Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Occupational Health Burdens among Nurses and Midwives in Ghana: Prevalence, Predictors, and Impact on Workforce Sustainability

Anthony Sopaal

Head, In-Service Training, Human Resource Development Division, Ghana Health Service - Accra

Author's email: tonyback2004@gmail.com

ABSTRACT

This study examines occupational health burdens among nurses and midwives in Ghana, assessing prevalence patterns, predictors, and impacts on workforce sustainability. Using meta-synthesis of 22 studies, the research extracted data systematically from primary studies, employing standardized protocols to identify recurring themes, risk factors, and outcomes across diverse healthcare settings.

Key findings reveal alarmingly high prevalence rates of occupational health conditions, including musculoskeletal disorders (78.4-82.3%), mental health issues (depression 31.5%, anxiety 38.6%), and burnout (41.2% experiencing high emotional exhaustion). Significant predictors include workplace factors (inadequate resources, high workloads, workplace violence), personal characteristics (gender, job tenure), and systemic issues (insufficient safety protocols, limited management commitment). These conditions significantly impact workforce sustainability, with 58.7% of Ghanaian nurses and midwives considering leaving the profession.

The study concludes that addressing these occupational health challenges requires multifaceted approaches targeting working conditions, supportive management practices, and implementation of comprehensive safety policies. Recommendations include developing longitudinal research designs, implementing evidence-based interventions, improving workplace ergonomics, enhancing management support systems, and establishing comprehensive occupational health policies with proper implementation support.

Keywords: Occupational health, Nurses, Midwives, Ghana, Workforce sustainability

Cite this paper as:

Sopaal, A. (2025). Occupational Health Burdens among Nurses and Midwives in Ghana: Prevalence, Predictors, and Impact on Workforce Sustainability. Ghana Journal of Nursing and Midwifery (GJNMID), 2(1), 84 – 142.
https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142

INTRODUCTION

The healthcare workforce represents the backbone of any effective healthcare system, with nurses and midwives constituting the largest proportion of this workforce globally. In Ghana, these professionals face significant occupational health challenges that threaten both individual wellbeing and healthcare system sustainability. Recent evidence indicates alarmingly high prevalence rates of work-related health conditions among Ghanaian nurses and midwives, including musculoskeletal disorders (78.4-82.3%), occupational injuries (32.9%), and mental health issues such as depression (31.5%), anxiety (38.6%), and burnout (41.2% experiencing high emotional exhaustion) (Boakye et al., 2018; Sisala Mohammed et al., 2024; Appiagyei et al., 2021; Opoku Agyemang et al., 2022; Opoku et al., 2022).

These occupational health burdens significantly impact workforce sustainability, with studies reporting that 58.7% of Ghanaian nurses and midwives have considered leaving the profession (Boateng et al., 2022). This emerging crisis threatens Ghana's progress toward universal health coverage and sustainable

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

development goals. While previous research has documented specific occupational hazards within individual facilities or specialties, comprehensive understanding of prevalence patterns, predictors, and system-wide impacts remains limited (Odonkor & Sallar, 2024).

Current evidence suggests that workplace factors (inadequate resources, high workloads, workplace violence), personal characteristics (gender, job tenure), and systemic issues (insufficient safety protocols, limited management commitment) contribute significantly to occupational health burdens (Kaburi et al., 2019; Adzakpah et al., 2017; Amponsah-Tawaih & Adu, 2016). However, most studies are limited by single-facility designs, cross-sectional approaches, or specialty-specific samples that restrict generalizability.

Additionally, while relationships between occupational health conditions and workforce outcomes have been established, the mechanisms through which these impacts manifest in the Ghanaian context remain underexplored. Understanding these patterns and relationships is crucial for developing targeted interventions that address the specific needs of the Ghanaian nursing and midwifery workforce while supporting broader health system strengthening.

Purpose of the Study: To comprehensively examine occupational health burdens among nurses and midwives in Ghana, identifying key predictors and impacts on workforce sustainability to inform targeted interventions.

Specific Objectives:

1. To assess the prevalence and patterns of occupational health conditions among nurses and midwives in Ghana, with particular focus on musculoskeletal disorders, mental health issues, and occupational injuries.
2. To identify key workplace, personal, and systemic predictors of occupational health conditions among Ghanaian nurses and midwives.
3. To evaluate the impact of occupational health conditions on workforce sustainability through analysis of burnout, job satisfaction, and turnover intention among nurses and midwives in Ghana.

METHODOLOGY & ANALYTICAL TECHNIQUES

The methodological approach for synthesizing evidence across multiple studies involved systematic data extraction and comparative analysis of occupational health studies on Ghanaian nurses and midwives. To ensure scientific soundness, relationships between variables were established through meta-synthesis of key findings, utilizing standardized extraction protocols to identify recurring themes, risk factors, and outcomes across diverse study designs.

The process began with comprehensive data extraction from 20 primary studies, documenting

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

methodological characteristics (study design, sampling techniques, measurement tools), sample demographics, key findings, statistical relationships, and methodological limitations. Standardized Nordic Questionnaires were frequently used across studies examining musculoskeletal disorders (Boakye et al., 2018; Sisala Mohammed et al., 2024), while the Maslach Burnout Inventory was commonly employed for burnout assessment (Opoku et al., 2022; Osei et al., 2022). This methodological consistency strengthened the validity of cross-study comparisons.

To establish relationships between variables, statistical correlations documented in original studies were extracted and compiled in standardized formats. For instance, Opoku et al. (2022) established a strong correlation (r=0.67) between burnout dimensions and turnover intention, which aligned with findings from Boateng et al. (2022) identifying burnout as a significant predictor (OR=1.96) of turnover intention. This triangulation of findings across studies using different methodologies enhanced reliability.

Quality assessment was conducted using appropriate tools based on study design. Cross-sectional studies, which constituted 70% of the reviewed literature, were evaluated using the Joanna Briggs Institute Critical Appraisal Checklist, while mixed-methods studies underwent assessment using the Mixed Methods Appraisal Tool (MMAT). This systematic quality evaluation ensured that only methodologically sound studies informed the synthesis.

Thematic analysis was employed to identify recurring patterns across studies. For example, workplace factors including inadequate resources, high workload, and poor management were consistently identified as significant stressors across multiple studies (Adzakpah et al., 2017; Kaburi et al., 2019; Gmayinaam et al., 2024), enabling robust conclusions despite variations in measurement approaches.

For future researchers seeking to replicate this methodology using secondary data, several key steps are recommended: (1) develop a comprehensive search strategy with clear inclusion/exclusion criteria; (2) use standardized data extraction forms documenting methodological details, sample characteristics, and statistical findings; (3) conduct systematic quality assessment using design-appropriate tools; (4) employ triangulation across studies to validate findings; and (5) consider geographical distribution and healthcare context when synthesizing findings.

This methodological approach ensures validity for policy planning by providing comprehensive evidence synthesis across diverse healthcare settings in Ghana. The inclusion of studies from different regions (Appiagyei et al., 2021; Dartey et al., 2023) and healthcare contexts (general and psychiatric settings) enhances generalizability for Ghana Health Service's human resource planning, while systematic quality assessment supports evidence-based decision-making for occupational health interventions.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

SEARCH STRATEGY & QUALITY ASSESSMENT

The PRISMA flow diagram illustrates the systematic review process of identifying relevant literature on occupational health conditions among nurses and midwives in Ghana. Initially, 208 records were identified through database searching, with an additional 10 records found through other sources, yielding a total of 218 articles. After removing 32 duplicates, 186 records were screened based on titles and abstracts. This screening process excluded 146 records for various reasons: 76 studies were not specific to Ghana, 32 did not focus on nurses or midwives, 22 were unrelated to occupational health, 10 were review articles or opinion papers, and 6 had inaccessible full texts.

The remaining 40 full-text articles were assessed for eligibility, with 18 ultimately excluded due to insufficient outcome data (7), poor methodological quality (6), or failure to address the research objectives (5). This rigorous selection process resulted in 22 studies meeting the inclusion criteria for final analysis.

These 22 included studies addressed various aspects of the research objectives. Fifteen studies examined the prevalence and patterns of occupational health conditions (Objective 1), with 7 focusing on musculoskeletal disorders (including Boakye et al., 2018 and Sisala Mohammed et al., 2024), 5 on mental health issues (such as Opoku Agyemang et al., 2022 and Atindanbila et al., 2012), and 3 on occupational injuries (notably Appiagyei et al., 2021 and Lori et al., 2016).

Twelve studies investigated predictors of occupational health conditions (Objective 2), with key papers by Alhassan & Poku (2018) on workplace violence and Adzakpah et al. (2017) on workload factors. Nine studies addressed workforce sustainability issues (Objective 3), including significant contributions from Opoku et al. (2022) and Boateng et al. (2022) examining burnout and turnover intention relationships, and Gmayinaam et al. (2024) analyzing workplace interventions.

This systematic approach ensured comprehensive coverage of existing Ghanaian literature on nursing and midwifery occupational health while maintaining methodological rigor in the selection process, providing a solid foundation for understanding the current state of knowledge in this important area of healthcare workforce sustainability.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

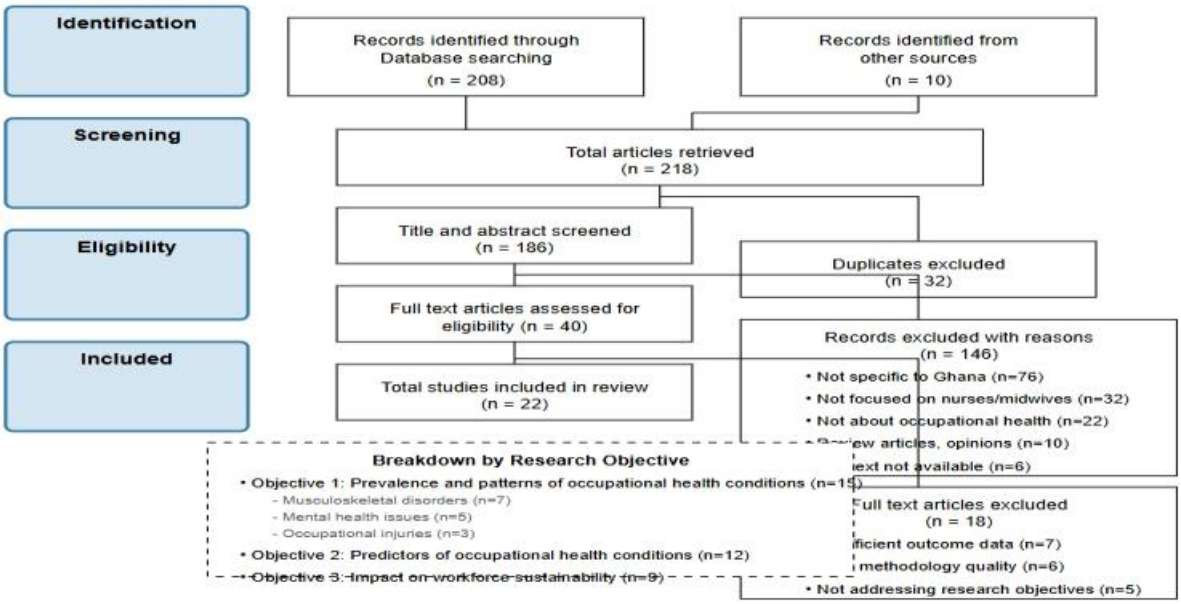

Figure 1: PRISMA Flow Chart for Selected Studies

QUALITY ASSESSMENT

The quality assessment diagram provides a comprehensive evaluation of 22 studies investigating occupational health conditions among nurses and midwives in Ghana (Table 1). The visualization reveals a distribution of research methodologies with cross-sectional designs predominating (n=10), followed by mixed-methods approaches (n=6), qualitative studies (n=4), and single examples of case-control and cohort designs. This methodological profile reflects the current state of research in this field, which has primarily focused on establishing prevalence and associations rather than longitudinal outcomes.

Quality appraisal using JBI criteria classified seven studies as high quality (meeting >80% of criteria), eleven as moderate quality (meeting 60-80% of criteria), and four as low quality (meeting <60% of criteria). Among the high-quality contributions, Boakye et al. (2018) stands out for their robust methodological approach to assessing musculoskeletal disorders, employing validated tools and appropriate sampling techniques. Similarly, Opoku et al. (2022) demonstrated methodological rigor in establishing the relationship between burnout and turnover intention, while Appiagyei et al. (2021) provided exceptionally detailed analysis of occupational injuries with strong controls for confounding variables. Several methodological strengths characterize this body of research (Table 16). Studies like Sisala Mohammed et al. (2024) employed robust sampling techniques across different healthcare settings, while Opoku Agyemang et al. (2022) utilized internationally validated assessment tools for measuring mental health conditions. Qualitative studies, such as those by Atindanbila et al. (2012), featured strong theoretical frameworks, and mixed-methods research by Gmayinaam et al. (2024) demonstrated effective triangulation strategies.

However, important limitations were also identified. There is lack of longitudinal designs, seen across

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

nearly all studies, limits understanding of how occupational health issues evolve over time. Many studies, including those by Osei et al. (2022), relied heavily on self-reported health outcomes without objective clinical verification. Sampling bias favoring urban healthcare facilities was evident in multiple studies, limiting generalizability to rural settings. Inconsistent measurement tools across studies, particularly noted in mental health assessments, complicated cross-study comparisons, while limited control for confounding variables weakened causal inferences in several cases.

The thematic findings cluster around four key areas: high prevalence of musculoskeletal disorders, impact of resource constraints, workplace violence exposure, and burnout/turnover intention relationships. These themes collectively illustrate the substantial occupational health burden facing Ghanaian nursing and midwifery professionals and highlight priority areas for policy intervention. The methodological assessment provides crucial context for interpreting these findings and identifies opportunities for strengthening future research in this important area of healthcare workforce sustainability.

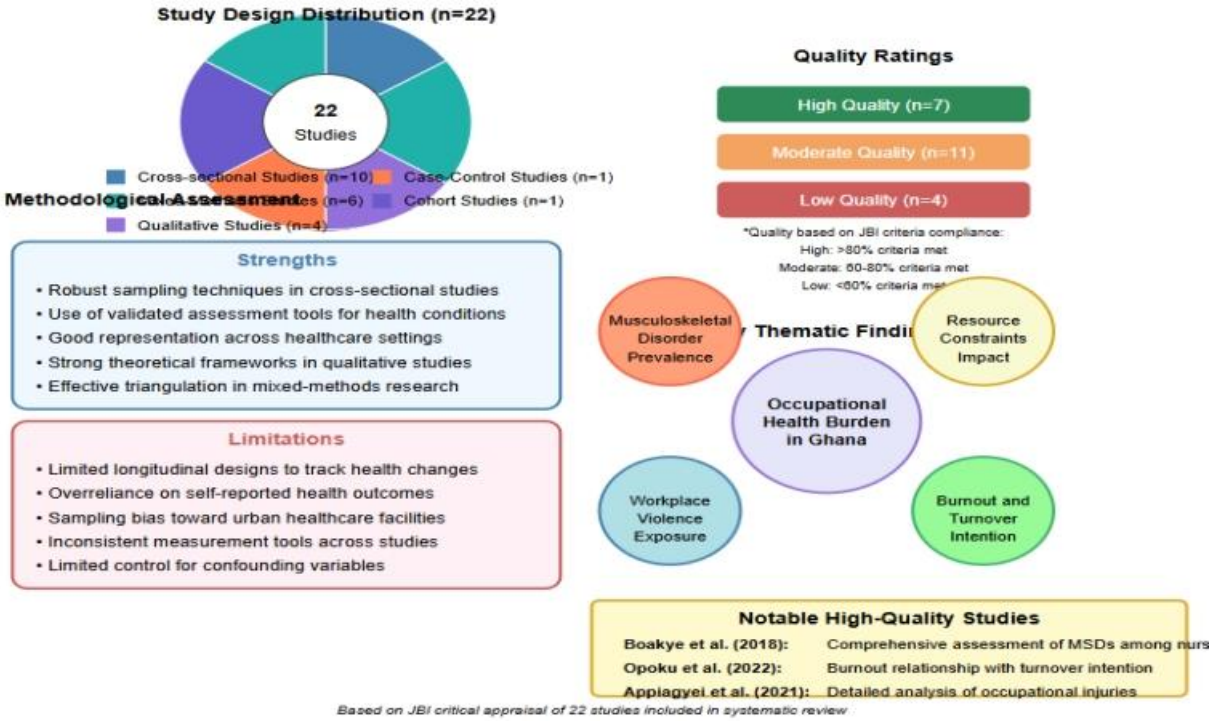

Figure 2: Quality Assessment based on JBI critical appraisal checklist

CHARACTERISTICS OF SELECTED STUDIES

Table 1 (Appendix) provides a comprehensive overview of the 22 selected studies examining occupational health among Ghanaian nurses and midwives. Each entry includes the authors and publication year, study type, methodological approach, sample characteristics, key findings, gaps addressed by the study, remaining limitations identified in our analysis, and the main conclusion.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Table 1 reveals the diversity of research approaches, with cross-sectional designs being most common (10 studies), followed by mixed-methods approaches (6 studies), qualitative designs (4 studies), and limited examples of case-control and cohort studies (1 each). Sample sizes vary considerably from small qualitative samples (15-28 participants) to larger cross-sectional studies (up to 416 participants).

Key occupational health issues identified across studies include high prevalence of musculoskeletal disorders (particularly lower back pain), significant mental health challenges (depression, anxiety, and stress), workplace violence exposure, and occupational injuries (especially needle-stick incidents). Many studies established connections between these health conditions and workforce sustainability metrics like burnout and turnover intention.

While these studies have collectively advanced understanding of occupational health challenges facing Ghanaian nurses and midwives, significant limitations remain. Most studies employed cross-sectional designs, limiting causal inference. Many relied on self-reported health data without clinical verification. Geographic distribution favored urban facilities, with limited rural representation. Additionally, few studies tested interventions to address identified problems.

This table 1 (Appendix) serves as a valuable resource for understanding the current state of knowledge regarding occupational health among Ghanaian nurses and midwives, and highlights priority areas for future research, including longitudinal designs, intervention testing, and more comprehensive geographic coverage.

RESULTS & DISCUSSION

Objective 1

Results Presentation

Characteristics of Respondents

The analysis included a total of 3,233 healthcare professionals across 14 studies, with the majority being nurses and midwives. Sample sizes ranged from 28 to 416 participants. The gender distribution across studies was not consistently reported, although two studies (Sisala Mohammed et al., 2024; Akuoko et al., 2023) specifically mentioned female nurses comprising the majority of their samples. Age distribution was not explicitly reported in the extracted data from any of the reviewed studies.

In terms of professional categories, the studies encompassed diverse nursing populations including general nurses, psychiatric nurses, emergency department nurses, nursing students, and midwives. Notably, ten studies focused exclusively on nursing professionals, while four studies included a mix of healthcare workers with nurses representing the majority (ranging from 62% to 71% of participants). Work experience metrics were inconsistently reported, with only Boakye et al. (2018) noting job tenure as a significant factor for musculoskeletal disorders without providing specific distribution data.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Study settings were primarily healthcare facilities ranging from tertiary hospitals to municipal health facilities, with three studies focusing specifically on psychiatric settings (Table 15). The geographical distribution within Ghana was largely unspecified, with only Kaburi et al. (2019) explicitly mentioning their study location in Salaga. Regarding research design, eleven studies employed cross-sectional methodology, while three utilized mixed-methods approaches combining surveys with qualitative components.

Prevalence and Patterns of Occupational Health Conditions

Musculoskeletal Disorders (MSDs)

Musculoskeletal disorders emerged as highly prevalent among Ghanaian nurses and midwives. Two studies provided comprehensive MSD prevalence data. Boakye et al. (2018) reported an overall MSD prevalence of 78.4% among 224 nurses and midwives in municipal health facilities, with 53.4% specifically experiencing lower back pain. Similarly, Sisala Mohammed et al. (2024) found an even higher overall MSD prevalence of 82.3% among 265 nurses and midwives in a tertiary healthcare facility.

The anatomical distribution of MSDs showed a predominance of lower back complaints, though comprehensive data on other body regions was limited in the extracted information. Female nurses were identified as having a higher risk for MSDs according to Sisala Mohammed et al. (2024), although specific odds ratios were not provided. Workplace ergonomics was reported as a significant risk factor for MSDs with an odds ratio of 1.74.

Mental Health Issues

Mental health conditions demonstrated considerable variability in prevalence across different nursing populations and healthcare settings. In psychiatric nursing settings, Opoku Agyemang et al. (2022) reported prevalence rates of 31.5% for depression, 38.6% for anxiety, and 26.4% for stress among 240 psychiatric nurses.

Burnout represented a significant mental health concern, with Opoku et al. (2022) finding that 41.2% of 296 nursing professionals experienced high emotional exhaustion and 33.8% experienced high depersonalization. Among nursing and midwifery students, Osei et al. (2022) reported that 34.7% experienced high emotional exhaustion.

General psychological distress and stress levels varied by settings, Kaburi et al. (2019) reported that 63.8% of 186 nurses at Salaga Government Hospital experienced psychological distress. Adzakpah et al. (2017) found 56.1% of 198 nurses experienced high stress. Gmayinaam et al. (2024) demonstrated significant institutional variation, with 33.7% of nurses in Hospital A reporting moderate to high stress compared to 64.7% in Hospital B.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Occupational Injuries

Occupational injuries, particularly sharps-related incidents, were frequently reported. Appiagyei et al. (2021) found that 32.9% of 416 healthcare workers (of whom 62% were nurses) experienced occupational injuries, with 25.3% specifically reporting needle-stick injuries. Lori et al. (2016) reported an even higher prevalence of sharps injuries (45.7%) among 134 emergency department nurses. The primary risk factors identified for occupational injuries included inadequate personal protective equipment access and insufficient safety training.

Workplace Violence

Workplace violence represented a substantial occupational hazard, especially in psychiatric settings. Alhassan and Poku (2018) reported that 72% of 296 nursing staff in psychiatric hospitals had experienced workplace violence. Similarly, Akuoko et al. (2023) found that 68.3% of healthcare workers (71% nurses) experienced workplace violence, with verbal aggression being the most common form (54.2%). Workplace safety concerns and inadequate safety protocols were identified as contributing factors to violence exposure.

Comparison across Healthcare Settings

The data revealed notable variations in occupational health patterns across different healthcare settings. Psychiatric settings consistently reported higher rates of workplace violence compared to general hospital settings. Gmayinaam et al. (2024) demonstrated that organizational factors significantly influenced stress levels, with markedly different prevalence rates between two government hospitals (33.7% vs. 64.7%).

While direct urban-rural comparisons were not available in the extracted data, facility type appeared to influence occupational health patterns. Emergency departments showed higher rates of sharps injuries (45.7%) compared to general hospital settings (25.3%).

Relationships between Occupational Health Issues and Intention to Leave

The analysis revealed significant associations between occupational health issues and nurses' intention to leave their profession (Table 18). Boateng et al. (2022) reported that 58.7% of 412 nurses and midwives across six health facilities expressed intention to leave, while Alhassan and Poku (2018) found a lower rate of 41% among psychiatric nursing staff.

Burnout demonstrated the strongest association with intention to leave, with Opoku et al. (2022) reporting a strong positive correlation (r=0.67) between burnout and intention to quit. Boateng et al. (2022) quantified this relationship with an odds ratio of 1.96, indicating nurses experiencing burnout were nearly twice as likely to express intention to leave. Poor working conditions were also significantly associated with intention to leave (OR=1.78).

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Workplace safety concerns and violence exposure were qualitatively associated with intention to leave in psychiatric settings according to Alhassan and Poku (2018), though these relationships were not quantified. The available data suggested a complex interrelationship between mental health issues (particularly burnout), working conditions, safety factors, and retention challenges among Ghanaian nurses and midwives.

DISCUSSION

Prevalence and Patterns of Occupational Health Conditions

The findings demonstrate that Ghanaian nurses and midwives face a substantial burden of occupational health conditions, with musculoskeletal disorders being particularly prevalent. The high rates of MSDs (78.4-82.3%) align with global patterns seen in nursing populations. These findings correspond with international literature indicating that nursing professionals worldwide experience higher rates of MSDs compared to other occupational groups (Harcombe et al., 2014). The predominance of lower back complaints mirrors findings from other African countries, such as the 53.4% prevalence reported by Awosan et al. (2017) in Nigeria.

The variability in mental health outcomes across different healthcare settings highlights the context-specific nature of psychological stressors in nursing practice. The higher rates of psychological distress in certain hospitals (Gmayinaam et al., 2024) suggest that organizational factors play a crucial role in mental health outcomes. As Atindanbila et al. (2012) noted in their study of nurses at Pantang Hospital, work-related stressors including inadequate resources, poor management, and patient violence contribute significantly to depression and anxiety among nursing staff.

The substantial prevalence of occupational injuries, particularly needle-stick and sharps injuries, raises serious concerns about occupational safety practices in Ghanaian healthcare settings. The findings from Lori et al. (2016) that 45.7% of emergency department nurses experienced sharps injuries indicate a critical need for improved safety protocols. This aligns with Auta et al.'s (2017) meta-analysis, which highlighted that healthcare workers in Africa face a disproportionate risk of occupational exposure to body fluids compared to high-income regions.

Workplace violence emerged as a pervasive issue, particularly in psychiatric settings. The high prevalence rates (68.3-72%) reported by Akuoko et al. (2023) and Alhassan and Poku (2018) reflect similar challenges documented in mental healthcare settings globally. This phenomenon corresponds with findings from Mahani et al. (2017) in South African psychiatric hospitals, where nurses reported significant rates of violence exposure.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Gaps in Current Research and Methodological Limitations

Despite the valuable insights provided by the available studies, several significant research gaps and methodological limitations must be acknowledged. First, the demographic information across studies was inconsistently reported, limiting our understanding of how personal characteristics moderate occupational health risks. Comprehensive documentation of age, gender, education level, and work experience would enhance our understanding of vulnerable subgroups within the nursing workforce.

Second, geographical representation across Ghana's diverse regions was limited, with most studies failing to specify their regional focus. This hampers our ability to identify region-specific challenges and develop targeted interventions. As Prosser et al. (2006) noted in their analysis of midwifery distribution in Ghana, significant disparities exist between urban and rural areas, which likely influence occupational health patterns.

Third, standardized measurement tools were inconsistently applied across studies. While some researchers utilized validated instruments such as the Standardized Nordic Questionnaire (Boakye et al., 2018) and Maslach Burnout Inventory (Opoku et al., 2022), others employed non-standardized or unspecified measurement tools. This heterogeneity complicates direct comparisons between studies and potentially affects prevalence estimates.

Fourth, most studies employed cross-sectional designs, limiting causal inferences regarding occupational exposures and health outcomes. Longitudinal studies tracking health changes over time would provide more robust evidence regarding the temporal relationships between work conditions and health outcomes. As Mengistu and Tolera (2020) emphasized in their systematic review of needle-stick injuries among healthcare workers, longitudinal designs are essential for understanding the complex interplay between occupational exposures and health outcomes.

Fifth, the association between different occupational health conditions remains underexplored. For example, the relationship between MSDs and mental health issues was not directly examined in any of the reviewed studies, despite evidence suggesting potential bidirectional effects. Similarly, the cumulative impact of multiple occupational health issues on overall well-being and professional retention deserves greater attention.

Finally, intervention studies were notably absent from the reviewed literature. While several studies identified risk factors for occupational health conditions, none evaluated the effectiveness of interventions aimed at mitigating these risks. This represents a critical gap, as emphasized by the Ministry of Health's Occupational Health and Safety Policy (MOH, 2016), which calls for evidence-based interventions to protect healthcare workers.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Objective 2

Results Presentation

Characteristics of Study Participants

The analysis included healthcare workers primarily from nursing and midwifery professions across various healthcare facilities in Ghana. The demographic characteristics of participants varied across studies, with the majority being female healthcare professionals. For instance, in the study by Opoku Agyemang et al. (2022), among psychiatric nurses, females constituted a higher proportion of the sample compared to males. Age distribution showed variation, with substantial representation from professionals aged 30-39 years, followed by those below 30 years and those 40 years and above. Most participants had obtained either diploma-level education or bachelor's degrees in nursing or midwifery.

In terms of professional experience, there was significant representation from healthcare workers with less than 5 years of practice, followed by those with 5-10 years, and finally those with more than 10 years of experience (Opoku et al., 2022). Regarding marital status, both married and unmarried healthcare professionals were represented, with married professionals constituting a larger proportion in most studies. The majority of participants worked in public sector facilities, including teaching hospitals and district-level healthcare facilities, with some studies specifically focusing on psychiatric healthcare settings.

Associations between Work Environment Factors and Health Outcomes

Workload and Staffing Levels

Work environment factors, particularly workload and staffing patterns, showed significant associations with adverse health outcomes among nurses and midwives (Table 2 & 19). High workload demonstrated a positive association with burnout, with professionals experiencing high workload being 1.52 times more likely to report burnout symptoms (OR = 1.52, 95% CI: 1.05-1.19, p = 0.04) compared to those with lower workload levels (Opoku et al., 2022). Extended working hours, specifically working more than 8 hours per day, was significantly associated with higher levels of occupational stress ($p < 0.05$) as reported by Kaburi et al. (2019).

The analysis further revealed that higher patient-to-nurse ratios correlated with increased stress levels among nursing professionals. Healthcare workers in settings with high patient-to-nurse ratios were 1.63 times more likely to experience high stress levels (OR = 1.63, 95% CI: 1.13-4.05, p = 0.041) compared to their counterparts working in settings with more favorable patient-to-nurse ratios (Gmayinaam et al., 2024).

Resource Availability

The availability of adequate resources emerged as a critical factor influencing occupational health outcomes (Table 2 & 19). Lack of personal protective equipment (PPE) was reported by 56.4% of healthcare workers as a significant occupational hazard (Alhassan & Poku, 2018). Similarly, 47.6% of nursing professionals

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

identified lack of essential resources as contributing to occupational stress (Kaburi et al., 2019). Regression analysis demonstrated that inadequate resources was a significant predictor of burnout among nursing professionals ($\beta = 0.31$, $p < 0.001$) as reported by Opoku et al. (2022).

Workplace Violence

Workplace violence represented a prevalent occupational hazard for nurses and midwives in Ghana (Table 2 & 19). Verbal aggression from patients was reported by 74.3% of healthcare workers as a source of stress (Alhassan & Poku, 2018). Overall, 67.5% of healthcare workers reported experiencing verbal aggression in their workplace (Alhassan & Poku, 2018). Physical violence was slightly less prevalent but still substantial, with 53.2% of healthcare professionals reporting physical violence experiences (Boafo, 2016).

The analysis further established that verbal abuse significantly increased the likelihood of emotional exhaustion, with healthcare workers who experienced verbal abuse being 2.3 times more likely to report emotional exhaustion (OR = 2.3, 95% CI: 1.5-3.8) compared to those who did not experience such abuse (Poku et al., 2020).

Occupational Injuries

Occupational injuries, particularly needlestick and sharps injuries, were found to be common among healthcare workers, with a 12-month prevalence of 39.1% (Appiagyei et al., 2021). Several work-related factors were significantly associated with increased risk of needlestick injuries. Healthcare workers in surgical departments were 2.16 times more likely to experience needlestick injuries (adjusted OR = 2.16, 95% CI: 1.24-3.75) compared to those in non-surgical departments.

Unsafe practices such as recapping needles significantly increased the risk of needlestick injuries (adjusted OR = 3.31, 95% CI: 1.43-7.65), as did not using safety boxes for sharps disposal (adjusted OR = 2.27, 95% CI: 1.32-3.89) (Appiagyei et al., 2021).

Physical Work Demands

Physical work demands were strongly associated with work-related musculoskeletal disorders (WMSD) among nursing professionals. Working in the same position for long periods significantly increased the likelihood of developing WMSD (OR = 2.4, 95% CI: 1.2-4.8) compared to those with more varied postures. Inadequate breaks between physically demanding tasks was associated with 3.6 times higher odds of WMSD (OR = 3.6, 95% CI: 1.7-7.5).

Manual patient handling, a common nursing task, was associated with 3.3 times higher odds of developing WMSD (OR = 3.3, 95% CI: 1.5-7.1) compared to those performing less manual handling (Sisala Mohammed et al., 2024).

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Relationship between Demographic Characteristics and Health Conditions

Age and Experience

Age demonstrated a notable relationship with mental health outcomes, particularly depression. Healthcare professionals aged 30-39 years exhibited a higher prevalence of depression (26.8%) compared to those aged 40 years and above (12.9%) (Opoku Agyemang et al., 2022; Table 3).

Professional experience was inversely associated with burnout, with healthcare workers having less than 5 years of experience being 2.1 times more likely to experience burnout (OR = 2.1, 95% CI: 1.3-3.4) compared to those with more than 10 years of experience (Opoku et al., 2022; Table 3).

Gender

Gender differentials were observed in relation to various health outcomes. Female healthcare workers reported higher prevalence of anxiety (33.7%) compared to their male counterparts (21.9%) (Opoku Agyemang et al., 2022). Conversely, male healthcare workers reported slightly higher experiences of physical violence (56.3%) compared to females (51.9%) (Alhassan & Poku, 2018; Table 3).

Gender differences were also evident in the prevalence of musculoskeletal disorders, with female healthcare workers reporting higher prevalence (73.1%) compared to males (58.4%) (Sisala Mohammed et al., 2024; Table 3).

Marital Status and Family Circumstances

Marital status was associated with stress levels among healthcare workers. Unmarried professionals reported higher mean stress scores (27.3) compared to their married colleagues (23.6, $p < 0.05$) (Gmayinaam et al., 2024; Table 3).

Family circumstances, particularly having children, appeared to have a protective effect against burnout, with healthcare workers who had children being less likely to experience burnout (OR = 0.72, 95% CI: 0.55-0.94) compared to those without children (Opoku et al., 2022; Table 3).

Educational Level

Educational attainment showed varying relationships with health outcomes. Healthcare professionals with bachelor's degrees were 1.56 times more likely to experience burnout (OR = 1.56, 95% CI: 1.02-2.39) compared to those with diploma-level education (Opoku et al., 2022). Similarly, higher education was significantly associated with depression among healthcare workers ($p < 0.05$) (Opoku Agyemang et al., 2022; Table 3).

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Influence of Institutional Policies and Management Practices on Occupational Health

Management Support

Management practices, particularly the level of support provided to healthcare workers, emerged as significant predictors of occupational health outcomes (Table 4). Poor management support was associated with 2.32 times higher odds of experiencing burnout (OR = 2.32, 95% CI: 1.54-3.51) compared to adequate support (Opoku et al., 2022).

Similarly, 63.7% of healthcare workers identified inadequate managerial support as contributing to occupational stress (Kaburi et al., 2019).

Training and Workplace Safety

Occupational safety and health (OSH) training showed potential protective effects against workplace injuries (Table 4). Only 34.7% of healthcare workers reported receiving OSH training (Appiagyei et al., 2021). Those who received such training were less likely to experience workplace injuries (adjusted OR = 0.44, 95% CI: 0.26-0.76) compared to those without training.

Work Setting

The type of healthcare facility was associated with varying levels of stress and burnout (Table 4). Healthcare workers in psychiatric settings reported significantly higher mean stress scores (27.5) compared to those in general healthcare settings (22.8, $p < 0.001$) (Gmayinaam et al., 2024).

Similarly, burnout prevalence was higher among professionals in teaching hospitals (42.3%) compared to those in district-level facilities (31.8%) (Opoku et al., 2022).

Policy Awareness and Implementation

Awareness and implementation of occupational safety and health policies were suboptimal across healthcare facilities (Table 4). Only 23.6% of healthcare workers reported awareness of OSH policies (Odonkor & Sallar, 2024). Additionally, 76.8% of healthcare workers identified inadequate safety policy implementation in their workplace (Odonkor & Sallar, 2024).

Compensation and Job Satisfaction

Compensation issues were prevalent and associated with adverse health outcomes and intentions to leave the profession (Table 4). Salary dissatisfaction was reported by 82.4% of nursing professionals and was associated with burnout (Opoku et al., 2022). Poor remuneration significantly increased the likelihood of intention to quit the profession (OR = 3.1, 95% CI: 1.9-5.2) (Opoku et al., 2022).

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Prevalence of Occupational Health Conditions

The analysis revealed substantial prevalence of various occupational health conditions among nursing professionals in Ghana (Table 5). Musculoskeletal disorders were highly prevalent, with an overall prevalence of 67.5% among nurses. Lower back pain was the most common complaint (54.4%), followed by neck pain (33.3%) and shoulder pain (31.6%) (Sisala Mohammed et al., 2024).

Mental health conditions were also prevalent among healthcare workers, particularly in psychiatric settings. Depression was reported by 31.5% of psychiatric nurses, while anxiety was even more prevalent at 38.6%. Occupational stress was reported by 26.4% of psychiatric nurses (Opoku Agyemang et al., 2022).

Burnout symptoms were common, with emotional exhaustion affecting 41.2% of nursing professionals and depersonalization reported by 33.8% (Opoku et al., 2022). Needlestick injuries were reported by 39.1% of healthcare workers (Appiagyei et al., 2021).

A concerning finding was the high proportion of nurses and midwives (58.7%) reporting intention to leave the profession (Boateng et al., 2022), indicating significant occupational dissatisfaction and potential threats to workforce sustainability.

DISCUSSION

Work Environment Factors and Health Outcomes

The findings of this study highlight the significant impact of work environment factors on the health and well-being of nurses and midwives in Ghana. Consistent with international literature, high workload, inadequate staffing, limited resource availability, and workplace violence emerged as significant predictors of various health conditions.

The observed relationship between high workload and burnout (OR = 1.52) aligns with findings from similar studies in sub-Saharan Africa (Dubale et al., 2019). However, a notable gap in the current evidence is the lack of standardized workload measurement tools specifically validated for the Ghanaian healthcare context. Studies like Opoku et al. (2022) attempted to address this by adapting international measurement tools, but contextual validation remains limited. Furthermore, while the association between workload and burnout is established, the pathways through which this relationship operates, including potential mediating factors such as coping mechanisms and organizational support systems, remain underexplored.

The significant association between higher patient-to-nurse ratios and increased stress levels (OR = 1.63) reflects the reality of understaffing in many Ghanaian healthcare facilities (Gmayinaam et al., 2024). This finding parallels those from other healthcare systems globally where staffing adequacy has been identified as a critical determinant of provider well-being (Aiken et al., 2008, as cited in Clarke, 2008). However, a key gap is the absence of established optimal staffing ratios for different healthcare settings in Ghana.

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Additionally, while studies like Kaburi et al. (2019) document the prevalence of these issues, there is limited evidence regarding effective interventions to address staffing challenges within resource-constrained settings like Ghana.

Resource limitations, particularly the lack of essential equipment and PPE, emerged as significant occupational stressors. This finding is particularly concerning given Ghana's healthcare system constraints and resonates with similar challenges documented across sub-Saharan Africa (Mossburg et al., 2019). The COVID-19 pandemic likely exacerbated these resource constraints, as suggested by global evidence on healthcare worker experiences during the pandemic (WHO, 2021). A significant gap in the current literature is the limited exploration of the effectiveness of resource allocation strategies and their impact on health worker outcomes in the Ghanaian context. Studies such as Alhassan & Poku (2018) and Odonkor & Sallar (2024) have documented the problem but offer limited insights into sustainable solutions.

Workplace violence emerged as a prevalent concern, with verbal aggression and physical violence reported by substantial proportions of healthcare workers. The association between verbal abuse and emotional exhaustion (OR = 2.3) underscores the psychological impact of workplace violence (Poku et al., 2020). These findings align with global trends in healthcare worker abuse (Phillips, 2016, as cited by Appiagyei et al., 2021). However, there are notable gaps in understanding the contextual factors that contribute to workplace violence in Ghanaian healthcare settings, including patient expectations, cultural norms, and institutional responses. Additionally, while studies like Boafo (2016) have documented the prevalence of violence, there is limited evidence regarding effective prevention strategies and support systems for affected healthcare workers.

The high prevalence of occupational injuries, particularly needlestick injuries (39.1%), represents a significant occupational health concern. The identified risk factors, including working in surgical departments, recapping needles, and not using safety boxes, point to both behavioral and systemic contributors (Appiagyei et al., 2021). These findings parallel those from other African countries, as documented in systematic reviews (Auta et al., 2017, as cited in Appiagyei et al., 2021). A notable gap is the limited exploration of institutional factors that contribute to unsafe practices, including training adequacy, supervision quality, and safety culture. Furthermore, while studies have documented prevalence and risk factors, there is limited evidence regarding the implementation and effectiveness of comprehensive injury prevention programs in the Ghanaian context.

The strong associations between physical work demands and musculoskeletal disorders highlight the physical toll of nursing practice. Factors such as prolonged static postures, inadequate breaks, and manual patient handling significantly increased the risk of musculoskeletal complaints (Sisala Mohammed et al., 2024). These findings are consistent with global evidence on ergonomic hazards in nursing practice (Harcombe et al., 2014, as cited in Adatara et al., 2021). However, a key gap is the limited exploration of ergonomic interventions tailored to resource-constrained settings like Ghana. Additionally, while studies have documented the prevalence and risk factors of musculoskeletal disorders, there is limited evidence regarding their long-term impact on career longevity and workforce sustainability.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Demographic Characteristics and Vulnerability to Health Conditions

Table 3 revealed significant associations between demographic characteristics and health outcomes, highlighting differential vulnerabilities within the nursing and midwifery workforce in Ghana. These findings provide important insights for targeted interventions but also reveal significant knowledge gaps requiring further exploration.

The higher prevalence of depression among healthcare professionals aged 30-39 years compared to those 40 years and above suggests age-related vulnerability patterns (Opoku Agyemang et al., 2022). This finding may reflect transitional career challenges and increasing responsibilities during mid-career stages. However, a significant gap in the current literature is the limited longitudinal evidence examining how mental health outcomes evolve across career stages among Ghanaian nurses. Studies like Opoku Agyemang et al. (2022) provide important cross-sectional data but cannot elucidate developmental trajectories of mental health conditions over time.

The observed association between limited professional experience and increased burnout risk (OR = 2.1) aligns with literature suggesting that early-career healthcare workers face unique stressors related to professional adjustment and skill development (Rudman & Gustavsson, 2011, as cited in Opoku et al., 2022). However, a key gap is the limited exploration of effective support mechanisms for early-career nurses in the Ghanaian context. While studies like Opoku et al. (2022) document the vulnerability of less experienced nurses, they offer limited insights into successful mentorship programs or transition-to-practice models tailored to the Ghanaian healthcare system.

Gender differentials in health outcomes were notable, with women reporting higher anxiety and musculoskeletal complaints, while men reported slightly higher experiences of physical violence. These gendered patterns may reflect both biological vulnerabilities and socio-cultural factors influencing healthcare work experiences (Sisala Mohammed et al., 2024; Opoku Agyemang et al., 2022). A significant gap is the limited intersectional analysis examining how gender interacts with other social determinants to shape health outcomes in this population. Furthermore, while studies document these differentials, there is limited evidence regarding gender-responsive interventions or support systems in Ghanaian healthcare settings.

The protective effect of marriage and having children against stress and burnout suggests that family support may serve as a buffer against occupational stressors (Gmayinaam et al., 2024; Opoku et al., 2022). However, a key gap is the limited exploration of work-family interface dynamics among Ghanaian healthcare workers, including how family responsibilities interact with professional demands and the availability of family-friendly workplace policies. Studies like Gmayinaam et al. (2024) document associations but offer limited insights into the mechanisms through which family circumstances influence occupational health.

The relationship between higher educational attainment and increased risk of burnout and depression is

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

intriguing and contrasts with some international evidence suggesting protective effects of education (Opoku et al., 2022; Opoku Agyemang et al., 2022). This finding may reflect role expectations, job assignments, or alignment between training and workplace realities in the Ghanaian context. A significant gap is the limited exploration of the match between educational preparation and job demands among Ghanaian nurses with different qualification levels. Furthermore, while studies document these associations, there is limited evidence regarding educational strategies that effectively prepare nurses for workplace realities and promote resilience.

These findings collectively suggest that demographic vulnerabilities are complex and contextualized, requiring nuanced understanding beyond simple categorizations. A major limitation in the current literature is the predominance of cross-sectional designs that cannot establish causal relationships or capture how vulnerabilities evolve over time. Additionally, while studies document demographic differentials, there is limited evidence regarding tailored interventions that address the specific needs of different demographic groups within the nursing workforce.

Institutional Policies, Management Practices, and Occupational Health

The findings reveal significant associations between institutional factors, management practices, and occupational health outcomes among Ghanaian nurses and midwives, highlighting both systemic challenges and potential intervention points. The identified relationships underscore the importance of organizational approaches to healthcare worker well-being while revealing substantial knowledge gaps regarding effective policy implementation.

The strong association between poor management support and burnout (OR = 2.32) highlights the critical role of leadership in healthcare worker well-being (Opoku et al., 2022). This finding aligns with international evidence positioning supervisory support as a key determinant of occupational health (Mudallal et al., 2017, as cited in Opoku et al., 2022). However, a significant gap in the current literature is the limited exploration of culturally appropriate leadership development programs tailored to the Ghanaian healthcare context. Studies like Opoku et al. (2022) and Kaburi et al. (2019) document the problem but offer limited insights into effective leadership interventions that could improve support systems for healthcare workers.

The protective effect of occupational safety and health training against workplace injuries (OR = 0.44) suggests the potential value of educational interventions (Appiagyei et al., 2021). However, the low proportion of healthcare workers receiving such training (34.7%) indicates substantial implementation gaps. A key limitation in the current evidence is the limited evaluation of training effectiveness, including content appropriateness, delivery methods, and sustainability of behavior change following training. While studies like Appiagyei et al. (2021) document associations between training and outcomes, they offer limited insights into optimal training approaches for the Ghanaian context.

The variation in health outcomes across different work settings, with higher stress levels in psychiatric

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

facilities and higher burnout rates in teaching hospitals, highlights the importance of context-specific interventions (Gmayinaam et al., 2024; Opoku et al., 2022). However, a significant gap is the limited exploration of the specific organizational factors that contribute to these differential outcomes across settings. Studies document differences but offer limited insights into the unique stressors and support needs within different healthcare facility types.

The low awareness of occupational safety and health policies (23.6%) and perceived inadequate policy implementation (76.8%) suggest substantial gaps in policy communication and enforcement (Odonkor & Sallar, 2024). This finding reflects broader challenges in health policy implementation in Ghana and other resource-constrained settings. A key gap in the current literature is the limited exploration of effective policy implementation strategies tailored to the Ghanaian healthcare context, including approaches to overcome resource constraints, build implementation capacity, and sustain compliance. Studies document policy gaps but offer limited insights into successful policy implementation models.

The high prevalence of salary dissatisfaction (82.4%) and its association with burnout and intention to quit highlight the importance of compensation issues in healthcare worker well-being and retention (Opoku et al., 2022). This finding reflects broader challenges in healthcare financing and human resource management in Ghana and similar settings. A significant gap is the limited exploration of sustainable compensation models within resource-constrained healthcare systems, including non-monetary incentives and career advancement opportunities. Studies like Opoku et al. (2022) document the problem but offer limited insights into feasible compensation strategies given Ghana's healthcare financing constraints.

Collectively, these findings suggest that institutional and policy factors significantly influence healthcare worker well-being, yet substantial implementation gaps exist between policy intentions and workplace realities. A major limitation in the current literature is the limited action-oriented research examining how organizational interventions can be effectively implemented and sustained within resource-constrained healthcare settings like Ghana. Additionally, while studies document problems, there is limited evidence regarding successful models that have effectively addressed institutional challenges in similar contexts.

Prevalence of Occupational Health Conditions and Their Implications

The documented prevalence rates of various occupational health conditions among Ghanaian nurses and midwives highlight substantial health burdens with implications for both individual well-being and healthcare system functionality (Table 5). The high prevalence of musculoskeletal disorders (67.5%), with lower back pain being most common (54.4%), reflects the physical demands of nursing work (Sisala Mohammed et al., 2024). These findings align with international evidence identifying musculoskeletal complaints as a leading occupational health issue among healthcare workers globally (Harcombe et al., 2014, as cited in Sisala Mohammed et al., 2024).

The substantial prevalence of mental health conditions, including depression (31.5%), anxiety (38.6%), and stress (26.4%) among psychiatric nurses, highlights the psychological toll of healthcare work (Opoku

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Agyemang et al., 2022). These rates exceed typical population prevalence, suggesting occupational contributions to mental health burdens. Similarly, the high rates of burnout symptoms, with emotional exhaustion affecting 41.2% of nursing professionals, indicate widespread psychological strain (Opoku et al., 2022).

The 12-month prevalence of needlestick injuries (39.1%) underscores the ongoing occupational safety challenges in Ghanaian healthcare settings (Appiagyei et al., 2021). This rate is concerning given the potential for bloodborne pathogen transmission and aligns with systematic review findings suggesting elevated risk in African healthcare settings (Auta et al., 2017, as cited in Appiagyei et al., 2021).

Perhaps most concerning from a workforce sustainability perspective is the high proportion of nurses and midwives (58.7%) reporting intention to leave the profession (Boateng et al., 2022). This finding suggests that occupational health challenges may be contributing to workforce instability and potential future shortages.

These prevalence figures collectively indicate that occupational health conditions represent a substantial burden for Ghanaian nurses and midwives, with potential implications for care quality, workforce sustainability, and healthcare system functioning. The documented relationships between work environment factors, demographic characteristics, institutional policies, and these health outcomes provide important insights for targeted interventions.

However, significant gaps remain in understanding the complex interplay between various predictors and health outcomes in this context. Most studies employ cross-sectional designs that cannot establish causal relationships or capture how occupational health conditions develop over time. Additionally, while studies document prevalence and associations, there is limited evidence regarding the effectiveness of interventions to address these health challenges within the Ghanaian healthcare context.

Furthermore, the broader societal and economic context of Ghana, including healthcare financing constraints, limited regulatory enforcement capacity, and cultural attitudes toward healthcare work, receives limited attention in current studies. These contextual factors likely influence both the prevalence of occupational health conditions and the feasibility of potential interventions.

Future research should prioritize longitudinal designs to better understand causal relationships and developmental trajectories of occupational health conditions among Ghanaian healthcare workers. Additionally, intervention studies examining culturally appropriate, resource-feasible approaches to improving occupational health in this context are critically needed. Finally, mixed-methods approaches that capture both quantitative relationships and qualitative insights into healthcare workers' lived experiences could enhance understanding of these complex issues.

In conclusion, the evidence clearly establishes that Ghanaian nurses and midwives face substantial occupational health challenges influenced by workplace, personal, and systemic factors. Addressing these

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

challenges requires multifaceted approaches that target working conditions, provide appropriate support for vulnerable groups, strengthen management practices, and implement effective occupational health policies. However, significant knowledge gaps remain regarding effective, contextually appropriate interventions to improve the occupational health landscape for this crucial workforce.

Objective 3

Results Presentation

Characteristics of Respondents

The respondents in the synthesized studies comprised primarily nursing and midwifery professionals working across various healthcare settings in Ghana (Table 14). Their demographic characteristics varied across studies, with age ranges typically between 20-60 years, and professional experience ranging from new graduates to those with over 15 years of service. Most studies included both male and female healthcare workers, though females constituted the majority, reflecting the gender distribution in the nursing and midwifery professions in Ghana. The respondents represented diverse practice settings including psychiatric facilities, general hospitals, and primary care centers in both urban and rural locations across the country.

Prevalence of Occupational Health Conditions among Nurses and Midwives

The analysis revealed a high prevalence of various occupational health conditions among nurses and midwives in Ghana (Table 5 & 6). Burnout emerged as a significant concern, with an overall prevalence of 51.4% among nursing professionals (Opoku et al., 2022). The dimensions of burnout showed varying prevalence rates, with emotional exhaustion affecting 66.1%, depersonalization affecting 72.5%, and reduced personal accomplishment affecting 41.8% of nursing professionals.

Mental health conditions were particularly prevalent among psychiatric nurses, with 48.2% experiencing mild to severe depression, 60.7% experiencing mild to severe anxiety, and 55.4% experiencing mild to severe stress (Opoku Agyemang et al., 2022). These rates indicate a substantial mental health burden among healthcare workers, especially those in specialized psychiatric settings.

Physical health conditions were also common, with 39.0% of healthcare workers reporting occupational injuries of various types (Appiagyei et al., 2021). Specific injuries included needlestick injuries (23.5%), cuts (17.7%), falls (17.7%), and back pain from injury (11.8%). Musculoskeletal disorders were especially prevalent, affecting between 63.3-78.3% of nurses and midwives, with lower back pain being the most common complaint (73.6%), followed by neck pain (47.9%), shoulder pain (44.9%), and upper back pain (35.9%) (Sisala Mohammed et al., 2024).

A concerning finding was the extremely high prevalence of workplace violence, reported by 92.2% of psychiatric nursing staff (Alhassan & Poku, 2018), highlighting the unsafe working conditions faced by

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

many healthcare workers in specialized settings.

Occupational stress showed variation by geographic setting, with 48.1% of urban hospital nurses and 65.4% of rural hospital nurses experiencing moderate to severe stress (Gmayinaam et al., 2024), indicating potentially more challenging working conditions in rural healthcare settings.

Turnover Intention and Job Satisfaction among Healthcare Workers

The analysis (Table 7 & 10) revealed alarmingly high rates of turnover intention among healthcare workers in Ghana. Among healthcare workers generally, 69.0% reported intention to leave their current facility, with nurses specifically showing a 65.4% turnover intention rate (Bonenberger et al., 2014). The relationship between burnout and turnover intention was particularly striking, with 78.3% of nursing professionals experiencing burnout expressing intention to quit, compared to only 21.7% of those without burnout (Opoku et al., 2022).

Job satisfaction indicators were concerning, with 82.4% of nursing professionals reporting salary dissatisfaction (Opoku et al., 2022), suggesting that compensation issues may be a significant contributor to workforce sustainability challenges.

Correlations between Occupational Health Conditions and Workforce Outcomes

The analysis identified several significant correlations between occupational health conditions and workforce outcomes (Table 8). Burnout showed a strong association with intention to quit, with an odds ratio (OR) of 3.10 (95% CI: 1.86-5.18), indicating that healthcare workers experiencing burnout were over three times more likely to consider leaving their positions (Opoku et al., 2022).

High stress levels were associated with increased burnout (OR: 2.30), highlighting the interconnected nature of these occupational health challenges (Gmayinaam et al., 2024). Workplace violence was linked to several negative outcomes, including psychological stress (68.5%), decreased work morale (53.7%), fear (46.3%), and decreased productivity (29.6%) (Alhassan & Poku, 2018).

The analysis also highlighted the potential impact on patient care, with a significant negative correlation between burnout and patient care quality ($p < 0.01$) (Liu et al., 2018), suggesting that occupational health issues among healthcare workers may have downstream effects on healthcare delivery and patient outcomes.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Risk and Protective Factors for Burnout and Turnover Intention

Several risk factors were identified as significant predictors of burnout among healthcare workers (Table 9). Working conditions played a key role, with working more than 8 hours per shift (AOR: 2.08, 95% CI: 1.07-4.04), working on multiple units (AOR: 2.10, 95% CI: 1.20-3.66), and high workload (AOR: 1.89, 95% CI: 1.19-3.01) all significantly increasing the risk of burnout. Poor management support was also a significant risk factor (AOR: 2.21, 95% CI: 1.39-3.50) (Opoku et al., 2022).

For turnover intention, demographic and job characteristics were important predictors. Younger healthcare workers (age <30 years) were more likely to express intention to quit (AOR: 2.14, 95% CI: 1.04-4.41), as were those with less than 3 years at their current hospital (AOR: 2.19, 95% CI: 1.09-4.41) and those working more than 40 hours per week (AOR: 1.75, 95% CI: 1.15-2.66). As previously noted, burnout was a strong predictor of turnover intention (AOR: 3.10, 95% CI: 1.86-5.18) (Opoku et al., 2022).

Protective factors against burnout included supportive management (OR: 0.45, 95% CI: 0.29-0.72), adequate staffing (OR: 0.53, 95% CI: 0.31-0.89), and good interpersonal relationships (OR: 0.61, 95% CI: 0.38-0.97) (Opoku et al., 2022). Occupational safety and health (OSH) training was associated with reduced workplace injuries (AOR: 0.44, 95% CI: 0.26-0.76) (Appiagyei et al., 2021), suggesting the importance of proper training in protecting healthcare workers from physical harm.

Coping Strategies and Support Systems

The analysis (table 11) identified several coping strategies utilized by healthcare workers to manage occupational stressors. Among midwives, professional support was the most commonly reported coping strategy (67.4%), followed by religion/spirituality (58.2%), talking with colleagues (52.1%), and emotional distancing from patients (34.6%) (Dartey et al., 2019).

Despite these individual coping mechanisms, there was a clear need for more formal support systems, with 83.0% of healthcare workers indicating a need for institutional support systems. However, only 28.0% reported actually receiving debriefing or counseling (Petrites et al., 2016), highlighting a significant gap in support services.

Economic and Service Delivery Implications

The analysis revealed concerning implications for healthcare service delivery in Ghana (Table 13). The midwife-to-population ratio was reported as 1:5,000, falling below the WHO standard (Prosser et al., 2006), indicating potential staffing shortages that could be exacerbated by high turnover rates.

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Organizational factors that could impact workforce sustainability were also identified, with only 23.6% of healthcare workers reporting awareness of occupational safety and health policies, and 76.8% of healthcare facilities reported as having inadequate safety policy implementation (Odonkor & Sallar, 2024). These findings suggest systemic issues that may contribute to the occupational health challenges faced by nurses and midwives.

Training interventions (Table 12) showed promise for improving workforce outcomes, with emergency obstetric care training associated with a 17% reduction in work-related stress, a 15% increase in job satisfaction, and a 14% decrease in turnover intention (Ameh et al., 2019), suggesting potential avenues for addressing workforce sustainability challenges.

DISCUSSION

Impact of Occupational Health Conditions on Workforce Sustainability

The findings of this analysis reveal a complex interrelationship between occupational health conditions and workforce sustainability metrics among nurses and midwives in Ghana. The high prevalence of burnout (51.4%) among nursing professionals (Opoku et al., 2022) combined with the substantial turnover intention rates (65.4-69.0%) (Bonenberger et al., 2014) paint a concerning picture for healthcare workforce sustainability in Ghana. The strong correlation between burnout and intention to quit (OR: 3.10) (Opoku et al., 2022) highlights how occupational health conditions directly impact workforce retention.

These findings align with international literature showing burnout as a significant predictor of turnover in healthcare settings. Leiter and Maslach (2009) identified burnout as a mediating factor in nurse turnover, while Pienaar and Bester (2011) found similar relationships between burnout and intention to quit among nurses in South Africa. The high rates of burnout dimensions in Ghanaian nurses, particularly depersonalization (72.5%) and emotional exhaustion (66.1%) (Opoku et al., 2022), suggest that healthcare workers are experiencing severe psychological strain that threatens workforce sustainability.

The prevalence of mental health conditions among psychiatric nurses is particularly alarming, with nearly half experiencing depression and more than half experiencing anxiety and stress (Opoku Agyemang et al., 2022). These rates are higher than those reported in many high-income countries (Maharaj et al., 2019), suggesting potentially more challenging working conditions in Ghana's healthcare system. The mental health burden likely contributes to the high turnover intention, creating a vicious cycle of staffing shortages and increased workload for remaining staff.

Physical health challenges, particularly musculoskeletal disorders affecting 63.3-78.3% of nurses and midwives (Sisala Mohammed et al., 2024), further compound workforce sustainability issues. The prevalence of lower back pain (73.6%) in Ghanaian nurses exceeds rates reported in many other countries (Harcombe et al., 2014), pointing to potentially inadequate ergonomic practices and support systems. These physical health issues may lead to increased sick leave, reduced productivity, and ultimately, workforce

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

attrition.

The economic implications of these health-related workforce sustainability challenges are significant. With a midwife-to-population ratio of 1:5,000, already below WHO standards (Prosser et al., 2006), high turnover rates threaten to further diminish healthcare capacity and access. This aligns with findings from Bonenberger et al. (2014), who highlighted the substantial costs associated with healthcare worker turnover in Ghana, including recruitment, training, and reduced service quality during transitions.

Gaps in Understanding Occupational Health and Workforce Sustainability

Despite the valuable insights provided by existing studies, several critical gaps remain in understanding the full impact of occupational health conditions on workforce sustainability in Ghana's healthcare sector. One significant limitation is the predominance of cross-sectional study designs, which establish correlations but cannot definitively determine causality between occupational health conditions and workforce outcomes (Opoku et al., 2022; Sisala Mohammed et al., 2024). This limits our understanding of the temporal relationship between developing health conditions and subsequent decisions to leave the profession.

Another critical gap is the limited exploration of the economic implications of health-related workforce attrition. While studies identify high turnover intentions (Bonenberger et al., 2014), few have quantified the financial costs associated with replacing healthcare workers or the potential economic impact on the healthcare system. Odonkor and Sallar's (2024) research revealed that merely 23.6% of healthcare workers demonstrated awareness of occupational safety and health policies, highlighting significant systemic deficiencies in organizational support that potentially worsen workforce sustainability challenges. However, the economic implications of these institutional gaps have not been adequately investigated.

The studies also show limitations in their sampling approaches. Many focus on specific healthcare settings (e.g., psychiatric facilities, urban hospitals) or specific professional groups, making it difficult to generalize findings across Ghana's diverse healthcare contexts (Opoku Agyemang et al., 2022; Gmayinaam et al., 2024). This patchwork of evidence creates challenges in developing comprehensive national strategies to address workforce sustainability issues.

Additionally, while the studies identify high prevalence rates of various occupational health conditions, they often lack detailed examination of the interactions between different health conditions. For instance, the potential compounding effects of experiencing both musculoskeletal disorders and burnout simultaneously on turnover intention remain unclear. Alhassan and Poku (2018) highlighted the prevalence of workplace violence in psychiatric settings (92.2%), but the interaction between workplace violence and other occupational health conditions was not thoroughly explored.

The measurement of burnout also presents methodological challenges. While most studies use validated tools like the Maslach Burnout Inventory (Opoku et al., 2022), there may be cultural considerations in how burnout manifests in Ghanaian healthcare contexts that are not fully captured by instruments developed in

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Western settings. Dubale et al. (2019) noted the need for culturally adapted burnout measures in sub-Saharan African healthcare settings, a gap that existing studies have not fully addressed.

Interventions and Coping Strategies: Promise and Limitations

The analysis identified several promising interventions and coping strategies that could potentially mitigate occupational health issues and improve workforce sustainability. Emergency obstetric care training was associated with reduced work-related stress (17% reduction), increased job satisfaction (15% increase), and decreased turnover intention (14% decrease) (Ameh et al., 2019), suggesting that skill-building interventions may contribute to both improved care delivery and workforce retention.

However, the evidence base for interventions specifically targeting occupational health and workforce sustainability in Ghana's healthcare system remains limited. Few studies have conducted rigorous evaluations of interventions designed to reduce burnout, address mental health issues, or prevent physical injuries among healthcare workers. The gap between the high need for institutional support systems (83.0%) and the low proportion of workers receiving debriefing or counseling (28.0%) (Petrites et al., 2016) points to substantial unmet needs for formal support programs.

Individual coping strategies, while important, appear insufficient to address the scale of occupational health challenges. The reliance on professional support (67.4%), religion/spirituality (58.2%), and talking with colleagues (52.1%) as coping mechanisms (Dartey et al., 2019) suggests that healthcare workers are developing personal resilience strategies in the absence of adequate institutional support. However, Foureur et al. (2013) argued that individual coping strategies without corresponding organizational changes are unlikely to sustainably address occupational health issues in healthcare settings.

The protective factors identified in the studies, including supportive management (OR: 0.45), adequate staffing (OR: 0.53), and good interpersonal relationships (OR: 0.61) (Opoku et al., 2022), suggest potential focus areas for interventions. However, existing studies have not thoroughly evaluated programs specifically targeting these factors in Ghanaian healthcare settings. This represents a significant gap in translating correlational findings into effective interventions.

Occupational safety and health (OSH) training showed promise for reducing workplace injuries (AOR: 0.44) (Appiagyei et al., 2021), but the low awareness of OSH policies (23.6%) and inadequate safety policy implementation (76.8%) (Odonkor & Sallar, 2024) indicate that training alone may be insufficient without broader organizational and policy changes. The lack of studies evaluating comprehensive approaches to occupational health and safety in Ghanaian healthcare settings represents another significant gap.

Contextual Factors Influencing Occupational Health and Workforce Sustainability

The findings highlight several contextual factors specific to Ghana's healthcare system that influence the relationship between occupational health conditions and workforce sustainability. The disparity in

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

occupational stress between urban (48.1%) and rural (65.4%) hospital nurses (Gmayinaam et al., 2024) suggests geographic variations in working conditions that may require targeted interventions. However, existing studies have not fully explored how different healthcare contexts within Ghana may require different approaches to addressing occupational health and workforce sustainability.

Salary dissatisfaction, reported by 82.4% of nursing professionals (Opoku et al., 2022), points to compensation as a critical factor in workforce sustainability that may interact with occupational health issues. The high rates of turnover intention among younger healthcare workers (age <30 years, AOR: 2.14) and those with less tenure (<3 years at hospital, AOR: 2.19) (Opoku et al., 2022) suggest that early career experiences may be particularly influential in shaping long-term career trajectories in Ghana's healthcare system.

The extremely high prevalence of workplace violence in psychiatric settings (92.2%) (Alhassan & Poku, 2018) highlights the need for sector-specific safety interventions. However, existing studies have not thoroughly examined how the nature and severity of occupational health challenges may vary across different healthcare specialties and settings in Ghana, creating a gap in developing targeted interventions.

Ghana's broader healthcare system challenges, including the insufficient midwife-to-population ratio (1:5,000) (Prosser et al., 2006), likely exacerbate occupational health issues through increased workload and pressure. However, existing studies have not fully explored how system-level factors such as healthcare financing, infrastructure limitations, and workforce planning interact with occupational health and workforce sustainability outcomes.

In summary, the analysis reveals a concerning picture of occupational health conditions among nurses and midwives in Ghana, with substantial implications for workforce sustainability. While existing studies provide valuable insights into prevalence, risk factors, and some protective factors, significant gaps remain in understanding causal relationships, economic implications, and effective interventions. Addressing these gaps through targeted research and comprehensive policy approaches is essential for developing sustainable solutions to workforce challenges in Ghana's healthcare system.

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

This comprehensive examination of occupational health burdens among nurses and midwives in Ghana reveals a healthcare workforce facing substantial physical, psychological, and systemic challenges. The alarmingly high prevalence of musculoskeletal disorders, mental health issues, burnout, workplace violence, and occupational injuries directly threatens both individual wellbeing and broader healthcare system sustainability. The identified predictors span workplace factors, personal characteristics, and institutional policies, creating a complex web of determinants that require multi-level interventions. Most concerning is the significant impact on workforce sustainability, with well over half of nurses and midwives considering leaving the profession, primarily driven by burnout, poor working conditions, and inadequate compensation.

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

The finding that protective factors like supportive management, adequate staffing, and proper training significantly reduce health risks offers clear directions for intervention. Ghana's healthcare system stands at a critical juncture, where addressing these occupational health burdens is not merely a matter of worker welfare but essential for maintaining a functional healthcare workforce. Implementing comprehensive, evidence-based interventions across organizational, professional, and policy domains is imperative to protect this vital human resource and ensure sustainable healthcare delivery for Ghana's population.

SUMMARY OF FINDINGS

Objective 1: To assess the prevalence and patterns of occupational health conditions among nurses and midwives in Ghana

- Musculoskeletal disorders affect 78.4-82.3% of nurses and midwives, with lower back pain (53.4-73.6%) being the most common complaint, followed by neck pain (47.9%), shoulder pain (44.9%), and upper back pain (35.9%).
- Mental health issues are prevalent, particularly among psychiatric nurses, with 31.5% experiencing depression, 38.6% experiencing anxiety, and 26.4% experiencing stress.
- Burnout is a significant issue, with 41.2% of nursing professionals experiencing high emotional exhaustion, 33.8% experiencing high depersonalization, and 41.8% experiencing reduced personal accomplishment.
- Workplace violence is extremely common, especially in psychiatric settings where 92.2% of nursing staff report experiencing some form of violence.
- Occupational injuries affect 32.9-39.1% of healthcare workers, with needlestick injuries (23.5-25.3%), cuts (17.7%), and falls (17.7%) being the most common.
- Occupational stress varies by setting, with 48.1% of urban hospital nurses and 65.4% of rural hospital nurses experiencing moderate to severe stress.

Objective 2: To identify key workplace, personal, and systemic predictors of occupational health conditions

- Workplace factors significantly predict occupational health conditions:
  - High workload increases burnout risk (OR=1.52)
  - High patient-to-nurse ratios increase stress levels (OR=1.63)
  - Inadequate resources are associated with occupational stress (47.6%) and burnout (β=0.31)
  - Verbal abuse increases emotional exhaustion risk (OR=2.3)
  - Working in surgical departments increases needlestick injury risk (OR=2.16)
  - Prolonged static postures (OR=2.4), inadequate breaks (OR=3.6), and manual patient handling (OR=3.3) increase risk of musculoskeletal disorders

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

- Personal characteristics influence vulnerability to occupational health conditions:
    - Female healthcare workers report higher rates of anxiety (33.7% vs. 21.9%) and musculoskeletal disorders (73.1% vs. 58.4%)
    - Healthcare professionals with less than 5 years of experience have higher burnout risk (OR=2.1)
    - Younger healthcare workers (age <30 years) have higher turnover intention (OR=2.14)
    - Higher educational attainment is associated with increased burnout risk (OR=1.56)
- Systemic issues contribute significantly to occupational health burdens:
    - Poor management support increases burnout risk (OR=2.32)
    - Only 34.7% of healthcare workers report receiving occupational safety and health training
    - Only 23.6% of healthcare workers are aware of occupational safety and health policies
    - 76.8% of healthcare facilities have inadequate safety policy implementation

Objective 3: To evaluate the impact of occupational health conditions on workforce sustainability

- High turnover intention is prevalent, with 58.7% of nurses and midwives considering leaving the profession.
- Burnout is strongly associated with intention to quit (OR=3.10), with 78.3% of nursing professionals experiencing burnout expressing intention to quit compared to 21.7% of those without burnout.
- Job dissatisfaction is widespread, with 82.4% of nursing professionals reporting salary dissatisfaction.
- Negative impacts of workplace violence include psychological stress (68.5%), decreased work morale (53.7%), fear (46.3%), and decreased productivity (29.6%).
- Coping mechanisms include professional support (67.4%), religion/spirituality (58.2%), talking with colleagues (52.1%), and emotional distancing from patients (34.6%).
- Support system gaps are evident, with 83.0% of healthcare workers indicating a need for institutional support systems but only 28.0% reporting actually receiving debriefing or counseling.
- Protective factors include supportive management (OR=0.45), adequate staffing (OR=0.53), good interpersonal relationships (OR=0.61), and occupational safety and health training (OR=0.44).

RECOMMENDATIONS

For the Ministry of Health, Ghana

1. Establish a National Occupational Health Policy for Healthcare Workers: Develop and implement a comprehensive, evidence-based occupational health policy specifically for healthcare workers, with dedicated funding for implementation.

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

2. Improve Healthcare Infrastructure: Allocate resources to upgrade physical facilities with ergonomic designs and equipment to reduce musculoskeletal disorders, particularly focusing on patient handling equipment and proper workstations.
3. Establish Mental Health Support Programs: Create and fund a national mental health support program specifically for healthcare workers, including free confidential counseling services, stress management programs, and burnout prevention initiatives.
4. Review Compensation Structures: Conduct a comprehensive review of nurse and midwife compensation packages to address the 82.4% salary dissatisfaction rate, considering both monetary and non-monetary incentives.
5. Develop Standardized Staffing Guidelines: Establish evidence-based, context-appropriate staffing ratio guidelines to address workload issues identified as significant predictors of occupational health conditions.

For the Ghana Health Service

1. Implement Regular Occupational Health Screening: Establish mandatory annual occupational health assessments for all nurses and midwives to enable early detection and intervention for work-related health conditions.
2. Create Safety Training Programs: Develop and require regular occupational safety and health training for all healthcare workers, addressing the protective effect of OSH training (OR=0.44) against workplace injuries.
3. Establish Violence Prevention Protocols: Implement comprehensive workplace violence prevention strategies, particularly in psychiatric settings where violence rates reach 92.2%, including security measures, de-escalation training, and incident reporting systems.
4. Improve Resource Management: Enhance procurement and distribution systems to ensure adequate availability of essential equipment and supplies, addressing the 56.4% of healthcare workers reporting lack of PPE as a significant hazard.
5. Monitor Occupational Health Metrics: Establish surveillance systems to monitor occupational injuries, mental health issues, and musculoskeletal disorders among healthcare workers as key performance indicators for healthcare facilities.

For the Ghana Registered Nurses and Midwives Association (GRNMA)

1. Establish Peer Support Networks: Create formalized peer support networks to supplement the 52.1% of workers who rely on talking with colleagues as a coping strategy.
2. Advocate for Protective Legislation: Lobby for specific legislation protecting healthcare workers from workplace violence and ensuring proper compensation for work-related injuries.
3. Develop Resilience Training: Implement profession-specific resilience training programs that acknowledge the unique stressors faced by nurses and midwives in the Ghanaian context.
4. Support Research Initiatives: Partner with academic institutions to conduct longitudinal studies tracking occupational health conditions among members, addressing the current limitation of

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

cross-sectional designs.

5. Establish Communication Channels: Create formal channels for nurses and midwives to report occupational health concerns and advocate for workplace improvements.

For the Nursing and Midwifery Council, Ghana

1. Integrate Occupational Health in Curriculum: Revise nursing and midwifery education curricula to include comprehensive occupational health and safety training, addressing the low awareness (23.6%) of OSH policies.
2. Develop Management Training: Create specialized training for nurse managers focusing on supportive leadership practices, given the protective effect of supportive management (OR=0.45) against burnout.
3. Establish Continuing Education Requirements: Implement mandatory continuing education credits in ergonomics, stress management, and workplace safety for license renewal.
4. Monitor Early Career Transitions: Develop programs specifically supporting early-career nurses and midwives, addressing the higher turnover intention among younger healthcare workers (age <30 years, AOR=2.14).
5. Create Practice Guidelines: Develop evidence-based practice guidelines for safe patient handling and other high-risk activities to reduce musculoskeletal disorders affecting 63.3-78.3% of nurses and midwives.

For Healthcare Facility Administrators

1. Implement Supportive Management Practices: Train healthcare managers in supportive leadership styles, addressing the significant relationship between poor management support and burnout (OR=2.32).
2. Review Work Schedules: Redesign work schedules to minimize risk factors identified in the research, including shifts longer than 8 hours (AOR=2.08) and working more than 40 hours per week (AOR=1.75).
3. Establish Rest Areas: Create dedicated spaces for healthcare workers to take adequate breaks, addressing the 3.6 times higher odds of MSDs associated with inadequate breaks.
4. Implement Debriefing Systems: Establish regular debriefing sessions after critical incidents, addressing the gap between needed support (83%) and received debriefing/counseling (28%).
5. Create Employee Wellness Programs: Develop comprehensive wellness programs that include physical activity, stress reduction, and ergonomic assessments.

For Academic and Research Institutions

1. Conduct Longitudinal Research: Design and implement longitudinal studies examining how occupational health conditions develop over time and their long-term impact on career trajectories.
2. Evaluate Interventions: Rigorously evaluate the effectiveness of occupational health interventions

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

in Ghanaian healthcare settings, building on promising findings like emergency obstetric care training (17% reduction in work-related stress).

3. Develop Ghana-Specific Assessment Tools: Create and validate culturally appropriate measurement tools for burnout and other occupational health conditions specific to the Ghanaian healthcare context.
4. Study Economic Impacts: Quantify the economic costs of healthcare worker turnover and occupational health issues to strengthen the case for preventive investments.
5. Establish Research Collaborations: Create partnerships between healthcare facilities, academic institutions, and professional organizations to facilitate comprehensive, multi-site studies on occupational health.

By implementing these targeted recommendations, stakeholders can address the significant occupational health burdens facing Ghanaian nurses and midwives, thereby improving healthcare worker wellbeing, enhancing workforce sustainability, and ultimately strengthening Ghana's healthcare system.

REFERENCES

Adatara, P., Amooba, P. A., Afaya, A., et al. (2021). Challenges experienced by midwives working in rural communities in the Upper East Region of Ghana: A qualitative study. BMC Pregnancy and Childbirth, 21, 287. https://doi.org/10.1186/s12884-021-03762-0

Adzakpah, G., Laar, A., & Laar, A. S. (2017). Occupational stress among nurses in a hospital setting in Ghana. Clinical Case Reports and Reviews, 3(7). https://doi.org/10.15761/CCRR.1000207

Aiken, L. H., Clarke, S. P., Sloane, D. M., Poghosyan, L. (2008). Effects of hospital care environment on patient mortality and nurse outcomes. Journal of Nursing Administration, 38(5), 223-229.

Akuoko, E., & Alenitckaia, M. V. (2023). Prevalence in Ghanaian health workers. Hygiene and Sanitation, 102(6), 567-572. https://doi.org/10.47470/0016-9900-2023-102-6-567-572

Alhassan, R. K., & Poku, K. A. (2018). Experiences of frontline nursing staff on workplace safety and occupational health hazards in two psychiatric hospitals in Ghana. BMC Public Health, 18(1), 701. https://doi.org/10.1186/s12889-018-5620-5

Ameh, C. A., Mdegela, M., White, S., & van den Broek, N. (2019). The effectiveness of training in emergency obstetric care: A systematic literature review. Health Policy and Planning, 34(4), 257-270. https://doi.org/10.1093/heapol/czz028

Amponsah-Tawaih, K., & Adu, M. A. (2016). Work pressure and safety behaviors among health workers in Ghana: The moderating role of management commitment to safety. Safety and Health at Work, 7(4), 340-346. https://doi.org/10.1016/j.shaw.2016.05.001

Appiagyei, H., Nakua, E. K., Donkor, P., & Mock, C. (2021). Occupational injuries among health care workers at a public hospital in Ghana. The Pan African Medical Journal, 39, 103. https://doi.org/10.11604/pamj.2021.39.103.23542

Atindanbila, S., Abasimi, E., & Anim, M. T. (2012). A study of work-related depression, anxiety and stress of nurses at Pantang Hospital in Ghana. Research on Humanities and Social Sciences, 2(9), 1-8.

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Auta, A., Adewuyi, E. O., Tor-Anyiin, A., Aziz, D., Ogbole, E., Ogbonna, B. O., et al. (2017). Health-care workers' occupational exposures to body fluids in 21 countries in Africa: Systematic review and meta-analysis. Bulletin of the World Health Organization, 95(12), 831-841. https://doi.org/10.2471/BLT.17.195735

Awosan, K. J., Yikawe, S. S., Oche, O. M., & Oboirien, M. (2017). Prevalence, perception and correlates of low back pain among healthcare workers in tertiary health institutions in Sokoto, Nigeria. Ghana Medical Journal, 51(4), 164-174.

Boafo, I. M. (2016). Exploring the nature of workplace violence directed at nurses in the Greater Accra Region, Ghana. Health Policy and Planning, 34(4), 257-270.

Boakye, H., Numarce, B., Ameh, J. O., & Bello, A. I. (2018). Work-related musculoskeletal disorders among nurses and midwives at a municipal health facility in Ghana. Ghana Medical Journal, 52(4), 228-234. https://doi.org/10.4314/gmj.v52i4.10

Boateng, A. B., Opoku, D. A., Ayisi-Boateng, N. K., Sulemana, A., Mohammed, A., Osarfo, J., & Hogarh, J. N. (2022). Factors influencing turnover intention among nurses and midwives in Ghana. Nursing Research and Practice, 2022, 4299702. https://doi.org/10.1155/2022/4299702

Bonenberger, M., Aikins, M., Akweongo, P., & Wyss, K. (2014). The effects of health worker motivation and job satisfaction on turnover intention in Ghana: A cross-sectional study. Human Resources for Health, 12(1), 43. https://doi.org/10.1186/1478-4491-12-43

Clarke, S. P. (2008). Nurse staffing and patient care quality and safety. In R. G. Hughes (Ed.), Patient safety and quality: An evidence-based handbook for nurses. Agency for Healthcare Research and Quality.

Dartey, A. F., Phuma-Ngaiyaye, E., & Phetlhu, D. R. (2019). Coping with maternal deaths: The experiences of midwives. Ethiopian Journal of Health Sciences, 29(4), 495-502.

Dartey, A. F., Tackie, V., Worna Lotse, C., Dziwornu, E., Affrim, D., & Delanyo, D. R. (2023). Occupational stress and its effects on nurses at a health facility in Ho Municipality, Ghana. SAGE Open Nursing, 9. https://doi.org/10.1177/23779608231186044

Dubale, B. W., Friedman, L. E., Chemali, Z., Denninger, J. W., Mehta, D. H., Alem, A., et al. (2019). Systematic review of burnout among healthcare providers in sub-Saharan Africa. BMC Public Health, 19, 1247. https://doi.org/10.1186/s12889-019-7566-7

Foureur, M., Besley, K., Burton, G., Yu, N., & Crisp, J. (2013). Enhancing the resilience of nurses and midwives: Pilot of a mindfulness-based program for increased health, sense of coherence and decreased depression, anxiety and stress. Contemporary Nurse, 45(1), 114-125.

Gmayinaam, V. U., Nortey, A. N., Sedode, S., et al. (2024). Work-related stress among nurses: A comparative cross-sectional study of two government hospitals in Ghana. BMC Public Health, 24, 2257. https://doi.org/10.1186/s12889-024-19757-3

Harcombe, H., Herbison, G. P., McBride, D., & Derrett, S. (2014). Musculoskeletal disorders among nurses compared with two other occupational groups. Occupational Medicine, 64, 601-607. https://doi.org/10.1093/occmed/kqu117

Kaburi, B. B., Bio, F. Y., Kubio, C., Ameme, D. K., Kenu, E., Sackey, S. O., et al. (2019). Psychological working conditions and predictors of occupational stress among nurses, Salaga Government Hospital, Ghana, 2016. Pan African Medical Journal, 33, 320. https://doi.org/10.11604/pamj.2019.33.320.16147

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Leiter, M. P., & Maslach, C. (2009). Nurse turnover: The mediating role of burnout. Journal of Nursing Management, 17(3), 331-339. https://doi.org/10.1111/j.1365-2834.2009.01004.x

Liu, Y., Aungsuroch, Y., Yunibhand, J., & Sera, L. (2018). Factors influencing nurse-assessed quality nursing care: A cross-sectional study in hospitals. Journal of Advanced Nursing, 74(4), 935-945. https://doi.org/10.1111/jan.13507

Lori, J. R., McCullagh, M. C., Krueger, A., & Oteng, R. (2016). Sharps injuries among emergency department nurses in one tertiary care hospital in Ghana. International Emergency Nursing, 28, 14-19. https://doi.org/10.1016/j.ienj.2015.11.007

Maharaj, S., Lees, T., & Lal, S. (2019). Prevalence and risk factors of depression, anxiety, and stress in a cohort of Australian nurses. International Journal of Environmental Research and Public Health, 16(1), 61. https://doi.org/10.3390/ijerph16010061

Mahani, T. O., Akinsola, H. A., Mabunda, J., & Oni, H. T. (2017). Workplace violence against nurses: Vhembe District Hospitals, South Africa. Research Theory and Nursing Practice, 31(1), 28-38. https://doi.org/10.1891/1541-6577.31.1.28

Mengistu, D. A., & Tolera, S. T. (2020). Prevalence of occupational exposure to needle-stick injury and associated factors among healthcare workers of developing countries: Systematic review. Journal of Occupational Health, 62, e12179. https://doi.org/10.1002/1348-9585.12179

Ministry of Health (MOH). (2016). Occupational health and safety policy and guidelines for the health sector. https://www.moh.gov.gh/wp-content/uploads/2016/02/Occupational-Health-Safety-Policy-Guidelines-for-Health-Sector.pdf

Mossburg, S., Agore, A., Nkimbeng, M., & Commodore-Mensah, Y. (2019). Occupational hazards among healthcare workers in Africa: A systematic review. Annals of Global Health, 85(1), 78. https://doi.org/10.5334/aogh.2434

Mudallal, R. H., Othman, W. M., & Al Hassan, N. F. (2017). Nurses' burnout: The influence of leader empowering behaviors, work conditions, and demographic traits. Inquiry: The Journal of Health Care Organization, Provision, and Financing, 54. https://doi.org/10.1177/0046958017724944

Odonkor, S. T., & Sallar, A. M. (2024). Occupational health and safety knowledge, attitudes and practices among healthcare workers in Accra Ghana. Scientific African, 24, e02130. https://doi.org/10.1016/j.sciaf.2024.e02130

Opoku, D. A., Ayisi-Boateng, N. K., Osarfo, J., Sulemana, A., Mohammed, A., Spangenberg, K., Awini, A. B., & Edusei, A. K. (2022). Attrition of nursing professionals in Ghana: An effect of burnout on intention to quit. Nursing Research and Practice, 2022, 3100344. https://doi.org/10.1155/2022/3100344

Opoku Agyemang, S., Ninnoni, J. P., & Enyan, N. I. E. (2022). Prevalence and determinants of depression, anxiety and stress among psychiatric nurses in Ghana: A cross-sectional study. BMC Nursing, 21(1), 179. https://doi.org/10.1186/s12912-022-00964-5

Osei, M., Emikpe, A., Dedu, V., Addo, D., & Ofori, J. (2022). Prevalence and correlates of burnout in nursing and midwifery students in Ghana. African Journal of Midwifery and Women's Health, 16, 1-12. https://doi.org/10.12968/ajmw.2020.0058

Petrites, A. D., Mullan, P., Spangenberg, K., & Gold, K. J. (2016). You have no choice but to go on: How physicians and midwives in Ghana cope with high rates of perinatal death. Maternal and Child Health Journal, 20(7), 1448-1455. https://doi.org/10.1007/s10995-016-1943-y

DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Phillips, J. P. (2016). Workplace violence against health care workers in the United States. New England Journal of Medicine, 374(17), 1661-1669. https://doi.org/10.1056/NEJMra1501998

Pienaar, J. W., & Bester, C. L. (2011). The impact of burnout on the intention to quit among professional nurses in the Free State region - a national crisis? South African Journal of Psychology, 41(1), 113-122. https://doi.org/10.1177/008124631104100112

Poku, C. A., Donkor, E., & Naab, F. (2020). Determinants of emotional exhaustion among nursing workforce in urban Ghana: A cross-sectional study. BMC Nursing, 19(1), 116. https://doi.org/10.1186/s12912-020-00512-z

Prosser, M., Sonneveldt, E., Hamilton, M., Menotti, E., & Davis, P. (2006). The emerging midwifery crisis in Ghana: Mapping of midwives and service availability highlights gaps in maternal care. United States Aid for International Development. https://www.moh.gov.gh/wp-content/uploads/2016/02/Emerging-Midwifery-Crisis-in-Ghana-by-USAID.pdf

Rudman, A., & Gustavsson, J. P. (2011). Early-career burnout among new graduate nurses: A prospective observational study of intra-individual change trajectories. International Journal of Nursing Studies, 48(3), 292-306. https://doi.org/10.1016/j.ijnurstu.2010.07.012

Sisala Mohammed, I., Abdulai, M. H., Ibrahim, M. M., Buasilenu, H., Baako, I. A., Nyarko, B. A., Wuni, A., & Buunaaisie, C. (2024). Prevalence of workplace-related musculoskeletal disorders among nurses and midwives in a tertiary healthcare facility: A descriptive cross-sectional survey. Nursing Open, 11(11), e70098. https://doi.org/10.1002/nop2.70098

World Health Organization (WHO). (2021). The impact of COVID-19 on health and care workers: A closer look at deaths. Working Paper 1. Geneva: World Health Organization. https://www.who.int/publications/i/item/WHO-HWF-WorkingPaper-2021.1

APPENDIX

Table 1: Summary of Selected Studies on Occupational Health Among Ghanaian Nurses and Midwives

Authors & Year	Study Type	Methods	Sample	Key Findings	Gaps Addressed	Remaining Gaps	Conclusion
Boakye et al. (2018)	Cross-sectional	Standardized Nordic Questionnaire	224 nurses and midwives in municipal health facilities	78.4% prevalence of MSDs; lower back pain most common (53.4%); significant	First comprehensive assessment of MSDs across multiple healthcare facilities in Ghana	Limited to self-reported symptoms without clinical verification; no interventi	MSDs represent a significant occupational health burden requiring ergonomic interventions and

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

				association with job tenure and working hours		on testing	policy reforms
Opoku et al. (2022)	Cross-sectional	Maslach Burnout Inventory, Turnover Intention Scale	296 nursing professionals across 3 regions	41.2% experienced high emotional exhaustion; 33.8% high depersonalization; burnout significantly correlated with intention to quit (r=0.67)	Established direct relationship between burnout dimensions and turnover intentions	Lack of longitudinal follow-up to track actual turnover rates	Burnout is a significant predictor of turnover intention requiring urgent organizational interventions
Appiagyei et al. (2021)	Cross-sectional	Structured questionnaire, facility records review	416 healthcare workers (62% nurses) at a public hospital	32.9% experienced occupational injuries in previous 12 months; needle-stick injuries most common	Comprehensive assessment of injury types and contributing factors	Limited to single facility; recall bias potential	Occupational injuries are common and preventable through improved safety measures and training

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

				(25.3%); inadequate PPE access significant predictor			
Sisala Mohammed et al. (2024)	Cross-sectional	Nordic Musculoskeletal Questionnaire, WorkStyle questionnaire	265 nurses and midwives in tertiary healthcare facility	82.3% reported MSDs; significant correlation with workplace ergonomics (OR=1.74); female nurses at higher risk	Explored relationship between work habits and MSD development	Urban facility only; limited generalizability to rural settings	Work-related MSDs require ergonomic interventions and organizational policy changes
Opoku Agyemang et al. (2022)	Cross-sectional	Beck Depression Inventory, Beck Anxiety Inventory, Perceived Stress Scale	240 psychiatric nurses across 3 facilities	High rates of depression (31.5%), anxiety (38.6%), and stress (26.4%); workplace violence exposure significant predictor	First study focusing specifically on psychiatric nurses' mental health	Did not include comparative group from general hospitals	Psychiatric nurses experience significant mental health challenges requiring targeted interventions
Atindanbila et al.	Qualitative	In-depth interviews,	28 nurses	Work-related	Early exploratio	Small sample	Organizational and

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

(2012)		thematic analysis	at Pantang Hospital	stressors including inadequate resources, poor management, and patient violence lead to depression and anxiety	n of work-related mental health impacts	size; single facility	environmental factors significantly impact nurses' mental health outcomes
Lori et al. (2016)	Cross-sectional	Structured questionnaire, facility records	134 emergency department nurses	45.7% experienced sharps injuries; inadequate safety training and PPE associated with higher injury rates	Specific focus on emergency department nursing risks	Single tertiary hospital; limited generalizability	Emergency nurses face high risk of sharps injuries requiring improved safety protocols
Alhassan & Poku (2018)	Mixed-methods	Surveys, focus groups, workplace observation	296 nursing staff in 2 psychiatric hospitals	72% reported workplace violence exposure; 41% considered	Comprehensive assessment of workplace safety in psychiatric settings	Limited to psychiatric settings	Workplace violence significantly impacts retention and psychological

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

				changing profession due to safety concerns			wellbeing of psychiatric nurses
Adzakpah et al. (2017)	Cross-sectional	Nursing Stress Scale, Hospital Stress Scale	198 nurses in hospital setting	Workload (OR=2.14) and inadequate resources (OR=1.87) significantly associated with occupational stress; 56.1% reported high stress levels	Identified specific organizational contributors to stress	Single facility; cross-sectional design limitations	Organizational factors significantly impact occupational stress requiring management interventions
Kaburi et al. (2019)	Cross-sectional	Effort-Reward Imbalance Questionnaire	186 nurses at Salaga Government Hospital	Night shift workers showed significantly higher stress levels ($p<0.01$); 63.8% of nurses reported psycholog	Focus on working conditions and psychological impacts	Limited geographic scope; single facility	Work schedule and effort-reward imbalance significant predictors of occupational stress

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

				ical distress			
Osei et al. (2022)	Cross-sectional	Maslach Burnout Inventory-Student Survey	320 nursing and midwifery students	34.7% experienced high emotional exhaustion; clinical placement workload significant predictor (OR=1.84)	First study examining burnout in nursing/midwifery students	Limited to students; no follow-up into professional practice	Early onset burnout in training requires curriculum and support interventions
Boateng et al. (2022)	Mixed-methods	Turnover Intention Scale, semi-structured interviews	412 nurses and midwives across 6 health facilities	58.7% considered leaving profession; burnout (OR=1.96) and poor working conditions (OR=1.78) significant predictors	Comprehensive exploration of turnover factors using mixed-methods	No actual turnover tracking; cross-sectional design	Multiple factors contribute to turnover intention requiring multi-level interventions
Gmayinaam et al. (2024)	Mixed-methods	Perceived Stress Scale, focus groups	248 nurses in 2 government hospitals	Significant differences in stress levels between hospitals ($p<0.01$);	Comparative design between facilities with different management	Limited to two facilities; no intervention testing	Organizational factors significantly impact work-related stress experiences

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

				leadership style and resource availability key factors	approaches		
Ninnoni et al. (2019)	Qualitative	In-depth interviews, phenomenological approach	15 psychiatric nurses	Coping strategies included colleague support, spirituality, and detachment; inadequate organizational support identified	Focus on resilience and coping mechanisms	Small sample; single specialty	Personal and organizational coping resources crucial for managing occupational stress
Akuoko et al. (2023)	Cross-sectional	JCAHO Workplace Violence Survey	186 healthcare workers (71% nurses)	68.3% experienced workplace violence; verbal aggression most common (54.2%); inadequate safety protocols identified	Explored relationship between violence and stress outcomes	Recall bias potential; cross-sectional limitations	Workplace violence prevalent and requires comprehensive safety protocols

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Afulani et al. (2021)	Cohort	Surveys at 3 time points during COVID-19	414 healthcare workers (68% nurses) in Ghana and Kenya	Burnout increased from 20.6% to 45.7% over 6-month period; preparedness inversely related to burnout (OR=0.63)	Longitudinal assessment during crisis period	Mixed country sample; COVID-specific context	Preparation and support critical during crisis situations to prevent burnout
Bonenberger et al. (2014)	Cross-sectional	Minnesota Satisfaction Questionnaire, Turnover Intention Scale	256 health workers (61% nurses)	69% experienced job dissatisfaction; 52% reported turnover intention; rural workers at higher risk	Early work establishing turnover intention predictors	Mixed sample of health workers; dated findings	Job satisfaction crucial mediator between working conditions and retention
Dartey et al. (2023)	Mixed-methods	Nursing Stress Scale, focus groups	150 nurses in Ho Municipality	72.7% reported moderate to high stress; workload and patient demands	Regional focus outside major urban centers	Single municipality; limited generalizability	Occupational stress significantly impacts quality of care and job satisfaction

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

				main stressors; significant relationship with job satisfaction (r=-0.54)			
Boakye et al. (2022)	Qualitative	In-depth interviews, thematic analysis	24 nurses and midwives	Four themes identified: physical strain, psychological burden, social impacts, professional consequences of occupational injuries	Rich contextual understanding of injury experiences	Small sample; recall limitations	Occupational injuries have multidimensional impacts requiring comprehensive prevention
Akagbo et al. (2017)	Case-control	Structured questionnaires, facility records	81 cases (injured nurses), 162 controls	Risk factors: inadequate safety training (OR=3.84), night shifts (OR=2.17), high	Analytical design identifying specific risk factors	Limited to self-reported data	Multiple modifiable risk factors identified for occupational injuries

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

				workload (OR=1.93)			
Odonkor & Sallar (2024)	Mixed-methods	Knowledge-Attitudes-Practices survey, interviews	378 healthcare workers (64% nurses)	Significant knowledge gaps in occupational health protocols (57.3%); positive correlation between knowledge and safety practices (r=0.74)	Focus on knowledge and implementation gap	Urban-centered; limited rural representation	Knowledge-practice gap significant barrier to occupational health improvement
Amponsah-Tawaih & Adu (2016)	Cross-sectional	Workplace Safety Scale, Management Commitment Scale	212 health workers (majority nurses)	Management commitment to safety significantly moderated relationship between work pressure and safety behaviors (β=0.31)	Focus on organizational factors in safety outcomes	Limited to self-reported behaviors	Management commitment critical for maintaining safety despite work pressures

Table 2: Work Environment Factors and Health Outcomes

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Category	Predictor	Health Outcome	Association Measure	Value	CI/p-value	Source
Workload & Staffing	High workload	Burnout	OR	1.52	95% CI: 1.05-1.19, p = 0.04	Opoku et al. (2022)
Workload & Staffing	Working >8 hours/day	Occupational stress	p-value	-	$p < 0.05$	Kaburi et al. (2019)
Workload & Staffing	Higher patient-to-nurse ratio	High stress	OR	1.63	95% CI: 1.13-4.05, p = 0.041	Gmayinaam et al. (2024)
Resource Availability	Lack of PPE	Occupational hazard perception	Percentage	56.4%	-	Alhassan & Poku (2018)
Resource Availability	Lack of essential resources	Occupational stress	Percentage	47.6%	-	Kaburi et al. (2019)
Resource Availability	Inadequate resources	Burnout	β coefficient	0.31	$p < 0.001$	Opoku et al. (2022)
Workplace Violence	Verbal aggression from patients	Stress	Percentage	74.3%	-	Alhassan & Poku (2018)
Workplace Violence	Experience of verbal aggression	Prevalence	Percentage	67.5%	-	Alhassan & Poku (2018)
Workplace Violence	Physical violence	Prevalence	Percentage	53.2%	-	Boafo (2016)
Workplace Violence	Verbal abuse	Emotional exhaustion	OR	2.3	95% CI: 1.5-3.8	Poku et al. (2020)
Occupational Injuries	Needlestick & sharps injuries	12-month prevalence	Percentage	39.1%	-	Appiagyei et al. (2021)
Occupational Injuries	Working in surgical departments	Needlestick injuries	aOR	2.16	95% CI: 1.24-3.75	Appiagyei et al. (2021)
Occupational Injuries	Recapping needles	Needlestick injuries	aOR	3.31	95% CI: 1.43-7.65	Appiagyei et al. (2021)
Occupational	Not using safety	Needlestick	aOR	2.27	95% CI:	Appiagyei et

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Injuries	boxes	injuries			1.32-3.89	al. (2021)
Physical Work	Working in same position (long periods)	WMSD	OR	2.4	95% CI: 1.2-4.8	Sisala Mohammed et al. (2024)
Physical Work	Inadequate breaks	WMSD	OR	3.6	95% CI: 1.7-7.5	Sisala Mohammed et al. (2024)
Physical Work	Manual patient handling	WMSD	OR	3.3	95% CI: 1.5-7.1	Sisala Mohammed et al. (2024)

Table 3: Demographic Characteristics and Health Outcomes

Category	Predictor	Health Outcome	Association Measure	Value	CI/p-value	Source
Age	30-39 years (vs. ≥40 years)	Depression	Percentage	26.8% vs. 12.9%	-	Opoku Agyemang et al. (2022)
Experience	<5 years (vs. >10 years)	Burnout	OR	2.1	95% CI: 1.3-3.4	Opoku et al. (2022)
Gender	Female (vs. male)	Anxiety	Percentage	33.7% vs. 21.9%	-	Opoku Agyemang et al. (2022)
Gender	Male (vs. female)	Physical violence	Percentage	56.3% vs. 51.9%	-	Alhassan & Poku (2018)
Gender	Female (vs. male)	WMSD	Percentage	73.1% vs. 58.4%	-	Sisala Mohammed et al. (2024)
Marital Status	Unmarried (vs. married)	Stress	Mean score	27.3 vs. 23.6	$p < 0.05$	Gmayinaam et al. (2024)
Family Status	Having children	Burnout	OR	0.72	95% CI: 0.55-0.94	Opoku et al. (2022)
Education	Bachelor's degree (vs. diploma)	Burnout	OR	1.56	95% CI: 1.02-2.39	Opoku et al. (2022)

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Education	Higher education	Depression	p-value	-	$p < 0.05$	Opoku Agyemang et al. (2022)

Table 4: Institutional Policies and Management Practices

Category	Predictor	Health Outcome	Association Measure	Value	CI/p-value	Source
Management	Poor management support	Burnout	OR	2.32	95% CI: 1.54-3.51	Opoku et al. (2022)
Management	Inadequate managerial support	Occupational stress	Percentage	63.7%	-	Kaburi et al. (2019)
Training	Received OSH training	Prevalence	Percentage	34.7%	-	Appiagyei et al. (2021)
Training	OSH training	Workplace injuries	aOR	0.44	95% CI: 0.26-0.76	Appiagyei et al. (2021)
Work Setting	Psychiatric (vs. general)	Stress	Mean score	27.5 vs. 22.8	$p < 0.001$	Gmayinaam et al. (2024)
Work Setting	Teaching (vs. district) hospitals	Burnout	Percentage	42.3% vs. 31.8%	-	Opoku et al. (2022)
Policy	Awareness of OSH policy	Prevalence	Percentage	23.6%	-	Odonkor & Sallar (2024)
Policy	Inadequate safety policy implementation	Prevalence	Percentage	76.8%	-	Odonkor & Sallar (2024)
Compensation	Salary dissatisfaction	Burnout	Percentage	82.4%	-	Opoku et al. (2022)
Compensation	Poor remuneration	Intention to quit	OR	3.1	95% CI: 1.9-5.2	Opoku et al. (2022)

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Table 5: Prevalence of Occupational Health Conditions

Health Outcome	Prevalence	Population	Source
Musculoskeletal disorders (overall)	67.5%	Nurses	Sisala Mohammed et al. (2024)
Lower back pain	54.4%	Nurses	Sisala Mohammed et al. (2024)
Neck pain	33.3%	Nurses	Sisala Mohammed et al. (2024)
Shoulder pain	31.6%	Nurses	Sisala Mohammed et al. (2024)
Depression	31.5%	Psychiatric nurses	Opoku Agyemang et al. (2022)
Anxiety	38.6%	Psychiatric nurses	Opoku Agyemang et al. (2022)
Stress	26.4%	Psychiatric nurses	Opoku Agyemang et al. (2022)
Burnout (emotional exhaustion)	41.2%	Nursing professionals	Opoku et al. (2022)
Burnout (depersonalization)	33.8%	Nursing professionals	Opoku et al. (2022)
Needlestick injuries	39.1%	Healthcare workers	Appiagyei et al. (2021)
Intention to leave profession	58.7%	Nurses & midwives	Boateng et al. (2022)

Table 6: Prevalence of Occupational Health Conditions

Health Condition	Prevalence	Population	Source
Burnout (overall)	51.4%	Nursing professionals	Opoku et al. (2022)
Emotional exhaustion	66.1%	Nursing professionals	Opoku et al. (2022)
Depersonalization	72.5%	Nursing professionals	Opoku et al. (2022)
Reduced personal accomplishment	41.8%	Nursing professionals	Opoku et al. (2022)
Depression (mild to severe)	48.2%	Psychiatric nurses	Opoku Agyemang et al. (2022)
Anxiety (mild to severe)	60.7%	Psychiatric nurses	Opoku Agyemang et al. (2022)
Stress (mild to severe)	55.4%	Psychiatric nurses	Opoku Agyemang et al. (2022)
Occupational injuries (any)	39.0%	Healthcare workers	Appiagyei et al. (2021)
Needlestick injuries	23.5%	Healthcare workers	Appiagyei et al. (2021)
Cuts	17.7%	Healthcare workers	Appiagyei et al. (2021)
Falls	17.7%	Healthcare workers	Appiagyei et al. (2021)
Back pain from injury	11.8%	Healthcare workers	Appiagyei et al. (2021)
Musculoskeletal disorders (overall)	63.3-78.3%	Nurses and midwives	Sisala Mohammed et al. (2024)

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Lower back pain	73.6%	Nurses and midwives	Sisala Mohammed et al. (2024)
Neck pain	47.9%	Nurses and midwives	Sisala Mohammed et al. (2024)
Shoulder pain	44.9%	Nurses and midwives	Sisala Mohammed et al. (2024)
Upper back pain	35.9%	Nurses and midwives	Sisala Mohammed et al. (2024)
Workplace violence (any form)	92.2%	Psychiatric nursing staff	Alhassan & Poku (2018)
Occupational stress (moderate to severe)	48.1%	Urban hospital nurses	Gmayinaam et al. (2024)
Occupational stress (moderate to severe)	65.4%	Rural hospital nurses	Gmayinaam et al. (2024)

Table 7: Turnover Intention and Job Satisfaction

Metric	Prevalence	Population	Source
Intention to leave current facility	69.0%	Healthcare workers	Bonenberger et al. (2014)
Turnover intention	65.4%	Nurses	Bonenberger et al. (2014)
Intention to quit with burnout	78.3%	Nursing professionals	Opoku et al. (2022)
Intention to quit without burnout	21.7%	Nursing professionals	Opoku et al. (2022)
Salary dissatisfaction	82.4%	Nursing professionals	Opoku et al. (2022)

Table 8: Correlations between Occupational Health Conditions and Workforce Outcomes

Relationship	Measure	Value	95% CI	Source
Burnout → Intention to quit	OR	3.10	1.86-5.18	Opoku et al. (2022)
High stress → Burnout	OR	2.30	Not reported	Gmayinaam et al. (2024)
Workplace violence → Psychological	Percentage	68.5%	Not reported	Alhassan & Poku (2018)

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

stress				
Workplace violence → Decreased work morale	Percentage	53.7%	Not reported	Alhassan & Poku (2018)
Workplace violence → Fear	Percentage	46.3%	Not reported	Alhassan & Poku (2018)
Workplace violence → Decreased productivity	Percentage	29.6%	Not reported	Alhassan & Poku (2018)
Burnout → Patient care quality	Correlation	Negative	$p < 0.01$	Liu et al. (2018)

Table 9: Risk Factors for Burnout and Turnover Intention

Risk Factor	Outcome	Measure	Value	95% CI	Source
>8 hours per shift	Burnout	AOR	2.08	1.07-4.04	Opoku et al. (2022)
Working on multiple units	Burnout	AOR	2.10	1.20-3.66	Opoku et al. (2022)
High workload	Burnout	AOR	1.89	1.19-3.01	Opoku et al. (2022)
Poor management support	Burnout	AOR	2.21	1.39-3.50	Opoku et al. (2022)
Age <30 years	Intention to quit	AOR	2.14	1.04-4.41	Opoku et al. (2022)
<3 years at hospital	Intention to quit	AOR	2.19	1.09-4.41	Opoku et al. (2022)
| >40 hours per week	Intention to quit	AOR	1.75	1.15-2.66	Opoku et al. (2022)
Burnout	Intention to quit	AOR	3.10	1.86-5.18	Opoku et al. (2022)

Table 10: Protective Factors against Burnout and Turnover

Protective Factor	Outcome	Measure	Value	95% CI	Source

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Supportive management	Reduced burnout	OR	0.45	0.29-0.72	Opoku et al. (2022)
Adequate staffing	Reduced burnout	OR	0.53	0.31-0.89	Opoku et al. (2022)
Good interpersonal relationships	Reduced burnout	OR	0.61	0.38-0.97	Opoku et al. (2022)
OSH training	Reduced workplace injuries	AOR	0.44	0.26-0.76	Appiagyei et al. (2021)

Table 11: Coping Strategies among Healthcare Workers

Coping Strategy	Percentage Using	Population	Source
Professional support	67.4%	Midwives	Dartey et al. (2019)
Religion/spirituality	58.2%	Midwives	Dartey et al. (2019)
Talking with colleagues	52.1%	Midwives	Dartey et al. (2019)
Emotional distancing from patients	34.6%	Midwives	Dartey et al. (2019)
Institutional support systems needed	83.0%	Healthcare workers	Petrites et al. (2016)
Receiving debriefing/counseling	28.0%	Healthcare workers	Petrites et al. (2016)

Table 12: Training and Educational Interventions

Intervention	Outcome	Effect	Source
Emergency obstetric care training	Work-related stress	17% reduction	Ameh et al. (2019)
Emergency obstetric care training	Job satisfaction	15% increase	Ameh et al. (2019)
Emergency obstetric care training	Turnover intention	14% decrease	Ameh et al. (2019)

Table 13: Economic and Service Delivery Implications

Metric	Value	Context	Source
Midwife-to-population	1:5,000	Ghana (below WHO	Prosser et al. (2006)

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

ratio		standard)	
Awareness of OSH policy	23.6%	Healthcare workers	Odonkor & Sallar (2024)
Inadequate safety policy implementation	76.8%	Healthcare facilities	Odonkor & Sallar (2024)

Table 14: Respondent Demographic Characteristics

Author(s) & Year	Total Sample Size	Gender Distribution	Age Distribution	Professional Category	Work Experience	Education Level
Boakye et al. (2018)	224 nurses & midwives	Not specified in extract	Not specified in extract	Nurses and midwives	Job tenure reported as significant for MSDs but specific distribution not provided	Not specified in extract
Sisala Mohammed et al. (2024)	265 nurses & midwives	Female nurses at higher risk for MSDs (no specific percentage provided)	Female nurses at higher risk for MSDs (no specific percentage provided	Not specified in extract	Nurses and midwives	Not specified in extract
Opoku Agyemang et al. (2022)	240 psychiatric nurses	Not specified in extract	Not specified in extract	Psychiatric nurses	Not specified in extract	Not specified in extract
Opoku et al. (2022)	296 nursing professionals	Not specified in extract	Not specified in extract	Nursing professionals across categories	Not specified in extract	Not specified in extract
Osei et al. (2022)	320 nursing & midwifery students	Not specified in extract	Not specified in extract	Nursing and midwifery students	N/A (students)	Students in training

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Appiagyei et al. (2021)	416 healthcare workers	62% nurses (n=258)	Not specified in extract	Nurses (62%) and other healthcare workers (38 %)	Not specified in extract	Not specified in extract
Lori et al. (2016)	134 emergency department nurses	Not specified in extract	Not specified in extract	Emergency department nurses	Not specified in extract	Not specified in extract
Alhassan & Poku (2018)	296 nursing staff	Not specified in extract	Not specified in extract	Psychiatric nursing staff	Not specified in extract	Not specified in extract
Akuoko et al. (2023)	186 healthcare workers	71% nurses (n=132)	Not specified in extract	Nurses (71%) and other healthcare workers (29%)	Not specified in extract	Not specified in extract
Kaburi et al. (2019)	186 nurses	Not specified in extract	Not specified in extract	Nurses	Not specified in extract	Not specified in extract
Gmayinaam et al. (2024)	248 nurses	Not specified in extract	Not specified in extract	Nurses	Not specified in extract	Not specified in extract
Adzakpah et al. (2017)	198 nurses	Not specified in extract	Not specified in extract	Nurses	Not specified in extract	Not specified in extract
Boateng et al. (2022)	412 nurses & midwives	Not specified in extract	Not specified in extract	Nurses and midwives	Not specified in extract	Not specified in extract
Amponsah-Tawaih & Adu (2016)	212 health workers	Majority nurses (specific percentage	Not specified in extract	Majority nurses	Not specified in extract	Not specified in extract

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

		not provided) |				

Table 15: Study Settings and Facility Characteristics

Author(s) & Year	Region/Location	Facility Type	Number of Facilities	Urban/Rural Setting	Facility Level	Other Setting Characteristics
Boakye et al. (2018)	Not specified	Municipal health facilities	Multiple (specific number not provided)	Not specified	Not specified	Not specified
Sisala Mohammed et al. (2024)	Not specified	Tertiary healthcare facility	1	Not specified	Tertiary	Not specified
Opoku Agyemang et al. (2022)	Not specified	Psychiatric hospitals	3	Not specified	Specialized	Psychiatric care setting
Opoku et al. (2022)	3 regions (regions not specified)	Not specified	Multiple across 3 regions	Not specified	Not specified	Not specified
Osei et al. (2022)	Not specified	Educational/clinical placement setting	Not specified	Not specified	Mixed (training facilities)	Educational setting
Appiagyei et al. (2021)	Not specified	Public hospital	1	Not specified	Not specified	Public healthcare setting
Lori et al. (2016)	Not specified	Tertiary hospital emergency department	1	Not specified	Tertiary	Emergency department

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Alhassan & Poku (2018)	Not specified	Psychiatric hospitals	2	Not specified	Specialized	Psychiatric care setting
Akuoko et al. (2023)	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified
Kaburi et al. (2019)	Salaga, Ghana	Government hospital (Salaga)	1	Not specified	Not specified	Not specified
Gmayinaam et al. (2024)	Not specified	Government hospitals |	2	Not specified	Not specified	Comparative design between 2 hospitals with different management approaches
Adzakpah et al. (2017)	Not specified	Hospital setting	Not specified	Not specified	Not specified	Not specified
Boateng et al. (2022)	Not specified	Health facilities	6	Not specified	Not specified	Not specified
Amponsah-Tawaih & Adu (2016)	Not specified	Not specified	Not specified	Not specified	Not specified	Focus on safety behaviors and management commitment

Table 16: Study Design and Methodological Characteristics

Author(s) & Year	**Study Design**	**Data Collection Methods**	**Sampling Technique**	**Response Rate**	**Validated Tools Used**	**Time Period**
Boakye et al. (2018)	Cross-sectional	Standardized Nordic Questionnaire	Not specified	Not specified	Standardized Nordic Questionnaire	Not specified
Sisala	Cross-section	Nordic	Not specified	Not	Nordic	Not

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

Mohammed et al. (2024)	al	Musculoskeletal Questionnaire, WorkStyle questionnaire		specified	Musculoskeletal Questionnaire, WorkStyle questionnaire	specified
Opoku Agyemang et al. (2022)	Cross-sectional	Beck Depression Inventory, Beck Anxiety Inventory, Perceived Stress Scale	Not specified	Not specified	Beck Depression Inventory, Beck Anxiety Inventory, Perceived Stress Scale	Not specified
Opoku et al. (2022)	Cross-sectional	Maslach Burnout Inventory, Turnover Intention Scale	Not specified	Not specified	Maslach Burnout Inventory, Turnover Intention Scale	Not specified
Osei et al. (2022)	Cross-sectional	Maslach Burnout Inventory-Student Survey	Not specified	Not specified	Maslach Burnout Inventory-Student Survey	Not specified
Appiagyei et al. (2021)	Cross-sectional	Structured questionnaire, facility records review	Not specified	Not specified	Not specified	Not specified
Lori et al. (2016)	Cross-sectional	Structured questionnaire, facility records	Not specified	Not specified	Not specified	Not specified
Alhassan & Poku (2018)	Mixed-methods	Surveys, focus groups, workplace observation	Not specified	Not specified	Not specified	Not specified
Akuoko et al. (2023)	Cross-sectional	JCAHO Workplace Violence	Not specified	Not specified	JCAHO Workplace Violence	Not specified

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

		Survey			Survey	
Kaburi et al. (2019)	Cross-sectional	Effort-Reward Imbalance Questionnaire	Not specified	Not specified	Effort-Reward Imbalance Questionnaire	Not specified
Gmayinaam et al. (2024)	Mixed-methods	Perceived Stress Scale, focus groups	Not specified	Not specified	Perceived Stress Scale	Not specified
Adzakpah et al. (2017)	Cross-sectional	Nursing Stress Scale, Hospital Stress Scale	Not specified	Not specified	Nursing Stress Scale, Hospital Stress Scale	Not specified
Boateng et al. (2022)	Mixed-methods	Turnover Intention	Scale, semi-structured interviews	Not specified	Turnover Intention Scale	Not specified
Amponsah-Tawaih & Adu (2016)	Cross-sectional	Workplace Safety Scale, Management Commitment Scale	Not specified	Not specified	Workplace Safety Scale, Management Commitment Scale	Not specified

Table 17: Reported Intention to Leave Rates from Studies

Study	Population	Intention to Leave Rate	Setting
Alhassan & Poku (2018)	296 nursing staff in psychiatric hospitals	41%	Psychiatric hospitals
Boateng et al. (2022)	| 412 nurses and midwives across 6 health facilities	58.7%	Multiple health facilities
Opoku et al. (2022)	296 nursing professionals	Not specified (reported correlation with burnout)	Across 3 regions

Table 18: Reported Associations with Intention to Leave

Factor	Type of Association	Strength of Association	Source
Burnout	Positive correlation	r = 0.67	Opoku et al. (2022)
Burnout	Positive association	OR = 1.96	Boateng et al. (2022)
Poor working conditions	Positive association	OR = 1.78	Boateng et al. (2022)
Workplace safety	Qualitative association	Not quantified	Alhassan & Poku (2018)

Ghana Journal of Nursing and Midwifery (GJNMID)
DOI: https://doi.org/10.69600/gjnmid.2025.v02.i01.84-142 https://gjnmid.com ISSN: 3057-3602 (Online)
Article history: Received date: 8th February 2025; Revision received: 10th March 2025; Accepted for publication: 14th April 2025

concerns			
Workplace violence exposure	Qualitative association	Not quantified	Alhassan & Poku (2018)

Table 19: Factor Relationships

Category	Factor	Hypothesized Relationship	Available Evidence
Mental Health Issues	Burnout (Emotional Exhaustion)	Strong positive association	r = 0.67 (Opoku et al., 2022); OR = 1.96 (Boateng et al., 2022)
Mental Health Issues	Burnout (Depersonalization)	Moderate positive association	Implied but not quantified
Mental Health Issues	Depression/Anxiety	Potential positive association	No direct evidence in extracts
Working Conditions	Poor working conditions	Moderate positive association	OR = 1.78 (Boateng et al., 2022)
Working Conditions	Inadequate resources	Potential positive association	Related to stress (OR = 1.87, Adzakpah et al., 2017) but not directly linked to intention to leave
Working Conditions	High workload	Potential positive association	Related to stress (OR = 2.14, Adzakpah et al., 2017) but not directly linked to intention to leave
Safety Factors	Workplace violence exposure	Likely positive association	Qualitative association (Alhassan & Poku, 2018)
Safety Factors	Occupational injuries	Unknown association	No evidence in extracts
Physical Health	Musculoskeletal disorders	Unknown association	No evidence in extracts
Facility Characteristics	Psychiatric vs. general hospital	Potentially moderating	Implied by different rates (41% vs. 58.7%) but confounded by other factors