

RELATIONSHIP BETWEEN MENTAL HEALTH CHALLENGES AND WORKPLACE INJURIES IN THE NIGERIAN MANUFACTURING SECTOR

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Abstract

Workplace injuries in Nigeria's manufacturing sector are rife, and this necessitates the need for effective prevention and intervention strategies. This paper therefore examined the relationship between mental health challenges and workplace injuries in the Nigerian manufacturing sector. A sample of 337 employees was selected through the multistage sampling technique. Instrument used for data collection was a structured questionnaire divided into five sections: Demographic Data Inventory (DDI), Perceived Stress Scale (PSS), Generalized Anxiety Disorder 7-Item Scale (GAD-7), Patient Health Questionnaire 9-Item Scale (PHQ-9) and Workplace Injuries' Scale (WIS). Two hypotheses were formulated and tested by means of multiple regression analysis and Pearson r at the .05 level of significance. Results revealed significant combined impact of mental health challenges (stress, anxiety and depression) on workplace injuries ($F_{(3, 333)} = 5.641, p < .0005$), significant relative impacts of stress ($t = 13.281, p < .0005$), depression ($t = 11.298, p < .0005$) and anxiety ($t = 9.772, p < .0005$) on workplace injuries and significant positive relationships between stress and workplace injuries ($r = .271, p < .05$), depression and workplace injuries ($r = .256, p < .05$) and anxiety and workplace injuries ($r = .243, p < .05$) in the Nigerian manufacturing sector. It was subsequently recommended, among others, that manufacturing companies should implement comprehensive mental health programmes, such as regular mental health screenings, access to counselling services, stress management workshops and training sessions on mental health awareness.

Key Words: Mental health challenges, stress, anxiety, depression, workplace injuries.

Introduction

The manufacturing sector plays a crucial role in Nigeria's economic development and makes a huge contribution to the nation's GDP and employment rates. Despite its economic importance, the manufacturing sector is fraught with high levels of workplace injuries which constitute a serious threat to occupational health and safety. Workplace injuries in Nigeria's manufacturing sector are rife, and this necessitates the need for effective prevention and intervention strategies (Ogunyemi & Ige, 2021). Workplace safety standards of many organizations in Nigeria are inadequate, and this contributes to the high incidence of workplace injuries in the manufacturing sector. These injuries can have serious impact as they can lead to reduced productivity, increased medical costs, long-term disabilities or even death (Bamidele, 2021). Workplace injuries refer to physical harm or damage sustained by workers on the job or during the course of their employment. Workplace injuries are incidents that occur in the workplace that result in physical or psychological harm to employees. In the Nigerian manufacturing sector, these injuries are a significant concern due to the nature of the work, which often involves the use of heavy machinery, exposure to hazardous materials and demanding physical labour. These injuries can range from minor cuts, bruises and burns to severe incidents such as hearing loss, respiratory problems, fractures, amputations and fatalities (Olajide & Balogun, 2021). In the Nigerian manufacturing sector, workplace injuries are commonly caused by exposure to hazardous materials, operating heavy machinery and repetitive manual tasks. The

impact of workplace injuries extends beyond physical harm, affecting the overall productivity, morale and economic stability of both the workers and the organization (Nwosu & Eze, 2020). There is a growing body of evidence suggesting a bidirectional relationship between workplace injuries and mental health challenges, where each can be both a cause and a consequence of the other (Okafor & Nwosu, 2022). Mental health challenges such as stress, anxiety and depression have emerged as critical factors that potentially influence workplace injuries among employees.

Mental health challenges include a range of adverse conditions that affect an individual's thinking, feeling, mood or behaviour and can significantly impair their daily functioning and quality of life. The major ones are stress, anxiety and depression. Stress is a pervasive issue in the workplace, often resulting from high job demands, low control over work processes, and inadequate support from supervisors and colleagues. In the Nigerian manufacturing sector, employees frequently encounter stressful conditions due to tight production schedules, job insecurity and physical hazards (Adamu, Musa, & Abdullahi, 2021). Chronic stress can lead to physical and mental exhaustion, impair cognitive functions and increase the likelihood of workplace accidents (Olufunmilola & Olusola, 2020).

Anxiety, characterized by excessive worry and apprehension, can significantly impact an employee's ability to perform tasks safely. It can result from various factors including job insecurity, lack of clarity in job roles and adverse working conditions prevalent in the manufacturing sector (Adeyemo, Adebayo, & Omotayo, 2021). Anxiety can cause concentration difficulties, impaired decision-making and slower reaction times, all of which elevate the risk of workplace injuries. Ogunyemi (2020) found that workplace anxiety among Nigerian manufacturing employees stemmed primarily from fears of retrenchment and poor managerial support, both of which impact mental health.

Depression, characterized by persistent sadness, loss of interest and reduced energy, is another major mental health challenge affecting employees. In the manufacturing sector, depression can be triggered by monotonous tasks, inadequate remuneration and poor working conditions. It not only diminishes overall productivity but also compromises safety by impairing attention, coordination and motivation, thereby increasing the likelihood of accidents and injuries (Ezeobi & Ugwu, 2021). Okonkwo (2023) also highlighted the prevalence of depressive symptoms among Nigerian industrial workers, linking it to low wages and unfavourable working conditions. Understanding the specific mental health challenges of stress, anxiety and depression is essential for assessing their impact on workplace injuries. Addressing these issues can lead to improved employee well-being and a reduction in workplace injuries, fostering a safer and more productive work environment in the Nigerian manufacturing sector.

Employees in the manufacturing industry often grapple with burnout and stressors triggered by long working hours, job insecurity, poor working conditions and exposure to dangerous tasks among others. These stressors can lead to various mental health issues among which anxiety, depression and post-traumatic stress disorder (PTSD) are noticeable. Adebayo and Folayemi (2022) highlight the prevalence of mental health problems among manufacturing workers in Nigeria, noting that poor mental health not only affects individual well-being but also has detrimental effects on organizational efficiency and safety. The stigma surrounding mental health in Nigeria often prevents workers from seeking the help they need, thereby exacerbating the problem and increasing the risk of workplace injuries.

Mental health challenges are increasingly being recognized as a significant factor influencing workplace safety. Workers experiencing mental health issues such as stress, anxiety and depression may have impaired cognitive and physical functioning which can lead to a higher risk of workplace accidents and injuries (Akinwale, Adebisi, & Lawal, 2020). Adetola (2021) emphasized that mental health issues, if left unaddressed, can exacerbate safety risks in manufacturing environments and hinder organizational productivity. In the context of Nigeria's manufacturing sector, the relationship between mental health challenges and workplace injuries has not been extensively studied, despite the growing body of international literature on this subject. Most existing studies have focused on developed countries, with limited attention to the unique socio-economic and cultural contexts of developing nations like Nigeria. Furthermore, the relationship between mental health and workplace injuries remains underexplored, leaving a critical gap in understanding how mental health interventions can mitigate injury risks in industrial settings. The stressful and demanding nature of manufacturing jobs, combined with the lack of adequate mental health support, can exacerbate mental health issues among workers (Olajide & Balogun, 2021). This situation is aggravated by socio-economic factors such as job insecurity, poor working conditions and limited access to healthcare services, which are prevalent among employees in many Nigerian manufacturing companies (Nwosu & Eze, 2020).

Understanding the link between mental health issues and workplace injuries is critical for developing interventions aimed at improving worker safety and well-being. Therefore, this study aims to explore the relationship between mental health challenges and workplace injuries in the Nigerian manufacturing sector, with a view to informing policy and practice in occupational health and safety management.

Hypotheses

Ho1: There is no significant impact of mental health challenges (stress, anxiety and depression) on workplace injuries among employees in the Nigerian manufacturing sector.

Ho2: There are no significant relationships between mental health challenges (stress, anxiety and depression) and workplace injuries among employees in the Nigerian manufacturing sector.

Methods

A cross-sectional survey research design was adopted for this paper. This design is appropriate for identifying associations between variables at a single point in time, allowing for a comprehensive understanding of the impact of mental health challenges on workplace safety. The population comprises employees from 20 manufacturing companies distributed across various regions in Nigeria. These companies span key sectors within the manufacturing industry, highlighting the broad range of operations in this field. Five companies represent the food and beverage sector, focusing on processing and packaging consumer goods. The textile and apparel sector includes three companies engaged in fabric production and garment manufacturing. Four companies from the chemical and pharmaceutical sector produce industrial chemicals and medical products. Similarly, the automotive and metalworks sector is represented by four companies involved in vehicle assembly and metal fabrication. The plastic and packaging sector consists of two companies specializing in the production of plastic goods and packaging materials, while the electronics and electrical equipment sector includes two companies manufacturing electrical devices and components. This diverse representation captures the various activities within the manufacturing industry, enabling an effective examination of the connection between mental health challenges and workplace injuries.

A sample of 350 employees was selected through the multistage sampling technique. The study employed multistage sampling because it facilitated the selection of a representative sample from a large and geographically diverse population efficiently. This method, carried out in multiple steps, minimized logistical challenges and costs while ensuring the sample reflected the diversity of manufacturing employees across Nigeria. Initially, manufacturing companies were categorized by criteria such as size, location, and type of production. From these categories, companies were randomly chosen, and within the selected companies, employees were randomly sampled to represent various job roles and departments. A total of 350 employees were selected, with the sample size proportionally distributed according to each company's workforce.

Instruments

Data were collected using a structured questionnaire developed by the researcher and divided into three sections. Section A is the Demographic Data Inventory (DDI), which **was used to** collect basic information about the respondents, such as their age, gender, job role and years of experience. Section B are the standardized scales to measure stress, anxiety, and depression. The Perceived Stress Scale (PSS) was used to assess stress levels, the Generalized Anxiety Disorder 7-item scale (GAD-7) for anxiety and the Patient Health Questionnaire 9-Item Scale (PHQ-9) for depression. These instruments have been validated in previous studies and are reliable for assessing mental health conditions. Section C is the **Workplace Injuries' Scale** which included items on the occurrence and frequency of workplace injuries in the past year, including the type and severity of injuries.

A pilot study was conducted in order to assess the suitability of the questionnaire, which was administered on a sample of 30 employees on two separate occasions with an interval of two weeks between the two administrations. An analysis of the scores obtained yielded test-retest reliability coefficients of .75, .83 and .72 for the PSS, GAD-7 and PHQ-9 respectively. These indicated that the instruments were reliable. Expert opinion was used to determine the validity of the instrument.

Method of Data Collection

Ethical standards, especially those relating to informed consent, confidentiality and anonymity, were strictly adhered to in the process of data collection. Three hundred and fifty copies of the questionnaire were physically administered on the sample of employees. Out of these, 337 copies were returned, giving an attrition rate of 3.71%.

Method of Data Analysis

The first hypothesis formulated in this study was tested using multiple regression analysis, while the second hypothesis was analyzed by means of Pearson r. Both tests were carried out at the .05 level of significance using the Statistical Packages for the Social Sciences (SPSS) version 26 software.

Ethical Considerations

Participation in the study was voluntary, and informed consent was obtained from all respondents. The purpose of the study, the nature of the questions and the confidentiality of the responses were explained to the participants. Anonymity was assured by not collecting any personally identifiable information, and respondents were informed of their right to withdraw

from the study at any time without any consequences. Data were securely stored and only accessible to the research team to ensure confidentiality and integrity.

Results

Test of Hypotheses

Hypothesis One: There is no significant impact of mental health challenges (stress, anxiety and depression) on workplace injuries among employees in the Nigerian manufacturing sector.

Table 1: Model Summary and Multiple Regression Coefficients for the Combined Influence of Mental Health Challenges (Stress, Anxiety and Depression) on Workplace Injuries

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Regression	108.248	3	36.083	5.641	.000
Residual	2130.305	333	6.397		
Total	2238.553	336			

Model Summary R = .257; R² = .066; R²_(Adj) = .061; Std. Error = 6.05284

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	16.215	.714		16.725	.000
Stress	.025	.016	.271	13.281	.000
Anxiety	.031	.024	.243	9.772	.000
Depression	.021	.019	.256	11.298	.000

Dependent Variable: Workplace Injuries

Predictors: (Constant), Stress, Anxiety, Depression

Table 1 revealed significant results ($F_{(3, 333)} = 5.641, p < .0005$), leading to the conclusion that there is a significant combined impact of mental health challenges (stress, anxiety and depression) on workplace injuries among employees in the Nigerian manufacturing sector. Also, stress, anxiety and depression jointly accounted for 6.1% of the variance in workplace injuries. Each of stress, anxiety and depression has a significant relative impact on workplace injuries, with stress ($t = 13.281, p < .0005$) having the strongest impact, successively followed by depression ($t = 11.298, p < .0005$) and anxiety ($t = 9.772, p < .0005$).

Hypothesis Two: There are no significant relationships between mental health challenges (stress, anxiety and depression) and workplace injuries among employees in the Nigerian manufacturing sector.

Table 2: Correlation Matrix for the Relationships between Mental Health Challenges (Stress, Anxiety and Depression) and Workplace Injuries

	Stress	Anxiety	Depression	W. Injuries
Stress	1.000	.138*	.201*	.271*
Anxiety		1.000	.214*	.243*
Depression			1.000	.256*
W. Injuries				1.000

*Correlation is significant at the 0.05 level (2-tailed).

Table 2 revealed significant results. Specifically, there were significant positive bivariate relationships between stress and workplace injuries ($r = .271, p < .05$), depression and workplace injuries ($r = .256, p < .05$) and anxiety and workplace injuries ($r = .243, p < .05$).

Discussion

The findings of this study provide critical insights into the relationship between mental health challenges and workplace injuries in the Nigerian manufacturing sector. The results indicate a significant combined impact of stress, anxiety and depression on workplace injuries, with these factors collectively accounting for 6.1% of the variance in workplace injuries ($F_{(3, 333)} = 5.641, p < .0005$). This highlights the substantial role that mental health plays in influencing workplace safety, corroborating previous international research that emphasizes the importance of mental well-being in occupational health and safety. This finding was in line with Adetola (2021) who emphasized that mental health issues, if left unaddressed, exacerbate safety risks in manufacturing environments and hinder organizational productivity.

Stress emerged as the most significant predictor among the mental health challenges, with a t -value of 13.281 ($p < .0005$). This finding aligns with the prevalent notion that high stress levels, particularly in demanding environments like the manufacturing sector, severely impair cognitive and physical functioning. Employees under chronic stress may experience reduced concentration, impaired decision-making abilities and slower reaction times, elevating the risk of accidents and injuries. The nature of manufacturing work, which often involves operating heavy machinery and dealing with hazardous materials, exacerbates these risks. This finding supported that of Olufemi, Adebajo, and Idowu (2022) that chronic occupational stress among Nigerian manufacturing workers was a leading cause of workplace accidents and absenteeism. This highlighted the urgent need for implementing stress management workshops and employee assistance programmes.

Depression, with a t -value of 11.298 ($p < .0005$), also showed a significant impact on workplace injuries. Depressed employees may exhibit decreased motivation, diminished attention and slower response times, which compromise their ability to perform tasks safely. The monotonous and physically demanding nature of many manufacturing jobs, coupled with inadequate remuneration and poor working conditions, can contribute to the development of depressive symptoms among employees. This finding corroborated Okonkwo (2023) who highlighted the prevalence of depressive symptoms among Nigerian industrial workers, linking it to low wages and unfavourable working conditions. The finding also agreed with Ezeobi and Ugwu (2021) who found that depression diminishes overall productivity but also compromises safety by impairing attention, coordination and motivation, thereby increasing the likelihood of accidents and injuries.

Anxiety, while having the least relative impact among the three mental health challenges, still significantly influenced workplace injuries ($t = 9.772, p < .0005$). Anxiety can result from factors such as job insecurity, lack of role clarity and adverse working conditions. Employees experiencing high levels of anxiety may struggle with concentration, experience indecisiveness, and exhibit delayed reactions, all of which increase the likelihood of accidents. This finding agreed with Ogunyemi (2020) who found that workplace anxiety among Nigerian manufacturing employees stemmed primarily from fears of retrenchment and poor managerial support. Their study underscored the effectiveness of supportive supervision and communication in reducing anxiety-related accidents.

The relatively low percentage of variance (6.1%) explained by these mental health factors suggests that while they are important, other variables also contribute significantly to

workplace injuries. Factors such as the physical work environment, safety protocols, employee training and organizational culture likely play crucial roles and should not be overlooked in efforts to enhance workplace safety. These findings underscore the necessity of a holistic approach to occupational health and safety that integrates mental health considerations. The significant impact of stress, anxiety and depression on workplace injuries suggests that interventions targeting mental health can potentially reduce injury rates and improve overall employee well-being. Organizations should consider implementing comprehensive mental health programs such as stress management workshops, counseling services, and support systems to address these issues. Furthermore, the stigma surrounding mental health in Nigeria, which often prevents workers from seeking help, must be addressed. Creating a culture of openness and support around mental health can encourage employees to seek the assistance they need, thereby reducing the incidence of workplace injuries. Additionally, given the unique socio-economic and cultural contexts of Nigeria, interventions that consider these factors are essential (Ogunyemi, 2020).

Furthermore, the stigma surrounding mental health in Nigeria, which often prevents workers from seeking help, must be addressed. Creating a culture of openness and support around mental health can encourage employees to seek the assistance they need, thereby reducing the incidence of workplace injuries. Additionally, given the unique socio-economic and cultural contexts of Nigeria, interventions that consider these factors are essential.

Based on these findings, the following two recommendations can be made:

1. Manufacturing companies should implement comprehensive mental health programmes, such as regular mental health screenings, access to counselling services, stress management workshops and training sessions on mental health awareness. Employers should also create a supportive environment where employees feel comfortable discussing their mental health without stigma. Providing resources and support for mental health can help mitigate the negative impact of stress, anxiety and depression on workplace safety and productivity.
2. Manufacturing companies should improve workplace safety standards and support systems in order to reduce the incidence of workplace injuries. This can be done by redesigning job roles to reduce physical and mental strain, ensuring adequate rest breaks, providing ergonomic equipment and enhancing overall working conditions. Additionally, organizations should establish robust support systems, such as employee assistance programmes, peer support groups and initiatives that promote work-life balance.

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