

ORIGINAL ARTICLE

Workplace Stress as a Public Health Concern and Negative Output among Doctors

Abid Javaid¹, Saqib Zaheer², Hamad Hanif², Uzma Meral³, Arsalan Saqib³

¹11 Corps, Peshawar, Pakistan

²Combined Military Hospital, Peshawar, Pakistan

³CMH Lahore Medical College, Lahore, Pakistan

Correspondence: abidjaved887@gmail.com

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ABSTRACT

OBJECTIVE: To determine the prevalence of workplace stress in doctors and evaluate its negative impact on professional competency which includes medical negligence, absenteeism, decreased output and job dissatisfaction.

METHODOLOGY: A multicenter cross sectional analytical study was conducted from October 2025 to April 2026 in tertiary care hospitals. A total of 155 doctors which include house officers, medical officers, residents and consultants, were nominated. Workplace stress was assessed through physician with a working experience of 6 months and above in the facility. Negative output was defined as the presence of one or more of the following: self-reported medical error, absenteeism of three or more days per month, reduced work efficiency, or intention to leave the job. Data was assessed using SPSS. Chi-square test, ANOVA, and multivariate logistic regression were applied, with $p \leq 0.05$ considered statistically significant.

RESULTS: Among the 155 participants, 52.9% reported moderate stress and 28.4% reported high stress, while only 18.7% experienced low stress.

CONCLUSION: stress is highly prevalent among physicians and is significantly associated with adverse professional outcomes, including decreased productivity, absenteeism, job dissatisfaction and medical errors.

KEYWORDS: Stress, Public health, Doctors and Healthcare providers.

INTRODUCTION

Stress in the workplace has become a significant area of social health concern in most countries around the world and specifically in the case of physicians, who have special work pressures in terms of high responsibility, excessive work hours, emotional and life-or-death decision-making. Occupational stress is identified by the World Health Organization as a major cause of non-communicable diseases, mental illnesses, and low productivity, and it is stated that the non-healthy work conditions may impact the lives of the workers and the populations they represent adversely. Doctors are particularly susceptible to this since the work of medical professionals is characterized by cognitive load, emotional work, ethical issues, and administrative pressure, all of which are likely to accumulate to cause chronic stress and burnout. The phenomenon is no longer viewed as a personal problem but an overall problem of public health having consequences on the quality of healthcare and patient safety¹.

Physician stress has been associated with negative psychological consequences including anxiety, depression, sleeping disorders, drug abuse, and suicidal thoughts. Research has shown that physicians are found to experience burnout at higher rates than the general population, and it occurs in emotional exhaustion, lack of depersonalization and loss of personal accomplishment. Burnout does not only challenge the wellbeing of doctors but also undermines the clinical performance, which raises the chances of medical errors, lack of empathy, communication failures, and professionalism. Accordingly, work stress among physicians affects both the practitioner and patient outcomes negatively thus posing a major challenge to health care systems globally².

Occupational stress among doctors is multifactorial and entails with it high patient loads, time pressure, understaffing, workplace violence, administrative demands, medico-legal issues, and lack of institutional support. These stressors are exacerbated by resource scarcity, poor infrastructure and staff shortages in most of the low and middle income countries. Moreover, the speed of technological changes, growing demands on efficiency and documentation have made the clinical practice a high-intensity environment with little to no resting or recovery. In the case of public health crisis, like a pandemic, these pressures are even harder and more reflective of structural vulnerabilities of healthcare systems and the necessity of organizational interventions³. The issue of physician stress is significant regarding the health of the population since it can influence the sustainability of the workforce, health care price, and service provision. Chronic stress reduces healthcare professional absenteeism, presentism, early retirement, and migration, thus regularizing shortages and resilience of systems. It is evidenced that the hospitals that have a higher rate of physician burnout report poorer patient satisfaction and worse safety indicators. Therefore, the issue of workplace stress is not only about bettering the quality of life of doctors, but it is crucial in terms of providing quality healthcare and patient satisfaction as well as efficiency of the healthcare system⁴.

With such broad-based impacts, stress in the workplace among physicians must be considered as a priority public health concern that needs to be dealt with using coordinated approaches at the individual, institutional and policy levels. Programs like workload optimization, supportive leadership, mental health services as well as reforming the organizational culture have proven to be effective in decreasing stress and enhancing performance. Knowing the size, causes, and results of physician stress is thus important in developed preventive interventions and sustainable healthcare workforce.

METHODOLOGY

The study was a multicenter cross-sectional analytical study was conducted from October 2025 to April 2026 in tertiary care hospitals. The research was intended to measure work stress in physicians and its relation with negative professional outcomes such as the decline in productivity, medical errors, absenteeism, and job dissatisfaction. The researchers used licensed physicians who worked in clinical departments and house officers, medical officers, residents, and consultants in the study.

Stratified random sampling was used to enroll 155 doctors so as to represent the various ranks of professionalism. A 95% level of confidence, 50 percent of the prevalence of stress, and 8 percent of error was used to calculate the sample size for this study. The study was conducted after approval from institutional ethical review committee.

The inclusion criteria were the doctors (age 24-60 years) with a working experience of 6 months and above in the facility and being ready to give an informed consent were recruited by non-probability consecutive sampling while the exclusion criteria were the doctors who are on long leave (>1 month), psychiatric illness identified before the employment and non-clinical administrative physicians. The data was gathered as a structured questionnaire which had the following three sections:

- Sociodemographic and professional factors.
- Perceived Stress Scale (PSS-10) via workplace stress testing.
- Low outcome indicators (self-reported errors, absenteeism, less efficiency, dissatisfaction with the job)

The low, moderate and high stress were considered as PSS score 0-13, 14-26 and 27-40 respectively.

Negative output: Experiencing 1 or more of the following: self-reported medical error, 3 or more days/month absenteeism, low work efficiency, or desire to leave.

The SPSS was used as the data analysis program (v26). Quantitative variables were presented in the form of mean $\pm$ SD and categorical variables presented in the form of frequency and percentage. The Chi-square test and ANOVA were used at 95% CI to measure the associations. Multivariate logistic regression was used to determine negative output predictors. The p-value was found to be statistically significant below or equal to 0.05.

RESULTS

The number of physicians who took part in the study was 155, which is a representative sample in terms of age groups, job positions, and work hours. The highest percent of the participants was in the group of 24-30 year (40%), then 31-40 years (35.5%), with 24.5 years over 40 years. The sample was composed mainly of male physicians (59.4%). The highest professional category represented by residents (39.4%) was followed by house officers (21.9%), consultants (20.6%) and medical officers (18.1%). Almost half of the participants (47.7%) stated that they worked 60-80 hours/week, and 25.8% stated that they worked over 80 hours/week. **Table I**

Perceived stress levels were assessed and 52.9% of physicians were found to have moderate levels of stress and 28.4% were having a high level of stress with only 18.7% showing low levels of stress. **Table II.** The mean perceived stress score was found to be 23.6 ± 6.1 which implies that there was a general high level of stress among all the cohorts. The relation-ship between working hours and stress severity proved statistically significant ($p=0.001$) and physicians who worked more than 80 hours a week showed the largest proportion of high stress. **Table III**

Adverse professional outcomes were also very common. The most frequent were reduced work efficiency (46.5%), job dissatisfaction (43.9%), self-reported medical errors (30.3%), and absenteeism 3 or more days per month (25.2%) outcomes. On the whole, 61.9 percent of physicians had one or more negative professional outcomes.

The negative outputs had strong associations with stress level ($p<0.001$). In the high-stress group of physicians, 88.6% of the physicians had at least one adverse outcome, which is double that of the low-stress group (31%). **Figure 1.** Multivariate analysis of the logistic regression revealed that the strongest predictor of negative output was high stress (AOR 4.62, 95%) then working more than 80 hours per week (AOR 3.15, $p=0.004$), and the resident status (AOR 2.27, $p=0.036$), but age was not a significant predictor. **Table I**

Table I: Demographic and Professional Characteristics

Variable	Category	Frequency (%)
Age	24–30	62 (40.0)
	31–40	55 (35.5)
	>40	38 (24.5)
Gender	Male	92 (59.4)
	Female	63 (40.6)
Position	House officers	34 (21.9)
	Residents	61 (39.4)
	Medical officers	28 (18.1)
	Consultants	32 (20.6)
Working hours/week	<60	41 (26.5)
	60–80	74 (47.7)
	>80	40 (25.8)

Table II: Stress Level Distribution

Stress Category	Frequency	Percentage
Low	29	18.7
Moderate	82	52.9
High	44	28.4

Table III: Workplace Stress vs Working Hours

Working Hours	Low	Moderate	High
<60	15	21	5
60–80	11	42	21
>80	3	19	18

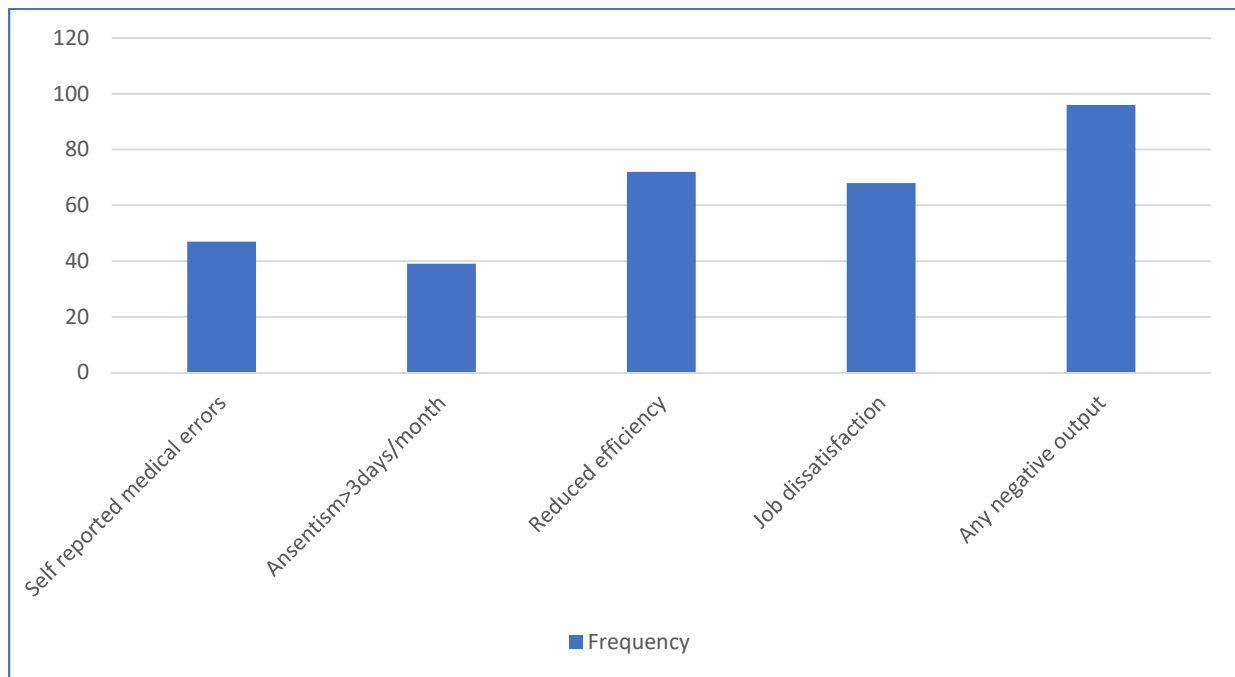


Chart 1: Prevalence of Negative Professional Outputs

Table IV: Multivariate Logistic Regression Predicting Negative Output

Variable	Adjusted OR	95% CI
High stress	4.62	2.01–10.6
Working >80 hrs	3.15	1.42–6.98
Resident status	2.27	1.05–4.92
Age >40	0.64	0.28–1.44

DISCUSSION

This paper proves that physician stress in the workplace is extremely common and also has a strong connection with negative professional outcomes. Over four-fifths participants reported a moderate or high level of stress, which confirms the fact that the problem of occupational strain among doctors is not an isolated case, but a systemic issue. The average level of stress was also similar to the results obtained in the international literature that have shown high levels of stress in healthcare professionals as a result of the demanding clinical conditions, administrative stress, and emotional burnout.

Work hours became a major predictor of stress, and physicians whose working hours exceeded 80 hours a week displayed the most prevalence of stress. This is consistent with occupational health studies that depict that extended periods of duty affect cognitive ability, augment fatigue, and augment psychological distress. Junior doctors, especially residents showed high stress and negative results as compared to consultants, which was probably due to increased workloads, less autonomy in decisions, and increased academic pressure. These results comply with previous research that indicates that early-career physicians are a highly susceptible group^{5,6}.

Notably, the research discovered that there was a significant correlation between negative professional outputs and stress levels. Highly stressed physicians had more than four times the likelihood of reporting adverse outcomes like decreased efficiency, absenteeism, and medical errors. This relationship underscores the expanded public health concern of physician stress. Patient safety and quality of healthcare may be compromised due to poor performance and high errors, which means that institutional interventions are essential and individual coping mechanisms are ineffective⁷.

Job dissatisfaction also proved to be very widespread with almost fifty percent of respondents being affected. The long-term lack of satisfaction may result in burnout, personnel turnover, and movement of medical workers, which puts pressure on already scarce healthcare resources. Stress-induced attrition can be far-reaching in the system of low- and middle-income healthcare, where overburdened physicians leave frequently⁸.

The results indicate that structural changes like streamlining duty hours, proper staffing, organizational support, and mental health provision to the healthcare workers are the structural changes that can be undertaken to mitigate workplace stress. Psychological strain may also be reduced using stress management training and peer support programs. Moreover, implementing occupational health policies into the hospital systems may alleviate the stress and enhance the welfare of the physicians and the patients^{9,10}.

Although the study has strengths such as multicenter sampling and using regression analysis, it used self-report measures, which can create reporting bias. However, the identified strong associations highlight that stress in the workplace of doctors is a major public health concern with concrete implications to the healthcare systems¹¹.

The results of the current paper also contribute to the increased awareness of physician workplace stress as a multidimensional occupational risk with systemic consequences. In addition to personal distress, the long-term exposure to a high-pressure clinical setting will add to the accumulation of psychological stress to the level of burnout syndrome which is now officially treated in the International Classification of Diseases (ICD-11) as an occupational phenomenon. Burnout is defined as having emotional exhaustion, depersonalization, and having poor efficacy in the profession and all these effects have direct effects on performance of physicians and quality of care of patients. The percentage of moderate-severe stress found in this

research is high, and it is possible to imply that a significant number of physicians are already at the burnout side of the continuum, but have not been diagnosed¹².

The analysis of the comparison with world literature demonstrates the patterns. In North American and European studies, burnout rates of physicians are as high as 30-60% with the same predictors like long working time, the absence of institutional support, and heavy administrative burden. The stress rates that were experienced in this study are not isolated to the geographical region and hence are an indication that physician stress is not a local occupational health problem but a global one. Nevertheless, the load might be greater in resource-constrained healthcare systems, when the lack of personnel, equipment, and facilities worsens workload and decreases the possibility of rest between shifts. These circumstances increase physical burnout and emotional tension, which leads to a state of continuous stress that is increasingly difficult to overcome^{13,14}.

The next interesting observation is that the relationship between stress and negative professional outcomes is significant especially less efficiency and self-reported medical errors. This association is underpinned by cognitive psychology studies that indicate that stress affects attention, decision-making and working memory. In high-stakes clinical settings, any diagnostic error or treatment decision can be influenced by the existence of even slight cognitive failures. Hence, stress in the workplace cannot be perceived as an employee wellness problem but patient safety concern. Institutions that do not manage physician stress are likely to put their patients indirectly at risk of developing adverse incidents¹⁵.

The correlation between lower professional level and increased stress levels among junior professionals in this study are as well in consonance with the previous research. The steep learning curves, excessive hours of service, sleep deprivation, and low autonomy experienced by residents and young-career physicians tend to lead to psychological stress. Moreover, they might experience pressure to be competent and deal with uncertainty at the same time during the process of clinical decision-making. Organized mentorship, formal supervision, and facilitative leadership have proven effective in alleviating stress among early-career physicians, which implies that the institutional culture is an important determinant of occupational health¹⁶.

Gender disparities in physician stress have resulted in a broad literature on the subject, with a number of studies showing that female physicians exhibit greater burnout rates because of the dual work-family demands and gender inequity at work. Though the predictor of gender was not statistically significant in the regression model of this study, the trend of increased stress reported by the female participants deserves to be addressed in bigger cohorts. The discussion of the gender-based issues influencing the workplace can be a significant move towards ensuring equity and psychological comfort in healthcare settings¹⁷.

The other alert that the current findings make us is the contribution of excessive working hours. Doctors who had to work above 80 hours per week had an extremely high chance of reporting stress and negative outputs. This goes hand in hand with international suggestions, which suggest to regulate the number of duty hours to ensure health of the physicians and patient safety. It has been demonstrated that restricting the number of work hours enhances sleep, cognitive and emotional stability without undermining training results. Organizational models where structured scheduling, safeguarded rest times and the redistribution of workloads are applied are usually associated with elevated staff morale and retention¹⁸.

Macro-level effects of physician stress in terms of the public health perspective. Stress levels cause absenteeism, presentism, early retirement and migration, which ultimately lower the capacity of healthcare workforce. Stress-induced attrition could also increase the disparity

between healthcare demand and supply in already stressed countries with a shortage of physicians. This is self-perpetuating: when there is a shortage of physicians, it will result in higher workloads of surviving personnel, which will then increase stress and burnout. The solution to this cycle must be policy-based intervention in the form of increased workforce, equitable pay, and safe staffing ratios.

It seems that organizational factors play a more important role than individual resilience in the outcomes of stress. Although personal coping mechanisms like mindfulness, physical training, and social support may be effective in reducing stress, it cannot replace systemic reforms. The evidence indicates that organization-oriented interventions, including decreasing the administrative workload, enhancing the usability of the electronic health record, and developing supportive leadership, result in a higher reduction of burnout compared to interventions that focus on an individual. Thus, the focus of structural changes in healthcare institutions should be placed instead of leaving the responsibility to physicians to cope with stress¹⁹.

These findings apply to the healthcare quality indicators. High stress rates of physicians in hospitals are associated with the low rate of patient satisfaction, less adherence to clinical guidelines, and a higher turnover rate. On the other hand, supportive workplaces are linked to more effective teamwork, communication, and better trust in the patients. Therefore, the strategy to invest in the well-being of physicians should be viewed as a quality improvement strategy but not wellness program²⁰.

Longitudinal studies on stress and clinical outcomes should be undertaken in future because focus on cause-effects may make the policy reform argument stronger. Moreover, qualitative research can give more information about contextual stressors of various specialties or health care systems. Intervention-based trials, assessing organizational reforms would also be useful in establishing successful methods on how to reduce occupational stress²¹.

Overall, the protracted discussion proves that workplace stress among physicians is a widespread and far-reaching phenomenon that has an impact on healthcare providers and systems in which physicians practice. It should be addressed by institutional and policy-level measures because its close correlation with adverse professional work, especially poor effectiveness and high rates of errors, indicates the urgency of such actions. The challenge of physician stress is thus not just a moral duty towards the healthcare employees but also a strategic approach towards enhancing the quality, safety and sustainability of healthcare.

CONCLUSION

This paper illustrates that physicians experience a high level of workplace stress that has a high correlation with adverse work outcomes, such as low productivity, turnover, dissatisfaction at work, and self-reported practice errors. Significantly, more stressed physicians were significantly more likely to report poor work-related outcomes, which highlights the direct connection between clinician well-being and healthcare performance. The study results highlight that physician burnout is not a personal mental health problem but a structural health problem with potential implications on patient safety, healthcare quality, and workforce sustainability. The acknowledgment of physician well-being as one of the essential areas of healthcare quality improvement can positively impact job satisfaction and decrease the number of errors and improve healthcare systems in general. Thus, a proactive intervention is necessary to detect, track, and minimize workplace stress in doctors to ensure the wellbeing of the provider and the maximum patient care outcomes.

Limitations of the Study

This research has various limitations. First, it is cross-sectional, which does not allow concluding on causal relationships between stress and negative professional outputs. Second, self-reported information brings about the risk of recall and response bias especially in sensitive variables like medical errors. Third, the sample of hospitals that were used to conduct the study might not be generalizable to other hospitals or regions.

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Data Sharing Statement: The corresponding author can provide the data proving the findings of this study on request. Privacy or ethical restrictions bound us from sharing the data publicly.

AUTHOR CONTRIBUTION

Javaid A: Literature search, study design and concept, questionnaire design, data collection, data analysis, data interpretation, drafting, etc.

Zaheer S: Literature search, study design and concept, questionnaire design, data collection, data analysis, data interpretation, drafting, etc.

Hanif H: Literature search, study design and concept, questionnaire design, data collection, data analysis, data interpretation, drafting, etc.

Meral U: Literature search, study design and concept, questionnaire design, data collection, data analysis, data interpretation, drafting, etc.

Saqib A: Literature search, study design and concept, questionnaire design, data collection, data analysis, data interpretation, drafting, etc.

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