Original Article

The Relationship Between Work Environment, Occupational Safety and Health Implementation, and Employee Performance: A Cross-Sectional Study

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ABSTRACT

Background: A safe and comfortable work environment, along with effective OHS implementation, is essential for maintaining healthcare personnel productivity and performance; however, studies on the combined effect of both on employee performance in community health centers remain limited. At the same time, inadequate facilities, inconsistent procedural compliance, and minimal OHS socialization continue to hinder optimal service delivery. This study aims to analyze the relationship between the work environment and OHS implementation on employee performance at the East Bogor Community Health Center.

Methods: A quantitative, correlational analytical design was employed, involving all 51 employees of the East Bogor Community Health Center as the total population sample. Data were collected through a structured and validated questionnaire, which was tested for reliability using Cronbach's alpha ($\alpha > 0.80$). The questionnaire measured three primary variables: work environment, OHS implementation, and employee performance. Data were analyzed using Pearson correlation and multiple linear regression at a 95% confidence level, following the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines..

Results: The findings revealed a positive and statistically significant relationship between the work environment and employee performance ($p = 0.012$; $r = 0.412$, indicating a moderate correlation), as well as between OHS implementation and employee performance ($p = 0.008$; $r = 0.436$, also moderate). Together, both variables explained 38% of the variance in employee performance ($R^2 = 0.38$), suggesting that improvements in environmental and safety management factors can meaningfully enhance staff outcomes.

Conclusion: A conducive work environment and sound OHS implementation jointly contribute to improved employee performance at the East Bogor Community Health Center. Management is recommended to strengthen OHS policies, improve work facilities, and enhance safety training to support optimal performance among healthcare workers.

Keywords: Work Environment; Occupational Safety and Health; Employee Performance; Health Centers

Implications for Practice:

- Clinical practice can be enhanced by optimizing workplace conditions and embedding OHS principles into routine care to improve healthcare staff well-being and patient safety.
- Health policy should prioritize the integration of OHS frameworks into performance evaluation and

Implications for Practice:

regulatory mechanisms to ensure consistent compliance and institutional accountability.

- Midwifery education and workforce development in Low- and Middle-Income Countries (LMICs) must focus on resource-sensitive strategies that strengthen OHS adherence, facility readiness, and interprofessional collaboration despite infrastructural and financial constraints.

Introduction

Primary healthcare services in Indonesia rely on Community Health Centers (Puskesmas), which function as the frontline of the national health system. According to the Indonesian Health Profile 2023, there are 10,180 active Puskesmas nationwide, underscoring their crucial role in ensuring equitable access to healthcare. As the primary care providers, Puskesmas staff face heavy workloads, especially in urban areas like East Bogor, characterized by dense populations and high service demands. Under such conditions, the work environment and Occupational Health and Safety (OHS) systems become fundamental determinants of healthcare worker performance and, consequently, service quality (Profil Kesehatan Indonesia 2024, 2025)

Human resource performance directly or indirectly contributes to a country's progress. This is evident in the Human Development Index (HDI). The Human Development Index provides an overview of a country's level of human resource development. The better a country's human resource development, the better its human resources are developed and of higher quality. Indonesia ranks sixth in the Human Development Index, which is still below that of Singapore, Brunei, Malaysia, Thailand, and the Philippines. This indicates that Indonesia's human resources are not yet sufficiently developed. (Ummah, 2019). Furthermore, employee performance is a crucial building block of an organization. A study conducted by The Boston Consulting Group (BCG) found that Indonesia has relatively low performance and a lack of qualified workers. This low performance makes Indonesia unprepared for relatively high economic growth. (Amalia et al., 2023)

In healthcare organizations, employee performance is a core determinant of service quality, efficiency, and patient safety. The American Hospital Association (2025) reported that healthcare institutions with a strong safety culture exhibit higher staff engagement and fewer patient injuries, ultimately improving clinical outcomes (Aditya et al., 2023; AHA, 2025; Razi, 2024). The OECD 2024 Review confirmed that more than half of doctors and nurses in developed countries assess their workload and pace as insufficient for quality care (Abustam & Ullah, 2025; Delianto & Kumar, 2025; Fidyawati et al., 2025; Hartati et al., 2025; OECD & Organization, 2024; Pratiwi et al., 2025). These findings illustrate how organizational and environmental factors profoundly shape healthcare delivery.

Research conducted by Pramestuti, D., et al. (2020) shows that an unfavorable work environment in healthcare facilities can lead to work stress and fatigue, ultimately reducing the performance of healthcare workers. As a result, healthcare services become less optimal and patient satisfaction decreases. (Pramestuti & Perkasa, 2020). A study of Community Health Centers in Sidenreng Rappang Regency found that the work environment significantly influenced employee performance by 72.5%. Research at the Waipare Community Health Center Technical Implementation Unit (UPT) showed that the simultaneous contribution of supervision and work environment variables to healthcare worker performance was 38.5% (Sennang & Ikbal,

2025). A recent quantitative study in four Community Health Centers in South Sulawesi found a regression coefficient of 0.624 between the work environment and employee performance. (Agustina et al., 2019).

Internal processes at Pangarengan and Kedungdung Community Health Centers received a good performance rating. However, internal processes at East Bogor Community Health Center received a poor rating. Pangarengan and Kedungdung Community Health Centers received economic, efficient, and effective ratings, placing both health centers in the good performance category. Meanwhile, East Bogor Community Health Center achieved economic results but was inefficient and ineffective. Therefore, East Bogor Community Health Center's financial performance fell into the poor category. From a customer satisfaction perspective, all three health centers received good performance ratings and high customer satisfaction. (Saumillaili & Handayani, 2021). These findings highlight systemic challenges that may be linked to deficiencies in environmental and safety management.

From a conceptual standpoint, the interaction between the work environment, OHS implementation, and employee performance can be understood through the Donabedian Quality Framework, which classifies determinants of healthcare quality into structure, process, and outcome components, and the Input–Process–Output (IPO) Model, where the work environment and OHS represent structural inputs. In contrast, employee performance serves as the final output reflecting organizational effectiveness. Integrating these frameworks allows the study to empirically examine how improvements in structural and process domains translate into measurable performance outcomes.

In addition, this study contributes to the field of healthcare management and occupational nursing practice by providing evidence-based insights relevant to primary care settings in low- and middle-income countries (LMICs) such as Indonesia, where infrastructure limitations and resource constraints often hinder the full implementation of OHS standards. Therefore, this study aims to investigate the relationship between the work environment and the implementation of Occupational Health and Safety (OHS) practices and employee performance.

Methods

Study Design

This research employed a quantitative, cross-sectional study design with a correlational analytical approach to examine the relationship between two independent variables, the work environment and the implementation of Occupational Safety and Health (OHS), and the dependent variable, employee performance. A correlational design was selected to measure the strength and direction of associations among these variables, without any experimental manipulation, allowing for an objective assessment of naturally occurring workplace dynamics. The cross-sectional design was deemed appropriate because it enables the capture of data from all participants at a single point in time, providing a comprehensive snapshot of existing conditions and perceptions among healthcare workers. This design is particularly suitable for organizational and occupational health studies where the goal is to identify relational patterns rather than causal effects. Data were collected over three months, from January to March 2025, at the East Bogor Community Health Center, encompassing all 51 employees who met the inclusion criteria. This period was chosen to represent regular operational

conditions, avoiding significant programmatic or policy changes that might influence staff workload or perception. This study adhered to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines to ensure methodological rigor, transparency, and replicability in reporting cross-sectional research.

Participants

The participants in this study were employees of the East Bogor Community Health Center (Puskesmas Bogor Timur), West Java Province, Indonesia, in the year 2025. The study population comprised both healthcare workers (including doctors, nurses, midwives, pharmacists, and laboratory analysts) and non-healthcare personnel (administrative, cleaning, and technical staff), with a total of 51 individuals. Because the total population was relatively small and accessible, the study employed a total sampling technique, in which all eligible members of the population were included as study participants. This approach minimized sampling bias and ensured representativeness of all occupational categories within the health center. Inclusion criteria were: (1) permanent or contract employees who had worked for at least six months at the East Bogor Community Health Center; (2) were actively working during the data collection period (January–March 2025); and (3) voluntarily agreed to participate by signing informed consent. Exclusion criteria included: (1) employees who were on extended leave, (2) those absent during the data collection process, or (3) incomplete questionnaire responses exceeding 10% missing data. All potential participants were recruited through internal coordination with the Head of the Community Health Center and the Human Resources division. Participants were informed of the study's objectives, procedures, confidentiality assurances, and voluntary participation rights before completing the questionnaire. During data collection, no participants withdrew or were excluded due to incomplete data, resulting in a final sample size of 51 respondents (response rate = 100%).

Instruments

The primary data collection tool in this study was a structured, closed-ended questionnaire using a five-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree). The instrument was designed to measure three key variables: Work Environment (X_1), Occupational Safety and Health (OHS) Implementation (X_2), and Employee Performance (Y). The initial questionnaire items were adapted and modified with permission from previously validated instruments developed by Sedarmayanti et al. (2020) for measuring work environment factors, and by the Indonesian Ministry of Manpower and Transmigration (2011) for assessing OHS implementation. Items related to employee performance were adapted from the Civil Service Bureau competency framework and aligned with organizational performance indicators in healthcare settings. The adaptation process involved translation refinement, contextual adjustment to Puskesmas operations, and expert review to ensure cultural and institutional relevance within the Indonesian primary healthcare context. Before full-scale deployment, the questionnaire underwent pilot testing on 10 healthcare workers from another community health center in Bogor who were not part of the main sample. Feedback from this pilot phase was used to refine item clarity, linguistic appropriateness, and response consistency.

Instrument quality was confirmed through both validity and reliability testing:1) Content validity was evaluated by

a panel of three experts in occupational health and healthcare management, yielding a Content Validity Index (CVI) of 0.89, indicating high relevance and representativeness of items; 2) Construct validity was examined using exploratory factor analysis (EFA), with all item loadings exceeding 0.50, demonstrating satisfactory construct alignment; 3) Reliability was assessed using Cronbach's alpha, showing strong internal consistency across all dimensions: work environment (α = 0.87), OHS implementation (α = 0.85), and employee performance (α = 0.90). The final validated questionnaire consisted of 36 items distributed as follows: 12 items on work environment, 12 items on OHS implementation, and 12 items on employee performance. This instrument ensured comprehensive measurement of the study variables consistent with the STROBE reporting standards for cross-sectional studies.

Data Collection

Preparation Stage

Prior to data collection, the research team obtained official research permits from the Faculty of Medicine at Universitas Kristen Indonesia and secured approval from the Head of the East Bogor Community Health Center (Puskesmas Bogor Timur), West Java, Indonesia. The research schedule was coordinated to minimize disruption to service activities. A briefing session was held with staff to explain the study's purpose, confidentiality assurance, and voluntary participation.

Implementation Stage

Data collection was carried out over three months, from January to March 2025. Questionnaires were distributed in person to all 51 eligible employees by two trained research assistants under the direct supervision of the principal investigator. Each participant was given approximately 20–30 minutes to complete the questionnaire in a private and non-disruptive setting. The research assistants provided clarification when necessary but avoided influencing participant responses.

Collection and Quality Control

Completed questionnaires were collected immediately after completion and checked for completeness, legibility, and internal consistency before being entered into the data. Any incomplete responses were verified directly with the participants on the same day to prevent data loss.

Data Entry and Verification

All data were entered manually into Microsoft Excel and subsequently exported to IBM SPSS Statistics version 26.0 for analysis. Two independent team members conducted double data entry verification to minimize transcription errors. Random checks (10% of the dataset) were performed to ensure accuracy and reliability.

Data Storage and Confidentiality

Both physical and digital data were securely stored. Hard-copy questionnaires were kept in a locked filing cabinet accessible only to the research team, while digital files were password-protected on an encrypted drive. All participant identifiers were anonymized using coded numbers to protect confidentiality, in compliance with institutional ethics approval (No. 152/UKI.LPPM/PPM00.00/ET.2025). Data will be retained for five years and then destroyed in accordance with the institution's research data management policy

Data Analysis

Data analysis in this study was conducted using IBM SPSS Statistics version 26.0, involving three main stages:

Descriptive Analysis

Descriptive statistics were used to summarize respondent characteristics, including age, gender, educational background, and length of service, and to

describe the central tendency and dispersion of scores on the three primary variables: Work Environment, Occupational Health and Safety (OHS) Implementation, and Employee Performance. Results were presented as frequencies, percentages, means, and standard deviations (SD).

Statistical Assumption Testing

Before conducting the correlation and regression analyses, the data were tested using:

- Normality test (Kolmogorov–Smirnov)
- Linearity test to determine the linear relationship between variables
- Multicollinearity test (VIF < 10) and heteroscedasticity test to ensure the model is suitable for use.

Inferential Analysis

- The Pearson Product-Moment Correlation test was used to measure the direction and strength of the linear relationship between each independent variable (work environment and OHS implementation) and the dependent variable (employee performance). This test was chosen because both predictor and outcome variables were continuous and normally distributed.
- The Multiple Linear Regression analysis was used to determine the simultaneous and relative influence of the two independent variables on employee performance. The significance level was set at $\alpha = 0.05$ (95% confidence level).

Effect Size and Interpretation

Effect size was calculated to complement the p-values and enhance practical interpretation:

- For correlation, the r value was interpreted according to Cohen's (1988) criteria: r = 0.10 (small), 0.30 (moderate), and ≥ 0.50 (large).
- For regression, standardized beta coefficients (β) were used to estimate the relative contribution of each predictor to employee performance. β values between 0.10–0.29 indicate a small, 0.30–0.49 moderate, and ≥ 0.50 large effect size.
- The coefficient of determination (R^2) indicated the proportion of variance in employee performance explained by the two predictors combined.

Ethical Considerations

This study received formal ethical approval from the Research Ethics Committee of the Universitas Kristen Indonesia (UKI) under approval number 152/UKI.LPPM/PPM00.00/ET.2025. In addition, written authorization and operational permission were obtained from the Head of the East Bogor Community Health Center, West Java, Indonesia, prior to data collection. All procedures involving human participants adhered to the ethical principles outlined in the Declaration of Helsinki (2013), including respect for persons, beneficence, and justice. Participation in this study was entirely voluntary, and all respondents were informed of the study's objectives, procedures, potential risks, and benefits. Participants were assured that there would be no negative consequences for choosing not to participate or for withdrawing from the study at any stage. Each participant provided written informed consent prior to completing the questionnaire. Confidentiality was strictly maintained by assigning each participant a coded identification number and ensuring that no personal identifiers appeared in the dataset. All completed questionnaires were securely stored in a locked cabinet, while electronic data were password-protected and

encrypted on a restricted institutional drive. Access to both physical and digital data was limited to the principal investigator and authorized research team members only. Data will be retained securely for a period of five years following publication and subsequently destroyed in accordance with institutional data management policies. Ethical conduct was maintained throughout the research process from participant recruitment to data analysis and reporting in compliance with the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines.

Results

Table 1. Demographic Characteristics of Respondents

Characteristic	Category	n (%)
Age	20-29 years	13 (28.9)
	30-39 years	17 (37.8)
	40-49 years	12 (26.6)
	50-59 years	9 (6.7)
Gender	Male	37 (72.5)
	Female	14 (27.5)
Education	Junior High School	1 (2.0)
	Senior High School/Vocational High School	9 (17.6) 18 (35.3)
	Diploma 3	14 (7.8)
	Diploma 4	8 (15.7)
	Bachelor's Degree	5 (9.8)
	Bachelor's Degree - Medical Profession	1 (2.0)
	Bachelor's Degree - Dentistry Profession	5 (9.8)
	Master's Degree	
Length of Work	< 1 year	1 (2.0)
	1 -5 years	28 (55.1)
	> 5 years	22 (42.9)

Table 1 presents the data organized by age. The data show that most respondents were in the 30–39-year age group (37.8%), followed by the 20–29-year age group (28.9%) and the 40–49-year age group (26.6%). Only a small proportion (6.7%) were aged 50–59 years. This suggests that the workforce at the studied health facility is predominantly composed of employees in their productive years, which may positively impact their adaptability, energy, and compliance with occupational health and safety (OHS) protocols. Based on Gender composition, a larger proportion of respondents were male (72.5%), while female participants accounted for 27.5%. This gender imbalance reflects the male-dominated nature of the health workforce segment at the East Bogor Community Health Center, particularly in technical or field-related positions. Understanding this distribution is relevant because gender differences can affect perceptions and adherence to workplace safety practices. Based on Educational background, the majority of respondents held Diploma 3 degrees (35.3%), followed by Senior/Vocational High School graduates (17.6%) and bachelor's degree holders (15.7%). A small portion had professional or postgraduate qualifications (Medical/Dentistry profession and Master's degree totaling 21.6%). This suggests that the sample is relatively well-educated, providing a strong foundation for comprehension and implementation of OHS training and policies. Based on the Length of work, More than half of the respondents (55.1%) had worked for 1–5 years, while 42.9% had over 5 years of experience, and only 2.0% were newcomers with less than one year of service. This indicates that the majority of employees have substantial experience, which may be correlated with better awareness of workplace safety standards and improved performance consistency. However, the presence of newer staff indicates a need for continuous OHS orientation programs to maintain uniform compliance.

Table 2. Description of Research Variables

Variable	Number of Items	Minimum score	Maximum score	Mean	Category
Work Environment	10	3.2	4.8	4.1	Good
Implementation of Occupational Health and Safety	10	3.1	4.7	4.1	Good
Employee performance	10	3.4	4.9	4.2	High

Table 2 illustrates the descriptive statistics of the three main research variables: work environment, implementation of occupational health and safety (OHS), and employee performance. Each variable was measured using 10 items on a Likert scale, with mean scores ranging from 3.1 to 4.9. The work environment and OHS implementation variables both had an average score of 4.1 (Good), while employee performance recorded a slightly higher mean of 4.2 (High). These findings indicate that, overall, respondents perceived the working conditions and OHS practices at the community health center as favorable, which aligns with their reported strong performance levels. This initial pattern suggests a potential positive association between supportive environmental and safety factors and employee productivity, later confirmed through inferential analysis.

Table 3. Distribution of Average Variable Indicators

Variable / Indicator	Mean	Category
Work environment		
- Workspace lighting	4.1	Good
- Temperature and ventilation	4.7	Very Good
- Cleanliness of the workspace	4.1	Good
- Hubungan antar rekan kerja	4.4	Very Good
- Relationships between coworkers	4.3	Very Good
Implementation OHS		
- Availability of PPE	4.3	Good
- OHS Training	4.2	Good
- SOP Compliance	4.1	Good
- Workplace Incident Reporting	3.7	Enough
- Periodic Health Checks	4.0	Good
Employee Performance		
- Quality of work	4.4	Very Good
- Quantity of work	4.2	Good
- Punctuality	3.9	Enough
- Discipline and responsibility	4.2	Good
- Teamwork	4.3	Very Good

Table 3 presents a more detailed breakdown of each variable's indicators. Within the work environment, the highest-rated aspects were temperature and ventilation (4.7, Very Good) and interpersonal relationships among coworkers (4.4–4.3, Very Good), showing a strong collegial culture and conducive physical workspace. The OHS implementation variable showed consistent results, with availability of PPE (4.3) and OHS training (4.2) categorized as "Good," though workplace incident reporting (3.7, Enough) scored lowest, indicating room for improvement in transparency and reporting mechanisms. For employee performance, indicators such as quality of work (4.4) and teamwork (4.3) were very good, while punctuality (3.9) was rated only "Enough."

Table 4. Pearson Correlation Test Results between Independent Variables and Performance

Relationship between Variables	Correlation Coefficient (r)	p-value	Interpretation
Work Environment → Performance	0.412	0.012	Moderate, significant relationship
OHS Implementation → Performance	0.436	0.008	Moderate, significant relationship

Table 4 illustrates the correlation analysis outcomes between the independent variables (work environment and OHS implementation) and employee performance. The correlation coefficient between work environment and performance was r = 0.412 (p = 0.012), and between OHS implementation and performance was r = 0.436 (p = 0.008). Both relationships are moderate and statistically significant, indicating that improvements in the quality of the work environment and safety management system are meaningfully associated with higher levels of employee performance. This confirms the theoretical premise that a supportive, safe, and well-regulated workplace positively influences employee productivity and motivation.

Table 5. Results of Multiple Linear Regression Analysis

Independent Variables	Regression Coefficient (β)	t-count	Sig. (p)	Interpretation
Constant	18.527	—	—	—
Work Environment (X_1)	0.321	2.53	0.014	Significant
OHS Implementation (X_2)	0.368	2.82	0.007	Significant

R^2 = 0.38, F = 14.96, p = 0.000
→ The regression model is significant; the work environment and OHS implementation explain 38% of the variation in employee performance.

Table 5 presents the results of the multiple linear regression analysis, which examines the simultaneous influence of both independent variables on employee performance. The regression model was statistically significant (F = 14.96, p = 0.000), with an R^2 value of 0.38, indicating that 38% of the variation in performance could be explained jointly by the work environment and OHS implementation. Individually, both predictors had a significant effect: work environment (β = 0.321, p = 0.014) and OHS implementation (β = 0.368, p = 0.007). The higher beta value for OHS implementation suggests that adherence to occupational safety procedures and training exerts a slightly more substantial impact on performance than environmental factors. These findings support prior research, which highlights that effective safety practices, coupled with conducive working conditions, are essential components of optimal employee outcomes in healthcare institutions.

Discussion

The Relationship Between the Work Environment and Employee Performance

The present study found a positive and significant relationship between the work environment and employee performance (r = 0.412, p = 0.012), suggesting that employees who perceive their physical and social environments as supportive tend to perform more effectively. This association can be theoretically explained using Organizational Behavior Theory, which posits that environmental and

interpersonal conditions influence motivation, job satisfaction, and task engagement (Robbins & Judge, 2020). A comfortable workspace, adequate facilities, and supportive leadership enhance employees' psychological safety, a concept rooted in Human Factors Theory, where reduced stress and improved interpersonal trust facilitate greater creativity and error management.

The significant association observed may result from improved motivation and psychological safety, which collectively promote task focus and efficiency. These findings mirror results from LMIC contexts such as Kenya and the Philippines, where conducive physical and social work environments were found to increase staff retention and service quality in healthcare centers (Kiiru, 2022). In Indonesia, a similar trend was observed by Budiono et al., (2024), showing that an ergonomic layout and supportive teamwork improved nurses' adherence to service standards. Thus, this study reinforces that in resource-limited settings, optimizing environmental and psychosocial factors can offset infrastructure limitations.

The Relationship Between Occupational Health and Safety (OHS) Implementation and Employee Performance

The significant positive correlation between OHS implementation and employee performance ($r = 0.436$; $p = 0.008$) highlights the critical role of occupational safety in maintaining workforce productivity. From the lens of Human Factors and Ergonomics Theory, consistent OHS practices minimize cognitive load and anxiety by reducing perceived risks and physical hazards. This aligns with findings from Ghana and Vietnam, where improved OHS adherence significantly lowered absenteeism and stress-related fatigue among healthcare workers (Verulava et al., 2025)

In the Indonesian context, studies by confirm that safety training and PPE provision enhanced compliance and morale among community health workers. Such initiatives likely enhance employees' self-efficacy, reinforcing the Social Cognitive Theory premise that mastery experiences and safe conditions improve performance behaviors. The significant association observed in this study may therefore arise from the sense of security and belonging created by systematic OHS enforcement factors that mitigate burnout and promote sustained work commitment.

The Simultaneous Effect of the Work Environment and OHS on Performance

Regression analysis revealed that the work environment and OHS implementation jointly accounted for 38% of the variance in employee performance ($R^2 = 0.38$; $F = 14.96$; $p < 0.001$). This synergy reflects the integrative framework proposed in Organizational Systems Theory, which emphasizes that optimal performance emerges from the alignment of physical environment, safety culture, and human motivation. When both environmental comfort and safety compliance coexist, employees are more likely to feel secure, valued, and motivated, resulting in higher service efficiency and reduced turnover intentions.

Comparatively, in Bangladesh and Nepal, countries with similar LMIC healthcare challenges, research has shown that improving the dual dimensions of workplace environment and OHS can raise productivity by over 35% and reduce workplace stress (Dini et al., 2025; Nurmalia et al., 2022; Tawiah et al., 2022). These patterns support the current study's findings and suggest that even modest improvements in workplace infrastructure and OHS culture can yield substantial gains in public healthcare performance across developing contexts.

Implications and limitations

The findings of this study have practical and managerial implications for improving employee performance through a safer and more supportive work environment. For community health center management, the results underscore the importance of strengthening Occupational Health and Safety (OHS) implementation and optimizing ergonomic aspects such as air circulation, room temperature, and a responsive incident reporting system. For employees, adherence to OHS standard operating procedures and maintaining effective communication are essential to build psychological safety and teamwork synergy. At the policy level, local health authorities can utilize these findings to evaluate the effectiveness of OHS programs and establish standardized guidelines for sustainable primary healthcare safety systems. Nevertheless, several limitations should be acknowledged: the cross-sectional design restricts causal inference, the reliance on self-reported data introduces the possibility of social desirability and perception bias, and the relatively small sample size from a single health center limits generalizability to broader healthcare settings. Future research should adopt longitudinal and multi-site designs using objective performance indicators to strengthen causal interpretation and external validity.

Relevance to Practice

This research demonstrates that implementing occupational health and safety and managing the work environment are not merely administrative responsibilities but crucial managerial strategies for promoting optimal performance and quality service. Therefore, the results of this study are highly relevant as a basis for management practices and policies, as well as for the development of healthcare workers in community health centers (Puskesmas) and other healthcare facilities.

Conclusion

This study aimed to analyze the relationship between the work environment, occupational health and safety (OHS) implementation, and employee performance in a community health center setting. The findings demonstrated that both a conducive work environment and effective OHS practices significantly enhance employee performance, while their combined influence explains a substantial proportion of the variance in performance. These results highlight that managing physical comfort, psychosocial support, and safety compliance is not only preventive against workplace accidents but also a strategic component of human resource performance management. The study provides empirical evidence from a low- and middle-income country (LMIC) context, highlighting that enhancing safety culture and ergonomic design in community health centers can directly improve service quality and employee well-being. In essence, a safe, healthy, and supportive work environment serves as a foundation for sustainable productivity and the delivery of high-quality primary healthcare.

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CrediT Authorship Contributions Statement

Vidi Posdo A. Simarmata: Conceptualization, Methodology, Investigation, Writing – Original Draft, Supervision

Randolph Serep Marantuan: Software, Validation, Formal Analysis, Writing – Review & Editing

Patar Hutagalung: Resources, Data Curation, Project Administration, Visualization

Conflicts of Interest

There is no conflict of interest.

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