 1999 then government of Punjab declared it as an autonomous body with CEO and board of governors under MTI act.

Overall , Healthcare system in Pakistan having so many challenges which influences medical and paramedical staff who are working under stressful conditions causing burnout. As per economic survey 2023 Pakistan, constantly increase in healthcare demands and only one percent of GDP unable to meet increasing health demands of population as we have high doctor to patient ratio 1:1300 as compared to 1:1000.

There are many researches worldwide but very few researches in Pakistan highlighting burnout issue. Many factors are influencing burnout and its determinants but due to limited research work, we are unable to highlight those factors.

Additionally, there are few studies on burnout in healthcare system but leaving a gap how all the determinants are affecting healthcare practitioners mental wellbeing within limited resources and healthcare settings. In order to minimize the gap , this study aims

1.To Determine the prevalence of burnout in healthcare practitioners OF Major tertiary care hospitals in Punjab

2. To asses associations between different factors and determinants affecting mental wellbeing

This study will eventually help in addressing issues and shortcomings in our healthcare system affecting mental health causing burnout syndrome. Such studies could be beneficial in making policies and necessary interventions to tackle issues and improving shortcomings in healthcare system within limited resources. Additionally, such evidence based interventions may also help in engaging stake holders and government in such policies to improve healthcare services and healthy environment .

The study aims to identify factors causing burnout, working hours, Job dissatisfaction, mental health outcomes and consequences of burnout syndrome (Figure.1). The goal is to intervene and take necessary targeted steps for factors causing burnout syndrome.

The consequences of the present study will be valuable in enlightening mental wellbeing in healthcare professionals and eventually patients' health and wellbeing.

Among lower middle-income countries like Pakistan, the conduction of present study encircling the subject of healthcare professionals' mental health is one of the innovative and novel concepts. If this study shows favorable results, it has tendency to scale up and setting beneficial and necessary grounds for the routine screening of mental health outcomes and eventually policy changes in the healthcare system .

Our findings may be beneficial in evidence-based interventions to address burnout outcomes in limited resourced healthcare settings

METHODOLOGY

Study design

cross-sectional survey

Study Participants

A total of 341 questionnaires were systematically disseminated by the researcher to all accessible healthcare

practitioners (both specialists and non-specialists doctors and paramedics) within the two principal government hospitals (Mayo hospital, Lahore and Sahiwal teaching hospital) along with one private healthcare facility(Aziz Fatima Hospital Faisalabad) in Punjab during the timeframe spanning from November 2024 to February 2025. A total of three hundred and forty-one healthcare practitioners completed the questionnaire online.

Study setting

The tool used in this study was a validated sort of the questionnaire named Astudillo and Mendinueta , which was assessing burnout in healthcare practitioners participating in the study. The questionnaire was divided further into four parts.

The first section

The first section includes informed consent.

1.2.2 The second section

The second section included 15 items enclosed the sociodemographic details including job characteristics, gender, age, marital status, religion, education qualification, monthly income, years of experience, site of practice, shift working, hours of work per week and number of patients per day.

1.2.3 The Third section

In this third section confined a list of symptoms of BOS (19 items) attained from the scale of Astudillo and Mendinueta symptoms such as irritability, self-criticism, insomnia, fatigue, spinal problem, lack of organization, depressive states and others that affect the Healthcare professionals work and suggestions for alleviating professional stress. The 19-item self-reported symptoms of burnout syndrome are rated from 0 (never), 1 (sometimes), 2 (often), and 3 (always). The sum of the scores of the rating of the items were calculated with a total minimum score of 0 to a maximum score of 57.

Healthcare professionals who scored more than 27 were measured as having burn out syndrome[47].

1.3 The Fourth section

In this fourth section, questions are used to assess the effects of burnout syndrome on the physicians' work and suggestions for professional stress.

The Maslach Burnout Inventory (MBI)[10,11].This scale was most commonly used 12-item measuring instrument to self-assess the risk of burnout.

MBI is a validated instrument that standardize the three syndrome subscales of emotional exhaustion, depersonalization, and lack of personal accomplishment. The items are scored on Likert scale based from 0 (never) to 7 (everyday) [39, 48].

The study was conducted using a human services survey (MBI-HSS)- Modified Maslach Burnout Inventory for assessing burnout.[14] It consists of 22 items, divided into three subscales: emotional exhaustion (EE) (nine items), Depersonalization DP(five items), and personal accomplishment (PA) (eight items). The questions were responded in terms of the incidence with which the respondent experiences these symptoms on a likert scale of 7-point ranging from 0 (never) to 6 (every day).

The three scores were then calculated for each respondent.

A higher score indicates higher burnout except for the PA scale, which was evaluated inversely to them.

Burnout was demarcated as the presence of one or more of the following:

- A high score in EE (>27)
- A high score in DP (>14)
- A low score in PA (<37).

However, the burnout knowledgeable by the respondent in every individual dimension was categorized into low, moderate, and high level based on the cutoff values of all dimensions.In EE dimension, ≥27 was measured as high, 17–26 was taken as moderate, and 0–16 as low; in DP dimension, ≥14 was taken as high, 9–13 as moderate, and 0–8 as low; and in PA dimension, 0–30 was considered as high, 31–36 as moderate, and ≥ 37 as low.

1.3 Study duration

3 months

November 2024 to February 2025

Nature of data
Online survey
Sampling technique
Simple random sampling
Sample size
The sample size was estimated at the 95% confidence level with an expected proportion of 0.5 and an acceptable margin of error of 0.05. The minimum required sample size was 341[49].
Inclusion criteria
Medical and paramedical staff with at least six months of active clinical service
Exclusion criteria
Who did not gave consent
Off duty healthcare practitioners
above 60 years of age or on extended leave.
Data collection process
Online survey will be distributed
Tools of data collection
The MBI-HSS is a self-administered questionnaire which takes 10–15 min to fill. Along with this, data concerning sociodemographic (age, gender, and marital status) and occupation-related information (work experience, hours of work, and specialty) also were congregated to assess their role in burnout. Survey form was designed and shared online with all participants and explained the purpose of the study.
Before administering the questionnaire, there was an option of consent which was taken from them and they were guaranteed about the confidentiality of the data .All participants were asked to fill this questionnaire when they were free and alone to avoid bias.
Institutional ethical committee of Punjab university Lahore permission was also attained to conduct the study.
Data were entered into an Excel sheet, and analysis was done using the
IBM SPSS software 21 version (IBM Corp., Armonk, New York, USA). Data with categorical variables were obtainable in percentages and the association between variables were confirmed using the Chi-square test. Using the Pearson correlation coefficient. , the correlation between the subscales, work experience in years and working hours per day was calculated . Logistic regression was completed to know the predictor variables for burnout. Significance was projected at a probability of 5% level ($P < 0.05$).
Results:
(Table no.2)Among the 341 participants, males are predominant and in majority (n=258, 75.7%). The age distribution exhibited a high proportion of young healthcare professionals,112 with 32.8% (n=112, 95% CI: 88.7-95.3%) aged 20-30 years . This profession has catergozed into further departments comprised of house officers (16.4%, n=56), GPs (19.4%, n=66), MOs (27.3%, n=93), PGs (9.7%,n=33), nursing (8.5%, n= 29) and pharmacy (3.8%, n=13). Most partakers (45.2%, n=154) had 0-5 years of experience.
On basis of three MBI subscales a higher proportion of participants (n=21, 6.2%) have higher levels of burnout . Out of three MBI subscales , most predominant scale is Depersonalization (56.3%,n=192 95% CI: 53.5-65.7%), trailed by low personal achievement (11.5%, n=39 ,95% CI: 37.8-50.2%) in addition to higher emotional exhaustion (47.5%, n=162 , 95% CI).
This study showed a significant factor showing higher burnout level among HCPs grauated from government hospitals (n=200, 64.5%) as compared to private hospitals (n=141, 35.5%) which eventually related to higher workload and more working hours.
Majority of the married HCPs (n=187, 54.8%) showed higher levels of burnout .
A severe BOS characterized as higher burnout levels in all three subscales 6.2% (n=21, 95% CI: 5.6-12.8%) by participants of study was described.
Among male participants, 75.7% (n=258) showed higher burnout compared to 24.3 % (n=83) of females which has less levels of burnout. The burnout prevalence in percentages were observed in 14.8% (n=9) of males and 7.4% (n=14) of females. Nevertheless, these values are not having any significance statistically (p=0.460 for any burnout, p=0.084 for severe burnout).

Significant variations were noted as higher levels of mental distress levels as value of 8.8% (n=22) of participants, across professional roles ($p<0.001$). There is significant difference in BOS levels among different professions such as doctors exhibited higher rates of both severe burnout (14.6%, n=15) along with high mental distress (12.6%, n=13) as compared to nurses (4.8%, n=5 and 3.8%, n=4, respectively). Almost 46.4% (n=116) of the participants reported moderate levels of distress levels.

Table-2 Characteristics of Study Participants Evaluated for Burnout (n=341)

Characteristics		N	Frequency (%)
Gender	Male	258	75.7
	Female	83	24.3
Age in Years	20-30	112	32.8
	30-40	121	35.5
	40-50	85	24.9
	50 above	23	6.7
Nationality	Pakistani	323	94.7
	International	18	5.3
Religion	Muslim	312	91.5
	Christian	29	8.5
Healthcare Facility	Sahiwal Teaching Hospital,Sahiwal	121	35.5
	Aziz Fatima hospital,Faisalabad	153	44.9
	Mayo hospital,Lahore	67	19.6
Graduated from which college	Govt	220	64.5
	Private	121	35.5
Marital Status	Unmarried	133	39
	Married	187	54.8
	Divorced	20	5.9

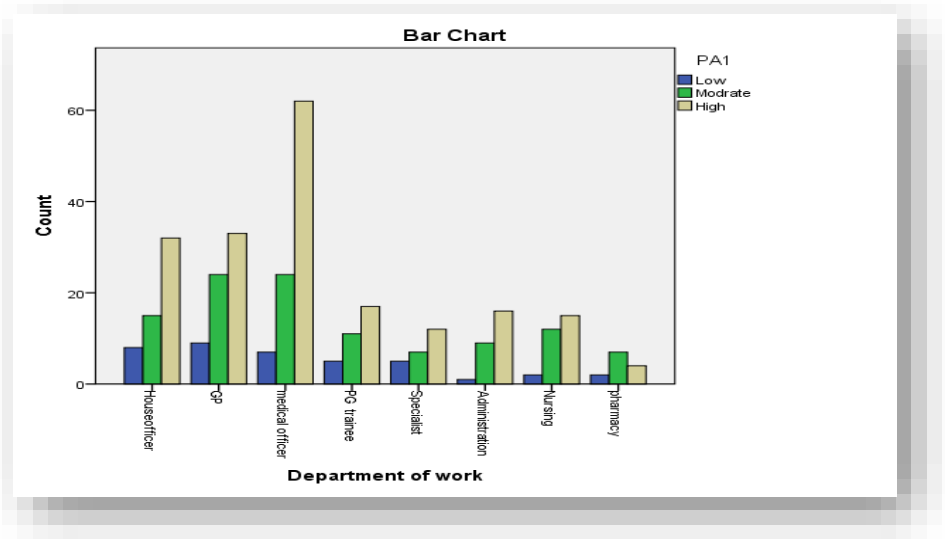
	Widowed	1	0.3
Department	House Officer	56	16.4
	General Practitioner	66	19.4
	Medical Officer	93	27.3
	PG Trainee	33	9.7
	Specialist	25	7.3
	Administration	26	7.6
	Nursing	29	8.5
	Pharmacy	13	3.8

(Table no.3) Among participants , HCPs working under domain of private hospitals showed higher levels of burnout (n=179,52.5%) as compared to those participants who don't practice (n=49,14.4%). A significant correlation found in HCPs working in shifts and without shifts. HCPs (n=211,61.9%) reported higher levels of burnout who were not working in proper shifts and more working hours .

(Table no.3)

Characteristics		N	Frequency (%)
Monthly income	Less than 50000	91	26.7
	50000-100000	146	42.8
	More than 100000	104	30.5
Site of Practice other than Tertiary care hospital	Private hospital	179	52.5
	Own set up	113	33.1
	Don't practice	49	14.4
Years of Practicing	Less than 5 years	154	45.2
	5-10 years	113	33.1
	More than 10 years	79	21.7
No of patients treated per day	Less than 10	17	5.0

	10-19	32	9.4
	20-30	124	36.4
	More than 30	168	49.3
Working in shifts	Yes	130	38.1
	No	211	61.9
Hours per week	Upto 36 weeks	121	35.5
	37-48 hours	204	59.8
	More than 48 hours	36	4.7



(Figure no.2)

(Figure no 2)Bar chart showing association between working departments and personal accomplishment . Results showing highest levels of achievement among medical officers and lowest among pharmacy department .

Table no.8 Frequency of potential causes of burnout

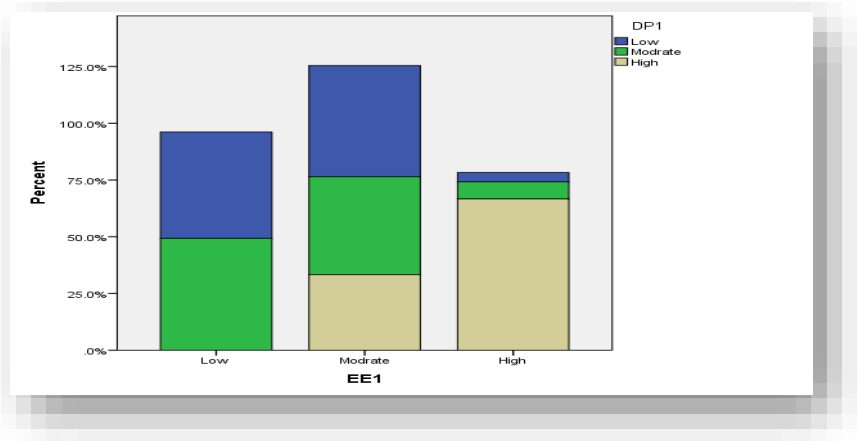
Table no.9

Symptoms of Burnout	Never	Often	Sometimes	Always
Irritability	25.2	41.1	28.2	5.6
Debility	46.6	40.8	11.1	1.5
Self criticism	85.3	10.9	2.6	1.2
Insomnia	67.2	21.4	10.6	0.9
Fatigue	25.2	42.8	29.3	2.6
Spinal problem	71.8	17.0	10.3	0.9
Lack of organization	61.3	26.4	11.11	0.2
Lack of sense of priority	66.6	19.4	12.9	1.2
Depressive state	27.0	41.9	27.9	3.2
Feeling of Failure	25.54	44.0	29.6	0.9
Painful symptoms	38.7	43.4	17.3	0.6
Social isolation	32.3	45.7	19.1	2.9
Poor performance and concentration	38.7	37.2	23.5	0.6
Less caring attitude towards patients and collegeues	49.0	32.0	18.8	0.3
Problem with rest of team	62.2	24.3	12.3	1.2
Dissatisfaction with work	48.4	35.2	13.5	2.9
Change of profession	60.1	28.21	11.4	0.3
Analgesics use	36.4	38.72	22.0	2.9
Sedatives use	68.62	26.1	4.7	0.6

Assesment parameters	N	Mean		S.D
		Statistic	S.E	
1.I deal very effectively with problem of my patients	341	5.40	0.057	1.045
2.I feel i treat some patients as if they were impersonal objects	341	0.50	0.044	0.810
3.i feel emotional drained from my work	341	2.28	0.115	2.117
4.i feel fatigued when i get up in morning and have to face another day on job	341	4.49	0.121	2.233
5.i have become more careless towards people since i took this job	341	1.67	0.124	2.281

6.i feel i am positively influencing others people lives through my work	341	3.083	0.110	2.026
7.working with people all days is a strain for me	341	3.19	0.109	2.017
8.i dont really care what happens to some patients	341	2.35	0.098	1.811
9.i feel exhausted after working closely with my patients	341	2.64	0.121	2.240
10.i think of giving up my role models for others	341	1.68	0.098	1.800
11.i reflect on the satisfaction i get from being a health provider	341	4.20	0.0920	1.696
12.i regret for my decision of becoming a healthcare provider.	341	2.02	0.107	1.966

Figure no.3



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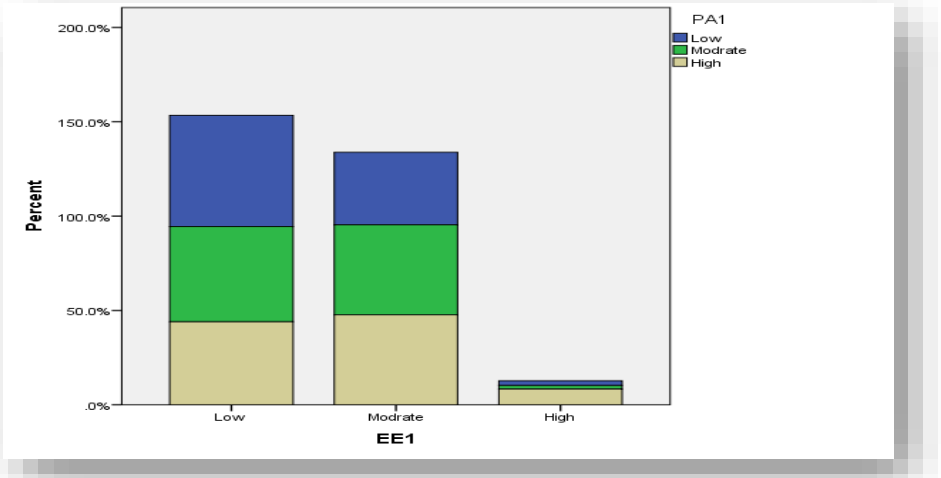

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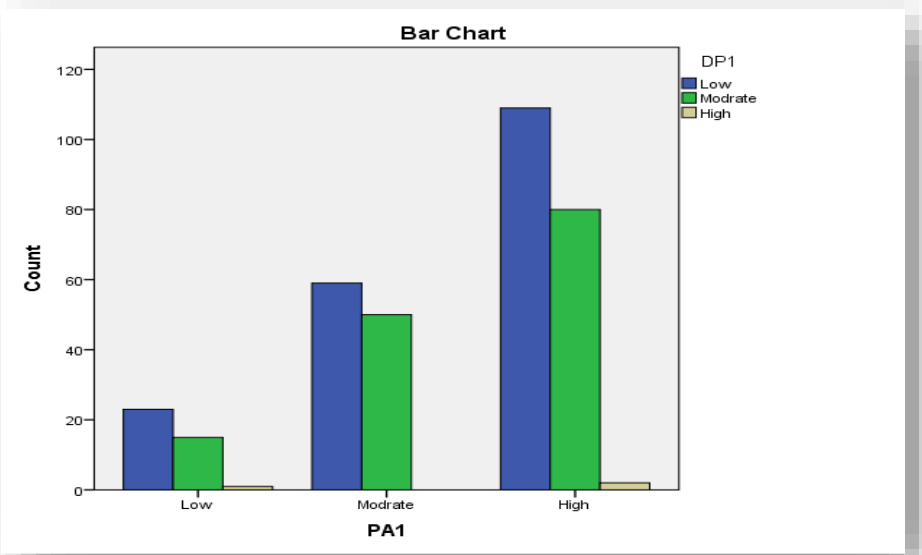

DISCUSSION

Among healthcare workers, burnout has been specified to impact suboptimal patient care, medical faults and adversative outcomes[50].

In order to foster a more comprehensive and profound understanding of the intricate phenomenon of burnout, as well as to effectively mitigate its adverse effects on the retention of healthcare providers and the overall quality of the services they render, it is imperative that subsequent research endeavors concentrate on several key areas of inquiry, specifically the identification and analysis of i) the extent of burnout experienced by various categories of healthcare professionals operating at differing tiers within the healthcare system; ii) the multifaceted variables pertaining to demographics, socioeconomic factors, institutional influences, and political contexts that either contribute to or serve to alleviate the phenomenon of provider burnout; and iii) the exploration of targeted interventions and strategic approaches aimed at minimizing the deleterious consequences of burnout on healthcare professionals. Engaging in such methodical and focused studies holds the potential to provide invaluable insights that could significantly inform the decision-making processes of health and policy leaders regarding strategies to enhance provider productivity, optimize efficiency, and elevate the quality of care, while also potentially improving employee retention rates within the profession.

The findings derived from this particular study bring to light the urgent and pressing issue of burnout and mental distress that is prevalent among healthcare professionals in Lahore, Pakistan, highlighting a critical area for concern in the realm of public health. The alarming revelation that a staggering 70% of the study's participants reported experiencing burnout on at least one subscale of the Maslach Burnout Inventory (MBI), with depersonalization emerging (59.6%, 95% CI: 53.5-65.7%), as the most frequently observed symptom, necessitates immediate and concerted action to address this pervasive problem.

The higher levels of burnout are in arrangement with the results of last conducted studies like the one conducted on pediatric health care personnel

in the United States where nearly half of the participants recorded for high burnout in any one subscale[51].

This analysis revealed that a significant proportion of the study population, specifically 60.8% of participants, exhibited symptoms indicative of burnout when assessed across any single subscale, thereby underscoring the pervasive nature of this phenomenon in the context of healthcare provision[52].

Moreover, similar patterns of results were documented in several other empirical investigations, further corroborating the initial findings and demonstrating the widespread occurrence of burnout among healthcare professionals in various environments and circumstances**[53-56].**

The consistently elevated incidence of burnout observed across a multitude of healthcare settings serves to highlight the presence of a systemic issue that not only undermines the efficacy of healthcare delivery but also poses a serious threat to the safety and well-being of patients receiving medical care[57].

Intriguingly, the data did not reveal any statistically significant differences in the overall rates of burnout between genders

(p=0.460), suggesting that both male and female healthcare workers experience burnout at similar levels, indicating a universal vulnerability to this occupational hazard.

This especially finding is consistent with the results of a study done in China, which also showed no significant changes in burnout rates across gender lines, hence supporting the idea that burnout crosses gender barriers inside the healthcare industry[58].

It is still important to call attention to the alarming pattern showing a greater burnout intensity among male participants—14.8% reporting high levels of burnout as opposed to just 7.4% among female participants—suggesting underlying vulnerabilities that may vary by sex and stressing the need for additional study on the unique stresses and coping mechanisms affecting each gender independently.

Finding especially alarming regarding the frequency of psychological suffering—with 8.8% of participants reporting high levels of stress—found to be strongly connected with burnout across all evaluated subscales—therefore highlights the interrelationship of mental health and workplace stress within this group.

The link between burnout and psychological suffering suggests that lowering burnout rates (p=0.001) and improving general wellbeing among healthcare workers calls for focused interventions by means of treatment for mental health issues.

In the end, the results emphasize the immediate need for methodical changes and supporting initiatives intended to lessen burnout and mental suffering in medical environments as these problems not only impact the providers but also have far reaching repercussions for patient safety and care.

In conclusion, the evidence points to a critical need for further research and proactive strategies to address the underlying factors contributing to burnout and mental distress in healthcare workers, ensuring that both their health and that of the patients they serve are safeguarded[59].

The frequency of burnout in the present study was found to be 25.5%. It was almost similar with the prevalence stated by a study done in the nearby region, Vishakhapatnam, among HCPs(32.9%).

It might be due to the matching working environmental conditions predominant in the region[60] .Study reported that the prevalence of overall burnout among HCPs will fluctuate from 0% to 80.5%, contingent to the burnout ascertainment methods, definitions, and consequences as well as statistical heterogeneity by swotting 182 studies. Around 14.7% of the healthcare practitioners stated that they have high scores in the EE dimension and 15.7% had shown low PA scores. These statistics are similar to the [61] prevalence of high EE scores (18%) and the low PA scores (21%) in the study from Vishakhapatnam.[62]

High EE burnout values were reported in the study from Yemen (63.2%)[61], Nigeria (45.6%),[63] Spain (36.5%), 2025/7/11 USA (54%),[65] and India (45%)[66].

It has become increasingly evident from the findings derived from our study that the levels of emotional exhaustion (EE) experienced by participants were, in fact, significantly lower and thus could not be reasonably compared to those reported in previous research efforts. The observed low levels of positive affect (PA) scores

documented in the current investigation, which stood at a mere 21%, bear some resemblance to the findings of a study conducted in Yemen, where the PA scores were somewhat higher at 33%, thereby highlighting a noteworthy disparity between the two contexts.

In a manner consistent with other dimensions of burnout that were evaluated, the figures presented in our research were markedly lower than those reported in earlier studies conducted in different geographical regions and contexts, as cited in references

[63-66] .

This present study exhibited that age was pointedly related to the presence of burnout among healthcare practitioners. It was apparent from the study that the burnout was found more in the younger generation. These findings had a similarity to the study from Vishakhapatnam [62] Yemen,2025/7/11 Nigeria,[63] China,[67] and India[66] . Nevertheless, the association was not statistically substantial in the study from China[67] .

The strong and statistically significant relationship between professional employment and levels of mental stress ($p<0.001$) highlights how absolutely crucial mental health treatments that are precisely targeted and take into account the unique and distinct stressors persons in several healthcare jobs daily face must be addressed. Many studies indicate that providing customized support systems—such peer support programs and mental health resources especially suited for certain careers—can prove especially effective in reducing burnout symptoms and improving general mental health among healthcare professionals. Therefore, it's imperative to keep researching and putting these particular techniques to use so as to create a more healthy workplace that encourages resilience and psychological well-being across the broad spectrum of healthcare positions.The thorough research carried out in this field calls for the use of evidencebased methods at the organizational level, which cover a range of programs including the creation of devoted mental health support units providing vital services to staff, flexible scheduling choices with protected break times allowing healthcare personnel to refresh and preserve their wellbeing, and the implementation of complete workload management systems that may successfully lessen the burden on employees. Moreover, professional development initiatives must include required stress management education because this would greatly improve general job satisfaction and foster a more healthy workplace environment. The policy ramifications of this study point to the need for national guidelines specifically meant to safeguard the mental health of healthcare personnel, the integration of mental health support systems within current employment policies, the allocation of committed funds to maintain wellness programs, and the creation of uniform regulations regarding working hours guaranteeing a fair work-life balance for all employees. Regarding practical recommendations, it is critical to conduct periodic workplace stressor evaluations to spot possible problems, apply rotation systems that can effectively reduce prolonged exposure to high-stress environments, and create clear policies that enable simple access to mental health support services for all employees who may need assistance. Looking ahead, future projects should give priority to the execution of focused interventions that consider the particular difficulties and needs linked to

different healthcare roles, therefore guaranteeing that these methods are customized to satisfy each post's unique needs.

In terms of practical commendations, it is essential to implement rotation systems in healthcare facilities along with conduction of regular assessments of workplace stressors to recognise and categorize potential issues. This will help in minimizing prolonged exposure to high stress environments and develop strong protocols which facilitate easy access to mental health support services for all workforces who may necessitate aid and

support. Looking ahead, future initiatives should prioritize the implementation of targeted interventions that take into account the unique challenges and demands associated with various healthcare roles, ensuring that these strategies are tailored to meet the specific needs of each position. Additionally, the ongoing monitoring and regular adjustment of these interventions will be vital for guaranteeing their effectiveness in mitigating burnout and enhancing the overall mental well-being of healthcare professionals operating within the diverse healthcare landscape of Pakistan.

Although the findings derived from the study offer insights into the subject matter, it is imperative to acknowledge that a multitude of methodological constraints necessitate thorough examination and scrutiny. To begin with, the utilization of a cross-sectional research design fundamentally restricts the capacity to ascertain any definitive causal relationships that may exist between the variables of burnout and mental distress, thereby complicating the interpretation of the data. Moreover, the reliance on self-reported data collection methods introduces the potential for response bias, as participants may have either understated or overstated their symptoms due to phenomena such as recall bias or the desire to conform to social norms and expectations, which can significantly distort the findings. In addition, the geographical context of the study, being situated in Lahore, Pakistan, raises concerns regarding the generalizability of the results, as they may not necessarily extend to other regions within the country or to international contexts where varying cultural and systemic factors may play a role. Furthermore, the observed rates of burnout could be profoundly influenced by the distinctive characteristics inherent to the healthcare system in Lahore, Punjab, and thus, it is plausible that the results may differ markedly in alternative environments characterized by dissimilar healthcare frameworks and stressors that healthcare professionals face. Consequently, it would be prudent for future research endeavors to adopt a longitudinal approach, which would facilitate a deeper understanding of the evolving dynamics of burnout over an extended period, while also incorporating a wider array of variables to effectively capture the complex interplay of factors that contribute to the phenomenon of burnout. In addition, conducting multi-center studies that encompass a diverse range of healthcare settings would undoubtedly yield findings that are more broadly applicable and generalizable across different populations and contexts, thereby enhancing the overall robustness and relevance of the research.

CONCLUSIONS

To conclude, With an alarming incidence rate of 25.5%, burnout witnessed in this research was clearly measured among female practitioners in comparison to their male counterparts and among younger healthcare professionals in reference to those more

elderly and more experienced in their particular fields. Moreover, it is to note that practitioners' displays of burnout did not show much variation depending on their particular medical specialty in which they are working or on their marital status; this implies that these factors play no role in the psychological distress experienced by healthcare providers. Furthermore revealed was a clear positive link between practitioners' workloads and incidence of burnout, therefore suggesting more professional expectations are directly correlated with more emotional weariness and disengagement. Interestingly, practitioners with more experience appeared to report significantly lower levels of burnout than their less experienced colleagues, maybe implying that exposure to the demanding nature of practice arms people with more effective coping mechanisms. Moreover pointing on the interconnected nature of these psychological components, a strong statistical correlation was discovered between the emotional exhaustion (EE) component and the depersonalization (DP) dimension of burnout.

effects

Considering these findings, mental health prevention and promotion initiatives should be deliberately developed and implemented specifically for healthcare practitioners as they constitute a group having a high risk of burnout and its concomitant detrimental repercussions. Additionally, dynamic measures have to be adopted to improve doctors' appreciation of the importance of effective stress management and the development of self-regulatory behaviors that might reduce the bad consequences of their demanding jobs. Additionally, correcting the doctor to patient ratio must be given high priority since it is a vital first step to disprove some of the misunderstandings patients could have about doctors, including feelings of emotional detachment and indifference that could result from heavy workloads and not enough time for patient contacts. Concentrating on these major areas will assist to create a better work environment for healthcare providers, hence improving patient outcomes and general welfare inside the medical community eventually.

Starting health reforms is absolutely essential as healthcare companies will give top priority to the general wellbeing of doctors; this is essentially vital for improving patient care and
results.

In particular, it is crucial that female medical practitioners receive unwavering support from their familial networks, professional colleagues, and organizational leadership to effectively navigate the challenges they face and to foster a lifestyle that is devoid of the debilitating effects of burnout. Furthermore, it is increasingly evident that there exists a pressing need for globally coordinated research initiatives, which are essential to uncover and identify evidence-based strategies aimed at mitigating and ultimately reversing the alarming increase in burnout rates that are being observed across various countries around the world. Such collaborative efforts in research are not merely desirable, but rather, they are an urgent necessity in order to address the multifaceted problem of physician burnout in a systematic and effective manner.

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Conflicts of interest

There are no conflicts of interest

Conflict of Interest:

Authors do not have conflict of interest.

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Ethical approval: Obtained from IRB of Punjab university.

RECOMMENDATIONS:

In order to ensure the provision of high-quality healthcare services, it is essential for Asian countries to cultivate a workforce that is not only skilled and efficient but also intrinsically motivated to perform their roles effectively. The findings of our research indicate that the issue of provider burnout is pervasive, impacting a diverse array of healthcare provider cadres across numerous countries, each possessing their own unique healthcare systems and challenges.

To reduce burnout in healthcare, a multifaceted approach is necessary, encompassing individual strategies, workplace interventions, and systemic changes. Prioritizing self-care, fostering a supportive work environment, and addressing workload imbalances are crucial steps. Additionally, promoting open communication, providing access to mental health resources, and encouraging work-life balance can significantly mitigate burnout.

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