Original Article

Mental Health Under Pressure: An Analysis of Healthcare Workers in High-Workload Hospital Departments in South Punjab

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Abstract

Objective: To assess the mental health and associated factors among healthcare professionals working in high-workload departments of Sheikh Zayed Hospital, Rahim Yar Khan.

Methods: This analytical cross-sectional study was conducted from April to July at the Sheikh Zayed Hospital, Rahim Yar Khan. We recruited 260 participants (aged 30–65 years and with >6 months of experience) using non-probability convenience sampling. Data were collected using a structured questionnaire, including the General Health Questionnaire-28 (GHQ-28), where a score above 16 indicated poor mental health. SPSS version 27 was used for data analysis. Chi-square tests identified associations that were then entered into a multivariate logistic regression model to control for confounders and identify independent predictors. Statistical significance in regression was set at p<0.05.

Results: A mean GHQ-28 total score of 34.85 (SD=12.29) indicated that 72.3% of participants had poor mental health. The subscales measuring physical symptoms and anxiety/insomnia had the highest mean values. Multivariate logistic regression showed that high job stress was the sole significant predictor of poor mental health, despite bivariate analysis showing significant relationships with a high workload (p = 0.015) and dissatisfaction with work-life balance (p = 0.001).

Conclusion: A significant percentage of healthcare professionals in departments with heavy workloads experience mental health issues, which are mostly caused by excessive workloads and a lack of work-life balance. To protect the well-being of healthcare professionals and improve patient care outcomes, targeted interventions, such as mental health support programs, task redistribution, and institutional support mechanisms, are urgently needed.

Keywords: Allied Health Personnel, Emergency Service, Health Personnel, Hospital, Intensive Care Units, Mental Health, Pakistan, Psychological Stress, Workload

Introduction

Healthcare professionals (HCWs) constitute the backbone of the global healthcare system; however, their own health is often neglected. In Pakistan and other low- and middle-income countries (LMICs), where structural issues, high patient loads, and resource limitations foster psychological discomfort, this is especially troubling.[1] Effective healthcare delivery is based on the mental health of HCWs, which is not a secondary issue. In places like Pakistan, where healthcare institutions are frequently overburdened, mental health issues can have serious repercussions for both the general public and individual specialists.[2]

Healthcare workers (HCWs) are the frontline guardians in the crucible of high-workload hospital departments, such as the intensive care units and emergency rooms, where they face life-threatening situations with steadfast dedication. However, the very environment in which they save lives can have a severe negative impact on their mental health.[3] A distinct and frequently debilitating psychological burden is produced by ongoing trauma exposure, the unrelenting strain of making important decisions, and the sheer number of patient needs. The mental health of HCWs in these high-stress environments is not only a personal concern but also a crucial factor in determining patient safety and the overall resilience of the healthcare system in Pakistan, where healthcare resources are regularly overextended, and the need for critical care is constantly rising.[4,5]

The aim of this study, "Mental Health Under Pressure," is to provide insight into the complex dynamics of mental health among healthcare workers who operate in these stressful settings in South Punjab. Our goal is to go beyond merely recording the frequency of distress and instead explore the particular variables that independently predict poor mental health. We will determine actionable targets for intervention and assess the degree of psychological strain using the reliable GHQ-28(General Health Questionnaire-28).[6] Gaining an understanding of these dynamics is not just a theoretical endeavor; it is an essential first step in developing a more robust and healthy staff that can provide the best care possible under extreme stress. The knowledge acquired will help create a more sustainable and equitable healthcare system by informing specific efforts in Pakistan and providing insightful lessons for other low- and middle-income nations dealing with comparable issues.[7] Hence, we have designed this study to determine the prevalence of low mental health among healthcare workers (HCWs) at a tertiary care hospital and identify the significant factors independently associated with poor mental health in Southern Punjab, Pakistan.

Materials And Methods

The mental health of healthcare professionals in high-workload departments was examined in an analytical cross-sectional study conducted at the Sheikh Zayed Hospital, Rahim Yar Khan, between April and July 2025. Students in their fourth year of MBBS collected the data. To achieve a 95% confidence level and a 5% margin of error, the sample size was calculated using a prevalence of 21% from an earlier study, which produced the necessary minimum of 255 participants. A total of 260 participants were recruited using non-probability convenience sampling. Physicians, nurses, paramedics, and other support personnel aged between 30 and 65 years who had worked in the intensive care unit, critical care unit, emergency room, neonatal intensive care unit, or gynaecology department for at least six months were eligible to participate in the study voluntarily. Those with a pre-existing diagnosed mental health illness, those in administrative or high managerial positions, and those who were hesitant to participate were not included.

A structured questionnaire with four sections was used to collect data. In the first section, sociodemographic data such as age, sex, and occupation were gathered. The second section addressed work-related characteristics, such as exposure to stressful events, job satisfaction, and weekly working hours. Subjective variables, including workload, job satisfaction, and job stress level, were measured using self-rated single-item questions where participants directly selected the most appropriate descriptive category (e.g., low, moderate, or high) from a fixed response set. Personal issues, such as sleep patterns and pre-existing mental health conditions, were covered in the third section. The General Health Questionnaire-28 (GHQ-28), a standardised instrument, was used in the final section. Its 28 items are broken down into four subscales of seven items each: depression (mood-related symptoms, including suicidal thoughts), anxiety (difficulty falling asleep, frequent arousals, irritability, or psychic tension), social dysfunction (inability to make decisions or to perform organised development of work, leading to worse daily functioning), and somatic symptoms (psychological somatic symptoms, such as fatigue, headaches, or general malaise).[8] The subscales do not correlate with psychiatric diagnoses because they reflect aspects of the symptomatology. The GHQ-28 combined normal and reverse scoring on a four-point Likert scale. A cutoff score of 16 was used to determine the overall score, which ranged from 0 to 84, where a score of 16 or below indicated low/no psychological distress and a score above 16 indicated poor mental health.

SPSS version 27 was used for data analysis. The data were summarised using descriptive statistics, including means, standard deviations, frequencies, and percentages. The chi-square test was the first inferential analysis tool used to examine the relationship between various factors and poor mental health. A multivariate logistic regression model was then constructed using variables that demonstrated statistical significance at a p-value of < 0.2. This strategy was selected to identify independent predictors of poor mental health and to account for confounding variables. A p-value of < 0.05 was deemed statistically significant in the regression analysis. No data were missing for any of the variables included in the analysis. This study was conducted in accordance with ethical standards and principles. Approval was obtained from the Institutional Review Board (IRB) or Ethics Committee before the commencement of the research. Informed consent was obtained from all participants involved in the study. The research was conducted with respect for participant privacy, confidentiality, and autonomy.

Results

A total of 260 healthcare professionals participated in this study. The average age of the participants was 30.99 years (SD = 6.99), indicating a relatively young workforce. On average, participants had 5.30 years (SD = 2.42) of experience in healthcare and 4.51 years (SD = 2.00) in their current department. The mean weekly working hours were reported to be 56.52 (SD = 7.12), reflecting a high workload.

Table 1: Participant Demographics and Employment Details(n=260)

Factors	Variables	Frequency (N=260)	Percentage (%)
Marital Status	Single	95	36.0%
	Married	162	61.4%
	Divorced	5	1.9%
	Widowed	2	0.8%
Gender	Male	106	40.2%
	Female	160	60.6%
Profession	Doctor	130	49.2%
	Nurse	79	29.9%
	Allied Health Professional	27	10.2%
	Support Staff	28	10.6%
Department	ICU	47	17.8%
	CCU	76	28.8%
	ER	119	45.1%
	NICU	2	0.8%
	Gynaecology	20	7.6%
Shift Pattern	Night Duty	66	25.0%
	Day Duty	56	21.2%
	Rotating Shifts	142	54%

Mental health of the study participants was assessed using the General Health Questionnaire-28 (GHQ-28). The mean total score for psychological distress in the study sample was much higher than the threshold for poor mental health. Anxiety and insomnia, which had the highest mean score and indicated recurrent problems with anxiety and sleep disturbance, followed by somatic symptoms. Social dysfunction and depression scores were marginally reduced but still high.

To address issues of low cell counts and zero values, several categorical variables were recoded to ensure sufficient sample sizes for analysis. A logistic regression was then conducted. Variables with a significance level of p<0.20 in the univariate analysis were considered for inclusion in the final multivariate regression model. A p-value of < 0.05 was considered statistically significant in the multivariate analysis.

Table 2: Work Environment and Mental Health-Related Characteristics (n=260)

Factors	Variables	Frequency (N=260)	Percentage (%)
Workload*	Low	1	0.4%
	Moderate	67	25.4%
	High	192	72.2%
Traumatic/Distressing Event	Yes	148	56.1%
	No	116	43.9%
Work-Life Balance Satisfaction*	Satisfied	1	0.4%
	Somewhat Satisfied	104	39.4%
	Neutral	5	1.9%
	Somewhat Dissatisfied	124	47%
	Dissatisfied	26	9.8%
Support at Work	Always	9	3.4%
	Often	88	33.3%
	Sometimes	120	45.5%
	Rarely	44	16.7%
Critical Incidents / Deaths	Never	3	1.1%
	Rarely	19	7.2%
	Sometimes	113	42.8%
	Often	120	45.5%
	Very Often	9	3.4%
Job Stress Level*	Low	3	1.1%
	Moderate	68	25.8%
	High	187	70.80%
	Very High	6	2.3%
Access to Mental Health Services	Yes	56	22.2%
	No	208	78.8%
Sought Professional Help	Yes	5	2.0%
	No	259	98.1%
Sleep Disturbance	Never	2	0.8%
	Rarely	52	19.7%
	Sometimes	97	36.7%
	Often	107	40.5%
	Very Often	6	2.3%
Poor Mental Health	Yes	191	72.3%
(assessed by GHQ-28)	No	72	27.3%

**Subjective variables selected from mutually exclusive options provided in the questionnaire.*

Table 3: General Health Questionnaire-28 (GHQ-28)

Subscale	Items (Question Numbers)	Mean (M)	Standard Deviation (SD)
Somatic Symptoms	1–7	8.94	4.14
Anxiety/Insomnia	8–14	8.96	3.99
Social Dysfunction	15–21	8.64	3.89
Depression	22–28	8.39	3.45
Total Score	1–28	34.85	12.29

Multivariate logistic regression was conducted to determine the predictors of poor mental health. The model included variables with p-values < 0.2 in the initial chi-square tests, specifically recoded workload, recoded job stress, and recoded work-life satisfaction. The overall model was statistically significant ($\chi2(4) = 13.590$, p=.009). The model explained approximately 7.4% of the variance in poor mental health (Nagelkerke $R2 = 0.074$).

The analysis revealed that job stress was the only significant predictor in the model. Specifically, individuals in the "high" job stress category were found to be 2.48 times more likely to report poor mental health than those in the "low" stress category (OR = 2.476, 95% CI: 1.078–5.687, p=.033). The moderate job stress category was not a significant predictor. Neither workload nor work-life satisfaction was found to be a significant predictor of poor mental health. The plot in Figure 1 displays the OR for each predictor in the model. The vertical line represents the line of no effect.

Predictors, for whom the 95% CI (horizontal line) does not cross the line, are statistically significant. The X-axis is displayed on a logarithmic scale.
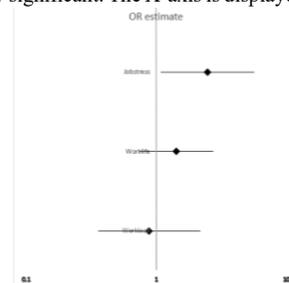
Figure 1: Forest Plot of Odds Ratios (OR) and 95% Confidence Intervals (CI) from Binary Logistic Regression

Table 4: Bivariate Analysis of Factors Associated with Poor Mental Health (N=260)

Variable	Categories	Poor Mental Health Presence, n (%)	Poor Mental Health Absence, n (%)	χ^2	p-value
Gender	Male	78 (73.6%)	28 (26.4%)	0.113	0.737
	Female	110 (71.4%)	44 (28.6%)		
Marital Status	Single/Separated	70 (68.6%)	32 (31.4%)	2.239	0.524
	Married	118 (74.7%)	40 (25.3%)		
Profession	Doctor	96 (75.6%)	31 (24.4%)	1.644	0.649
	Nurse	53 (67.1%)	26 (32.9%)		
	Allied Health/Support Staff	39 (73.6%)	15 (26.4%)		
Department	ICU/NICU	30 (60.0%)	19 (40.0%)	3.763	0.439
	CCU	57 (75.0%)	19 (25.0%)		
	ER	86 (74.8%)	29 (25.2%)		
	Gynaecology	15 (75.0%)	5 (25.0%)		
Workload	Low/Moderate	41 (61.2%)	27 (38.8%)	**8.531**	**0.015***
	High	147 (76.6%)	45 (23.4%)		
Experienced Traumatic Event	Yes	105 (72.9%)	39 (27.1%)	0.440	0.834
	No	83 (71.6%)	33 (28.4%)		
Satisfaction with Work-Life Balance	Satisfied/Somewhat Satisfied	69 (66.3%)	35 (33.7%)	**19.330**	**0.001***
	Dissatisfied/Somewhat Dissatisfied/Neutral	119 (77.8%)	36 (22.2%)		
Job Stress Level	Low/Moderate	40 (57.4%)	31 (42.6%)	**14.557**	**0.002***
	High/Very High	148 (77.6%)	41 (22.4%)		
Support from Colleagues/Supervisor	Always/Often	68 (70.1%)	29 (29.9%)	1.579	0.813
	Sometimes/Rarely/Never	120 (72.7%)	43 (27.3%)		
Sleep Disturbance	Never/Rarely	37 (67.3%)	17 (32.7%)	1.851	0.763
	Sometimes/Often/Very Often	156 (73.6%)	55 (26.4%)		

*Note: Low-frequency categories were collapsed (e.g., Low and Moderate) to meet the chi-square assumption of expected cell count. *p<0.05 was considered statistically significant.*

Table 5: Multivariate Logistic Regression Analysis

Predictor	Unadjusted OR (95% CI)	Unadjusted p-value	Adjusted OR (95% CI)	Adjusted p-value
Workload			0.881 (0.356–2.179)	0.784
- High vs. Low	2.151 (1.193–3.879)	**0.011***		
Work-life Satisfaction			1.421 (0.734–2.753)	0.297
- Dissatisfied vs. Neutral	1.948 (1.124–3.374)	**0.017***		
Job Stress			**2.476 (1.078–5.687)**	**0.033***
- Moderate vs. Low	7.220 (0.639–81.617)	0.11	7.195 (0.557–92.883)	0.131
- High vs. Low	**2.684 (1.485–4.853)**	**0.001***		

*p<0.05 was considered statistically significant.

Discussion

Job stress is a significant predictor of poor mental health, and there is low utilisation of mental health services. Healthcare workers, including doctors, nurses, paramedics, and support staff, have patient care as their primary focus. Medical professionals' mental health is crucial because it directly impacts their ability to provide high-quality care and make informed decisions, particularly in departments with high workloads like the ER, CCU, ICU, and Gynecology. Understanding the mental health of these essential healthcare workers and their supportive colleagues is the goal of our study. According to our study's results, 72.3% of participants reported having poor mental health, which is comparable to the 80.7% reported by Yodit Habtamu et al.[10] This similarity implies that significant levels of psychological strain are regularly produced across regions by the demanding nature of frontline healthcare work during and after serious health emergencies. Long working hours, quick clinical decisions, and heavy patient loads, all of which are known to cause psychological strain, may explain the high frequency of psychological strain among healthcare professionals working in critical departments.

A key finding from this study is the specific role of job stress as the only significant predictor of poor mental health among healthcare workers. The results of our study show that people with high job stress were approximately 2.48 times more likely to have poor mental health than people with low job stress, which aligns with the global literature. Although heavy workload and work-life dissatisfaction showed a significant association with poor mental health in the bivariate analysis, these variables did not remain significant in the multivariate analysis in our study. However, various studies have reported workload and work-life dissatisfaction as predictors of anxiety, depression, and somatisation (p < 0.001).[10,11] This implies that their impact on mental health might be mediated by their involvement in job stress, which was the main independent predictor in the final model.

A strength of this study is its inclusion of diverse professional categories. In contrast, Jarrar et al. in Malaysia included only nurses (n = 317),[12] while Liu and Hong in inland China reported that nurses comprised the majority (n = 241, 55.9%), followed by doctors (n = 83, 19.3%), medical technicians, administrative staff, and others.[13] All categories of HCW in our study reported poor mental health with a GHQ-28 score of 34.85 (SD = 12.29), showing a considerable level of psychological distress across the sample, consistent with the findings of Badahdah et al.[14] This suggests that stressors in high-workload departments affect all professional categories in comparable ways. The literature often highlights social

support as a critical protective factor against work-related stress and its negative effects on mental health.[15] Chinvararak et al. in Thailand reported that Perceived Social support reduced anxiety (p = 0.001) and depression (p = 0.002).[16] Although our research did not discover a clear correlation, it is possible that the type or source of support examined was not a strong enough predictor in this population, or that its influence is complicated and may be mediated by other factors, such as the direct experience of stress at work. This discrepancy warrants further investigation to understand the unique dynamics of social support within this specific professional environment.

The Anxiety/Insomnia domain had the highest mean score of 8.96 (SD = 3.99), reflecting notable levels of anxiety and sleep disturbances. Approximately half of the participants reporting poor mental health reported insomnia (42.2%); however, this association was not statistically significant. Wei Ding et al. in China found insomnia symptoms in 20.5% (n = 289) and severe insomnia in 7.9% (n = 111),[17] while Saeri et al. in Iran reported mild insomnia in 45.5% (n = 128) and severe insomnia in 5.3% (n = 15).[18] The higher rate in our study may be linked to more intense workloads or less rest between shifts, both of which are known to disturb sleep cycles.

A striking finding is the low utilisation of mental health services. Concerningly, 99.4% of respondents with poor mental health did not seek professional help, even though 72.7% of them had access to resources, according to our survey. This demonstrates that access is insufficient; people are probably not making use of the resources that are available because of other obstacles, such as stigma, expense, or ignorance.[19] Hospitals should offer confidential, on-site counselling to reduce the stigma and logistical barriers identified in our study and to address the low utilisation of mental health services.

Our study did not discover a statistically significant relationship between mental health and other characteristics, despite prior studies finding significant associations.[20,21] For example, Yodit Habtamu et al. emphasised the significance of marital status,[13] whereas Mahdieh Saeri et al. showed a connection between sex and mental health (p = 0.029).[18] In a similar vein, Lawrence Ejike et al. and Ugwu et al. found night shifts significantly associated with increased anxiety, stress, and depression (p < 0.001).[22] In our setting, the general high workload across all shifts may have masked the specific effects of shift timing.

Limitations:

The limitations of this study include potential bias in the selection of the study population because non-probability convenience sampling depends on the professionals' degree of interest in participating in the study. Furthermore, owing to reliance on self-reported data and a cross-sectional study design, the findings suggest associations but cannot allow the establishment of cause-and-effect relationships. Moreover, we could not assess the impact of financial status on mental health. Although –removed for blind review---is a representative region of the healthcare system, the findings of this study cannot be generalized to other parts of South Punjab.

Conclusions

This study provides compelling evidence that a substantial proportion of healthcare workers in high-workload hospital departments experience significant psychological distress and poor mental health. The findings highlight that high job stress is a critical, independent predictor of poor mental health within this population. Other contributors identified were excessive workload and a lack of work-life balance. These factors operate through interconnected mechanisms: a high workload leads to chronic fatigue and reduced recovery, whereas job-related stress activates prolonged stress pathways. In addition, dissatisfaction with work-life balance limits opportunities for psychological restoration. This combination of factors creates a high-pressure environment that compromises the resilience of even experienced staff, thereby explaining the elevated rates of poor mental health observed in this study and consistent with findings worldwide.

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