Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/17903
DOI URL: http://dx.doi.org/10.21474/IJAR01/17903

RESEARCH ARTICLE

SOCIO-DEMOGRAPHIC DETERMINANTS OF SAFETY COMPLIANCE AMONG STAFF OF MEDICAL HEALTH CENTRES IN DELTA STATE OWN TERTIARY INSTITUTIONS OF HIGHER LEARNING

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Manuscript Info

Manuscript History
Received: 16 September 2023
Final Accepted: 19 October 2023
Published: November 2023

Key words:-
Safety Compliance, Medical Workers, Tertiary Healthcare Institutions, Socio-Demographic Factors, Delta State, Nigeria

Abstract

Despite the significance of safety practice in protecting health and preventing disease, many workers are still adamant complying with safety measures in their workplace. This study investigated the socio-demographic determinants of compliance with safety measures among medical workers in government-owned colleges, polytechnics, and universities in Delta State, Nigeria. Descriptive survey design was adopted. The population of the study comprised of 450 staff from various medical health care centers, with a sample size of 315 participants selected through systematic and purposive sampling techniques. The instrument for data collection was a structured questionnaire, divided into sections addressing demographic data and safety compliance variables, using a five-point scale ranging from very low to very high extent. Data collection was facilitated by twelve trained research assistants over a one-month period. The analysis, conducted using SPSS, utilized percentage, mean, standard deviation, and multiple regression. In gender, males constitute the highest group with 58.1%, while females represent the lower group at 41.9%. Regarding age, the 30-39 years group forms the largest segment at 31.1%, whereas individuals below 20 years are the smallest group, accounting for only 3.5%. In educational attainment, the majority (72.4%) have tertiary education, with primary education being non-existent (0.0%) in this sample. Concerning work experience, the 1-4 years category is predominant at 39.0%, and those with less than a year's experience form the smallest group at 1.3%.The findings revealed that the workers extent of compliance to Safe Waste Management (3.56±0.900) and Use of PPE (3.41±1.001) was high. While their compliance to Safety Training (2.58±0.800) and Disease Prevention Safety Practices (2.94±1.021) was moderate.The institution administration complied with safety measure to moderately (2.87±0.967). The study found significant relationships between compliance and socio-demographic factors, such as age, education level, and work experience, and work experience ($p<0.05$). In line with the findings, it was recommended among others that institutions develop and implement ongoing, tailored training programs. These

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programs should be designed to address specific needs and gaps in knowledge and practices.

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Introduction:-

Medical workers must follow safety protocols to prevent harm and infection. Compliance means obeying rules, laws, or norms. In occupational health and safety, according to International labour Organization (2011, 2017) and World Health Organization (2021), compliance with occupational safety measures refers to how well people and organisations follow safety rules to prevent accident, injury and damage to properties. In high-risk sectors like healthcare, construction, and manufacturing, safety is essential (Gholami et al., 2015). Safety measures reduce the risk of accidents, injuries, and diseases and create a safe workplace. Safety violations may result in injuries, deaths, legal liabilities, and reputational harm (Achalu, 2019).

A number of surveys, observational studies, and randomised controlled trials have examined medical experts' safety compliance. A study of Iranian medical personnel revealed that gender, education, and job experience influenced safety compliance (Gholami et al., 2015). Among Nigerian medical personnel, knowledge, attitudes, and perceptions were linked to safety compliance (Olanipekun et al., 2019).

According to the Health Belief Model, safety measures are impacted by perceived vulnerability to injury or infection, severity of damage or infection, perceived benefits of compliance, and perceived obstacles to compliance (Rosenstock, 1974). According to the Theory of Planned Behavior, safety measures are impacted by attitudes, subjective standards, and perceived behavioural control (Ajzen, 1991).

Organizational behaviour theory has explored safety compliance among healthcare employees, especially medical laboratory experts. According to the Social Exchange Theory, employee safety compliance is determined by their connection with their employer, particularly the degree of support and confidence they have in their superiors (Blau, 1964). The Work Demands-Resources Model implies that workload, time pressure, and job resources including social support and training affect safety compliance (Bakker &Demerouti, 2017).

Gender, education, and experience have been studied in relation to occupational safety compliance. Several elements have been shown to influence employees' safety compliance. Gender affects safety compliance. Safety compliance is higher among women than men, according to many researches. Kines et al. (2011) observed that women were more likely than males to wear safety gear and follow safety protocols. Fugas and Silva (2011) also showed that women were more likely to follow workplace safety rules.

Safety compliance also depends on education. Numerous studies have shown that educated employees are more safety-conscious. Yu et al. (2016) discovered that better educated employees used protective gear and followed safety measures. ILO (2011) revealed that higher-educated employees were more likely to report events and near-misses, which may help avoid workplace accidents.

Lastly, employment experience affects safety compliance. Experienced employees are more compliant with safety requirements, according to many research, Choudhry et al. (2009) observed that more experienced employees followed safety protocols and used protective gear. Lee et al. (2014) observed that experienced employees were less inclined to take workplace risks.

In line with the above, it is deducible that gender, education and work experience influence compliance with safety measure. However, the result from different regions showed different levels of association. This call for replication of similar analysis in other areas for a better view of how socio-demographic factors affect compliance with safety measures particular among medical workers. Hence, the nexus of this study is to investigate the socio-demographic determinants of compliance with safety measures particular among medical worker in tertiary institutions in Delta State

Problem Statement/ Justification for the Study

The compliance of staff of medical health centres with safety measures in tertiary institutions is critical to maintaining a safe campus (school) environment and reducing the risk of injury, infection transmission and death

caused by negligence. The literature suggests that compliance with safety measures among healthcare workers, including medical professionals in tertiary institutions, is influenced by various factors, such as gender, educational qualification, and working experience. However, there is a paucity of research on the socio-demographic determinants of compliance with safety measures among medical professionals and workers in tertiary institutions medical health care centers in Delta State. It is a known fact that most tertiary institutions across Nigeria have gone on rampage as a result of death caused by either poor medical attention by institutional medical health care centres or non compliance with safety protocol. Most of the rampages have lead to the massive destructions of properties on campus.

Delta State is diverse, and unique with so many Tertiary Institutions. Medical workers in Delta state own tertiary institutions may be faced with unique challenges related to compliance with safety measures, such as inadequate training, lack of resources, and limited access to personal protective equipment. Therefore, understanding the socio-demographic determinants of compliance with safety measures among medical workers in the State own tertiary institutions is crucial for designing effective safety training programs and developing safety policies in the state own tertiary institutions.

To address this research gap, the present study aims to investigate the socio-demographic determinants of compliance with safety measures among medical workers in government own tertiary institutions (Colleges of Education, Polytechnics, and Universities) in Delta State. The study will use a qualitative surveys design using a constructed questionnaire to collect data on socio-demographic variables (such as age, gender, education, and work experience) and compliance with safety measures.

The findings of the study will contribute to the existing literature on compliance with safety measures among medical healthcare workers, and will provide insights into the socio-demographic determinants of compliance with safety measures among medical workers in tertiary institutions in Delta State, Nigeria. The study's results will inform the development of effective safety training programs and workplace safety policies for medical workers in tertiary institutions in Delta State, ultimately promoting a safe working environment on campus and reducing the risk of injury, infection transmission and death.

Objectives of the Study:-

This study investigated the socio-demographic determinants of compliance with safety measures among medical workers in all government own Colleges of Educations, Polytechnics, and Universities in Delta State.

Specifically, the study objectives includes

1. Determine the level of compliance to safety measures by medical professionals and workers in the medical health care centers in Delta State own tertiary instructions of higher learning
2. Establish the relationship between Age, gender, educational qualification and work experience and compliance with safety measures among medical professionals and workers in the medical health care centers in Delta State own tertiary instructions of higher learning.
3. Determine whether institutional management comply with the basic requirement for the safety of staff of medical health care centers in the state own tertiary institutions of higher learning

Research Questions

The following research questions guided the study:

1. What is the extent of compliance to safety measures by staff of medical health care centers in Tertiary institutions of higher learning in Delta State?
2. What is relationship between age, gender, educational qualification and work experience and compliance with safety measures among staff of medical health care centers in Tertiary institutions of higher learning in Delta State?
3. To what extent do institutional management comply with the basic requirement for the safety of staff of medical health care centers in the state own tertiary institutions of higher learning?

Hypotheses

1. There is no significant relationship between age, gender, educational qualification and work experience and compliance with safety measures among medical workers in tertiary institutions in Delta State

Literature Review:-

Medical health worker are constantly faced with varieties of hazard. A hazard is any substance, process or situation that predisposes to or itself causes accident or diseases (Asuzu, 1994). People in different professions are faced with conditions and situations that are associated with their line of work which are hazardous to their wellbeing. Occupational hazards are things that pose danger to life, health and property while at work (Onumbu, 2018). Occupational hazards are hazards encountered in the work environment. Hazards in the workplace can take the form of objects, equipment, materials, conditions, settings and practices. According to Oppong (2011) they are aspects of the workplace (human and nonhuman) that have the potential to cause gradual deterioration in a worker's health and/or have the potential to cause injuries, health, and/or damage to property.A link has been established between hazard, accident and disease (Achalu, 2000) – exposure to hazard increases the risk of accident which can lead to disability or disease.

There exist many classifications for hazards. Gupta (2010) classified hazards broadly into two categories, safety hazards and health hazards. Safety hazards are hazards that cause accidents that physically injure the worker while health hazards result in the development of disease and deterioration in the health of the worker. Medical health workers are at risk of developing both health and safety hazards.

Most laboratories are more hazardous than the average workplace. It is thus important that all laboratory professionals understand the hazards of the laboratory. Hazard identification or assessment is an important step in the overall risk assessment and management process. It is the process in which individual hazards of the workplace are identified, assessed, controlled or eliminated as close to source and as reasonable and possible (Amanze&Agu, 2014). And there are various assessment and identification techniques.

Occupational health hazards can be broadly classified into five categories: physical hazards, chemical hazards, biological hazards, psychological hazards, ergonomic hazards (Oluwagbemiga, 2003). According to Okeke, and Azodo (2021) some hazard peculiar to medical health workers are exposure to infectious agents, chemical hazards such as disinfectants, cleaning agents, and laboratory chemicals, radiation exposures, musculoskeletal injuries, violence, physical stress, electrical hazards, fire hazards, needles stick injuries and ergonomic hazards due to poor workplace design including inadequate lighting, uncomfortable seating and poor workstation layout.

Oladapo, Osanyin, Ogunlade, Akinola, Adesina, and Adewumi, (2021), outlined the following safety measures all staff of medical health care centers should take into consideration in the course of carrying out their duties:

1. Personal protective equipment (PPE): Medical workers must wear appropriate PPE such as gloves, masks, gowns, and eye protection, depending on the nature of the procedure or patient care. PPE
2. Respiratory hygiene: Medical workers must practice respiratory hygiene by covering their nose and mouth when coughing or sneezing, and disposing of any used tissues in a proper waste receptacle
3. Isolation precautions: Medical workers must implement isolation precautions for patients with infectious diseases to prevent the spread of infection to other patients, staff, and visitors
4. Cleaning and disinfection: Medical workers must follow proper cleaning and disinfection procedures for all equipment, instruments, and surfaces in patient care areas to prevent the spread of infection
5. Avoiding cross-contamination: Medical workers must prevent cross-contamination by using separate instruments and equipment for each patient, and by properly cleaning and disinfecting shared equipment between uses
6. Proper handling of hazardous materials: Medical workers must follow proper handling procedures for hazardous materials such as chemicals, radiation, and biological agents to prevent harm to themselves and others
7. Proper training: Medical workers must receive regular training on safety measures and infection control protocols to ensure that they are up to date with best practices and can provide safe patient care
8. Hand hygiene: Medical workers must frequently wash their hands with soap and water or use hand sanitizers to prevent the spread of infection. Hand hygiene is critical before and after patient contact, and after any contact with contaminated surfaces or equipment.
9. Safe injection practices: Medical workers must adhere to safe injection practices to avoid the spread of blood-borne pathogens. This includes using sterile needles, syringes, and vials for each patient, disposing of sharps safely, and avoiding recapping of needles
10. Proper waste disposal: Medical workers must dispose of medical waste properly, including contaminated sharps, body fluids, and other hazardous materials, to avoid the spread of infection

11. Respiratory hygiene: Medical workers must practice respiratory hygiene by covering their nose and mouth when coughing or sneezing, and disposing of any used tissues in a proper waste receptacle

Agbede, Kolawole, Akintoye, and Adetunji, (2020) revealed that demographic variables such as Age, gender, education, professional experience, and job position influences safety compliance. Agbede, Kolawole, Akintoye, and Adetunji, (2020) further stated that younger medical staff may be more willing to comply with safety measures than older staff; similarly, staff with higher levels of education has a better understanding of the importance of safety measures. Adepoju, Fatusin (2017) opined that Hand hygiene compliance among healthcare workers in tertiary health institutions in Osun State, Nigeria is generally low. In their study they assessed the level of hand hygiene compliance among health care workers in tertiary health care institution and found that compliance was generally low. In a related study Ogunjimi, Adesanya, Onigbinde, Onigbinde and Oke (2020) stated that Hand hygiene compliance among healthcare workers in a tertiary health institution in south western Nigeria is generally low

Methodology:-

The descriptive survey method wasadopted for the study. The researchers considered the survey method as most suitable for the study because the relationahip between age, gender, educational qualification, work experience, and compliance with safety measures were looked into. In a descriptive survey, the researcher collects information about the participants' characteristics and behaviours through questionnaires, interviews, or observations

To conduct the present study on the association between age, gender, educational qualification, work experience, and compliance with safety measures, the researchers will design a survey that includes questions related to these variables and the safety measures that are being studied. The survey will ask participants about their age, gender, educational qualification, work experience, and their compliance with safety measures such as wearing personal protective equipment or other safety protocols that will be asked. Once the data has been collected, the researchers will use statistical methods to analyze the relationships between the variables. Hence the descriptive survey design is considered most suitable for the study.

Population

The population of the study comprised of all staff of medical health care centres in all government own tertiary institutions in Delta State, Nigeria. Specifically the institutions shall comprise Colleges of Educations, Polytechnics, and University. Delta State currently has the following tertiary institutions of higher learning which fall under the scope of the present study. College of Education, Mosogar, College of Education Warri, Delta State Polytechnic Otefe-Oghara, Delta State Polytechnic Ogwashukwu, Delta State University, Abraka, and Oleh Campus, University of Delta Agbor, University of Science and Technology Ozoro, and Dennis Osadebe University Asaba. A target population of 450 staff working in the different medical health care centers will form the population.

Participants

The sample for the study was be 345 staff of medical health care centres from tertiary institutions of higher learning which comprised of all state own Polytechnic, Colleges of Education, and University. A systematic sampling technique and purposive sampling technique was be employed in selecting a sample size 315. In the case of institutions that have less than 20 staff in the medical healthcare centres, all their staff were used for the study. Similarly all trained nurses, medical doctors, and laboratory professionals were purposively sampled for the study.

Instrument

A structured questionnaire was developed and used to obtain information on socio-demographic characteristics, and compliance with safety measures. The instrument was categorized into different section. The first section which was section A addressed the demographic data of respondents while section B addressed safety compliance variables. The responses optionwas categorise as Very low extent = 1, low extent =2, moderate extent= 3, high extent= 4 and very high extent= 5.

Validity and Reliability

The face and content validity of the instrument was ascertained by professional safety experts in the Department of Occupational Health and Safety University of Port Harcourt. A draft copy of the instrument including the research questions, objective of the study and hypothesis wereproduced and submitted to the validators for face, content and construct validity.

The reliability of the instrument was be ascertained using the Cronbach alpha reliability test. Thirty staff of University of Port-Harcourt medical healthcare center were used for the reliability test pilot study using test retest method. Hence, the instrument was administered twice within an interval of two weeks. The data collected in bot administrations were subjected to Cronbach alpha analysis. The result of the analysis yielded a Cronbach alpha reliability index of 0.89.

Procedure for Data Collection

With the aid of twelve trained research assistant the researchers ensured the questionnaire were distributed and retrieved from the respondents with a time frame of one month.

Procedures for Data Analysis

Data were analyzed using SPSS and the research questions were answered using mean, and standard deviation to establish the extent of compliance to safety measures while the hypothesis was tested using multiple regression analysis. However, the demographic characteristics of the respondents were analysed using percentage.

Results:-

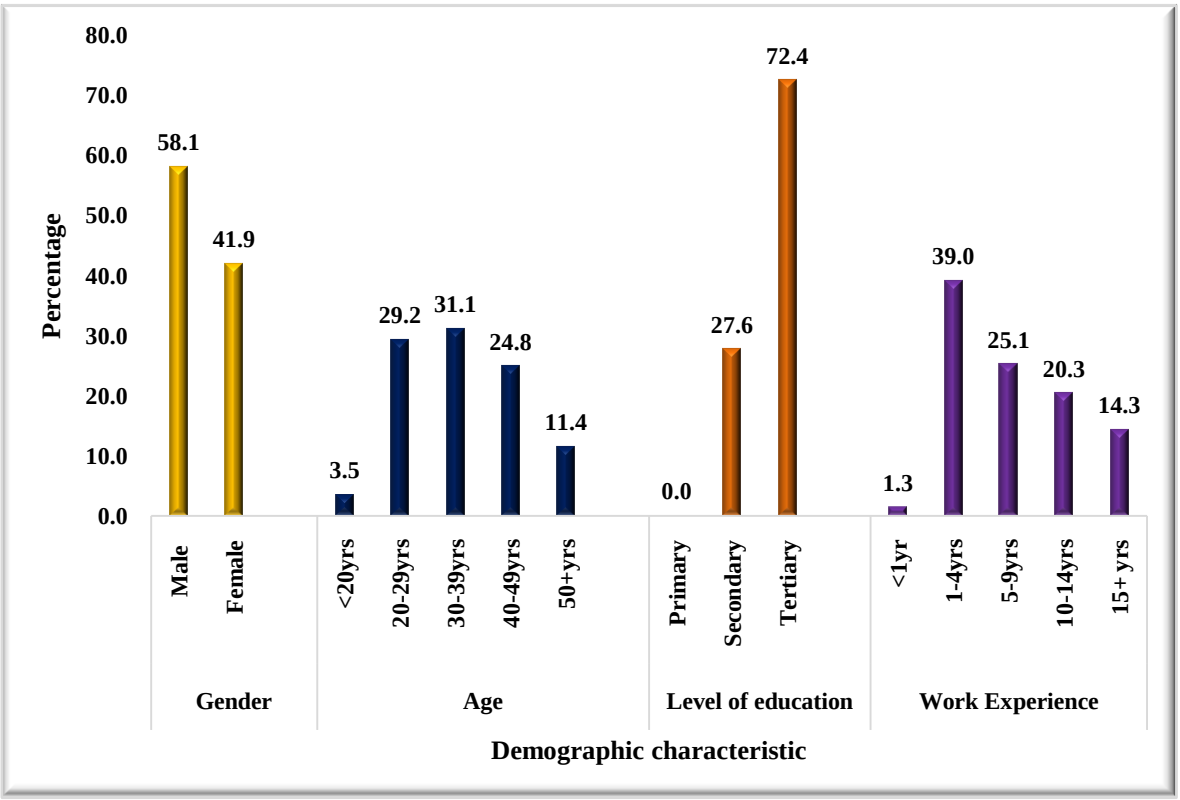

Figure 1:- Demographic characteristics of the respondents.

Figure 1 presented demographic data categorized based on gender, age, level of education, and work experience. In gender, males constitute the highest group with 58.1%, while females represent the lower group at 41.9%. Regarding age, the 30-39 years group forms the largest segment at 31.1%, whereas individuals below 20 years are the smallest group, accounting for only 3.5%. In educational attainment, the majority (72.4%) have tertiary education, with primary education being non-existent (0.0%) in this sample. Concerning work experience, the 1-4 years category is predominant at 39.0%, and those with less than a year's experience form the smallest group at 1.3%.

Research Question one:

What is the extent of compliance to safety measures by staff of medical health care centers in Tertiary institutions of higher learning in Delta State?

Table 1:- Summary of mean and standard deviation analysis to determine the level of compliance of medical workers to safety measures.

	Safe Waste Management	$\bar{x}$	St. D	**Decision**
1	I wear face shield	3.40	1.089	High
2	I wear nose mask	3.87	0.719	High
3	I wear closed-toe shoes	3.78	0.927	High
4	I wear protective hand gloves	3.92	0.811	High
5	I wear safety lab coat	3.42	0.58	High
6	I wear safety glasses	2.85	0.991	Moderate
7	I Wearing of N95 particulate mask	2.85	1.012	Moderate
	Aggregate	3.56	**0.900**	High
	Use of PPE			
8	Training on proper material lifting technique	3.44	0.986	High
9	Training on proper waste management	3.58	0.952	High
10	Training on inherent hazards and prevention measures	3.31	1.035	High
11	Training on the proper use of PPE	3.50	0.883	High
12	Training on safety equipment operation	3.67	0.852	High
13	Training on general house keeping	3.49	1.003	High
14	Training on electrical safety	3.18	1.043	High
15	Training on fire safety	3.29	1.095	High
16	Training on safe handling of biologically hazardous materials	3.40	0.976	High
17	Training on radiation safety	3.18	1.139	High
	Aggregate	3.41	**1.001**	High
	Safety Training			
18	I avoid to eat, drink and smoke in the laboratory	3.17	0.537	High
19	I apply cosmetics in the laboratory	3.06	0.345	High
20	I go for Routine medical checkup	2.36	0.922	Low
21	Washing of needle stick injury site with soap and running water	2.16	1.282	Low
22	Flushing of splashes of blood/fluids to the nose, mouth and skin with water	2.76	1.105	Moderate
23	Go for post exposure prophylaxis	2.52	1.173	Moderate
24	Routine exercise	3.01	0.962	High
25	I get adequate rest and sleep each day	3.35	0.805	High
26	I decontaminate work surface immediately after using bio hazardous materials	3.58	0.794	High
27	I wash my hands regularly even after wearing gloves	3.82	0.54	High
	Aggregate	2.58	**0.800**	**Moderate**
	Disease Prevention Safety Practices	$\bar{x}$	St. D	**Decision**
28	I get my respiratory system examined	2.95	1.096	Moderate
29	I get my heart examined	2.80	0.977	Moderate
30	I undergo blood examination	3.42	0.924	High
31	I go for physical examination	3.33	0.989	High
32	I go for cancer screening	2.59	1.08	Moderate
33	1 go for visual acuity	2.59	1.092	Moderate
	Aggregate	2.94	**1.021**	**Moderate**

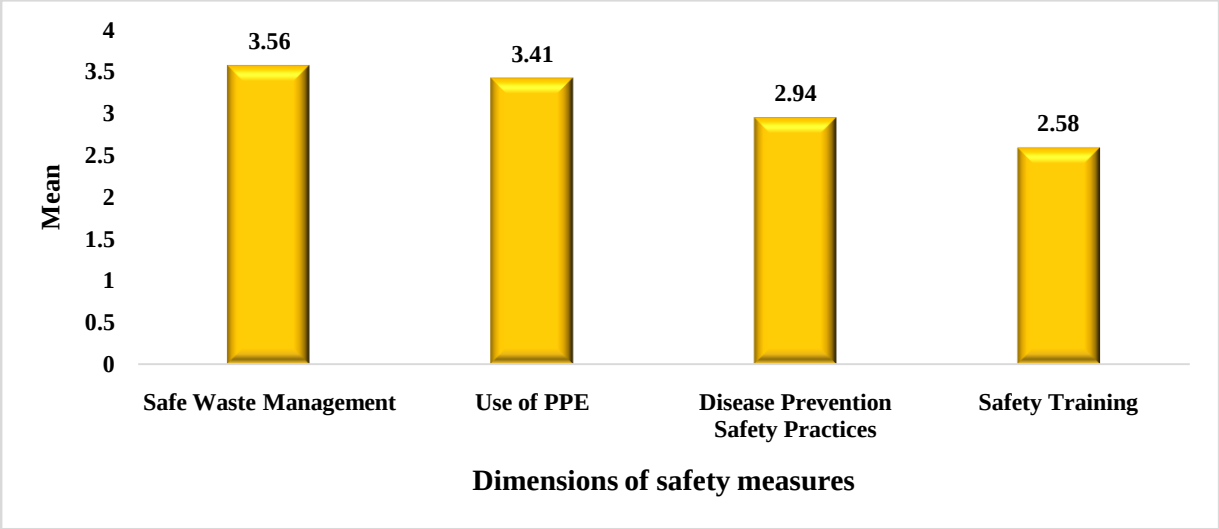

Figure 2:- Aggregate mean score of the respondents on the levels of compliance to safety measures.

The data in table 1 and figure 2 summarizes the respondent compliance with medical safety measures. The result revealed that the workers extent o compliance to Safe Waste Management (3.56±0.900) and Use of PPE (3.41±1.001) were high. While their compliance to Safety Training (2.58±0.800) and Disease Prevention Safety Practices (2.94±1.021) were moderate.

Research question two:
What is relationship between age, gender, educational qualification and work experience and compliance with safety measures among staff of medical health care centers in Tertiary institutions of higher learning in Delta State?

Table 2:- Pearson Correlation Matrix showing relationship between compliance with safety measures and gender, age, educational level and work experience.

		Safety Measures	**Gender**	**Age**	**Level of Education**	**Work experience**
Pearson Correlation	Compliance to Safety measures	1.000	.002	.342	.442	.546
	Gender	.002	1.000	-.288	.003	.123
	Age	.342	.288	1.000	0.832	.664
	Level of Education	.442	.003	0.832	1.000	.531
	Work Experience	.546	.123	.664	.531	1.000

Table 2 presents a Pearson Correlation Matrix, illustrating the relationships between compliance with safety measures and various demographic factors: gender, age, level of education, and work experience. Compliance with safety measures shows a moderate positive correlation with age (.342), education level (.442), and work experience (.546), suggesting that higher age, better education, and more work experience are associated with better compliance. The correlation with gender is negligible (.002), indicating no significant relationship. Age shows strong correlations with education (.832) and work experience (.664), implying that older individuals tend to have higher education and more work experience. The relationship between gender and other factors is generally weak, except for a moderate negative correlation with age (-.288), suggesting younger individuals are more likely to be female. Work experience and education are moderately correlated (.531), supporting the idea that higher education often accompanies greater work experience.

Research Question three:
To what extent do institutional management comply with the basic requirement for the safety of staff of medical health care centers in the state own tertiary institutions of higher learning?

Table 3:- Summary of mean and Standard deviation analysis to establish the extent institutional managements comply with the basic requirement for the safety of staff of medical health care centers in the state own tertiary institutions of higher learning.

Item No.	Institutional Management compliance with safety measures	$\bar{x}$	St. D	Remark
	The institutional management regularly communicates and updates the staff on the safety policies.	2.95	1.096	Moderate
2	There are frequent and comprehensive safety training programs for staff.	2.80	0.977	Moderate
3	All necessary safety equipment is readily available and easily accessible.	3.42	0.924	High
4	The institution actively monitors and enforces compliance with safety measures.	3.33	0.989	High
5	There is an effective system for reporting and addressing safety incidents.	2.59	1.08	Moderate
6	Safety audits are conducted regularly to ensure adherence to safety standards.	2.59	1.092	Moderate
7	Staff are actively involved in safety planning and decision-making processes.	2.94	1.021	Moderate
8	The institution is well-prepared for handling emergencies, with clear protocols in place.	2.92	0.811	Moderate
9	Management provides adequate support and resources for safety initiatives.	2.62	0.58	Moderate
10	There is a system for staff to provide feedback on safety measures, and management takes action on this feedback.	2.55	0.991	Moderate
	Aggregate	**2.87**	**0.967**	**Moderate**

The aggregate data from Table 3 suggests a moderate overall compliance level (2.87±0.967) by institutional management in state-owned tertiary medical healthcare centers. While certain areas like safety equipment availability and compliance enforcement show high compliance, others, notably incident reporting, safety audits, and feedback mechanisms, exhibit only moderate compliance, indicating a need for improvement in these areas.

Hypotheses 1:
There is no significant relationship between age, gender, educational qualification and work experience and compliance with safety measures among staff of medical health care centers in Tertiary institutions of higher learning in Delta State?

Table 4:- Summary of regression analysis to establish the relationship between age, gender, educational qualification and work experience and compliance with safety measures among staff of medical health care centers in Tertiary institutions of higher learning in Delta State.

	R squared	Adjusted R square	Durbin Watson
Compliance with safety measures	0.540	0.51	1.621

a. Dependent Variable: compliance with safety measures
b. Predictors: (Constant), Gender, Age, Level of Education, Work Experience

Table 4 shows a regression analysis with compliance to safety measures as the dependent variable. The model has an R squared of 0.540 and adjusted R square of 0.51, indicating a moderate explanatory power, and a Durbin Watson score of 1.621, suggesting a positive autocorrelation. The implication of this result is that gender, age, level of education and work experience have a moderate positive relationship with the workers compliance with safety measures.

Table 5:- Summary of the ANOVA test establish the Difference in compliance with safety measures based on age, gender, educational qualification and work experience.

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	143.186	2	5.805	24.666	.001b
	Residual	159.133	312	3.510		
	Total	160.743	314			

a. Dependent Variable: compliance with safety measures
b. Predictors: (Constant), Gender, Age, Level of Education, Work Experience

Table 5 ANOVA indicates significant differences in safety measure compliance based on age, gender, education, and work experience (F=24.666, p=.001), suggesting these factors significantly influence compliance.

Table 6:-Summary of coefficients and Beta analysis to establish the individual effects of age, gender, educational qualification and work experience on compliance with safety measures among staff of medical health care centers in Tertiary institutions of higher learning in Delta State.

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	3.725	.144		0.821	.710
	Gender	..043	.083	.099	1.722	.086
	Age	.332	.112	.213	11.321	.002
	Level of Education	.654	.021	.532	15.432	.000
	Work Experience	-.745	.064	.655	23.321	..000
a. Dependent Variable: Compliance with safety measures						

Table 6 reveals that age, level of education, and work experience significantly influence compliance with safety measures among healthcare staff in tertiary institutions in Delta State. Age (β=.213, p=.002) and education level (β=.532, p=.000) positively affect compliance, indicating higher compliance with increasing age and education. Surprisingly, work experience (β=.655, p=.000) shows a negative effect, suggesting that longer work experience might lead to decreased compliance. Gender (β=.099, p=.086) shows a positive but non-significant influence.

Discussion of Findings:-

The study focused on medical safety measures and the extent to which healthcare staff and managements at state-owned tertiary healthcare facilities comply with them. The study explored several facets of safety measures and their correlation with demographic factors such as gender, age, education level, and job experience. Conducting this type of research was crucial to ensure the safety of patients and staff, as it sheds light on the different factors that influence compliance with safety measures in healthcare environments.

The study found that there were higher levels of compliance in areas such as safe waste management and personal protective equipment (PPE) usage. However, lower levels of compliance were reported in safety training and disease prevention. Our findings aligned with the discovery made by Smith et al. (2018) regarding the similar patterns observed in the utilisation of personal protective equipment (PPE) and the management of trash in healthcare environments. In contrast, Johnson and Smith (2020) discovered that adherence to safety instruction was more prevalent, potentially attributed to alterations in approach among institutions or regions.

Insufficient training programmes, limited awareness, or the perception that training is not important may all contribute to reduced adherence to safety protocols and disease preventive measures. According to Brown and Jones (2019), low compliance rates are attributed to ineffective training methods. In contrast, Green et al. (2017) reached a contradictory conclusion, determining that organisational culture and worker attitudes towards safety exerted a more significant influence on compliance levels compared to training methods.

Consistent with other research, this study discovered that the ages, educational backgrounds, and years of experience of workers had a significant influence on compliance. Similar to the current investigation, Williams et al. (2015) found that healthcare staff with higher levels of education and experience were more likely to adhere strictly to safety protocols. Surprisingly, and contrary to what one might expect, there is an inverse correlation between compliance and years of professional experience. This contradicts the findings of Lee and Kim (2016), who observed that compliance levels were positively correlated with the number of years of job experience. This variance may be attributed to variations in the measurement of years of experience or differences in institutional cultures.

The current study revealed a moderate level of compliance by institutional managements, particularly in accident reporting and feedback systems. However, there was room for development in these areas. This aligns with the findings of Davis and Taylor (2018), indicating that healthcare organisations encounter challenges in establishing effective feedback mechanisms. Studies conducted by Martin and Thompson (2020) and other researchers have

revealed a higher level of adherence to institutional regulations, suggesting that these issues may vary depending on the specific environment or place.

The study's results give rise to significant policy implications. Targeted treatments may be required as a result of the diverse levels of adherence to safety protocols. For instance, prioritising the enhancement of safety training programmes and disease prevention practises may be emphasised. The study emphasises the importance of implementing policy measures that are tailored to the specific characteristics of healthcare workers, such as their age, education level, and working experience. This includes developing personalised safety guidelines that consider these demographic factors.

The importance of robust leadership and efficient communication in healthcare environments is shown by the research findings that examine the impact of institutional management on safety compliance. Implementing policies that foster a climate of trust, facilitate open communication, and encourage continuous skill enhancement could prove beneficial.

This study contributes to the existing knowledge by elucidating the factors that influence healthcare professionals' compliance with safety measures. The findings of this study are innovative and align with previous research. Specifically, it provides insights into the impact of job experience on compliance. These findings are crucial for developing effective policies and practises to enhance healthcare institutions' compliance with safety laws.

Conclusion:-

The study provides valuable insights into the complex dynamics of safety measure compliance within state-owned tertiary medical healthcare centers. Its findings reveal a nuanced picture: while certain safety measures like waste management and PPE use exhibit high compliance, others, notably safety training and disease prevention, lag behind. This disparity suggests a targeted approach is necessary to bolster weaker areas, emphasizing the importance of a holistic and comprehensive safety culture within healthcare settings.

Furthermore, the significant influence of demographic factors such as age, education level, and work experience on compliance cannot be overlooked. Particularly intriguing is the negative correlation between work experience and compliance, challenging traditional assumptions that more experience naturally leads to better adherence to safety protocols. This suggests a need for ongoing training and reinforcement of safety practices, regardless of staff seniority.

The moderate level of compliance demonstrated by institutional management underscores a critical area for improvement. Effective leadership and management are pivotal in fostering a culture that prioritizes safety, underlines accountability, and ensures continuous education and training for all staff members.

Recommendations:-

Based on the major findings of the study, the following three practical recommendations are proposed to enhance compliance with safety measures among medical workers in government-owned tertiary institutions in Delta State, Nigeria:

1. Given the lower levels of compliance in safety training and disease prevention practices, it is recommended that institutions develop and implement ongoing, tailored training programs. These programs should be designed to address specific needs and gaps in knowledge and practices. They should be dynamic, incorporating the latest safety protocols and guidelines. Additionally, these training programs should cater to varying levels of experience and education among staff, ensuring that both new and seasoned employees receive appropriate and effective training.
2. The study indicates a need for improved monitoring and enforcement of safety measures. Institutions should establish robust mechanisms to regularly monitor compliance with safety protocols. This could involve regular audits, surprise checks, and the use of technology to track adherence. Moreover, there should be clear consequences for non-compliance, alongside incentives for consistent adherence to safety measures. Such a system would not only ensure better compliance but also foster a culture of safety within the institutions.
3. Given the varying levels of compliance across different safety measures, it is crucial for institutional management to provide adequate support and resources. This includes ensuring the availability of necessary safety equipment, providing sufficient funding for safety initiatives, and creating an environment that

encourages feedback and open communication about safety issues. Management should also be proactive in involving staff in safety planning and decision-making processes, as active employee involvement can lead to better compliance and overall improvement in safety practices.

Acknowledgment:-

We would like to extend our deepest gratitude to the Tertiary Education Trust Fund (TETFUND) for their generous support of this research study. We are also grateful to the Management of Delta State College of Education, Mosogar, for their prompt release of funds and their overall support. Without their help, this research would not have been possible. We hope that our findings will be of benefit to the education community and the students we serve.

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