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# Ergonomic Challenges Of Healthcare Workers In Healthcare Facilities In Rivers State

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**ABSTRACT**
The study investigated ergonomic challenges of healthcare workers in healthcare facilities in Rivers State. A cross sectional descriptive study design was used for the study. The study was carried out in Rivers State. The population of the study consisted of health workers in healthcare facilities in Rivers State. A sample size of 419 was calculated using the Cochran Formula. The instrument for data collection was a self-structured questionnaire titled '"Health workers challenges Assessment questionnaire". The questionnaire were self-administered by the researchers. Data collected were coded and analysed using the descriptive statistics of frequency and percentages (%), mean, standard deviation and Anova test. The result showed a high presence of ergonomic challenges among healthcare workers (2.86±0.68). The findings also showed a significant difference between work experience and ergonomic challenges experienced by healthcare workers [$F(3, 416) = 106.568$; $p<0.05$]. Based on the findings of the study, it was concluded that healthcare workers in health facilities face substantial ergonomic occupational challenges, with experienced staff being particularly affected. Hence, addressing these issues is essential for safeguarding staff wellbeing and improving healthcare delivery. It recommended that the Government should enforce ergonomic standards and fund workplace safety programs across healthcare sectors.
**Keywords**: ergonomic challenges, healthcare workers, healthcare facilities, experiences

## INTRODUCTION

Healthcare workers in Rivers State, Nigeria, play a pivotal role in providing essential medical services, but their work environments often expose them to ergonomic challenges. These challenges such as musculoskeletal disorders, prolonged standing, manual handling of patients, and repetitive tasks can lead to significant health issues and loss of productivity (Etiobhio & Onyezere, 2025)). The design of healthcare facilities, availability of equipment, and nature of daily tasks in selected hospitals contribute to the prevalence of ergonomic risks.

Common ergonomic challenges faced by healthcare workers include frequent lifting or transferring of patients, awkward postures during procedures, inadequate workstation setups, and lack of adjustable equipment (Deborah, 2025). Nurses and support staff are especially vulnerable, as their roles often demand physically intensive labor. However, studies shows that poor ergonomic conditions result in high

rates of back pain, neck strain, and repetitive strain injuries among healthcare workers in Rivers State (Bright-Onuchuku & Amadi, 2025).

Although awareness of occupational hazards is rising, many health facilities in Rivers State lack structured ergonomic interventions or training programs. Staff often receive little guidance on how to minimize physical strain, leading to increased absenteeism, decreased job satisfaction, and even early retirement (Ohaka et al., 2025); hence, shown a direct relationship between insufficient ergonomic support and higher rates of workplace injury among healthcare personnel, creating a pressing need for intervention.

Similarly, documented evidences revealed that healthcare workers experienced higher rates of lower back pain compared to colleagues in less physically demanding departments as Bright-Onuchuku and Amadi (2025) highlighted the persistent lack of ergonomic equipment and adaptation, especially in public facilities, exacerbating the challenge.

However, work experience plays a crucial role in preventing ergonomic challenges. Experienced workers tend to recognize risky tasks, practice safer manual handling techniques, and utilize adaptive strategies to avoid injury. They often participate in continuing education, learn to adjust their workstations, and advocate for better ergonomic practices (Akodwaa-Boadi et al., 2025). Mentoring by senior staff helps newer employees adopt protective behaviors, reducing overall occupational risk. However, without institutional support, even experienced workers cannot fully mitigate hazards (Ogenyi et al. 2018; Olufemi et al., 2018). Hence, this study investigated ergonomic challenges of healthcare workers in healthcare facilities in Rivers State.

## METHODOLOGY

A cross sectional descriptive study design was used for the study. The study was carried out in Rivers State. The population of the study consisted of health workers in healthcare facilities in Rivers State. A sample size of 419 was calculated using the Cochran Formula. A two-stage sampling procedure was adopted for the study. The first stage involved the use of a simple random sampling technique to select hospitals in Rivers State and the second stage involved the use of random sampling technique to select health workers in the selected hospitals until the required sample size was achieved.

The instrument for data collection was a self-structured questionnaire titled ‘"Health workers challenges Assessment questionnaire" This was administered directly on the respondents by the researcher. The respondents were required to tick the option that represents their opinion in each of the items in the questionnaire. The instruments were duly recovered from the respondents immediately after the completion.

To establish the content validity of the instrument, a draft of the instrument accompanied with the objectives, research questions and hypotheses were vetted by experts in Occupational Health. The corrections and suggestions from these professionals were incorporated and used to draft the final copy of the instrument. The test re-test method was used to determine the reliability of the instrument. The researchers gave the questionnaire to health workers but not in the research area. The same questionnaires were re-administered after two weeks interval on the same respondents. The two results obtained were correlated using the Pearson Product Moment Correlation (PPMC) and a reliability co-efficient of 0.76 was obtained for the study. Hence, the instrument was therefore considered reliable.

The questionnaire were self-administered by the researchers with the help of six trained research assistants. The research assistants were trained on how to approach respondents, the objectives of the study and how to fill the questionnaire. The respondents were assured of the confidentiality of their answers, and were also assured that the questionnaire is only for research purposes. The data collection took a period of three months. Instruments were collected at the spot after filling for analysis. Data collected were coded and analysed using the descriptive statistics of frequency and percentages (%), mean, standard deviation for demographic data and for research questions while Anova was used to test the null hypotheses at 0.05 alpha level.

**RESULTS**

**Table 1: Ergonomic challenges encountered by healthcare workers**

| S/N | Items | Mean | SD | Decision |
|---|---|---|---|---|
| 1 | To what extent do you experience muscle fatigue during your shift | 2.73 | 0.72 | High |
| 2 | To what extent does your work posture lead to discomfort or pain | 3.26 | 0.70 | High |
| 3 | To what extent do you perform repetitive tasks that strain your body | 2.60 | 0.48 | High |
| 4 | To what extent are you required to lift or move patients in ways that feel physically unsafe | 2.72 | 0.55 | High |
| 5 | To what extent does insufficient lighting in your workplace affect your tasks | 2.19 | 0.44 | Low |
| 6 | To what extent do you feel rushed during procedures, resulting in poor standing or sitting practices | 3.02 | 0.65 | High |
| 7 | To what extent do you lack access to equipment such as adjustable chairs and lift devices | 3.00 | 0.84 | High |
| 8 | To what extent are you given breaks to relieve physical strain during your shift | 2.65 | 0.96 | High |
| 9 | To what extent does noise or distraction contribute to physical or mental fatigue | 3.24 | 0.86 | High |
| | **Grand Mean** | **2.82** | **0.68** | High |

Criterion mean = 2.5. >2.5 is high presence of ergonomic challenges; <2.5 is absence of ergonomic challenges

Table 1 shows the ergonomic challenges encountered by healthcare workers. The result showed that the grand mean = 2.86 is greater than the criterion mean of 2.5 indicating the high presence of ergonomic challenges among healthcare workers (2.86±0.68).

**Table 2: Analysis of Variance (ANOVA) showing significant difference between work experience and occupational challenges experienced by health workers**

| Sources | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 45.363 | 3 | 15.121 | 106.568 | 0.000* |
| Within Groups | 59.027 | 416 | .142 | | |
| Total | 104.390 | 419 | | | |

*Significant. p<0.05

Table 2 shows the One-Way ANOVA of significant difference between work experience and challenges experienced by healthcare workers. The findings of this study shows that there was a significant difference between work experience and ergonomic challenges experienced by healthcare workers [F(3, 416) = 106.568; p<0.05]. Therefore, the null hypothesis which states that there was no significant difference between work experience and ergonomic challenges experienced by healthcare workers was rejected.

**DISCUSSION**

The finding of the study revealed high ergonomic occupational challenges among healthcare workers, including musculoskeletal pain, fatigue, and injury risks. Sahraoui (2025) reported that majority of healthcare personnel experienced significant ergonomic problems, mainly from improper posture, equipment design, and prolonged standing. Similarly, Erhabor (2025) observed that frequent manual handling and inadequate rest periods were major contributors to complaints among nurses and allied professionals.

Further, the study found a significant relationship between ergonomic challenges and work experience. More experienced staff faced higher risks due to years of exposure, heavy workloads, and cumulative stress, as corroborated by Bo (2024). However, newer staff encountered fewer issues, attributed to shorter exposure times and recent training programs emphasizing correct techniques.

Comparing studies, Dalhatu et al. (2025) and Ojo et al. (2024) both highlighted musculoskeletal disorders as primary outcomes of poor ergonomics. The similarity arises from their inclusion of similar occupations nurses and attendants with substantial manual tasks. However, the former focused on public hospitals, the latter examined private tertiary facilities where ergonomic interventions were modestly better, leading to slightly lower injury frequencies. Differences stem from facility resources, staff-to-patient ratios, and institutional policies on workplace safety.

A notable divergence was seen in training impacts. Shinde and Rajesh (2023) reported that regular ergonomic training sessions and updated equipment in their selected facilities mitigated some occupational hazards, unlike the public facilities in Etiobhio and Onyezere (2025), where budget constraints limited such improvements. These findings reinforce the importance of investment and policy in addressing ergonomic challenges. The high prevalence across studies suggests that both management and policy require urgent attention. Inequality in ergonomic resources, training, and work design perpetuates occupational risks, impacting worker health, productivity, and retention.

The findings from this study suggest a significant relationship between ergonomic challenges and work experience among healthcare workers. Specifically, workers with longer job tenure or more years in practice tend to report greater exposure to ergonomic difficulties such as musculoskeletal disorders, fatigue, and physical strain. This result echoes similar patterns observed in recent empirical studies. For example, Deborah (2025) found that healthcare workers with over five years of experience reported higher rates of back pain and repetitive strain injuries, attributing these outcomes to cumulative exposure and inadequate ergonomic adaptations over time. Likewise, Akodwaa-Boadi et al. (2025) documented that experienced nurses and doctors encounter more ergonomic stressors, especially in understaffed or resource-constrained environments.

Contrasting findings have also emerged in studies exploring the interplay between ergonomics and work experience. Bo (2024), for instance, reported that newly recruited healthcare workers suffered similar ergonomic challenges as their more experienced counterparts, particularly in high-pressure clinical settings where proper ergonomic training was lacking. In this context, the absence of ergonomic orientation and early-career guidance resulted in immediate risk, regardless of work experience. Ojo et al. (2024) provided additional nuance, demonstrating that staff who received regular ergonomic training and had access to supportive infrastructure showed fewer symptoms over time, suggesting that workplace interventions can disrupt the relationship identified.

The similarities between this study's findings and those of Deborah (2025) and Akodwaa-Boadi et al. (2025) may be attributed to the cumulative impact of years on the job and resource limitations that fail to accommodate changing physical needs. In contrast, differences highlighted by Bo (2024) and Bekele et al. (2020) are likely due to workplace culture, onboarding processes, and the effectiveness of ergonomic interventions. Where robust ergonomic policies and training are in place, experience matters less, and risks are distributed more evenly across the workforce. Thus, the relationship between ergonomic challenges and work experience is shaped not only by tenure but also by organizational support and resource allocation.

## CONCLUSION

Based on the findings of the study, it was concluded that healthcare workers in health facilities face substantial ergonomic occupational challenges, with experienced staff being particularly affected. While similarities exist in types of challenges reported, facility type and training investments create notable differences. Addressing these issues is essential for safeguarding staff wellbeing and improving healthcare delivery.

## RECOMMENDATIONS

In view of the findings of this study, the following recommendations were made:

1. The Government should enforce ergonomic standards and fund workplace safety programs across healthcare sectors.
2. Health Institutions should invest in ergonomic equipment and prioritize scheduled staff training.
3. Healthcare workers should encourage reporting of ergonomic issues and proactive participation in training.
4. Educational Systems should integrate occupational ergonomics into healthcare professional curricula.
5. Stakeholders and Policy Makers should develop policies and monitor compliance to promote safe working environments.

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