

Health Workers' Strike and Healthcare Delivery in Nigeria: A Conceptual Examination of System Disruption in a Resource-Constrained Setting

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ABSTRACT

Health workers' strike remains a recurrent feature of healthcare systems in many low- and middle-income countries, with significant implications for service delivery and population health. This paper examines the systemic impact of strike action on healthcare delivery within a resource-constrained setting, drawing on evidence from the wider research conducted in selected health facilities in Maiduguri, Nigeria. The study adopts a cross-sectional design, integrating primary data from healthcare workers with secondary insights from institutional records to explore disruption across five key domains: morbidity and mortality, out-of-pocket expenditure, private hospital patronage, laboratory and diagnostic services, and medical tourism.

The findings indicate that strike action generates widespread disruption across the health system. Access to care is reduced, contributing to delayed treatment and perceived increases in disease severity and mortality. Financial burden intensifies as patients shift towards private providers, resulting in higher out-of-pocket expenditure in a context where health insurance coverage remains limited. Private healthcare facilities experience substantial increases in patient turnout, reflecting a redistribution of demand rather than an expansion of system capacity. Diagnostic services are constrained, with reliance on basic investigations and reduced access to advanced imaging, thereby affecting clinical decision-making. Medical tourism is perceived to be rising, although it appears to be driven by broader system challenges rather than strike alone.

The study also highlights critical weaknesses in health information systems, particularly the absence of reliable morbidity and mortality data during strike periods. This limitation constrains effective evaluation and policy response, underscoring the importance of strengthening data governance within the health sector.

The paper argues that health workers' strike should be understood as a system-level stressor that exposes underlying structural deficiencies, including inadequate financing, weak governance, and limited workforce coordination. Addressing these challenges requires sustained investment in health system resilience, alongside mechanisms that safeguard essential services during periods of industrial action. The findings contribute to ongoing debates on health system stability in resource-constrained settings and emphasise the need for integrated policy responses that balance workforce welfare with the continuity of patient care.

Keywords: Health workers' strike; healthcare delivery; out-of-pocket expenditure; private hospital patronage; laboratory and diagnostic services; medical tourism; health system disruption; Nigeria.

INTRODUCTION

Health systems function as the operational backbone of any society, shaping population health outcomes, economic productivity, and social stability. Within this structure, the healthcare workforce occupies a central role, as service delivery depends not only on infrastructure and policy but also on the availability and coordination of trained personnel. Disruptions within this workforce, therefore, carry implications that extend

beyond institutional boundaries and into wider public health outcomes. Recent research has drawn attention to the consequences of industrial actions in healthcare, particularly in low- and middle-income countries where system resilience is often limited (Russo et al., 2019; Buabeng-Baidoo & Olivier, 2024; Manguela et al., 2024).

The wider research underpinning this paper situates health workers' strike within a broader context of systemic fragility, characterised by workforce shortages, underfunding, and persistent governance challenges. In Nigeria, these conditions intersect with recurring industrial disputes among healthcare professionals, creating cycles of service interruption that compromise continuity of care. Evidence from national and international studies indicates that such disruptions are associated with delayed treatment, reduced service utilisation, and deterioration in clinical outcomes, particularly among vulnerable populations (Oleribe et al., 2019; Essex & Weldon, 2022; Craveiro et al., 2024a).

Healthcare delivery depends on the effective integration of clinical, diagnostic, and supportive services. When this integration is interrupted, even temporarily, the consequences can be immediate and far-reaching. Recent research highlights that strikes often lead to reduced access to essential services, forcing patients to seek alternatives that may be less affordable or less regulated (Essex et al., 2022; Craveiro et al., 2024b). In settings where health insurance coverage remains limited, such as Nigeria, this shift places a substantial financial burden on households and exacerbates existing inequalities in access to care (Usar, Akosu & Okoye, 2022).

Another dimension concerns the redistribution of patient demand during strike periods. Studies have shown that private healthcare facilities often experience increased utilisation when public services are disrupted, reflecting a shift driven by necessity rather than preference (Essex et al., 2023; Stoye & Warner, 2023). This transition is rarely neutral. It introduces disparities in care access, as those with financial resources are better positioned to navigate the disruption, while economically disadvantaged groups face delays or forego care altogether. The wider research suggests that this pattern contributes to worsening health outcomes and deepens structural inequities within the health system.

Clinical services also rely heavily on laboratory and diagnostic support. Diagnostic accuracy underpins effective treatment decisions, and interruptions in these services can compromise the quality of care delivered.

Research indicates that reduced access to diagnostic facilities during strike periods may lead to delayed diagnoses, inappropriate treatment, and increased risk of complications (Manguela et al., 2024). This highlights the interdependence of healthcare components and the systemic nature of disruption caused by industrial action.

The international literature presents a mixed picture regarding the impact of healthcare strikes. Some studies conducted in high-income settings report minimal effects on mortality, often due to contingency planning and the maintenance of emergency services (NHS England, 2025). However, such findings cannot be readily generalised to contexts where emergency preparedness is limited. In resource-constrained environments, the absence of structured mitigation strategies means that even short-term disruptions can have significant consequences for patient outcomes (Basu et al., 2020). The wider research reflects this divergence, suggesting that the impact of strike action is highly context-dependent.

This paper develops a conceptual understanding of how health workers' strikes disrupt healthcare delivery across interconnected domains. It draws on empirical insights from the wider research while situating the analysis within established health systems thinking. The central argument is that strike action in resource-limited settings triggers a cascade of effects that extend across clinical outcomes, financial burden, service utilisation, and system trust. These effects are not isolated but mutually reinforcing, contributing to a cycle of instability that undermines the effectiveness of healthcare delivery.

Understanding these dynamics is essential for both policy and practice. Effective responses require more than short-term dispute resolution. They demand sustained engagement with the structural drivers of industrial action, including workforce conditions, governance arrangements, and financing mechanisms. This paper, therefore, contributes to ongoing discussions on health system resilience, emphasising the need for coordinated strategies that protect service continuity while addressing the root causes of workforce unrest.

METHODS

A cross-sectional study design was adopted to examine the impact of a 45-day health workers' strike on healthcare delivery within selected health facilities in Maiduguri metropolis, Borno State, Nigeria. The design was appropriate for capturing patterns of disruption across multiple domains at a specific point in time,

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particularly in relation to workforce-related interruptions in service provision. Cross-sectional approaches are widely used in health systems research where the aim is to explore associations and system responses rather than establish causal relationships (Setia, 2016).

The study setting comprised six health facilities located within the metropolitan area. These included both government-owned and privately owned institutions, allowing for a comparative understanding of how strike action affected different segments of the healthcare system. The inclusion of facilities with high patient turnover and central geographic positioning ensured that the data reflected a substantial proportion of healthcare activity within the study area. This selection approach aligns with established practices in health services research, in which facility-based sampling is used to capture service delivery dynamics in real-world contexts (World Health Organisation, 2020).

The study population consisted of healthcare workers across a range of professional groups, including doctors, nurses, laboratory personnel, and other allied health professionals. This multidisciplinary inclusion was essential, as healthcare delivery depends on coordinated contributions from multiple cadres. Capturing perspectives across these groups provided a more comprehensive account of how strike action influenced service delivery processes. Research has shown that workforce diversity is a critical factor in understanding system performance, particularly during periods of disruption (Russo et al., 2019).

A mixed-method data collection strategy was employed, integrating both primary and secondary data sources. Primary data were gathered using structured, self-administered questionnaires. These instruments were designed to capture healthcare workers' perceptions of the impact of strike action across key domains, including morbidity and mortality, out-of-pocket expenditure, private hospital utilisation, laboratory and diagnostic services, and medical tourism. The questionnaire was divided into two sections. The first section collected socio-demographic information, while the second focused on domain-specific variables related to healthcare disruption. This structured approach enabled systematic comparison across respondents and facilitated the identification of recurring patterns.

Secondary data were obtained from hospital records, particularly for morbidity and mortality indicators. These records provided an objective complement to the perception-based data collected through questionnaires.

The integration of primary and secondary data strengthened the analytical depth of the study by allowing for triangulation. Such mixed data approaches are recognised for enhancing the credibility of findings in health research, especially when examining complex system-level phenomena (Creswell & Creswell, 2018).

Sampling was conducted using a convenience sampling technique. Healthcare workers available within the selected facilities during the data collection period were invited to participate until the estimated sample size was reached. While this method does not support statistical generalisation to a wider population, it is commonly used in exploratory health systems research where access to participants may be constrained. The approach was considered suitable given the operational challenges associated with data collection in a post-strike environment.

Data analysis was carried out using statistical software, with results presented in the form of descriptive statistics, tables, and charts. The analytical focus was on identifying trends and patterns across the five domains of interest rather than testing complex statistical relationships. Descriptive analysis is appropriate in studies that aim to provide an overview of system disruption and highlight areas requiring policy attention (Setia, 2016).

Ethical approval was obtained from the Research and Ethics Committee of the University of Maiduguri. Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. Confidentiality was maintained by ensuring that individual responses could not be traced back to participants. These measures are consistent with established ethical standards in health research and are essential for maintaining trust and data integrity (World Medical Association, 2013).

RESULTS

A total of 312 questionnaires were distributed, of which 250 were completed and returned, representing a response rate of 80%. The analysis focuses on patterns observed across the five core domains examined in the wider research.

Demographic characteristics indicated a balanced gender distribution, with females accounting for 51.2% and males 48.8%. The majority of respondents were aged between 20–30 years (46.4%), followed by 31–40 years (24.4%). Representation across professional groups was

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diverse, with nurses (18%) and doctors (16%) forming the largest proportions, alongside a substantial representation classified as ‘other health staff’ (16.8%). These distributions suggest broad engagement across the healthcare workforce.

The demographic characteristics of respondents are shown in Table 1 and Figure 1.

Table 1: Demographic Characteristics (N = 250)

Variable	n	%
Male	122	48.8
Female	128	51.2
Age 20–30	116	46.4
Age 31–40	61	24.4

Note: Percentages may not sum to 100 due to rounding.

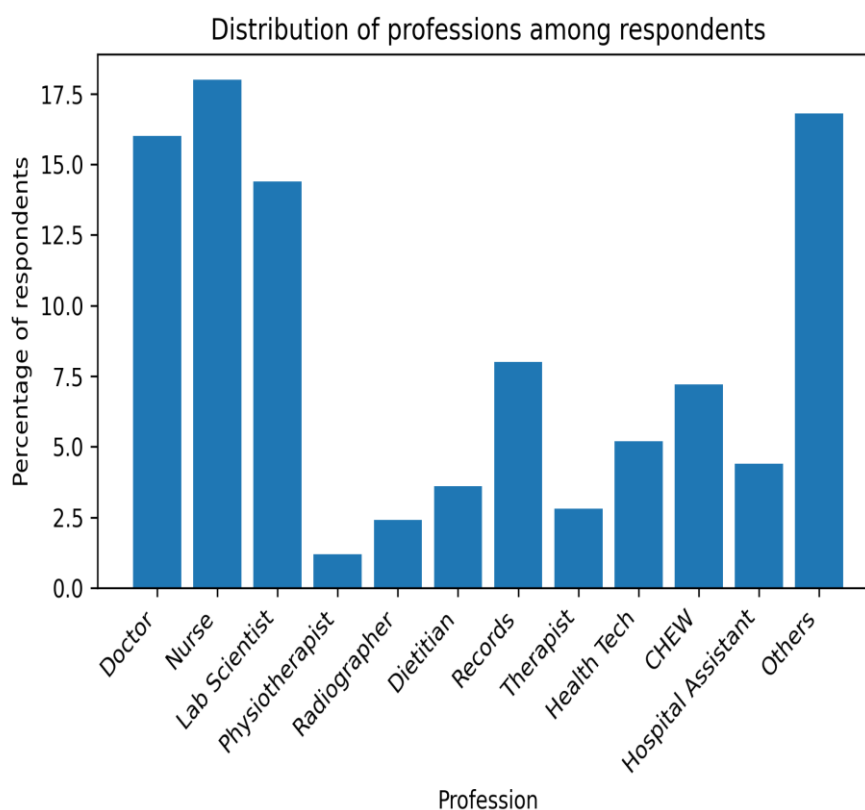


Figure 1: Distribution of professions among respondents

Out-of-pocket expenditure patterns revealed limited financial protection. Although 64.4% of respondents reported awareness of health insurance schemes, only 32.4% had any form of coverage. Among those with insurance, utilisation remained low, and this further declined during strike periods. Monthly health expenditure without strike was concentrated within the 11–20% income range (39.2%). During strikes, a noticeable shift occurred towards higher expenditure categories, particularly above 40%, indicating increased financial burden.

Table 2 presents the distribution of out-of-pocket expenditure, while Figure 2 illustrates comparative expenditure patterns.

Table 2: Monthly Health Expenditure Distribution (N = 250)

Category	Without (%)	During (%)
1–10%	28.4	36.8
11–20%	39.2	19.6
21–30%	13.6	12.0
31–40%	10.8	9.2
41–50%	6.0	12.8
51%+	2.0	9.6
Category	Without Strike (%)	During Strike (%)
1–10%	28.4	36.8
11–20%	39.2	19.6
41%+	8	22.4

Note: Higher expenditure categories increase during strikes.

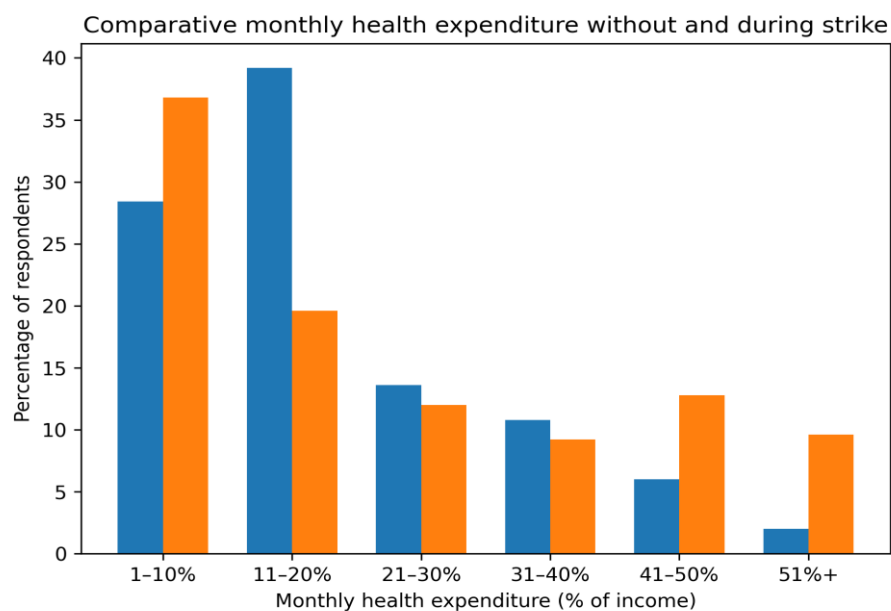


Figure 2: Expenditure Comparison

Private hospital patronage increased markedly during strike periods. A combined 59.2% of respondents reported that patient turnout increased by more than 40%, with 39.2% indicating increases above 50%. Respiratory conditions were most frequently reported (46%), followed by cardiovascular and neurological conditions. This pattern suggests that private facilities absorbed significant overflow from public healthcare disruption.

Table 3 presents disease patterns and turnout changes, while Figure 3 illustrates the rise in patient turnout.

Table 3: Increase in Private Hospital Turnout (N = 250)

Category	%
1–10%	5.2
11–20%	6.8
21–30%	10.0
31–40%	18.8
41–50%	20.0
51%+	39.2

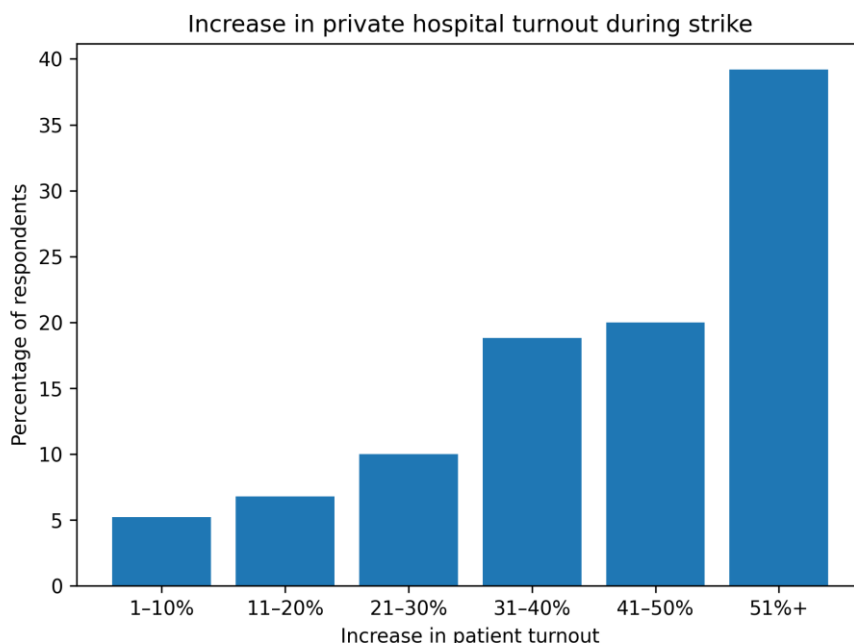


Figure 3: Turnout Increase

Laboratory and diagnostic services showed a concentration in basic investigations. Blood tests were the most frequently reported (52.8%), followed by stool tests (14.8%). Advanced imaging modalities such as CT and MRI were less frequently utilised. This pattern reflects reliance on accessible diagnostic services during disruption.

The diagnostic utilisation patterns are shown in Table 4.

Table 4: Diagnostic Test Distribution (N = 250)

Test	%
Blood test	52.8
Stool test	14.8
Urine test	8

Medical tourism perceptions indicated that 36.4% of respondents believed strikes directly drive patients abroad, while 74.8% indicated that overseas care-seeking occurs irrespective of strikes. Furthermore, 67.2% reported an increasing trend in medical tourism over time. These findings suggest that strike contributes to, but does not solely explain, outbound healthcare-seeking behaviour.

Table 5 presents responses related to medical tourism.

Table 5: Medical Tourism Perceptions (N = 250)

Statement	% Yes
Driven by strike	36.4
Occurs regardless of strike	74.8
Increasing trend	67.2

Overall, the results demonstrate consistent disruption across financial, clinical, and service utilisation domains, reinforcing the systemic nature of strike-related impacts within the healthcare system.

DISCUSSION

This paper set out to examine how health workers’ strikes

disrupt healthcare delivery within a resource-constrained setting. The findings from the wider research reveal a pattern of system-wide disruption that extends across

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clinical outcomes, financial burden, service utilisation, diagnostic capacity, and broader system confidence. These effects are interconnected and reinforce one another, pointing to structural fragility within the health system rather than isolated operational failure.

The observed increase in morbidity and mortality during strike periods reflects reduced access to timely care. Although precise mortality data were unavailable due to gaps in record-keeping during the strike, consistent reports from healthcare workers indicate delayed treatment and increased severity of illness at presentation. This aligns with existing research which shows that interruptions in healthcare services in low-income settings are associated with adverse clinical outcomes, particularly where contingency systems are weak or absent (Russo et al., 2019). In contrast to findings from high-income settings where emergency services are often maintained, the wider research suggests that such safeguards are limited in this context, amplifying the consequences of workforce withdrawal.

Financial burden emerges as a central theme. The marked increase in out-of-pocket expenditure during strike periods highlights the limited financial protection available to households. Even under normal conditions, healthcare financing in Nigeria relies heavily on direct payments, exposing households to catastrophic expenditure (Aregbeshola & Khan, 2018). The shift towards higher spending categories during strike periods indicates that patients are compelled to seek care in alternative settings, often at significantly higher cost. This reinforces the link between health system disruption and economic vulnerability, with implications for both access to care and long-term household welfare.

The increase in private hospital patronage further illustrates how patients respond to disruptions in public healthcare provision. The findings indicate that private facilities absorb a substantial proportion of unmet demand during strike periods. This pattern is consistent with studies showing that private providers often serve as a fallback option in contexts where public services are unreliable (Basu et al., 2020). However, access to private care is uneven, as it depends largely on the ability to pay. As a result, the redistribution of patient demand during strike periods contributes to widening inequalities in healthcare access, with disadvantaged populations facing greater barriers to care.

Disruptions in laboratory and diagnostic services underscore the importance of integrated healthcare delivery. The dominance of basic investigations,

particularly blood tests, suggests a reliance on readily available diagnostic options, while more advanced services remain limited. Research has shown that reduced diagnostic capacity can compromise clinical decision-making and lead to suboptimal treatment outcomes (World Health Organization, 2020). The findings therefore highlight not only the immediate effects of strike action but also underlying limitations in diagnostic infrastructure that become more pronounced during periods of disruption.

Medical tourism represents a broader expression of declining confidence in the domestic health system. Although the findings suggest that patients seek care abroad even in the absence of strike, the persistence and perceived growth of this trend indicate deeper structural concerns. Studies have identified factors such as perceived quality gaps, system inefficiencies, and lack of trust as key drivers of outbound healthcare utilisation (Ogunyemi et al., 2025; Okunlola et al., 2025; Tinimoye, 2025). Strike action may therefore act as a reinforcing factor rather than a primary cause, intensifying existing perceptions of system inadequacy.

An important insight emerging from the wider research is the absence of reliable health information during strike periods. The inability to access morbidity and mortality data reflects systemic weaknesses in record-keeping and governance. Health information systems are essential for monitoring performance, informing policy, and guiding response strategies. When these systems fail during periods of disruption, the capacity to assess impact and implement corrective measures is severely constrained (AbouZahr & Boerma, 2005). This gap not only limits empirical evaluation but also undermines accountability within the health system.

Taken as a whole, the findings suggest that health workers' strike operates as a stressor that exposes existing weaknesses in the health system. Workforce disputes are often framed as isolated events, yet the evidence indicates that their impact is mediated by broader structural conditions, including financing arrangements, infrastructure capacity, and governance effectiveness. Addressing the consequences of strike action therefore requires more than reactive measures. It demands sustained investment in system resilience, including strengthened health financing, improved workforce management, and robust information systems.

The discussion also raises important questions regarding the balance between workers' rights and patient welfare. While industrial action may be a legitimate means of

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addressing grievances, its implications within the health sector are distinct due to the direct impact on human life. Ethical considerations surrounding healthcare strikes have been widely debated, with research emphasising the need for mechanisms that protect essential services while allowing for legitimate negotiation processes (Chima, 2013). The findings from the wider research reinforce the urgency of developing such mechanisms within the Nigerian context.

In the end, the disruption associated with health workers' strike is neither temporary nor contained. It reflects deeper systemic challenges that shape how healthcare is accessed, financed, and delivered. Efforts to mitigate these effects must therefore engage with the structural drivers of instability, ensuring that healthcare systems remain functional even in the face of workforce disputes.

CONCLUSION

This paper has examined the impact of health workers' strike on healthcare delivery within a resource-constrained setting, drawing on evidence from the wider research conducted in selected health facilities in Maiduguri, Nigeria. The findings demonstrate that strike action generates a broad pattern of disruption that extends beyond temporary service interruption and reflects deeper structural challenges within the health system.

Access to care is significantly constrained during strike periods, with patients experiencing delays in treatment and increased severity of illness at presentation. Although precise clinical data were limited, consistent patterns observed across the wider research point to deterioration in health outcomes when services are withdrawn. Financial implications are equally pronounced. The shift towards private healthcare provision leads to increased out-of-pocket expenditure, placing additional strain on households in a context where financial protection mechanisms remain weak. This dynamic reinforces existing inequalities, as access to alternative care is determined largely by the ability to pay.

The rise in private hospital patronage illustrates how healthcare demand is redistributed rather than reduced during strike periods. Private providers absorb unmet demand from the public sector, yet this transition does not represent an equitable or sustainable solution. At the same time, disruptions in laboratory and diagnostic services compromise the quality of care, limiting the ability of clinicians to make informed decisions. These findings highlight the interconnected nature of healthcare

delivery, where breakdowns in one component affect the functioning of the entire system.

Medical tourism emerges as a persistent feature, driven not only by strike action but also by broader concerns about the reliability and quality of domestic healthcare services. Strike periods may intensify this trend, but they do not fully account for it. This suggests that restoring confidence in the health system requires sustained improvements beyond the resolution of industrial disputes.

A critical concern identified in this study is the absence of reliable health data during strike periods. The lack of consistent record-keeping limits the ability to assess impact, design effective interventions, and ensure accountability. Strengthening health information systems is therefore essential for improving system responsiveness and long-term planning.

Thus, health workers' strike should be understood as a manifestation of systemic imbalance rather than an isolated event. Its effects reveal underlying weaknesses in governance, financing, workforce management, and infrastructure. Addressing these issues requires coordinated and sustained policy action that prioritises both workforce welfare and continuity of care. Without such efforts, the cycle of disruption is likely to persist, with continued consequences for health outcomes and system stability.

AUTHOR CONTRIBUTION

All authors played a substantive role in shaping this study and developing the manuscript. L.N.M. conceptualised the work and designed the overall study framework under the supervision of P.M. Data analysis, interpretation of data and validation of findings were carried out collaboratively, with each author contributing to the discussions that informed the final results. G.M.Y., C.E.E. and K.O.O. prepared the initial manuscript draft, covering the introduction, methods, results and discussion. Co-authors strengthened the analysis, offered detailed revisions and enhanced the clarity and coherence of the final document. Every author reviewed the complete manuscript, approved the final version and accepted responsibility for the integrity of the work.

ETHICS

Ethical approval for this study was granted by the Ethics Committee of the College of Nursing Science, Gombe.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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