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Occupational Hazards Evaluation of Health Workers in Idah and Okehi Training Institutions, Kogi State

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Abstract:- This research study was conducted on occupational hazards evaluation of health workers of health training institution in Kogi state. A non-experimental research design in which probabilistic sampling technique, cluster, stratified and random sampling techniques were used in order to sample the respondents among the staff and the students of the case studies. Interview and self-administered questionnaire with observation were used to collect data while table with percentage value, pie chart and student's chi square were used to analyse the data. 189 copies of questionnaire were retrieved from CHST Idah and analysis indicated that 75% of the respondents have tertiary education with18% secondary education which enable them to be aware of occupational hazards while at C.N.M Obangede, 177 copied of questionnaire were retrieved and analysis shows that 50.9% have tertiary education with 46.3% secondary education which also exposed them to be aware of occupational hazards. However the occupational hazards encountered are psychological hazards 85.2%, toilet facilities 82%, absence of first aid facilities 66.67%, and dilapidated structures at CHST Idah. Effective OHS-MS, workable organizational settings, implementation of occupational health and safety laws and regulations, regular monitoring, evaluation and auditing of the management activities were recommended to improve the occupational health and safety status of the staff and students at the health training institutions.

I. INTRODUCTION

The whole world, developed, developing and under developed nations are in one way or the other struggling to survive and withstand the human desire. Most of these nations are competing on some inventions through scientific research. It is essential that workers are healthy irrespective of where they work because the conditions under which people work influence their health.

The importance of occupational health is often overlooked and people tend to equate occupational illness with industrialization and huge factories in urban areas. This narrow view hampered the development of occupational health in developing countries. While at work, people face a variety of hazards almost as numerous as the different types of work; these include chemicals, biological agents and adverse ergonomic conditions etc. Globally, there are 2.9 billion workers who are exposed to hazardous risks at their work places [Meswani, 2008]. Annually there are two million deaths that are attributable to occupational diseases and injuries while 4% of Gross Domestic Product (GDP) is lost due to occupational diseases and injuries. WHO"s programme on workers' health is concerned with the control of occupational health risks, the protection and promotion of the working populations and the humanization of work (Berenice and others, 1998).

There is no doubt that the management of an institution has the responsibility of providing health care and social services for its workers if such institution is to grow and develop.

World health organization has declared that health is one of the basic rights of mankind; therefore a healthy working environment has become the basic right of all workers to enhance productivity and development of such organization. Workers spent 6 – 8 hours a day in the work place till retirement for about three decades in that case both the workers and their working place should be healthy, safe and free from harmful agents. In fact workers in all occupations need special health care delivery especially in such institution where human resources undergo training for dealing with human life.

Arinola .A.M and O G (2007) disclosed that Eijekemans (2004) states that hundreds of millions of people throughout the world are working under circumstances that foster ill health. It is estimated that yearly over two million people worldwide died of occupation injuries and work related disease and WHO's report (2002) indicated that 1.5% of the global population are affected in terms of disability adjusted life years (DALYS)He further stated that the population at risk of the above risks condition in developing country in estimated to 10 – 20times higher than in established market economies. Most processes and operation in any working environment involves one or more threat to health, safety and welfare of the workers. These are called occupational hazards. Occupational hazards are the conditions within the work or associated with work that has the potential to cause harm, injury, damage or death. A hazard is inherent in every occupation or job. It should be emphasize that hazard is not an accident but a condition which has the potential to cause harm, injury and death. An occupational hazard is a condition that the workers exposed to in their working environment which has potential to cause threat to their health.

Therefore occupational health practice in the educational sector must take cognizance of the known hazards that exists in the particular local operation in order to prevent and control their occurrence. From the literature

searched, little work has been done to identify and assess the health risk of occupational health hazards of health workers in this part of Nigeria. Thus this study was therefore undertaking with the aimed to identify and assess the health hazards among health workers and recommend management protocols that would control and prevent these hazards from impacting on the health and well -being of the workers.

However in Occupational and Environmental Epidemiology, we prefer to define these two words as follows: Hazard is the potential to cause harm; risk on the other hand is the likelihood of harm (in defined circumstances, and usually qualified by some statement of the severity of the harm). The relationship between hazard and risk must be treated very cautiously. If all other factors are equal - especially the exposures and the people subject to them, then the risk is proportional to the hazard. However all other factors are very rarely equal (Health, Environment and Work, October, 2013) Occupational hazards can be divided into two categories: Safety and Health Hazards. Safety Hazards which cause accidents and physically injured workers, and Health Hazards that results in the development of disease. It is important to note that a hazard only represents a potential to cause harm. Whether it actually cause harm will depend on circumstances, such as the toxicity of the health hazards, exposure amount, and duration. Hazard can also be rated according to the severity of the harm they cause – a significant hazard being one with the potential to cause a critical injury or death (Ontario Ministry of Labour, October, 2013). Occupational hazards may lead to illness, injury or death. They can include physical risk like falls and exposures to heavy machinery, along with psychological ones such as stress. Occupational hazards like exposure to chemical, biological and radiological agents are also concerned. In people who work in jobs with recognised occupational safety hazards, special training is often provided so that the people are made aware of the hazards (wiseGEEK, October, 2013)

Poor performance in occupational health and safety (OHS) can take a heavy financial toll on any business, not to mention the human cost of work-related illness, injury, and fatality. This is the primary aim of an effective Occupational Health Safety – Management System (OHS – MS). The implementation of such a system can also help your business to deal with the legal imperatives, ethical concerns, industrial relations considerations relating to workplace safety, and to improve its financial performance.

Kogi State came into being as a result of the state creation exercise on 27th of August, 1991 with the administrative headquarters in Lokoja. The creation of the state was indeed a significant development for its citizens. This is because it brought about the reunion of a people who had shared historical roots and co-existed peacefully with the former Kabba province in the defunct Northern Region for more than 80 years.

The state which is structured into 21 LGA's comprises of three major ethnic groups i.e. Igala, Ebira and Okun (Yoruba) other minor groups include – Bassa Komo, Bassa Nge, Kakanda, Kupa, Ogori-Magongo, Nupe, Oworo, and Gwari etc.

There are 8 languages spoken as first language in Kogi State. Ebira, Igala, Nupe and Yoruba are major languages. The other languages are minority languages.

Climate

Kogi State has an average maximum temperature of 33.2oC and average minimum of 22.8oC. The State has two distinct weather viz; dry season, which lasts from November to February and rain season that lasts from March to October. Annual rainfall ranges from 1016mm to 1524mm.

Demography

Kogi State has a total land area of 28,313.53 square kilometres and a projected population of 3.3 million people. It lies on latitude 7.49oN and longitude 6.45oE with a geological feature depicting young sedimentary rocks and alluvium along the riverbeds, which promotes agricultural activities.

Local Governments

Kogi State has 21 Local Government Areas. They are; .Adavi, Ajaokuta, Ankpa, Bassa, Dekina, Ibaji, Idah, Igalamela-Odolu, Ijumu, Kabba/Bunu, Kogi, Lokoja, Mopa-Muro, Ofu, Ogori/Magongo, Okehi, Okene, Olamaboro, Omala, Yagba East, Yagba West.

The school of health technology Idah was established by Edict in 1977. It actually took off in July 1977 at a temporary site located in the town then IDAH Development Association Hall with an initial intake of one hundred and twenty (120) trainees, rural health assistants in the then Benue state and the Kogi state government inherited it after its creation in 1991.

The establishment and location of the school at IDAH was the handwork of late Pharmacist Moses OGWU.

In 1977, the school was moved to the second temporary site which is now Governor's lodge. From then the school started expanding as more courses were introduced and in 1980 the training of public health assistant commenced.

In 1981, the school was moved to the permanent site, which is now the present location. Now the school trains Eight (8) cadres at Certificate, Technician, National Diploma (ND) and Higher National Diploma (HND) levels.

The cadres are Environmental Health Officers, Technicians and Assistants, community health extension workers, Medical Laboratory Technicians and Assistants, Health Information Management Technicians.

Recently, the Kogi state governor (Alh Idris Wada) signed the school bill into law which change the nomenclature of the school into the college and department into schools. These schools are

i. School of Environmental health sciences
ii. School of Community health sciences
iii. School of Medical laboratory sciences
iv. School of Health information management

It is worthy of note that efforts are being made at various level to include more training programmes in the institution such as Dental Therapy and Pharmacy Assistance/Technician, Health Education, Food Science and Nutrition. At the moment, the college has a total population of about two thousand one hundred (2100) students.

Pic.1.2COLLEGE OF HEALTH SCIENCES AND TECHNOLOGY IDAH MAIN GATE

While the college of Nursing Obangede was established by Kwara state Governor Alh Adamu Attah in 1980. The present site was the then model Nursery and primary school owned by okehi local government council. Provisional approval was given by Nursing and midwifery Council of Nigeria in June 1980. The Kogi state government inherited the school August 1991.

Professionally, the school witness series of accreditation visits which led to being granted full accreditation. The school witness transformation of infrastructural development and granted about 2,450 nurses as at 2013 November.

Some of the facilities that called for full accreditation were financed by the former Governor of Kogi state. Example of these facilities is modern auditorium, generators, science laboratory and he signed the law changing the name of the school in to college of Nursing and Midwifery. Governor Idris Wada implemented the law, appointed the first provost of the college and set up the governing council of the college and lastly, the governor Idris Wada released fund for the construction of ICT, admin block, and modern female hostel for the recent accreditation.

Pic.1.3.COLLEGE OF NURSING AND MIDWIFERY OBANGEDE MAIN GATE

The aim of establishing this school was to train man power of various professionals in Primary Health Care to handle health problems at the lower level (primary health care) in order to reduce the cases handle by secondary and tertiary health care delivery system while the Nurses were trained to assist the medical doctors in handling cases at the secondary and tertiary health care level.

1.2STATEMENT OF PROBLEM

There are several opinions as regards to the occupational hazards associated with health workers at the health training institution. Some say the workers are not exposed to any occupational hazard others say hazards associated with their occupation is negligible while others are of the view that hazards associated with their occupation is numerous. So, is the confusion on the relationship between public service health workers and occupational hazards hence the study of occupational hazards among the public service health workers within selected health training institution Idah and Okehi local government areas of Kogi State. Due to the nature of this training environment, the workers have been exposed to so many conditions that may have direct or indirect effects on their health. These conditions are highlighted below.

1.2.1 Physical conditions

1. Dust due to the uses of chalks.
2. Heat (temperature) in class and office
3. Noise (generation) from the generators
4. Poor ventilation (in classes and office
5. Road conditions
6. Radiation in some classes.
7. Absence of landscaping
8. Absence of sanitary conveniences

1.2.2 Psychosocial conditions

- Faulty organizational setting
- Stress
- Lack of motivation
- Lack of Recreational facilities
- Poor human relationship
- Underutilization of man power
- Inadequate welfare services
- Poor security

- Indiscipline
- Assault
- Frustration
- Tiredness
- Absenteeism
- Misuse of authority/power abuse result to poor working relationship

1.2.3 Biological conditions

- Exposure to vermin's (due to improper dumping of refuse
- Sexual Transmitted Disease due to students' attitude
- Prevalence of water related diseases e.g. malaria & typhoid as a result of water pollution
- Medical personnel, clerical officers & cleaners & other staff may be exposed to communicable diseases like tuberculosis, cholera, typhoid, malaria, HIV, Ebola viruses due to practical activities in the school laboratory & school clinic.

1.3PURPOSE OF STUDY

- To investigate the healthy condition of the public service health workers.
- To find out the effect of the activities of public service health workers.
- To access and discover the safety measures of public service health workers.

1.4 BROAD OBJECTIVE

The broadobjective of this research is to evaluate the occupational hazards associated with public service health workers with in the selected study areas.

1.5 SPECIFIC OBJECTIVES

The following are the specific objectives of this project.

1. To examine the hazards associated with health workers in teaching institution.
2. To investigate the possible health effects of occupational hazards to health workers
3. To proffer solution to the uses of safety measures by the health workers.

1.6 SIGNIFICANCE OF STUDY

This study will help to create awareness of the Occupational Health Hazards prevalent among the health workers and improve the Occupational Health and Safety Management System of the Organisation. Occupational safety and health is good for business as well as being a legal and social obligation (OSH, October, 2013). Enterprises appreciate that OSH prevents people from being harmed or made ill through work, but it is also an essential part of a successful business. Occupational safety and health helps demonstrate that a business is socially responsible, protects and enhances brand image and brand value, helps maximise the productivity of workers, enhances employees‟ commitment to the business, builds a more competent, healthier workforce, reduces business costs and disruption, enables enterprises to meet customers‟‟ OSH expectations, and encourages the workforce to stay longer in active life (EU-OSHA, 2013). The worth of this study cannot be underestimated and over-emphasized owing to the fact that it will propose a value-added Occupational Health and Safety Management System (OHS-MS) approach in the educational sector. The proposed approach wherein the OHS-MS elements as shown below will be duly exploited;

i. Leadership and Commitment
ii. Policy and Strategic Objectives
iii. Organization and Resources
iv. Evaluation and Risk Management
v. Planning
vi. Implementation and Monitoring
vii. Audit
viii. Management Review

- It will serve as role model for other researchers who may wishes to carryout similar research work.
- It will also serve as a means of improving the safety insurance on the recommendation to solve any problem.
- It will also enhance knowledge environmental health ethics as well as monitor its significant for its effectives.

1.7 Scope of Study

The Research study identifies health hazards and describes the awareness of occupational health hazards of the workers among the health workers. In addition, it includes the health risks assessment of the hazards to the workers, evaluation of the risk on the health of the workers and possible control to prevent and mitigate the impact of the hazards on the health and well-being of the workers.

1.8Research Questions

- Could there be any hazards associated with health workers in health training institution?
- Can occupational hazards cause health effects to health workers in health training institution?
- Are there any safety measures to be used by the workers?

1.9 Hypothesis

- Hi: There could be no hazards associated with health workers in health training institution
- Ho: There could be hazards associated with health workers in health training institution
- Hi: Occupational hazard cannot cause health effects to health workers in health training institution.
- Ho: Occupational hazards cancause health effects to health workers inhealth training institution.
- Ho: There are safety measures to be use in such training institution.

Hi: There is no safety measures used in such training institution

II. OCCUPATIONAL HEALTH DISEASE

Occupational health disease can be defined as a compensable disease contacted by the worker due to exposure to hazards in the work places. (Adobe, 1996) defined it as any condition arising from work place exposures which compromises worker's physical, mental and social well-being. Asogwa (2007) defined it as diseases associated with particular processes or agents which the worker is exposed to in the course of his work.

Osanyingbemi was quoted by (Achlu, 2000) as have defined occupational disease as those diseases which occur with characteristic frequency and regularity in occupations where there are specific hazards. It can also be explained as any chronic ailment that occurs as a result of occupational activities. By the definitions, it means that there must be interaction of the worker with the environment before the disease can occur.

Classification of Occupational Diseases

Occupational diseases can be classified in different forms. Classification put forward by Asogwa, 2007 and Park, 2002 according to their target organ systems of the body and they include:

1. Occupational diseases of the respiratory system
2. Occupational diseases of the liver
3. Occupational diseases of the cardiovascular system
4. Occupational diseases of the Gastro-intestinal system
5. Occupational diseases of the Genito-urinary system
6. Occupational diseases of the skin or dermatologic system
7. Occupational diseases of the musculoskeletal system
8. Occupational diseases of the haemopioetic system.
9. Occupational diseases of the physical agent.

The occupation or the nature of work performed by a person exposes him or her to health hazards associated with that occupation. Diverse occupations exist. They include traditional manufacturing industries (automobile. automotive and appliances); service industries (banking, health care, and restaurant); education, agriculture, construction, mining, and newly high technology firms like computer chips manufacturing companies and many others.

Occupational Health and Safety – Management System (OHS – MS)

OHS – MS is the Management Protocol that should be followed in Occupational Health and Safety in order to protect, promote and rehabilitate the health and well-being of workers in the workplace.

A positive health and safety organisational culture is underpinned by strong leadership of the management together with the active involvement and participation of workers in which everyone accepts their rights, roles and responsibilities in relation to health and safety, and works collaboratively to prevent ill-health and injury, and to promote health and wellbeing. Effective leadership is required to provide strategic direction for the management of safety and health and to motivate staff to engage effectively in ensuring good safety and health performance. The commitment to effective worker participation needs to be visible and communicated to the entire workforce. An effective safety and health management system should be based on risk assessment, with the objective of identifying key occupational hazards and key at-risk groups and developing and implementing appropriate prevention measures. Effective worker participation and employee involvement in risk assessment and planning, and introducing measures is particularly important (Worker participation practices: a review of EU-OSHA case studies).

Leaders play a key role in influencing the management of safety and health in a number of different ways. These can include: establishing effective governance for OSH management; setting out a strategy, policy and targets and monitoring progress; providing examples of good practice through their own behaviour; establishing a positive safety and health culture and the engagement of all staff in safety and health matters; ensuring that safety and health remains a priority during the day-to-day operations; empowering individual employees to take preventive actions, as well as behaving in a healthy and safe way; providing employees with the necessary safety training, tools and equipment; and involving employees in safety and health decisions (Ernst & Young, 2001). Occupational safety and health leadership is about securing the health, safety and welfare of workers by reducing risks, and protecting them and others from harm or illness arising out of work activities (Mullen & Kelloway, 2011). Leadership has been argued to be one of the key determinants of employee well-being (Kelloway & Day, 2011), and is fundamental to promoting and sustaining a safe and healthy workplace

Asogwa S.E, (1998) in his text, explained that certain diseases are associated with certain occupations; the knowledge had frequently been acquired the hard way, often at the expenses of workers lives. Boley J. W (1997) disclosed that the corporate staff should develop seminars for all the local safety officers to attend annually. It is a good idea to rotate the location of office from safety to each other problems. The corporate staff may also decide to recommend the various specialists to attend the specialized institution for further professional training or study. Eijekeman, (2004) stated that hundreds of million are working under the circumstance that foster ill health and or that are unsafely. It is estimated that yearly half a million people worldwide die of occupational injuries and work related diseases.

Hobson, (2007) stated that occupational hazards like radiation can cause leukaemia, anaemia, shortening of life span. He estimated that acute effect after higher exposure may include brain damage, nausea, vomiting, diarrhoea and abdominal pain. In fact some of the above effects are present in the case study because of the condition of some class rooms. Mfon, (2006) narrated that every occupation has its health problem.

III. RESEARCH METHODOLOGY

This research was carried out with purpose of getting reliable information or data with which the researcher will draw conclusions and recommendation.

3.1 Population Of Study Area

The population of the study area is the total population of both the staff and students (excluding the students on practical) at the health training institutions in Kogi state.

The case study comprises of public health training institutions. (The college Health Sciences and technology Idah comprises of four schools with total work force of 210

and the students population of about 2100 while that of College of Nursing Obangede has only one department with student's population of about 200 and the total work force of 109 staff.)

3.2 Research Design

For the purpose of obtaining reliable and vital information, primary and secondary method of data collection was utilized. Primary method comprises of personal observation of hazards associated with public service health workers at the selected health training institutions, conduction of interview among the workers and its students and the use of self-administered structured questionnaire to obtain relevant information. While secondary method of data collection includes the review of different literature that discussed the various objectives of this topic where the various occupational problems has occurred was explained. This study is a non-experimental cross sectional design descriptive study.

3.3 Sample And Sampling Techniques

During this investigation of the topic, the researcher visited the colleges where some of the public services health workers perform their activities and observe the conditions of the workers in order to determine the exact effects of the activities on the workers and the students in the environment. The researcher equally conducted interview to some workers and questionnaires were framed, printed and distributed to some of the workers and students in each institution. The researcher distributed 200 questionnaires to each institution using stratified and simple random probabilistic sampling techniques to select two hundreds respondents each for this work.

S/n	Sub Groups	No of Unit	Sample size with Probabilities proportionate size
1.	Students	1480	1480 X200 = 175 1690 1
2.	Lecturers	210	210 X 200 =25 1690 1
	Total	1690	200

Table 3.1 (a) selection of sample size using stratified sampling at College of Health Sciences and Technology, Idah

S/n	Sub Groups	No of Unit	Sample size with Probabilities proportionate size
1.	Lecturers	109	109 X 200 =70.55 309 1 =71
2.	Students	200	200 X 200 =129.44 309 1 = 129
	Total	309	200

Table 3.1 (b) selection of sample size using stratified sampling at College of Nursing and Midwifery, Obangede.

3.4instrument For Data Collection

In order to obtain relevant and meaningful information from the resourceful persons of the health training institutions; the researcher used personal observations, interview and structured questionnaire.

The researcher adapted to personal observation on the activities of public service health workers within the case study, conduction of interview among the staff and some students to profile the data collection. The interview was rhyme with the questionnaire to suit the purpose of hypothesis.

Furthermore, two hundred questionnaires were administered by the researcher to each college respectively.

3.5 QUESTIONNAIRE

For proper coverage of the area under study, the researcher prepared, printed and distributed questionnaires which comprises of 40(forty) questions of both structured and unstructured type of questions as regards to occupational hazards in health training institution.

The questionnaire which were personally developed after thorough review of literature were made up two sections, section A contain items on bio-data of respondents and section B contain data of 40(forty) questions on occupational hazardsin health training institution.

3.6 VALIDITY AND RELIABILITY OF THE INSTRUMENT

The instruments werepractically examined through pre-test, test and retest on both institutions and compared the related data gathered in order to declare the authenticity of the data that wasgiven.

PRE-TEST

Forty questionnaires were practically applied to both staff and students atAjine College of Health Technology, Idah in Kogi State to facilitate the test.

TEST

Two hundred questionnaire were distributed to each College of the study area in other to obtain a reliable information

RE-TEST

Forty questionnaireswere practically distributed to the professional colleagues at Kogi State sanitation and waste management board under school health inspection unit to authenticate my findings.

The features of the instrument may predispose the validity and reliability of the genuine finding from the audience within the colleges in order to prove the truth of my findings in the case studies.

3.7 TECHNIQUE FOR DATA ANALYSIS

The information was compared in detail through the various instrument particularly the results of questionnaires which was organised in line with the research questions and hypothesis in introduction.

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Meanwhile, the researcher make uses of statistics instrument which includes percentage table, pie chart to facilitate the data analysis and uses of inferential statistics like step by step student's chi square for presentation of the result of variables within the case study.

IV. ANALYSIS OF HYPOTHESIS

Data analysis simply implies the elaboration of data collected from questionnaire used in collecting the data from the study area. The questionnaire contained the research hypothesis in which the results were presented for analysis.

Meanwhile, statistical table of value with percentage were indicated. Also pie charts withstudent chi square were used to illustrate the response of the resourceful staff and students from the two colleges. The analysis below represents the data gathered from College of Health Sciences and Technology, Idah.

TEST OF HYPOTHESIS I

This can be traced to question 10 in the questionnaire and enquired that "could there be any hazards associated with public service health workers in training institution" for the purpose of this question different staff and selected students expressed their viewed to indicate Yes or No to the question in the questionnaire.

Below is the table of value which tally along with percentage value of the number of the staff and students responses for the question at college of health sciences and technology Idah.

Table 4.14 a

RESPONSE	DESCRIPTION				TOTAL
	STAFF		STUDENTS		
	No	(%)	No	(%)	
YES	23 (a)	92.0	129 (b)	78.66	152(a+b)
NO	2(c)	8.0	35 (d)	21.34	37(c+d)
TOTAL	25 (a+c)	100	164(b+d)	100	189(M)

The above Table shows the responses between the staff and students in agree or disagree with objectives on that "could there be any hazards associated with public service health workers in health training institution.

The pie chart of the table that shows the degree of responses between the staff and students is shown below:

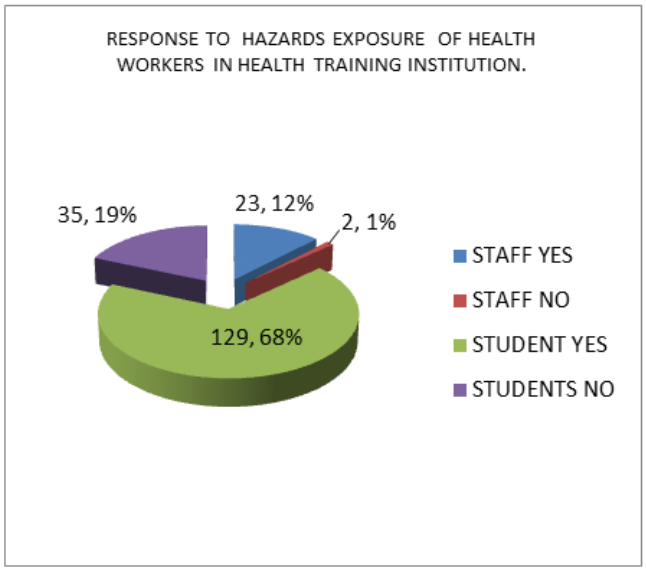

Plate 4.14a showing the response of workers and students to confirm the exposures of hazards at CHST, IDAH training institution

STEP I HYPOTHESIS FORMULATION

Ho stated that there could be hazards associated with public service health workers in health training institution.
H_i stated that there could be no hazards associated with public service health workers in health training institution.

STEP II PARAMETER

Let the significant level x be 0.05 at 95% confidence interval
Degree of freedom df = 1
X^2 tabulated is k =v-1= 2-1 =1, where v=table value or number and k degree of freedom
X^2 tabulated = 3.841

STEP III : TEST STATISTICS

Let the tested statistics be $X^2 = \frac{[ad-bc]^2 M}{klmn}$

STEP IV : DECISION RULE

If X^2 calculated is greater than X^2 tabulated H_i will be accepted and H_o rejected. But If X^2 calculated is less than X^2 tabulated, H_o will be accepted and H_i rejected.

STEP V: COMPUTATION

Using the formula $X^2 = \frac{(ad-bc)^2 M}{Klmn}$

$$X^2 = \frac{(23x35-129x2)^2\ 189}{25x164x152x37}$$

$$X^2 = \frac{(805-258)^2\ 189}{23058400}$$

$$X^2 = \frac{56550501}{23058400}$$

$$X^2 = 2.453$$

Since X^2 calculated is less than X^2 tabulated, H_o which stated that there could be hazards associated with public services health workers will be accepted and H_i rejected.

HYPOTHESIS II

This question can be found on number 11 of the questionnaire which requested that can occupational hazards affect the health of public service health workers in health training institution. In view of this question, both the staff and selected students expressed their viewed to indicate yes or No to the question in the questionnaire. Therefore, the table below shows the responses from the staff and student in respect to above question.

Table 4.15 a

RESPONSE	DESCRIPTION				TOTAL
	STAFF		STUDENTS		
	No	(%)	No	%	
YES	22(a)	88	129(b)	78.66	151(a+b)
NO	3(c)	12	35(d)	21.34	38(c+d)
TOTAL	25(a+c)	100	164(b+d)	100	189M

The figure 4.2 above is a table of value with percentage which acknowledge the responses of staff and students to the objective two which stated that occupational hazard can affect the health of public service health workers in health training institution.

The pie chart of the table that explained the degree of responses between the staff and students to hypothesis II is shown below:

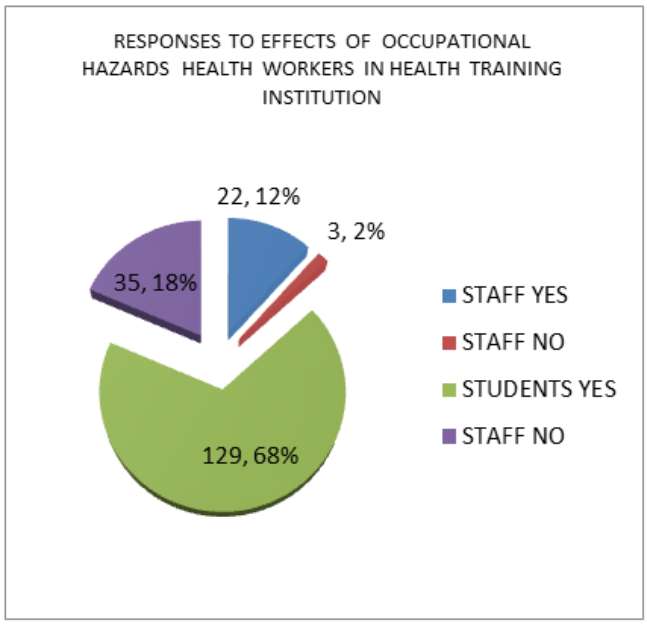

Plate 4.15a showing the response of workers and students on occupational hazards exposures at CHST, IDAH training institution

STEP I HYPOTHESIS FORMULATION

H_i stated that occupational hazards cannot affect the health of public service health workers in health training institution.

H_o stated that occupational hazards can cause health effects to the workers.

STEP II PARAMETER

Let the significant level x be 0.01 at 99% confidence interval

Degree of freedom df = 1

X^2 tabulated is k = v-1= 2-1 =1, where v=table value or number and k degree of freedom

X^2 tabulated = 6.63

STEP III : TEST STATISTICS

Let the tested statistics be $X^2 = \frac{[ad-bc]^2 M}{klmn}$

STEP IV: DECISION

If X^2 calculated is greater than X^2 tabulated H_i will be accepted and H_o rejected. But If X^2 calculated is less than X^2 tabulated, H_o will be accepted and H_i rejected.

STEP V: COMPUTATION

Using the formula $X^2 = \frac{(ad-bc)^2 M}{Klmn}$

$X^2 = \frac{(22x35-129x3)^2 189}{25x164x151x38}$

$X^2 = \frac{(770-387)^2 189}{23525800}$

$X^2 = \frac{(383)^2 189}{23525800}$

$X^2 = 1.1784$

Since X^2 calculated is less than X^2 tabulated, H_o which stated that occupational hazards has effects on health of workers and students would be accepted and H_i rejected.

HYPOTHESIS III

This hypothesis question can be traced to question 12 in the questionnaire which stated that "does workers appreciate the uses of any safety measures/personal protective devices at work" in view of this some responses determined to use personal protective devices while some rejected it. Therefore, the table of value below represents the responses of both staff and students of training institutions.

Table 4.16 a

RESPONSE	DESCRIPTION				TOTAL
	STAFF		STUDENTS		
	No	(%)	No	(%)	
YES	6(a)	24	80(b)	48.78	86(a+b)
NO	19(c)	76	84(d)	51.22	103(c+d)
TOTAL	25 (a+c)	100	164(b+d)	100	189M

The above table with percentage value illustrate the responses of women and students to agree with the question or Not.

The pie chart of the table that explained the degree of responses between the staff and students to hypothesis iv is shown below:

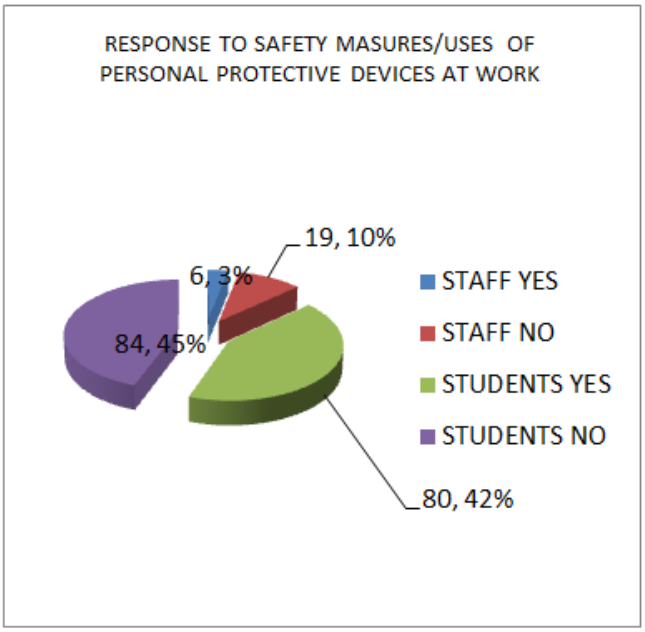

Plate 4.16a showing the response of workers and students on the uses of safety measures and personal protective devices at CHST, IDAH training institution

STEP I HYPOTHESIS FORMULATION

H_o stated that the workers appreciate the uses of personal protective devices/safety measures in health training institution.

H_i stated that the workers do not have safety measures/personal protective devices in health training institution.

STEP II PARAMETER

Let the significant level be 0.05 at 95% confidence interval
Degree of freedom df = 1

X^2 tabulated is k = v-1= 2-1 =1, where v=table value or number and k degree of freedom
X^2 tabulated = 3.841

STEP III: TEST STATISTICS

Let the tested statistics be $X^2 = \frac{[ad-bc]^2 M}{klmn}$

STEP IV: DECISION

If X^2 calculated is greater than X^2 tabulated H_i will be accepted and H_o rejected. But If X^2 calculated is less than X^2 tabulated, H_o will be accepted and H_i rejected.

STEP V: COMPUTATION

Using the formula $X^2 = \frac{(ad-bc)^2 M}{klmn}$

$X^2 = \frac{(6x84-80x19)^2\ 189}{25x164x86x103}$

$X^2 = \frac{(504-1520)^2\ 189}{36317800}$

$X^2 = \frac{(1016)^2 x189}{36317800}$

$X^2 = 5.3719$

Since X^2 calculated is greater than X^2 tabulated, H_i which stated that the workers do not have safety measures/personal protective devices in health training institution will be accepted and H_o rejected.

Analysis of data collected at College of Nursing and Midwifery Obangede were given below:

HYPOTHESIS I

This can be traced to question 10 in the questionnaire and enquired that "could there be any hazards associated with public service health workers in health training institution" for the purpose of this question different staff and selected students expressed their viewed to indicate Yes or No to the question in the questionnaire.

Below is the table of value which tally along with percentage value of the number of the staff and students responses for the question at college of Nursing and Midwifery Obangede.

Table 4.14 b

RESPONSE	DESCRIPTION				TOTAL
	STAFF		STUDENTS		
	No	(%)	No	%	
YES	60(a)	86.95	87(b)	80.56	147(a+b)
NO	9(c)	13.05	21(d)	19.44	30(c+d)
TOTAL	69(a+c)	100	108(b+d)	100	177M

The above Table shows the responses between the staff and students in agree or disagree with objectives on that "could there be any hazards associated with public service health workers in health training institution.

The pie chart of the table that shows the degree of responses between the staff and students is shown below:

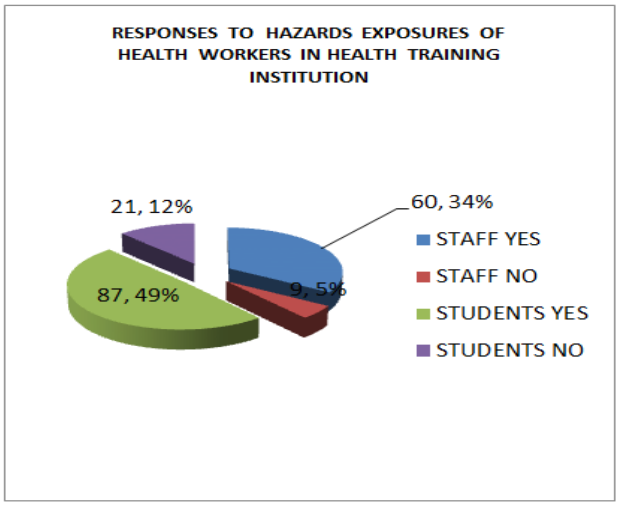

Plate 4.14b showing the response of workers and students to confirm the exposures of hazards at CNM, health training institution

STEP I HYPOTHESIS FORMULATION

H_i stated that there could be no hazards associated with public service health workers in health training institution.

H_o stated that there could be hazards associated with public service health workers in health training institution.

STEP II PARAMETER

Let the significant level x be 0.05 at 95%confidence interval

Degree of freedom df = 1

X^2 tabulated is k = v-1= 2-1 =1, where v=table value or number and k degree of freedom

X^2 tabulated = 3.841

STEP III : TEST STATISTICS

Let the tested statistics be $X^2 = \frac{[ad-bc]^2 M}{klmn}$

STEP IV : DECISION RULE

If X^2 calculated is greater than X^2 tabulated H_i will be accepted and H_o rejected. But If X^2 calculated is less than X^2 tabulated, H_o will be accepted and H_i rejected.

STEP V: COMPUTATION

Using the formula $X^2 = \frac{(ad-bc)^2 M}{Klmn}$

$X^2 = \frac{(60x21-87x9)^2 177}{69x108x147x30}$

$X^2 = \frac{(1260-783)^2 177}{32863320}$

$X^2 = \frac{(477)^2 177}{32863320}$

$X^2 = 1.2254$

Since X^2 calculated is less than X^2 tabulated, H_o which stated that there could be hazards associated with public services health workers in health training institution will be accepted and H_i rejected.

HYPOTHESIS II

This question can be found on number 11 of the questionnaire which requested that can occupational hazards affect the health of public service health workers in health training institution. In view to this question, both the staff and selected student expressed their viewed to indicate yes or No to the question in the questionnaire. Therefore, the table below shows the responses from the staff and student in respect to the above question.

Table 4.15 b

RESPONSE	DESCRIPTION				TOTAL
	STAFF		STUDENTS		
	No	(%)	No	%	
YES	60(a)	86.95	87(b)	80.56	147(a+b)
NO	9(c)	13.05	21(d)	19.44	30(c+d)
TOTAL	69(a+c)	100	108(c+d)	100	177M

The figure 4.2 above is a table of value with percentage which acknowledge the responses of staff and students to the objective two which stated that occupational hazard can affect the health of public service health workers in health training institution.

The pie chart of the table that explained the degree of responses between the staff and students to hypothesis II is shown below:.

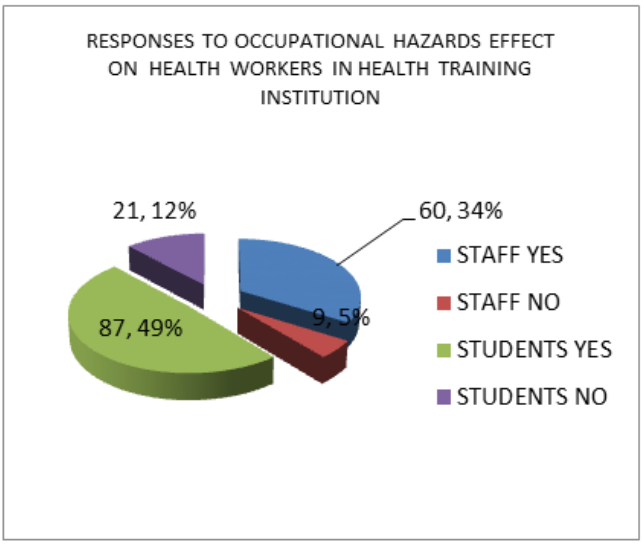

Plate 4.14a showing the response of workers and students on occupational hazards at CNM, obangede health training institution

STEP I; HYPOTHESIS FORMULATION

H_i stated that occupational hazards cannot affect the health of public service health workers in health training institution.

H_o stated that occupational hazards can cause health effects to the workers in health training institution.

STEP II PARAMETER
Let the significant level x be 0.01at 99% confidence interval
Degree of freedom df = 1

X^2 tabulated is k = v-1= 2-1 =1, where v=table value or number and k degree of freedom
X^2 tabulated = 6.63

STEP III: TEST STATISTICS
Let the tested statistics be $X^2 = \frac{[ad-bc]^2 M}{klmn}$

STEP IV: DECISION
If X^2 calculated is greater than X^2 tabulated H_o will be accepted and H_i rejected. But If X^2 calculated is less than X^2 tabulated, H_i will be accepted and H_o rejected.

STEP V: COMPUTATION
Using the formula $X^2 = \frac{(ad-bc)^2 M}{Klmn}$

$X^2 = \frac{(60x21-87x9)^2 177}{69x108x147x30}$

$X^2 = \frac{(1260-783)^2 177}{32863320}$

$X^2 = \frac{(477)^2 177}{32863320}$

$X^2 = 1.2255$

Since X^2 calculated is less than X^2tabulated H_o which stated that occupational hazards could cause health effects to workers at the health training institution would be accepted and H_i rejected.

HYPOTHESIS III
This hypothesis question can be traced to question 12 in the questionnaire which stated that "does workers appreciate the uses of any safety measures/personal protective devices at work" in view of this some responses determined to use personal protective devices while some rejected it. Therefore, the table of value below represents the responses of both staff and students of training institutions.

Table 4.16 b

RESPONSE	DESCRIPTION				TOTAL
	STAFF		STUDENTS		
	No	(%)	No	(%)	
YES	61(a)	88.41	89(b)	82.41	150(a+b)
NO	8(c)	11.59	19(d)	17.59	27(c+d)
TOTAL	69(a+c)	100	108(b+d)	100	177M

The above table with percentage value illustrate the responses of women and students to agree with the question or Not.

The pie chart of the table that explained the degree of responses between the staff and students to hypothesis iii is shown below:

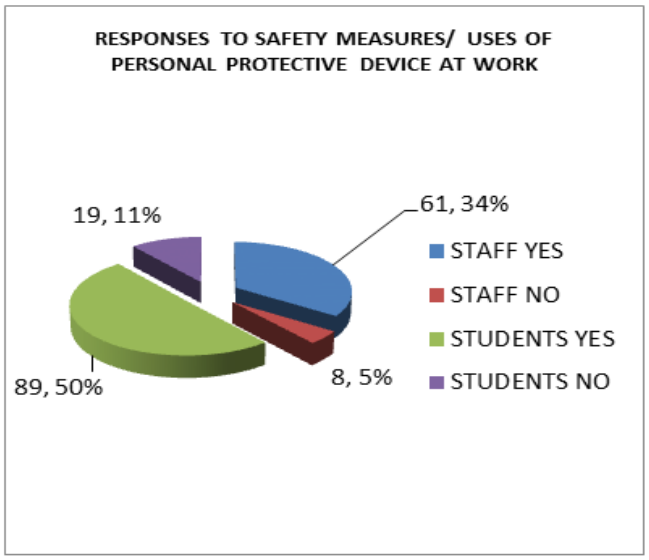

Plate 4.16bshowing the response of workers and students on the uses of safety measures and personal protective devices at CNM, obangede health training institution

STEP I HYPOTHESIS FORMULATION
H_o stated that the workers appreciate the uses of personal protective devices/safety measures in health training institution.

H_i stated that the workers do not have safety measures/personal protective devices in health training institution.

STEP II PARAMETER
Let the significant level x be 0.05 at 95% confidence interval
Degree of freedom df = 1
X^2 tabulated is k = v-1= 2-1 =1, where v=table value or number and k= degree of freedom
X^2 tabulated = 3.841

STEP III: TEST STATISTICS
Let the tested statistics be $X^2 = \frac{[ad-bc]^2 M}{klmn}$

STEP IV: DECISION
If X^2 calculated is greater than X^2 tabulated H_i will be accepted and H_o rejected. But If X^2 calculated is less than X^2 tabulated, H_o will be accepted and H_i rejected.

STEP V: COMPUTATION
Using the formula $X^2 = \frac{(ad-bc)^2 M}{Klmn}$

$X^2 = \frac{(61x19-89x8)^2 177}{69x108x150x27}$

$X^2 = \frac{(1159- 712)^2\ 177}{30180600}$

$X^2=1.1718$

Since X^2 calculated is less than X^2 tabulated, H_o which stated that the workers appreciate the uses of personal protective devices/safety measures at health training institution (college of nursing obangede).

In comparism, the respondent from the two colleges affirmed that a lot of hazards are present at the health training institutions and it has negative effects on the health workers and the students they train but at college of Nursing and Midwifery obangede has much measures to improve their environment to make it conducive for learning and knowledge impartment.

V. CONCLUSION

The occupational health and safety programme in Nigeria has not been implemented in so many sectors and that lead to the identification of occupational health hazards in educational sector like health training institution. Occupational health practice requires constant attention and priority in all sectors especially at the health training institution in order to prevent the various hazards associated with the activities workers and audience in such sector and to improve their wellbeing. Occupational hazards among the health workers of health training institution in Kogi state were much pronounced because of the negligence on the part of the management and government to implement the occupational health programme that will helps to promote and improve the wellbeing of the people. This research work corroborates the findings of other researches that hasbeen conduct in the area of occupational health and safety. However, prior attention has to be given to the following conditions at the health training institution in order to improve the wellbeing and health status of the people. The commonest hazardsfound by this research work include poor ventilation, heat and radiation, landscaping, lack of sanitary conveniences, lack of motivation, poor security, assault & frustration, underutilization of man power, poor human relationship, misuse of authority, in adequate potable water supply, non- implementation of wash principle practice and other safety measures but not limited to include faulty organizational settings. Although there was recent development from the management to look into some of the hazards but the level of commitment is too low

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