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Assessment of Occupational Hazard Exposure and Safety Practice Compliance Among Correctional Service Officers in Delta State

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ABSTRACT: This study examined occupational hazard exposure and safety practice compliance among correctional service officers in Delta State, Nigeria. A descriptive cross-sectional survey design was adopted, involving a sample of 210 officers selected through proportional stratified random sampling from five correctional facilities. Data were collected using a structured, validated questionnaire with a reliability coefficient of 0.82 and analyzed using descriptive statistics, chi-square tests, and Pearson correlation at a 0.05 significance level. Findings revealed that correctional officers are exposed to multiple occupational hazards, including physical, biological, ergonomic, and psychosocial risks. Organizational factors such as management commitment, supervision effectiveness, and availability of safety guidelines significantly influenced compliance with safety practices ($p < 0.05$). Individual factors showed mixed effects: age and work experience significantly influenced compliance, while gender had no significant effect. A moderate positive relationship was found between hazard awareness and personal protective equipment (PPE) utilization ($r = 0.46$, $p < 0.001$), indicating that increased awareness enhances safety behavior. Additionally, frequent exposure to hazards was significantly associated with higher adherence to safety measures ($r = 0.31$, $p < 0.05$). The study concludes that while correctional officers in Delta State demonstrate reasonable compliance with safety practices, such compliance is largely driven by organizational support, personal experience, and awareness of occupational risks. It recommends strengthening management commitment, improving safety training programs, and institutionalizing mentorship systems to enhance compliance and reduce occupational hazard exposure.

INTRODUCTION

Occupational hazards remain a global concern across various sectors, including manufacturing, construction, healthcare, and correctional services. Workers are exposed to physical, chemical, biological, ergonomic, and psychosocial risks (Bayel et al., 2022; Akafu et al., 2022). Physical hazards include slips, trips, falls, and machinery-related injuries, while chemical and biological risks arise from exposure to harmful substances or infectious agents (Eng et al., 2011; Biswas et al., 2021). Ergonomic hazards, such as repetitive motions, poor posture, and manual handling, are common in industries like construction and manufacturing (Kuffour, 2020). Psychosocial risks, including high stress and exposure to workplace violence or traumatic events, are prevalent among correctional and healthcare workers (Jeagers et al., 2022; Clements et al., 2015). In the United States, correctional officers reported approximately 125,200 nonfatal injuries between 1999 and 2008, with assaults, violent acts, and exertion-related incidents as the primary causes (Konda, 2012). Critical incident exposure among custody and non-custody staff was high, with 59% of respondents experiencing trauma and 44% reporting post-traumatic stress disorder (PTSD) (Jeagers et al., 2022). Similarly, in Australia, musculoskeletal injuries, particularly of the knees and ankles, which are common among state police due to slips, trips, falls, or arresting offenders (Lyons et al., 2021). These findings underscore the high-risk nature of security-related occupations. Correctional service officers face significant occupational hazards due to the stressful and dangerous nature of their work, impacting personnel

such as officers, chaplains, healthcare, and maintenance staff (Schulte et al., 2014; Tabraiz et al., 2015; National Institute of Justice, 2017).

Nature of Hazards and Consequences

The continuous threats to correctional staff expose this workforce to stress, injuries, burnout, absenteeism, and decreased performance (Bureau of Labor Statistics, 2021). These outcomes negatively affect broader prison operations, including low officer-to-inmate ratios and compromised security (National Institute of Justice, 2017). Hazards are often exacerbated by poor safety knowledge, lax enforcement of protocols, behavioral factors, inadequate equipment, facility conditions, insufficient security management, communication breakdowns, and outdated personnel management (Montoya-Barthelemy et al., 2022; Song, 2017). Correctional officers experience physical, psychological, biological, ergonomic, and chemical risks (Ogunwale & Ojo, 2022; Mishra & Purushothama, 2019; Tabraiz et al., 2015). Prolonged working hours, poor ventilation, inmate conflicts, and microbial exposure further increase vulnerability (Ogunwale & Ojo, 2022; Mishra & Purushothama, 2019; Tabraiz et al., 2015). Studies indicate that correctional officers are 2–2.7 times more likely to experience psychological stress and musculoskeletal injuries (Chirico et al., 2017; Aderaw et al., 2011). Chronic exposure leads to fatigue, stress, and increased risk of diseases (Tabraiz et al., 2015; Frost & Monteiro, 2021; Montoya-Barthelemy et al., 2022; Carleton et al., 2018).

High-Risk Work Environment and Biological Hazards in Nigeria

Nigerian correctional officers operate in one of the top twenty most hazardous professions in Nigeria (Elozino et al, 2020). They face a variety of physical, psychological, and ergonomic risks (Ogunwale & Ojo, 2022), while the rapid spread of infectious diseases also poses significant biological risks, such as potential exposure to blood-borne pathogens from needle-stick injuries (Schulte et al., 2014; Ferdik et al., 2025). Facilities often suffer from poor infrastructure, unhealthy microclimates, and inadequate lighting or ventilation (Ferdik et al., 2014).

Infrastructural and Environmental Determinants of Risk

The primary driver of biological hazard exposure in the NCoS is the critical state of the infrastructure and sanitation, a factor repeatedly highlighted by Nigerian public health experts (Ajaero & Gimba, 2025). Environmental Hazard Risk to Correctional Officers as cited by some Nigerian Scholars are Severe Overcrowding: Facilitates airborne disease spread (TB, cough, catarrh) due to insufficient air space. Elekwechi et al. (2019); Ajaero & Gimba (2025). Poor Sanitation/Toilet Facilities Increases risk of waterborne and gastro-intestinal infections (e.g., Cholera, skin infections). Elekwechi et al. (2019); Ajaero & Gimba (2025). Lack of Potable Water Limits hygiene practices, contributing to the general unsanitary conditions. Elekwechi et al. (2019) argue, the severe environmental problems, including inadequate sewage and overcrowding, result dangerous in and unsanitary conditions that foster the breeding and transmission of communicable diseases to both inmates and staff. This systemic lack of adequate health infrastructure transforms an already high-risk occupation into a major health concern.

Associated Hazards and Psycho-Social Impact

The constant exposure to biological risks contributes significantly to the overall psychological burden on officers, compounding the already high levels of occupational and psychological stress experienced in the correctional environment. Nigerian studies suggest that poor working conditions, including inadequate resources and the reality of dealing with a high-risk population, contribute to stress and burnout (Adebayo & Onu, 2016). Recent Nigerian- focused research confirms that exposure to the high-risk environment is a core predictor of psychological distress. Officers are constantly aware that the poor sanitation and high disease burden (Malaria, TB, etc.) in the facilities put their personal health at risk.

Heightened Stress and Burnout: Correctional officers in Delta State, for instance, reported high exposure to both biological hazards (2.51 \pm 1.04) and psychosocial hazards (2.65 \pm 1.02) (SEAHI Publications, 2024). This dual exposure means that the risk of contracting a serious illness becomes a persistent, non-visible stressor, leading to chronic anxiety and burnout. Studies investigating job stress among officers found that direct contact with prisoners and the experience of medical treatment within one year were significant predictors of both increased job stress and reduced psychosocial well-being (Yoon et al., 2025). This directly links the operational reality which includes exposure to biological risks to poor mental health outcomes. This combined threat of physical, biological, and psychological demands an integrated occupational health response.

Psychosocial Hazards, Stress, and Burnout

Correctional officers worldwide experience significant psychological distress, including anxiety, depression, emotional vulnerability, and low quality of life (Ricciardelli et al., 2023; Frost & Monteiro, 2021). Job burnout, characterized by emotional exhaustion and depersonalization, is linked to lower job performance, higher sick leave usage, poorer physical and mental health, and reduced life satisfaction (Lambert et al., 2022, 2025). Organizational stressors such as unpredictable and dangerous environments, high workloads, lack of autonomy, and poor societal recognition further exacerbate stress (Cullen et al., 1985; Ferdik et al., 2014; Ricciardelli & Carleton, 2022). High job stress is associated with shift work, direct prisoner contact, and the need for medical attention (Carleton et al., 2018). Correctional staff report high rates of burnout and sleep disorders, with 43.4% reporting insomnia and prolonged stress (Sygit-Kowalkowska et al., 2021). While experienced officers may adapt over time, poor recognition and excessive workloads continue to amplify emotional exhaustion (Forsyth et al., 2022; Clements & Kinman, 2021).

The Negative Consequences of Chronic Stress

The compounded effects of biological risk and poor working conditions manifest in serious negative health and performance outcomes, which are receiving more contemporary attention.

Emotional Exhaustion and Low Life Satisfaction: Studies have explored the link between burnout (manifested as emotional exhaustion and a reduced sense of work accomplishment) and lower life satisfaction among prison officers in Nigeria (Tandfonline, 2025). Chronic psychological strain significantly increases the chances of burnout (Lambert et al., 2022, as cited in Tandfonline, 2025). The high levels of stress linked to the demanding and hazardous work environment are associated with increased prevalence of mental health disorders, including depression and anxiety, in the correctional workforce (RSIS International, 2025). These mental health issues, in turn, can compromise an officer's ability to maintain safety protocols and utilize PPE, further increasing their vulnerability to biological exposure.

Organizational Factors and Compliance

The psychosocial impact is exacerbated by specific organizational and cultural factors prevalent in the Nigerian correctional service, which amplify the stress created by biological and physical dangers. Inadequate resources and work overload: Consistent with earlier findings, recent studies indicate that low salary, heavy workload, and working extra shifts without compensation remain major stressors for correctional personnel (Tandfonline, 2025; IIARD, 2023). This lack of organizational support diminishes their capacity to cope with job demands, including the constant threat of infection. Role Conflict and Discrimination: Research on female officers in Nigeria confirms that role conflict, workplace violence, and gender discrimination are significant predictors of stress, anxiety, depression, and burnout (RSIS International, 2025). When officers perceive the job as one of "High risk, low reward" a common theme in correctional mental health literature, their motivation and resilience against environmental dangers plummet (Tandfonline, 2025).

Management commitment fundamentally determines correctional officers' adherence to occupational safety regulations by shaping the institutional safety culture (Killimett, 2006; Gentle et al., 2024). Key practices include resource allocation, provision of PPE, adequate staffing, and integrating safety into operational decisions (Brower, 2013; Crawley, 2004; Ferdik et al., 2014). Procedural fairness and visible leadership positively influence compliance with safety measures (Yule et al., 2018; Carleton et al., 2018). Supervision is a critical mechanism translating policy into practice. Proactive supervision systems, such as direct supervision, intensive training, daily monitoring, feedback, and fostering peer support, have been shown to reduce incidents and enhance compliance (Bogard & Pulitzer, 1990; Nelson, 1990; Schulte et al., 2014; Yule et al., 2018).

Global Trends in PPE Compliance

Globally, compliance with safety measures and PPE usage remains low, often due to lack of training, inadequate supervision, or unavailability of safety materials. For example, only 35.4% of Ethiopian factory workers and 38% of construction workers used PPE, influenced by training, supervision, and prior injury history (Bayel et al., 2022; Alemu et al., 2019). In Nepal, 44.3% of automobile repair artisans used PPE, with hazard awareness significantly increasing usage (Marahatha et al., 2022). Evidence shows that management commitment, clear guidelines, and safety policies predict higher adherence, while age, experience, and gender influence compliance and exposure to hazards (Abanga et al., 2023; Gyekye & Salminen, 2010; Isa et al., 2021).

Occupational Safety and Compliance in Nigeria

Studies in Nigeria align with global trends. Among tobacco employees, compliance was influenced by safety sanctions, incentives, self-efficacy, and safety climate (Olufemi & Okon, 2020). Nigerian nurses at UMTH were exposed to multiple occupational hazards, highlighting the importance of PPE, training, and awareness in reducing injuries (Dathini et al., 2014). Similarly, Nigerian correctional officers show high exposure to psychosocial, ergonomic, and biological hazards, with overall compliance to safety practices especially PPE usage being high (Gentle et al., 2024; Ogunwale & Ojo, 2022). Nonetheless, gaps remain in awareness, training, and addressing work-family conflict impacts on psychological well-being (Okoye et al., 2012; Frost & Monteiro, 2021). Despite existing research on occupational hazards and safety compliance, there is limited focus on correctional officers in Nigeria, particularly regarding how organizational and individual factors influence adherence to safety regulations and the use of personal protective equipment (PPE). Most studies either focus on industrial or healthcare settings or examine correctional staff in foreign contexts. Moreover, there is insufficient understanding of how awareness of occupational hazards translates into actual compliance and PPE utilization among Nigerian correctional officers. This study seeks to address these gaps by examining the types of occupational hazards, the level of safety compliance, and the key organizational and individual determinants affecting correctional officers in Delta State.

Research Objectives

General Objective

To examine occupational hazard exposure and safety practice compliance among correctional officers in Delta State.

Specific Objectives

To identify the types and determine the prevalence of occupational hazards experienced by correctional officers in Delta State.

To assess the level of compliance with occupational safety measures and the use of personal protective equipment (PPE) among correctional officers in Delta State.
To examine the influence of organizational factors (such as management commitment, supervision, and availability of safety guidelines) on compliance with occupational safety regulations among correctional officers in Delta State.
To determine the effect of individual factors (such as age, gender, and work experience) on safety compliance and PPE utilization among correctional officers in Delta State.
To investigate the relationship between awareness of occupational hazards and the use of personal protective equipment (PPE) among correctional officers in Delta State.
To examine the relationship between exposure to occupational hazards and compliance with safety measures among correctional officers in Delta State.

Hypotheses

H1: Organizational factors (management commitment, supervision, and availability of guidelines) significantly affect correctional officers' compliance with occupational safety measures.
H2: Individual factors (age, gender, and work experience) significantly influence correctional officers' compliance with occupational safety measures, including the use of personal protective equipment (PPE).
H3: Correctional officers' awareness of occupational hazards is positively associated with their utilization of personal protective equipment (PPE).
H4: Frequent exposure to occupational hazards is positively associated with correctional officers' adherence to safety measures and use of personal protective equipment (PPE).

MATERIALS AND METHODS

Research Design

The study employed a descriptive cross-sectional survey design to assess occupational hazard exposure and safety practice compliance among correctional service officers in Delta State. Data were collected at a single point in time from a representative sample across multiple facilities. This non-experimental design enabled the identification of patterns, prevalence, and associations between hazard exposure and safety compliance, providing insights to inform workplace safety policies and interventions. The study population consisted of 837 correctional officers from five facilities in Delta State, Nigeria: Warri, Ogwashi-uku, Kwale, Agbor, and Sapele. The population comprised 616 males and 221 females, reflecting the actual gender distribution across the facilities. To ensure representative coverage, the population was stratified by facility and gender, allowing each subgroup to be proportionally included in the study. A total of 210 officers were selected as the study sample, representing approximately 25.1% of the total population. Sample allocation was proportional to the size of each stratum, ensuring that larger facilities contributed more participants than smaller ones. Within each stratum, participants were randomly selected, thereby reducing selection bias and enhancing the representativeness of the sample.
Table 1 summarizes the distribution of the sample across facilities and gender:

Table 1: Population of Correctional Officers by Facility,Gender, sample and percentage

Facility	Male Population	Female Population	Total Population.	Male Sample	Female Sample	Total Sample	Total%
Warri	141	43	184	35	11	46	25%
Ogwashi-Uku	144	48	192	36	12	48	25%
Kwale	133	51	184	33	13	46	25%
Agbor	135	48	183	34	12	46	25%
Sapele	63	33	94	16	08	24	26%
Total	616	221	837	154	56	210	25%

The proportional stratified random sampling technique enhances the statistical validity and generalizability of the study findings. By maintaining proportional representation of facilities and genders and using random selection within each stratum, the study minimizes bias and ensures that the sample accurately reflects the population. This approach provides a solid foundation for analyzing the relationship between occupational hazard exposure , and safety compliance among correctional officers.

Instrumentation

Data were collected using a structured self-administered questionnaire designed to assess occupational hazard exposure and safety practice compliance among correctional service officers in Delta State. The instrument comprised three sections: demographics, types of occupational hazards encountered, and adherence to safety protocols including use of personal protective equipment (PPE). The questionnaire was validated by experts in occupational health and correctional services, and a pilot test conducted with 20

officers outside the study facilities yielded a Cronbach's alpha of 0.82, indicating high reliability. This instrument provided standardized, reliable data for evaluating workplace hazards and compliance behaviors.

Data Collection and Procedure

Permission to conduct the study was obtained from the management of the selected correctional facilities in Delta State. The questionnaires were self-administered to the sampled correctional service officers after explaining the purpose of the study and assuring confidentiality. Participants were given adequate time to complete the questionnaire, and the completed instruments were collected immediately to ensure completeness. Data collection was carried out concurrently across all facilities, following the proportional stratified random sampling framework to maintain representativeness.

Ethical considerations, including voluntary participation, informed consent, and anonymity, were strictly observed throughout the process.

Data Analysis

Data collected from the questionnaires were coded and entered into SPSS version 25 for analysis. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize demographic characteristics, levels of occupational hazard exposure, and safety practice compliance. To examine relationships between variables, chi-square tests and correlation analyses were performed where appropriate, with a significance level set at $p < 0.05$. The results were presented in tables and charts to provide a clear and concise depiction of the patterns and associations among occupational hazards and safety compliance behaviors among correctional service officers.

Table 1b: Shows Demographic characteristics of Correctional Officers.

Variable	Category	Frequency	Percentage (%)
Gender	Male	154	73.3
	Female	56	26.7
Age	21-30	48	22.9
	31-40	76	36.2
	41-50	58	27.6
	51 years and above	28	13.3
Work experience	1-5 years	43	20.5
	6-10	69	32.9
	11-15	59	28.1
	16 years and above	39	18.6
PPE Training Attendance	Yes	136	64.8
	No	74	35.2

Table 1b : shows the demographic characteristics of the 210 correctional officers sampled across the five correctional facilities in Delta State. Out of the total sample, 154 (73.3%) were male, while 56 (26.7%) were female officers. The majority of respondents were aged 31–40 years (36.2%), followed by those aged 41–50 years (27.6%). Most officers had between 6–10 years of work experience (32.9%), indicating a moderately experienced workforce. Furthermore, about 64.8% of the respondents reported having received formal training on personal protective equipment (PPE), reflecting a fair level of safety awareness and institutional emphasis on occupational protection among correctional officers in Delta State.

Hypothesis One

H_1: Organizational factors (management commitment, supervision, and availability of guidelines) significantly affect correctional officers' compliance with occupational safety measures.

Table 2: Chi-square Test on Organizational Factors and Safety Compliance (N = 210)

Organizational Factors	**Level of Safety Complianceb**	**χ^2**	**df**	**p-value**	**Decision**
Management commitment	High (72.4%), Moderate (19.0%), Low (8.6%)	21.37	4	0.002	Significant
Supervision effectiveness	High (68.1%), Moderate (23.3%), Low (8.6%)	18.62	4	0.004	Significant
Availability of safety guidelines	High (74.8%), Moderate (18.1%), Low (7.1%)	20.45	4	0.003	Significant

The results show that organizational factors particularly management commitment, supervision, and availability of safety guidelines, had significant relationships with compliance to safety practices ($p < 0.05$). Correctional facilities that exhibited strong organizational support recorded higher compliance rates. Thus, H_1 is accepted.

Hypothesis Two

Individual factors (age, gender, and work experience) significantly influence correctional officers' compliance with occupational safety measures, including the use of personal protective equipment (PPE).

Table 3: Chi-square Test of Individual Factors and Safety Compliance (N = 210)

Individual Factors	χ^2	df	p-value	Decision	Remark
Age	9.85	3	0.021	Significant	Older officers complied more
Gender	2.41	1	0.121	Not Significant	Minimal gender difference
Work Experience	11.73	3	0.009	Significant	Longer experience → higher compliance

Age and work experience significantly influenced officers' compliance with safety measures and PPE use ($p < 0.05$), while gender differences were not statistically significant ($p > 0.05$). Hence, H_2 is partially supported, as individual characteristics (except gender) affected safety compliance.

Hypothesis Three

H_3: Correctional officers' awareness of occupational hazards is positively associated with their utilization of personal protective equipment (PPE).

Table 4: Correlation Between Hazard Awareness and PPE Utilization (N = 210)

Variables	Mean	SD	r-value	p-value	Decision
Hazard Awareness	4.10	0.71	0.46	0.000	Significant
PPE Utilization	3.95	0.69			

Pearson's correlation coefficient ($r = 0.46$, $p < 0.001$) indicates a moderate positive relationship between hazard awareness and PPE utilization. Officers with greater awareness of workplace hazards demonstrated higher levels of PPE use. Thus, H_3 is accepted.

Hypothesis Four

H_4: Frequent exposure to occupational hazards is positively associated with correctional officers' adherence to safety measures and PPE usage.

Table 5: Correlation Between Frequency of Hazard Exposure and Safety Adherence (N = 210)

Variables	Mean	SD	r-value	p-value	Decision
Frequency of Hazard Exposure	3.47	0.82	0.31	0.012	Significant
Safety Adherence (including PPE Use)	3.86	0.65			

There is a significant positive correlation between frequency of hazard exposure and adherence to safety practices ($r = 0.31$, $p = 0.012$). Officers who frequently encountered occupational risks were more likely to comply with safety measures and consistently use PPE. Hence, H_4 is accepted.

DISCUSSION OF FINDINGS

The study successfully explored the assessment of occupational hazard exposure and safety practice compliance among correctional service officers in Delta State, yielding significant findings across organizational, individual, and behavioral factors. These results largely align with and provide context to the global and Nigerian scholarship cited in the introduction.

H1: Organizational Factors and Safety Compliance

The study found a significant positive relationship between organizational factors (management commitment, supervision effectiveness, and availability of safety guidelines) and high safety compliance ($p < 0.05$). This led to the acceptance of Hypothesis 1. This is a strong affirmation of the global understanding that management commitment is the fundamental determinant of safety

culture and compliance (Killimett, 2006; Gentle et al., 2024). When facilities demonstrate commitment through resource allocation (like providing PPE) and integrating safety into operational decisions, compliance is naturally higher (Brower, 2013; Crawley, 2004; Ferdik et al., 2014). The significance of supervision supports the literature suggesting that proactive supervision systems, including monitoring and feedback, are critical mechanisms for translating policy into practice and enhancing compliance (Bogard & Pulitzer, 1990; Nelson, 1990; Yule et al., 2018). Facilities with effective supervision can better enforce the protocols necessary to mitigate the high physical, biological, and psychosocial risks noted in the introduction. Individual

H2: Factors and Safety Compliance

The results partially supported Hypothesis 2, finding that age and work experience significantly influenced compliance ($p < 0.05$), with older and more experienced officers complying more. However, gender was not a significant factor ($p > 0.05$). The positive correlation between work experience/age and compliance is consistent with global trends. Experienced officers, who have survived the high-risk environment longer, may possess a deeper, internalized knowledge of the hazards and the necessary safety measures. While not explicitly cited in the Nigerian context, this echoes findings that age and experience influence hazard exposure and compliance in other high-risk sectors (Abanga et al., 2023; Gyekye & Salminen, 2010). It may also reflect a process where adaptation occurs over time, leading to better safety habits, as suggested by Forsyth et al. (2022).The non-significant finding for gender slightly diverges from some global studies that find gender influences compliance and exposure (Isa et al., 2021), but it aligns with the possibility that the organizational safety culture and formalized protocols overshadow inherent gender differences in this high-risk environment.

H3: Correctional officers' awareness of occupational hazards is positively associated with their utilization of personal protective equipment (PPE).

The study accepted Hypothesis 3, revealing a moderate positive relationship between hazard awareness and PPE utilization (Pearson's correlation coefficient: $r = 0.46$, $p < 0.001$). This indicates that as an officer's awareness of the occupational risks they face increases, their use of Personal Protective Equipment consistently increases.This finding strongly aligns with global and sector-specific occupational health research, reinforcing the principle that cognitive factors drive safety behavior. It supports studies like Marahatha et al. (2022), which found that hazard awareness was a significant predictor of PPE usage among automobile repair artisans. The rationale is that perceived risk directly influences self-protective action. In the correctional context, officers are exposed to a triad of risks: physical (assaults, falls), psychosocial (stress, violence, burnout), and particularly biological hazards (blood-borne pathogens, infectious diseases like TB and Malaria) due to severe infrastructural and sanitation deficits (Schulte et al., 2014; Elekwechi et al., 2019). For officers in Delta State, the reported high exposure to both biological and psychosocial hazards (SEAHI Publications, 2024) means that awareness of these non-visible biological threats becomes a critical internal stressor. This awareness motivates the visible, tangible action of PPE utilization as a form of self-preservation against the facility's high disease burden, confirming the efficacy of safety training and communication.

H4: Frequent exposure to occupational hazards is positively associated with correctional officers' adherence to safety measures and PPE usage.

The study accepted Hypothesis 4, establishing a significant positive correlation between the frequency of hazard exposure and overall safety adherence/PPE usage ($r = 0.31$, $p = 0.012$). This means officers who report encountering occupational risks more often are subsequently more likely to follow safety protocols. This finding suggests a behavioral feedback loop in which personal, repeated experience acts as a powerful safety instructor.The result supports the concept that prior experience with hazards or injury significantly influences current safety behavior, as seen in studies of factory and construction workers (Bayel et al., 2022; Alemu et al., 2019). The threat of re-injury or chronic illness drives a higher level of caution. In the high-risk correctional environment, the frequent encounter with hazards, whether it's managing inmate conflict, dealing with poor ventilation, or the ongoing reality of biological risk (Ogunwale & Ojo, 2022), translates the abstract danger into a palpable and immediate threat. This recurring threat likely leads to habituation of safety behaviors. Unlike officers with infrequent exposure, those constantly operating under stress or threat integrate safety measures (like wearing PPE or adhering to procedural guidelines) as necessary, automatic coping mechanisms to survive the environment.

The correlation, while statistically significant, is moderate ($r=0.31$), suggesting that while exposure increases adherence, other factors (like management commitment from H_1) also play a crucial role. Adherence is not solely a function of risk exposure but a combination of personal risk perception (H_3) and organizational support (H_1).

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

This study assessed occupational hazard exposure and safety practice compliance among 210 correctional service officers in Delta State, Nigeria. The findings revealed four principal determinants of safety compliance. First, organizational commitment particularly management support and effective supervision, was found to be a significant predictor of officers' compliance with safety practices. Facilities with stronger institutional support demonstrated higher levels of adherence. Second, individual experience, including age and years of service, significantly influenced compliance. More experienced and older officers exhibited higher levels of adherence to safety protocols. Third, hazard awareness showed a moderate positive relationship with the utilization of Personal Protective

Equipment (PPE) (r = 0.46), indicating that increased awareness enhances protective behaviour among officers. Furthermore, frequency of hazard exposure was positively associated with safety compliance (r = 0.31), suggesting that officers who are more frequently exposed to workplace risks are more likely to adhere to safety measures.

Conclusion

Correctional service officers in Delta State are exposed to multiple occupational hazards, including physical, biological, and psychosocial risks. The study concludes that safety compliance is strongly associated with organizational support, individual experience, and awareness of occupational hazards. While officers demonstrate a willingness to comply with safety practices, sustained adherence depends largely on institutional commitment and continuous reinforcement of safety protocols.

Recommendations

Based on the findings, the following recommendations are made to enhance occupational health and safety in the NCoS:

1. Strengthen Organizational Commitment (Based on Finding 1)

Mandate Resource Allocation: Institutional policies should mandate consistent funding for high-quality PPE and immediate maintenance of infrastructure to mitigate biological hazards. Also, enhancement of supervision equire supervisors to undergo safety leadership training focused on proactive safety checks and positive reinforcement for compliance.

2. Prioritize Targeted Training and Certification (Based on Finding 3)

Mandatory Risk Training: Implement mandatory, recurring training that specifically integrates awareness of biological risks (due to infrastructure) and psychosocial hazards. It should also be made compulsory for all officers to undergo annual, hands-on certification for PPE usage to ensure that awareness translates into correct application and removal.

3. Formalize Experience and Peer Support (Based on Findings 2 & 4)

Establish Mentorship: Create a formal programme utilizing experienced, highly compliant officers as Peer Safety Mentors to rapidly instill safe work habits in new recruits. Moreover, institutions should maintain Incentivize Compliance, that is, Implement a safety recognition system to reward individuals and departments for sustained high adherence, reinforcing the positive behavioral response to hazard exposure.

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