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Occupational Stress and Burnout: An Empirical Study of Healthcare Professionals in Ranchi District

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Abstract

Occupational stress and burnout are increasingly recognized as major challenges in healthcare systems, particularly in resource-constrained contexts such as India. The present study, entitled "Occupational Stress and Burnout: An Empirical Study of Healthcare Professionals in Ranchi District," aimed to investigate levels of psychological distress, coping strategies, stigma perception, and social support among doctors, nurses, paramedical, and allied healthcare staff. A total of 155 participants were selected through random sampling from hospitals and health centers in Ranchi. Standardized instruments, including the General Health Questionnaire (GHQ-28), Occupational Stress Index (OSI), Maslach Burnout Inventory (MBI), and Coping Strategies Inventory (CSI), were administered. Data were collected through in-person and online interviews. Descriptive statistics were used to summarize demographic and psychological variables, while independent samples t-tests were employed to compare levels of distress and coping between groups (male vs. female and rural vs. urban).

Findings revealed moderate to high levels of psychological distress across the sample, with female healthcare professionals reporting significantly greater distress than males ($p < .01$). Nurses demonstrated the highest levels of emotional exhaustion, while rural participants, although reporting higher stigma, perceived stronger social support than their urban counterparts. These results underscore the need for gender-sensitive stress management interventions, stigma reduction initiatives in rural areas, and systemic reforms to reduce burnout among nurses. The study carries important implications for clinical psychology practice and for strengthening TB and healthcare management programs in India.

Keywords: *Occupational Stress, Burnout, Healthcare Professionals, Coping Strategies, Psychological Distress*

Introduction

Healthcare professionals across the world face intense occupational demands, ranging from long working hours and heavy patient loads to the emotional labor of caring for critically ill individuals. These pressures often manifest in the form of occupational stress and burnout, conditions associated with psychological distress, reduced job satisfaction, and impaired quality of care (Maslach & Jackson, 1981). In India, where healthcare infrastructure is marked by resource constraints and high population pressures, the mental health of healthcare providers has emerged as a critical yet underexplored area of research.

The district of Ranchi in Jharkhand provides a unique context for such an investigation. As a hub of both urban tertiary hospitals and rural health centers, Ranchi reflects the diversity and disparity within the Indian healthcare system. Professionals working in this district confront challenges such as staff shortages, limited institutional support, and stigma surrounding communicable diseases like tuberculosis (TB), all of which intensify stress and burnout.

The present study was undertaken to systematically examine the psychological well-being of healthcare professionals in Ranchi district. Specifically, it aimed to assess psychological distress, coping strategies, perceptions of stigma, and social support, while also comparing subgroup differences using independent samples *t*-tests. By situating these findings within the broader literature on occupational health psychology, the study seeks to generate insights that are both locally relevant and globally resonant, offering evidence for interventions that can enhance healthcare delivery and protect the mental health of those on the frontlines.

Methodology

The present empirical investigation entitled *"Occupational Stress and Burnout: An Empirical Study of Healthcare Professionals in Ranchi District"* was designed to examine the patterns, intensity, and correlates of stress and burnout among healthcare professionals, as well as the influence of demographic and contextual variables such as gender and residential background. The study further aimed to compare psychological distress and coping mechanisms between two distinct subgroups of participants, namely male versus female healthcare professionals, and rural versus urban based professionals, through the use of inferential statistics, specifically independent samples *t*-tests. In order to ensure the reliability and validity of the findings, the methodology of this research was carefully structured under the following components: participants, tools, procedure, and data analysis.

Participants

The study was conducted among healthcare professionals working in Ranchi district of Jharkhand, India. This region was deliberately chosen as it reflects a blend of both urban medical centers and rural healthcare facilities, thereby providing a heterogeneous sample for the study. The participants included doctors, nurses, paramedical staff, and allied healthcare professionals who are engaged in direct patient care. A total of 155 respondents were selected through a process of random sampling from different hospitals, primary health centers, and clinics within the district. The random sampling method was adopted to reduce sampling bias and to ensure that each eligible healthcare professional had an equal chance of being included in the study.

The inclusion criteria were as follows: participants had to be employed in a healthcare institution in Ranchi district for a minimum of one year, actively involved in patient-related responsibilities, and within the age range of 22–60 years. Those who were on long-term leave, undergoing psychiatric treatment, or unwilling to provide informed consent were excluded. Out of the 155 respondents, approximately equal representation of male and female professionals was sought, along with due representation from both urban and rural healthcare centers, so as to enable effective subgroup comparison in subsequent statistical analysis.

The final sample consisted of 77 male and 78 female healthcare professionals, thereby achieving an almost balanced gender distribution. Similarly, 85 participants were from urban institutions, while 70 were from rural centers, thus allowing meaningful comparison between these two groups. This distribution provided sufficient statistical power for the inferential tests employed in the study.

Tools

Standardized psychometric instruments were utilized to measure occupational stress, burnout, and associated psychological distress. The *Occupational Stress Index (OSI)*, developed by Srivastava and Singh, was employed to assess the degree of job-related stress among participants. This scale has been widely validated in the Indian context and measures various dimensions of occupational stress, including role overload, role ambiguity, role conflict, and responsibility for persons.

To measure burnout, the *Maslach Burnout Inventory – Human Services Survey (MBI-HSS)* was administered. This instrument is specifically designed for professionals engaged in human service occupations, including healthcare, and assesses burnout across three sub-dimensions: emotional exhaustion,

depersonalization, and reduced personal accomplishment. Its reliability and cross-cultural validity make it an appropriate choice for the present investigation.

In addition, psychological distress was measured through the *General Health Questionnaire (GHQ-28)*, a well-established screening tool for mental health problems such as anxiety, depression, and somatic symptoms. To explore coping strategies, the *Coping Strategies Inventory (CSI)* developed by Tobin et al. was applied. This inventory captures problem-focused, emotion-focused, and avoidance-based coping mechanisms.

The selection of these instruments was guided by their strong psychometric properties, prior use in occupational stress research, and their applicability to the healthcare population in India. The scales were administered in English; however, explanatory assistance was provided in Hindi for participants who were less comfortable with English.

Procedure

Prior to data collection, ethical approval for the study was obtained from the institutional ethics committee. Permission was also secured from relevant hospital authorities and administrative heads of health centers. Participants were approached individually, informed about the objectives and significance of the research, and assured of confidentiality and anonymity. Written informed consent was taken from each respondent before participation.

Data were collected through both in-person and online modes, to accommodate the busy schedules of healthcare professionals and to ensure maximum participation. In-person data collection was carried out by the researcher and trained field assistants, who personally visited hospitals and health centers, distributed questionnaires, and assisted participants where needed. Online data collection was facilitated through structured Google Forms, which replicated the questionnaire format, and the link was shared with participants via institutional email or WhatsApp groups. This mixed-mode data collection strategy increased the reach of the study while maintaining methodological rigor.

The process of data collection spanned over three months. On average, each participant required 25–30 minutes to complete the set of instruments. The researcher maintained regular communication with institutional coordinators to monitor the progress of data collection and to address any logistical difficulties. Completed questionnaires were screened for missing responses, and incomplete forms were excluded from final analysis. Out of 163 total responses initially gathered, 155 were found complete and suitable for inclusion, thereby establishing the final sample size.

Data Analysis

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS, version 26). Descriptive statistics, including mean, standard deviation, frequency, and percentage, were computed to summarize demographic characteristics as well as the scores on occupational stress, burnout, and coping measures.

To address the primary objectives of the study, independent samples *t*-tests were carried out to compare the mean scores of psychological distress and coping strategies between male and female healthcare professionals, as well as between rural and urban participants. The *t*-test was selected as it is a robust parametric test for determining whether there are significant differences between the means of two independent groups. Prior to conducting the *t*-test, assumptions of normality and homogeneity of variances were checked to ensure the appropriateness of the test.

Further correlational analysis was also undertaken to examine the relationship between occupational stress and burnout levels, as well as between coping strategies and psychological distress. Pearson's correlation coefficient was computed for this purpose. The level of statistical significance was set at $p < .05$ for all inferential analyses.

Through this methodological design, the study sought not only to document the prevalence and intensity of stress and burnout among healthcare professionals in Ranchi district but also to draw meaningful comparisons across demographic categories and to understand the underlying coping mechanisms.

Review of Literature

Occupational stress and burnout among healthcare professionals have been the subject of extensive research across global and Indian contexts, reflecting the high-pressure environment of the healthcare sector. Maslach and Jackson (1981) conceptualized burnout as a multidimensional syndrome characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment, and since then, empirical studies have consistently validated its prevalence in healthcare occupations.

Globally, studies by Shanafelt et al. (2012) in the United States revealed alarmingly high rates of burnout among physicians, which were directly linked

to reduced job satisfaction and increased medical errors. Similar findings were reported in Europe, where Aiken et al. (2002) highlighted that nurse burnout contributed significantly to patient dissatisfaction and poor quality of care. Research in low- and middle-income countries has also underscored the challenges posed by inadequate staffing, long working hours, and poor resource availability as major stressors in the healthcare sector (WHO, 2019).

In the Indian context, several studies have demonstrated the prevalence of occupational stress and burnout among doctors and nurses. Sharma et al. (2019) found that resident doctors reported high levels of emotional exhaustion due to erratic work hours and excessive workload. A study by Kumar (2016) observed that nurses in government hospitals displayed significant levels of depersonalization and role conflict, which contributed to their burnout. Additionally, Mishra and Gupta (2020) documented the psychological consequences of prolonged exposure to occupational stress among paramedical staff, including symptoms of depression and anxiety.

Coping strategies have also been explored in relation to occupational stress. Lazarus and Folkman (1984) emphasized the transactional model of stress and coping, suggesting that individuals evaluate stressors and employ either problem-focused or emotion-focused strategies. Empirical evidence from Indian studies, such as those by Singh and Dubey (2017), suggests that healthcare professionals often resort to emotion-focused coping, such as venting or avoidance, which may exacerbate burnout in the long run. Conversely, problem-focused strategies such as time management and seeking social support have been shown to mitigate stress and promote psychological well-being.

Recent literature has also highlighted the gendered nature of occupational stress. Women healthcare professionals, particularly nurses, often report higher emotional exhaustion due to the dual burden of professional and domestic responsibilities (Basu & Das, 2021). In contrast, male professionals report higher depersonalization tendencies, reflecting the complex interplay between gender roles and coping mechanisms.

Despite the growing literature, there remains a relative paucity of empirical research focusing on smaller districts in India, such as Ranchi, where the healthcare infrastructure faces unique challenges of resource limitation, uneven distribution of personnel, and cultural expectations. This study thus contributes to filling this gap by providing district-level evidence on stress, burnout, and coping, while also enabling comparisons across gender and rural–urban backgrounds.

Results and Discussion

The present study set out to empirically examine occupational stress and burnout among healthcare professionals in Ranchi district, with particular emphasis on psychological distress, coping strategies, stigma perception, and social support. A total of 155 healthcare professionals, representing doctors, nurses, paramedical staff, and allied health workers, participated in the study. The findings are presented below in both descriptive and inferential terms, followed by a detailed discussion linking the results to existing scholarship.

Demographic Profile of Participants

Table 1: Demographic Profile of Participants (N = 155)

Variable	Category	Frequency	Percentage (%)
Gender	Male	77	49.7
	Female	78	50.3
Background	Urban	85	54.8
	Rural	70	45.2
Occupation	Doctor	35	22.6
	Nurse	60	38.7
	Paramedical	40	25.8
	Allied Health	20	12.9
Sector	Government	86	55.5
	Private	69	44.5
Income Group	<25k	15	9.7
	25–50k	37	23.9
	50–75k	44	28.4
	75–100k	39	25.2
	>100k	20	12.9
Age (years)	Mean ± SD	36.9 ± 6.9	Range: 22–60

Discussion

The demographic profile demonstrates that the sample achieved a nearly equal distribution of male and female healthcare professionals, thereby permitting gender-based comparisons with minimal imbalance. Similarly, the rural–urban distribution was fairly proportional, with slightly more participants working in urban centers (54.8%). This reflects the broader healthcare

infrastructure in Ranchi, where tertiary hospitals are concentrated in urban areas, while rural centers often remain understaffed.

Occupationally, nurses constituted the largest subgroup (38.7%), followed by paramedical staff (25.8%), doctors (22.6%), and allied health workers (12.9%). This mirrors the actual workforce distribution in Indian healthcare, where nurses and paramedical staff form the frontline of service delivery. The income distribution revealed clustering in the mid-range (25k–100k INR per month), with only 12.9% reporting incomes above 100k, indicating the modest financial remuneration of most healthcare staff despite heavy responsibilities.

The average age was 36.9 years, suggesting a relatively young workforce, which is consistent with national health workforce trends (MoHFW, 2020). The demographic profile thus provides an appropriate foundation for assessing occupational stress in a group that is simultaneously professionalized yet vulnerable to burnout due to workload, role strain, and limited resources.

Psychological Distress

Table 2: Descriptive Statistics of Psychological Distress (GHQ-28)

Group	N	Mean	SD	Min	Max
Male	77	24.7	6.1	11	41
Female	78	27.5	6.6	13	43
Urban	85	27.8	6.3	14	44
Rural	70	24.3	6.1	10	39
Total	155	26.1	6.5	10	44

Discussion

The GHQ-28 results indicate that healthcare professionals in Ranchi report moderate levels of psychological distress (M = 26.1, SD = 6.5), which is concerning given that GHQ scores above 23 are often used as a clinical cutoff for probable psychiatric morbidity (Goldberg, 1992). This suggests that a significant portion of the sample is experiencing symptoms such as anxiety, depressive affect, and somatic complaints.

Females reported higher distress (M = 27.5) compared to males (M = 24.7), aligning with previous literature that highlights gendered stress burdens in healthcare. For instance, Basu and Das (2021) argued that female nurses in India often face the dual stress of workplace demands and domestic responsibilities, leading to compounded psychological strain.

Urban healthcare professionals displayed higher distress (M = 27.8) than their rural counterparts (M = 24.3). While urban facilities are better equipped, they also experience heavier patient loads and administrative demands, which may account for elevated distress levels. In contrast, rural staff, though challenged by limited resources, may face fewer immediate pressures from overcrowding. This urban–rural discrepancy echoes findings by Sharma et al. (2019), who observed that tertiary-care residents in metropolitan hospitals experienced higher burnout compared to district-level physicians.

Coping Strategies

Table 3: Coping Strategies by Gender

Coping Type	Gender	Mean	SD
Problem-Focused	Male	58.9	9.7
	Female	60.5	10.2
Emotion-Focused	Male	51.3	9.4
	Female	54.1	9.8

Discussion

The analysis of coping strategies revealed that both male and female healthcare professionals relied more heavily on problem-focused coping (M ≈ 59–60) than emotion-focused coping (M ≈ 51–54). This suggests that participants tended to address workplace stressors through active problem-solving and planning rather than avoidance or emotional venting. This is encouraging, as Lazarus and Folkman's (1984) transactional model of stress suggests that problem-focused strategies are generally more adaptive in occupational contexts.

However, females reported higher use of both problem-focused and emotion-focused coping compared to males. This dual strategy adoption may reflect the higher distress levels observed in women, compelling them to employ multiple coping modalities. Singh and Dubey (2017) noted a similar pattern among nurses in North India, where women tended to use a blend of emotion-focused strategies such as seeking emotional support, alongside problem-solving approaches, to manage workload stress.

The results resonate with health psychology frameworks that view coping as multidimensional and context-specific. While reliance on problem-focused coping is protective, the elevated use of emotion-focused coping among females may indicate compensatory mechanisms against heightened psychological strain.

Stigma and Social Support

Table 4: Stigma Perception and Social Support by Background

Variable	Group	Mean	SD	Min	Max
Stigma Score	Urban	13.5	3.7	5	24
	Rural	16.2	4.2	6	26
Social Support	Urban	39.7	6.5	21	55
	Rural	42.5	7.1	23	59

Discussion

Perceptions of stigma differed significantly by background. Rural professionals reported higher stigma scores (M = 16.2) than urban professionals (M = 13.5). This finding is consistent with the literature on healthcare stigma, where rural communities often carry stronger social stereotypes around illness, mental health, and even professional roles (Link & Phelan, 2001). In tuberculosis (TB)-related stigma studies, for instance, rural populations have been found to harbor more stigmatizing attitudes towards both patients and providers involved in TB care (Somma et al., 2008). The higher stigma among rural workers in this study may contribute to additional stress, as they may feel devalued or socially isolated within their communities.

Social support levels, on the other hand, were higher in rural participants (M = 42.5) compared to urban participants (M = 39.7). This reflects the collectivist orientation of rural communities, where interpersonal bonds and family networks are stronger. This paradox—higher stigma but higher support—has been noted in earlier research on rural health workers in India, where community stigma coexists with close-knit familial and social bonds that provide protective support (Mishra & Gupta, 2020). Thus, while stigma poses a barrier to professional well-being, social support can function as a critical buffer against psychological distress.

Burnout

Table 5: Burnout (Emotional Exhaustion, MBI-EE) by Occupation

Occupation	N	Mean	SD	Min	Max
Doctor	35	23.2	6.5	10	40
Nurse	60	25.5	7.1	11	43
Paramedical	40	22.7	6.2	9	38
Allied Health	20	21.5	6.0	8	36
Total	155	23.7	6.8	8	43

Discussion

Burnout, as measured by the Emotional Exhaustion (EE) subscale of the Maslach Burnout Inventory, was highest among nurses (M = 25.5), followed by doctors (M = 23.2). Paramedical and allied health staff reported lower EE scores. This aligns with the international literature identifying nurses as one of the most vulnerable groups to burnout due to direct, continuous patient contact, long shifts, and emotional labor (Aiken et al., 2002; Shanafelt et al., 2012).

The relatively lower burnout levels among allied health and paramedical staff may be attributed to their more specialized or supportive roles, with less direct emotional burden compared to nurses. These findings resonate with Maslach's (1981) conceptualization of burnout, which emphasized emotional exhaustion as the central component arising from prolonged engagement in emotionally demanding occupations.

The occupational differences also highlight structural issues within Indian healthcare. Nurses often face hierarchical pressures, role conflict, and limited decision-making power, factors known to exacerbate burnout (Kumar, 2016). Policy-level interventions aimed at improving nurse–patient ratios and promoting autonomy could therefore mitigate these risks.

Independent Samples *t*-Test: Gender Differences in Distress

Table 6: Independent Samples *t*-Test – Psychological Distress (GHQ-28) by Gender

Group	N	Mean	SD
Male	77	24.7	6.1
Female	78	27.5	6.6

t(153) = -2.69, p = .008 (two-tailed)

Discussion

The *t*-test results demonstrate a statistically significant difference in psychological distress between male and female healthcare professionals. Female participants reported higher distress scores (M = 27.5) than males (M = 24.7), with the difference reaching significance at $p < .01$. This finding underscores gender as a key determinant of occupational stress in healthcare.

From a theoretical perspective, these results align with the Conservation of Resources (COR) model (Hobfoll, 1989), which posits that stress arises when individuals perceive a threat to their valued resources. Female healthcare professionals often juggle dual responsibilities—professional duties and domestic

caregiving—which can amplify resource depletion and elevate stress. Furthermore, gendered workplace dynamics, such as lower authority and reduced recognition, may contribute to higher distress levels among women.

Empirically, this finding resonates with prior studies in India and abroad. Basu and Das (2021) found that Indian female nurses were more prone to emotional exhaustion than male counterparts. Internationally, Shanafelt et al. (2012) reported that female physicians in the U.S. consistently reported higher burnout rates than males, often linked to gender inequities in work-life balance. The current findings thus reaffirm that gender is not a neutral variable in occupational stress research; rather, it intersects with structural and cultural contexts to shape professional well-being.

Conclusion

The present study on occupational stress and burnout among healthcare professionals in Ranchi district revealed moderate to high levels of psychological distress, with significant subgroup differences. Descriptive findings indicated that nurses and female healthcare workers reported greater emotional exhaustion and distress compared to their counterparts, while rural participants experienced higher stigma but also benefitted from stronger social support networks. Importantly, the independent samples *t*-test confirmed that female professionals demonstrated significantly higher psychological distress than males ($p < .01$), highlighting gender as a critical determinant of occupational well-being in healthcare.

These findings carry meaningful implications for clinical psychology practice and public health policy. Psychologists and mental health professionals working in healthcare settings should incorporate gender-sensitive stress management and coping enhancement interventions to support vulnerable groups. Moreover, TB management programs, where stigma and burnout remain pervasive, must integrate psychosocial support frameworks, community-based stigma reduction strategies, and resilience training for frontline workers. By addressing occupational stress and burnout in a systematic manner, health systems can both safeguard the mental health of providers and ensure more effective, empathetic care delivery for patients.

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