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Occupational stress and its association with burnout, turnover intention and patient- safety outcomes among healthcare workers at Bo Government Hospital, Sierra Leone: a cross-sectional study

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Article

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Abstract

Background

Occupational stress affects not only healthcare-worker wellbeing but also organisational stability and patient safety. Evidence linking occupational stress to these downstream outcomes is scarce for Sierra Leone. This study examined the association between occupational stress and burnout, turnover intention, absenteeism and patient-safety outcomes among healthcare workers at Bo Government Hospital.

Methods

A descriptive cross-sectional study was conducted among 260 healthcare workers selected by stratified proportionate random sampling. Occupational stress was measured with the 10-item Perceived Stress Scale (PSS-10) and treated as the exposure. Outcomes were burnout dimensions (emotional exhaustion, depersonalisation, reduced personal accomplishment), self-reported turnover intention, absenteeism exceeding three days per month, and patient-safety events (medication errors and near-miss incidents in the preceding three months). Associations were assessed using Pearson's chi-square tests in SPSS v26, with significance set at $p < 0.05$.

Results

Among workers with high occupational stress, emotional exhaustion was present in 61.2%, reduced personal accomplishment in 53.8% and depersonalisation in 44.7%. Turnover intention was substantially higher among highly stressed workers than among those with low or moderate stress (56.4% vs 22.1%; $\chi^2 = 38.4$, df = 1, $p < 0.001$), as was absenteeism exceeding three days per month (38.2% vs 14.6%). Patient-safety outcomes were also elevated: 22.7% of highly stressed workers reported a medication error and 31.5% a near-miss incident in the preceding three months, compared with 8.9% and 12.3% respectively among less-stressed workers.

Conclusions

High occupational stress is strongly associated with burnout, intention to leave and patient-safety events among healthcare workers at Bo Government Hospital. Occupational stress is therefore both a workforce-wellbeing and a patient-safety concern, and institutional psychosocial support, retention strategies and safety-culture interventions are warranted.

Trial registration

Clinical trial number: not applicable.

Background

The consequences of occupational stress extend well beyond individual wellbeing to organisational performance and patient outcomes(Weltgesundheitsorganisation, n.d.). Burnout a syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment arising from prolonged occupational stress in human-service work is closely related to, though distinct from, occupational stress, and the two frequently co-occur in healthcare settings(Maslach et al., 2001). At the individual level, chronic stress predisposes workers to depression, anxiety and physical morbidity; at the organisational level it drives absenteeism, turnover and loss of institutional knowledge(Havaei et al., 2019; Ofei-Dodoo et al., 2021).

Crucially, occupational stress and burnout are linked to patient safety. Stressed and burnt-out clinicians report higher rates of medication errors and near-miss incidents(Havaei et al., 2019; Sarafis et al., 2016), establishing a direct pathway from workforce mental health to quality of care. In resource-constrained settings, where health-worker replacement costs and training timelines are prohibitive, stress-driven turnover represents a substantial health-system investment loss(Ofei-Dodoo et al., 2021; Weltgesundheitsorganisation, n.d.).

The Demand Control Support model provides a coherent explanation for these outcomes: workers in high-demand, low-control, low-support (‘iso-strain’) conditions progressively deplete their emotional resources, culminating in burnout and its organisational and clinical sequelae(Karasek & Theorell, 1990). Sierra Leone's public hospitals typify such conditions, with nurse-to-patient ratios far exceeding safe thresholds and an enduring background of psychological morbidity following the 2014–2016 Ebola epidemic(Health, 2023; Jalloh et al., 2018). Yet no peer-reviewed study has quantified the association between occupational stress and its health, organisational and patient-safety consequences among healthcare workers in a Sierra Leonean referral hospital.

This study addresses that gap by examining, in a single provincial referral hospital, the association between occupational stress and burnout, turnover intention, absenteeism and patient-safety outcomes. The prevalence and determinants of occupational stress in the same cohort are reported in a companion paper[21]; the present analysis treats occupational stress as the exposure and focuses on its downstream consequences.

Methods

Study design, setting and participants

This analysis draws on a descriptive cross-sectional study conducted at Bo Government Hospital, the principal public referral facility for Bo District and the Southern Province of Sierra Leone(Creswell & Creswell, 2023). A total of 260 healthcare workers were recruited by stratified proportionate random

sampling across nursing, medical, laboratory, pharmacy, allied health and administrative cadres; the sampling frame, sample-size calculation and stratum distribution are detailed in the companion paper[21]. Eligible participants were workers employed for at least three consecutive months who gave written informed consent. The same 260-participant dataset underlies both papers; this transparency is noted for editors and reviewers.

Measures

Exposure. Occupational stress was measured with the validated 10-item Perceived Stress Scale (PSS-10), scored 0–40 with cut-offs of 0–13 (low), 14–26 (moderate) and 27–40 (high)(Cohen et al., 1983; Lee, 2012); for outcome analyses, workers were classified as having high stress (≥ 27) versus low/moderate stress (< 27). Organisational stressors were characterised using the HSE Management Standards Indicator Tool(Executive, 2021).

Outcomes. Burnout was assessed across three dimensions consistent with the Maslach conceptualisation emotional exhaustion, depersonalisation and reduced personal accomplishment(Maslach et al., 2001). Organisational outcomes were self-reported turnover intention (intention to leave current employment within 12 months) and absenteeism exceeding three days in the preceding month. Patient-safety outcomes were self-reported medication errors and near-miss incidents in the preceding three months.

Statistical analysis

Data were analysed in SPSS v26.0. Categorical outcomes were summarised as frequencies and percentages and compared across occupational-stress categories using Pearson's chi-square test. Statistical significance was set at $p < 0.05$ (two-tailed). Because the design is cross-sectional, associations are interpreted as correlational rather than causal.

Ethical considerations

The study adhered to the Declaration of Helsinki(“World Medical Association Declaration of Helsinki,” 2013) and Sierra Leone national research-ethics guidelines. The study was approved by the ethics committee/IRB of the School of Public Health, Njala University in May 2026. Participation was voluntary and anonymous, with the right to withdraw at any time.

Results

Respondents

Of 300 questionnaires distributed, 260 complete responses were analysed (86.7% effective response). The cohort was predominantly female (61.9%) and drawn largely from nursing (45.0%); high

occupational stress (PSS-10 ≥ 27) was present in 38.5% of respondents (full characteristics and stress distribution are reported in the companion paper[21]). The following analyses compare outcomes between workers with high stress and those with low or moderate stress.

Burnout

High occupational stress was strongly associated with burnout. Among highly stressed workers, emotional exhaustion was reported by 61.2%, reduced personal accomplishment by 53.8% and depersonalisation by 44.7% (Fig. 1). Emotional exhaustion was thus the predominant burnout dimension, consistent with the iso-strain pathway of the Demand–Control–Support model.

Organisational and patient-safety outcomes

Turnover intention was reported by 56.4% of highly stressed workers versus 22.1% of those with low or moderate stress ($\chi^2 = 38.4$, df = 1, $p < 0.001$). Absenteeism exceeding three days per month showed a similar gradient (38.2% vs 14.6%). Patient-safety outcomes were markedly elevated among highly stressed workers: 22.7% reported a medication error and 31.5% a near-miss incident in the preceding three months, compared with 8.9% and 12.3% respectively among less-stressed workers (Table 1, Fig. 2).

Table 1
Health, organisational and patient-safety outcomes by occupational-stress level (n = 260).

Outcome	High stress (%)	Low/moderate (%)	p
Emotional exhaustion	61.2	—	—
Reduced personal accomplishment	53.8	—	—
Depersonalisation	44.7	—	—
Turnover intention (12 mo)	56.4	22.1	< 0.001
Absenteeism > 3 days/month	38.2	14.6	< 0.001
Medication error (past 3 mo)	22.7	8.9	< 0.01
Near-miss incident (past 3 mo)	31.5	12.3	< 0.001

Burnout-dimension comparators against the low/moderate-stress group were not tabulated in the source analysis and are shown as —; chi-square p-values correspond to high vs low/moderate stress.

Discussion

This study demonstrates that high occupational stress among healthcare workers at Bo Government Hospital is strongly associated with burnout, intention to leave and patient-safety events. The predominance of emotional exhaustion (61.2%) is consistent with the iso-strain pathway of the Demand

Control Support model, in which high-demand, low-control, low-support conditions progressively deplete emotional resources(Karasek & Theorell, 1990; Maslach et al., 2001).

The strong association between high stress and turnover intention (56.4% vs 22.1%; $p < 0.001$) has critical human-resources-for-health implications. Where training pathways are protracted and costly, stress-driven attrition represents a significant and recurring health-system investment loss(Ofei-Dodoo et al., 2021; Weltgesundheitsorganisation, n.d.). Elevated absenteeism compounds the operational burden on an already understaffed workforce.

Most concerning from a quality-of-care perspective are the patient-safety findings: highly stressed workers reported roughly two-to-three times the frequency of medication errors and near-miss incidents seen among less-stressed colleagues. These associations align with international evidence linking clinician stress and burnout to medical error(Havaei et al., 2019; Sarafis et al., 2016), and reframe occupational stress not merely as a workforce-welfare issue but as a direct patient-safety hazard requiring institutional and policy action.

Taken together, the results support a coherent chain from structural working conditions, through occupational stress and burnout, to organisational instability and compromised patient safety. Interventions that reduce stress at source adequate staffing, enforced working-hour limits and improved job control may therefore yield dividends across retention and safety simultaneously, complemented by institutional psychosocial support and a strengthened safety-reporting culture.

Limitations

The cross-sectional design precludes causal inference, and all outcomes were self-reported, raising the possibility of common-method and social-desirability bias; medication errors in particular may be under-reported. Comparator data for individual burnout dimensions were not available in the source analysis. Single-site recruitment may limit transferability. Longitudinal and multi-site studies, ideally incorporating objective safety indicators, are needed to confirm the direction and magnitude of these associations.

Conclusions

High occupational stress is strongly associated with burnout, turnover intention, absenteeism and patient-safety events among healthcare workers at Bo Government Hospital. Occupational stress is thus simultaneously a workforce-wellbeing and a patient-safety concern. Institutional psychosocial support, retention-focused human-resource strategies and safety-culture interventions alongside the structural reforms identified in the companion analysis—are needed to protect both staff and patients.

Declarations

Ethics approval and consent to participate

Ethical approval was granted by the School of Public Health, Njala University in May 2026. All participants provided written informed consent, in accordance with the Declaration of Helsinki.

Consent for publication

Not applicable.

Trial registration

Clinical trial number: not applicable.

Availability of data and materials

The datasets analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

DK conceived and designed the study, supervised data collection and analysis, interpreted the results and drafted the manuscript as corresponding author. SAK contributed to study design, data collection, data analysis and critical revision. Both authors read and approved the final manuscript.

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Companion paper

This article is one of two papers reporting distinct analyses of a single study of occupational stress at Bo Government Hospital; the companion paper reports the prevalence and determinants of occupational stress in the same cohort. This relationship is disclosed in full for transparency.

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Figures



Figure 1

Prevalence of burnout dimensions among healthcare workers with high occupational stress, Bo Government Hospital.

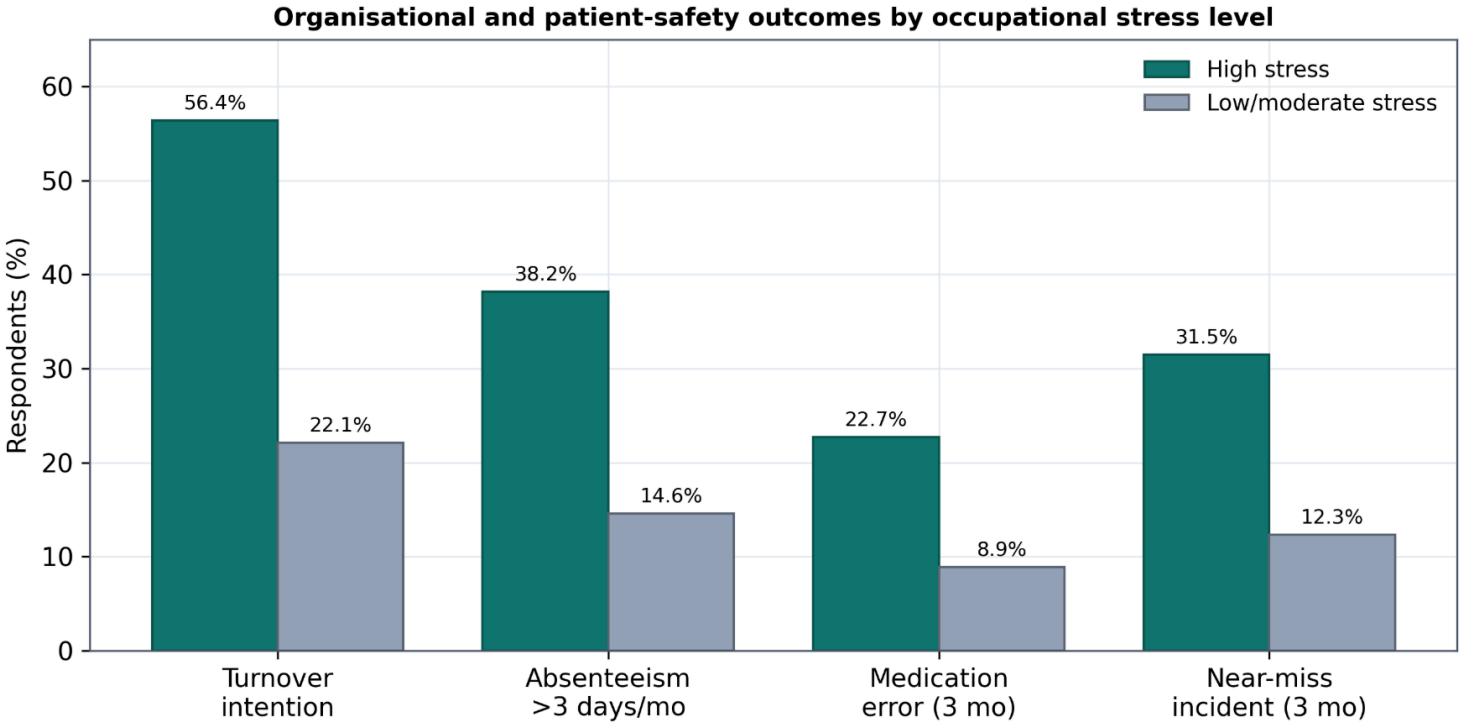


Figure 2

Organisational and patient-safety outcomes by occupational-stress level, Bo Government Hospital (n = 260).