

Awareness of occupational hazards and safety practices of workers in paint factories in Akwa Ibom State, Nigeria

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Abstract

There is a high prevalence of occupational accidents and injuries among factory workers whose job requires high risk in developing countries like Nigeria. The objective of this study was to examine awareness of physical, mechanical, psychosocial, ergonomic and chemical hazards and safety practices of workers in paint factories in Akwa Ibom State. Five research questions as well as five null hypotheses were formulated to give direction to the study. Correlational research design was used in the study. The population of the study comprised of 320 paint factory workers in Akwa Ibom State. Convenience sampling technique was used to select 99 paint factory workers which formed the sample for this study and a researcher-made questionnaire (AOHSWPF) with 45 items generated the data for the study. Content and construct validity of the instrument was ensured. To test the reliability of the instrument, trial test was conducted on 30 paint factory workers and the findings revealed that the Cronbach Alpha value of the instrument was 0.88. Pearson product moment correlation (PPMC) statistics was used to answer the research questions while simple linear regression was used to test the hypothesis. Data obtained were analyzed using SPSS version 23 (IBM Corp, 2017). All the null hypotheses were rejected in favor of the alternative hypotheses, this implies significant relationship between awareness of physical, mechanical, psychosocial, ergonomic and chemical hazards and safety practices of paint factory workers in Akwa Ibom State. Based on the findings of this study, it is here interred that while working, the workers followed safety initiatives thereby limiting exposure to hazard and promoting workplace safety. The researcher therefore recommends that there is the need to develop effective framework that will promote the integration and implementation of Occupational Health and Safety (OHS) regulations and guidelines in paint factories so as to reduce associated occupational hazards in Nigeria in line with Global best practices.

Keywords: occupation, hazard, safety, practices, factory

Introduction

Global Occupational Safety and Health (OSH) is strictly linked to the dynamics of economic globalization. As the global market is increasing, the gap between developed and underdeveloped countries, occupational diseases, and injuries affects a vast number of workers worldwide. Globally 1,000 people are estimated to die every day from occupational accidents and

a further 6,500 from work related diseases. The aggregate figures indicate an overall increase in the number of deaths attributed to work: from 2.33 million deaths in 2014 to 2.78 million deaths in 2017 (Hämäläinen *et al.*, 2017). About two-thirds (65 per cent) of global work-related mortality is estimated to occur in Asia, followed by Africa (11.8 per cent), Europe (11.7 per cent), America (10.9 per cent) and Oceania (0.6 per cent). This reflects the distribution of both the world's working population and hazardous work, as well as differing levels of national economic development with those in Africa and Asia between 4 and 5 times higher than those in Europe (Hämäläinen *et al.*, 2017; ILO, 2019). A recent report of Africa's state of occupational diseases (Takala *et al.*, 2017) has shown that Africa has the highest relative share of work-related communicable diseases (over a third) and occupational accidents (over 20 per cent) and lowest for cancers (less than 15 per cent). Sub-saharan Africa appears to have the greatest rate of occupational accidents in Africa and an estimated 42 million occupational accidents with over 54,000 fatalities reported annually (Tadesse *et al.*, 2016). The conclusion reached in a recent study (Amfo-otu and Angyema, 2016) was that people belonging to all economic groups suffer fatal injuries, but death rates due to occupational accidents and diseases tend to be higher in developing countries like Nigeria where there are unsafe working environments, less awareness, poorly trained workers and limited or no occupational health services available for the working population.

According to Gafoor (2012), the term "awareness" means knowledge that something exists, or understanding of a situation or subject at the present time based on information or experience. To be aware means to know, to realize or interested in knowing about something, or, to know that something is important. It is one of the behaviours under the receiving in taxonomy of affective domain in humans or an animal's perception and cognitive reaction to a condition or event (Gafoor, 2012). Recent research finds out that profitability is significantly higher in factories where there are better working conditions, greater compliance with labour standards and more innovative human resource management practices (Brown *et al.*, 2014).

A factory is a building or group of buildings where goods are manufactured or assembled chiefly by machine. Factory workers are responsible for a range of functions including processing, sorting, and packing the products, as well as operating the machines and monitoring the output to check it is in line with compliance standards. Paint is a substance composed of solid colouring matter suspended in a liquid medium and applied as a protective or decorative coating to various surfaces. According to Lundberg and Milatou-Smith (2012), workers in paint industries spend long hours to process paints for marketing. They assemble large quantity of paint raw materials and undergo the processes of mixing, dispersing, thinning and adjusting to obtain a desirable quality output. Paint manufacturing worker controls equipment to make dyes from coal tar derivatives. Measures coal tar derivatives, using balanced scale or graduated container, dumps them and add required amounts of sodium salt of nitrous acid with hydrochloric acid into vat of water, and starts agitator to make chromogen (dye-forming substance). Adds ice to chromogen to maintain temperature at prescribed level, dips litmus paper into chromogen to determine its acidity, adds required amounts of auxochromes (salt-forming materials) to chromogen to strike (form) dye.

Tests acidity of dye, using pH meter, and corrects variances from standard by adding specified acid or alkali to dye (ILO, 2012).

Occupational environment encompasses the sum of external conditions and influences which prevail at the place of work and which have a bearing on the health of a working population. The industrial worker today is placed in a highly complicated environment which is getting more complicated as man is becoming more innovative. Basically, there are three types of interaction in a working environment: (a) Man and physical, chemical, and biological agents (b) Man and machine (c) Man and man (Park, 2015).

According to McMalion (2021), a hazard can be described as any object, situation, or behavior that has the potential to cause injury, ill health, or damage to property or the environment. Health and safety hazards exist in every workplace. Some are easily identified and corrected, while others are necessary risks of the job and must be managed in other ways (for instance, by using protective equipment). Kivimaki (2015) reported that most occupational hazards are inactive or have a low potential of actually occurring; however, employers and employees must be prepared to deal with them since a hazard becoming active can generate an emergency situation. Hazards can appear in many occupational circumstances. Some hazards are acute and pose an immediate danger to the health and physical integrity of the worker or guests on the premises. Others take a longer time to materialize and may have a cumulative effect, as is the case for certain chemicals, vapors, dusts, and radiation that may lead to chronic medical conditions following repeat or prolonged exposure.

Occupational hazard is the risk, harm, or danger that an individual is exposed to at the workplace, whereas occupational diseases result from such exposures to the individual (WHO, 2017). Occupational hazards can be divided into two categories: Safety and Health Hazards. Safety Hazards are those that cause accidents that physically injure workers, and Health Hazards result in the development of disease. It is important to note that a hazard only represents a potential to cause harm. Whether it actually does cause harm will depend on circumstances, such as the toxicity of the health hazard, 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 (OML, 2015).

The operations of the industry involve the use of machineries and equipment to transform raw materials into finished products. Various kinds of hazards have been identified within the work environment in the chemical industry of Nigeria, some of which include noise and vibration hazards, chemical hazards, fall from heights, biological hazards, electrical hazards, fire and explosion hazards (Okon and Osesie 2017). Occupational hazards may lead to illness, injury or death. Although occupational diseases appear to occur less frequently than other major debilitating diseases, there is evidence that they affect a considerable number of people, particularly in rapidly industrializing countries (example, Nigeria), hence indirectly impacting on the economy. During work periods, workers are faced with a variety of hazards and illnesses, including physical hazards, mechanical hazards, psychosocial hazards, ergonomic hazards and chemical hazards which are responsible for a variety of health consequences.

A physical hazard is an agent, factor or circumstance that can cause harm with or without contact. Physical hazards are a common source of injuries in many industries. Physical hazards include, heat and cold stress, slips, falls, vibration, radiation, and noise (Harwood, 2014). Temperature extremes can cause a danger to workers. Heat and cold are common physical hazards in most industries. The direct effects of heat exposure are burns, heat exhaustion, heat stroke and heat cramps; the indirect effects are decreased efficiency, increased fatigue and enhanced accident rates. Overexposure to freezing conditions or extreme cold can result in a risk to many workers. Physical work under such conditions is very stressful and impairs the health and efficiency of the workers (Park, 2015). Falls are a common cause of occupational injuries and fatalities. Circumstances like floor holes and wall opening, misused fall protection, slippery, cluttered, or unstable walking surfaces, unprotected edges and unsafely situated ladders are associated with occupational fall injuries as stated by United States National Institute of Occupational Safety and Health (USNIOOSH, 2016a). Confined spaces can pose a hazard not just to workers, but also to people who try to rescue them. The (USNIOOSH, 2016b) defines "confined space" as having limited openings for entry and exit and unfavorable natural ventilation, and which is not intended for continuous employee occupancy. Spaces of this kind can include storage tanks, sewers, and pipelines. Noise also presents a fairly common workplace hazard: occupational hearing loss is the most common work-related injury. Factory workers are influenced by electrical injuries which can be divided into four types: fatal electrocution, electric shock, burns, and falls caused by contact with electric energy. Vibration has long been recognized as a serious occupational hazard. Continuously repeated exposure to high levels of vibration results in injuries or illnesses. Vibration exposure is classified into two general types: hand-arm and whole-body vibration (USNIOOSH, 2016b). Although machines can significantly improve production and efficiency, but they do not come without risks (Gibson, 2014).

Mechanical hazards are those associated with power driven whether automated or manually operated. A mechanical hazard is any hazard involving a machine or industrial process. Machines are also often involved indirectly in worker deaths and injuries, such as in cases in which a worker slips and falls, possibly upon a sharp or pointed object. Power tools, used in many industries, present a number of hazards due to sharp moving parts, vibrations, or noise (USNIOOSH, 2016b).

A psychosocial hazard is any occupational hazard that affects the psychological well-being of workers, including their ability to participate in a work environment among other people. According to Kivimäki, 2015, psychosocial hazards are related to the way work is designed, organized and managed, as well as the economic and social contexts of work and are associated with psychiatric, psychological and/or physical injury or illness. Psychosocial factors such as long term working hours workplace violence, and occupational stress are closely connected with health disorders which are recognized internationally as major challenges to occupational health and safety. Takahashi (2017), reported that some type of work schedules, such as shift work, dramatically affect our mental and physical functioning. Being bullied at work may also disrupt the quality of work life which are recognized internationally as major challenges to occupational health and safety.

The term "ergonomics" is derived from the Greek *ergon*, meaning work and *nomos*, meaning law. It simply means: "fitting the job to the worker" (Park, 2015). Ergonomics / physical arrangement of work area and equipment allow people to work comfortably and in safety. Thus an ergonomic hazard, is a physical factor within the environment that harms the musculoskeletal system. Ergonomic hazards in factories include themes such as repetitive movement, manual handling, workplace/job/task design, uncomfortable workstation height, poor body positioning, the height and orientation of machines, equipments, chairs which provide postural support.

A chemical hazard is a type of occupational hazard caused by exposure to chemicals in the workplace. Paints are basically a liquid solution of pigment (coloring material) and solvent, which is applied on different surfaces for decorative or protective reasons. Thousands of chemical compounds are used in paint products, like pigments, extenders, binders, additives, and solvents (toluene, xylene, ketones, alcohols, esters, hexane and glycol ethers). Paint manufacture workers are potentially exposed to the chemicals present in paint products although the patterns and levels of exposure to individual agents may differ from those of painters (Maksoud *et al.*, 2018). These volatile organic solvents are particularly hazardous and therefore pose a considerable risk of exposure via inhalation and skin contact during processes such as measuring, mixing and filling among workers. The frequently perceived illness symptoms among exposed paint factory workers is due to some of the components used in paint manufacturing which are extremely hazardous for human health. In the processes involved in paint manufacture (such as mixing, milling, and shearing) workers are exposed to organic solvents that may cause a variety of symptoms, including transient symptoms of the central nervous system such as euphoria, headache, and dizziness at low or moderate concentrations and serious symptoms such as fainting and respiratory and circulatory failure at high concentrations. Some of these solvents such as benzene, toluene, and xylenes (BTXs) are known for suspected carcinogens and need effective control (Karimi *et al.*, 2013). Long-term exposure may cause damage to the Central Nervous System (CNS), such as cognitive and emotional deficits. In particular, solvent related chronic encephalopathy (SRCE) has been described in several studies. Toxic effects of organic solvents were reported to harm liver, kidney and skin (Hassan *et al.*, 2013).

According to (Park, 2015) prevention is the guiding principle for occupational health and safety (OHS) legislation. In order to avoid accidents from happening and occupational diseases from occurring, international safety standards at the workplace should be adopted. The best way to protect employees and help prevent accidents and injuries in workplace is to take a holistic approach to workplace safety. This means ensuring employees undergo adequate training to perform their jobs and also have the necessary protective equipment such as: Goggles and face protection to protect themselves from flying particles, chemicals or caustic liquids, gloves to prevent cuts, scrapes, punctures, burns, chemical absorption or temperature extremes, hard hats to safeguard against falling objects, safety shoes for work areas where heavy objects could be dropped and injure the feet, ear muffs or ear plugs to protect against hearing damage in noisy workplaces, coverall for body protection. Occupational morbidity, disability and mortality in most developing countries including Nigeria is becoming a serious public health problem which pose

challenges to achieving the millennium development goals of poverty reduction and health for all. Evidence-based occupational health and safety services are indispensable in manufacturing industries in the developing world (ILO, 2019a). Hence, it is important for all employees to be aware of the hazards that may come along with their jobs since this will prompt them to apply the necessary safety measures while working. Upon this background, this study is poised to investigate the relationship between awareness of occupational hazards and safety practice of workers in paint factories in Akwa Ibom State. This study intends to investigate the awareness of occupational hazards and safety practices of paints factory workers in Akwa Ibom State.

Research Questions

For the purpose of this study, the following research questions have been formulated;

1. How does workers awareness of physical hazards relate with safety practices of workers in paint factories in Akwa Ibom State?
2. How does workers awareness of mechanical hazards relate with safety practices of workers in paint factories in Akwa Ibom State?
3. How does workers awareness of psychosocial hazards relate with safety practices of workers in paint factories in Akwa Ibom State?
4. How does workers awareness of ergonomic hazards relate with safety practices of workers in paint factories in Akwa Ibom State?
5. How does workers awareness of chemical hazards relate with safety practices of workers in paint factories in Akwa Ibom State?

Research Hypotheses

The following null hypotheses were formulated and tested to guide this study.

- Ho₁: Awareness of physical hazards will not be a significant correlate of safety practice of workers in paint factories in Akwa Ibom State.
- Ho₂: Awareness of mechanical hazards will not be a significant correlate of safety practice of workers in paint factories in Akwa Ibom State.
- Ho₃: Awareness of psychosocial hazards will not be a significant correlate of safety practice of workers in paint factories in Akwa Ibom State.
- Ho₄: Awareness of ergonomic hazards will not be a significant correlate of safety practice of workers in paint factories in Akwa Ibom State.
- Ho₅: Awareness of chemical hazards will not be a significant correlate of safety practice of workers in paint factories in Akwa Ibom State.

Methodology

Correlational research design was used for the study. Correlational research is a type of non-experimental research method, in which a researcher measures two variables, understands and assesses the statistical relationship between them with no influence from any extraneous variable. Kpolovie (2010) asserted that Correlational design is adopted for studies that investigate into the

magnitude and direction (positive or negative) of relationship that exist between a dependent variable and one or more independent variable(s), it is upon this backdrop that the researcher found it deem fit for the study. The area of the study was Akwa Ibom State. The population of the study comprised of 320 paint factory workers in Akwa Ibom State, according to data obtained from Akwa Ibom State Ministry of Labour and Manpower Planning, 2019. A sample of 99 respondents were selected for the study. Convenience sampling technique was used to select the respondents from the three Senatorial Districts of Akwa Ibom State. This study was conducted using a researcher made questionnaire titled "Awareness of Occupational Hazards and Safety Practices of Workers in Paint Factories (AOHSPWPF)". The questionnaire which was presented in a Likert Scale format comprised of two sections A and B. The reliability coefficient of the instrument was 0.88. The data were collected using a researcher-made questionnaire (AOHSPWPF). Pearson Product Moment Correlation (PPMC) statistics was used to answer the research questions while simple linear regression was used to test the hypothesis.

Findings

Research Question 1

How does awareness of physical hazards relate with safety practices of workers in paint factories in Akwa Ibom State?

Table 1: Correlation between awareness of physical hazards and safety practices of paint factory workers.

Variables	$\sum X$ $\sum Y$	$\sum X^2$ $\sum Y^2$	$\sum XY$	r
Awareness of Physical Hazards	1313	18457	69844	.57
Safety Practices	5168	274812		

Source: Field data (2020).

The result in Table 4.1 indicates the relationship between paint factory workers' awareness of physical hazard and their safety practices. The r-value of .57 between the two variables indicates a moderate relationship between awareness of physical hazard and safety practices among paint workers in Akwa Ibom State. This is an indication that some paint workers who are aware of physical hazards carryout the needed safety practices.

Research Question 2

How does awareness of mechanical hazards relate with safety practices of workers in paint factories in Akwa Ibom State?

Table 2: Correlation between awareness of mechanical hazards and safety practices of paint factory workers.

Variables	$\sum X$ $\sum Y$	$\sum X^2$ $\sum Y^2$	$\sum XY$	r
Awareness of Mechanical Hazards	1359	18457	72050	.47
Safety Practices	5168	274812		

Source: Field data (2020).

The result in Table 4.2 indicates the relationship between paint factory workers' awareness of mechanical hazard and their safety practices. The r-value of .47 between the two variables indicates a moderate relationship between awareness of mechanical hazard and safety practices among paint workers in Akwa Ibom State. This is an indication that some paint workers who are aware of mechanical hazards carryout the needed safety practices.

Research Question 3

How does awareness of psychosocial hazards relate with safety practices of workers in paint factories in Akwa Ibom State?

Table 3: Correlation between awareness of psychosocial hazards and safety practices of paint factory workers.

Variables	$\sum X$ $\sum Y$	$\sum X^2$ $\sum Y^2$	$\sum XY$	r
Awareness of Psychosocial Hazards	1178	14408	61748	.18
Safety Practices	5168	274812		

Source: Field data (2020).

The result in Table 4.3 indicates the relationship between paint factory workers' awareness of psychosocial hazards and their safety practices. Based on the decision rule, the r-value of .18 between the two variables indicates a low relationship between awareness of psychosocial hazard and safety practices among paint workers in Akwa Ibom State. This is an indication that many paint workers are not aware of the psychosocial hazards in the factory, hence, they do little about taking safety measures against psychosocial hazards.

Research Question 4

How does awareness of ergonomic hazards relate with safety practices of workers in paint factories in Akwa Ibom State?

Table 4: Correlation between awareness of ergonomic hazards and safety practices of paint factory workers

Variables	$\sum X$ $\sum Y$	$\sum X^2$ $\sum Y^2$	$\sum XY$	r
Awareness of Ergonomic Hazards	1194	15134	63287	.49
Safety Practices	5168	274812		

Source: Field data (2020).

The result in Table 4.4 indicates the relationship between paint factory workers' awareness of ergonomic hazard and their safety practices. The r-value of .49 between the two variables indicates a moderate relationship between awareness of ergonomic hazard and safety practices among paint workers in Akwa Ibom State. This is an indication that some paint workers who are aware of ergonomic hazards carryout the needed safety practices.

Research Question 5

How does awareness of chemical hazards relate with safety practices of workers in paint factories in Akwa Ibom State?

Table 5: Correlation between awareness of chemical hazards and safety practices of paint factory workers.

Variables	$\sum X$	$\sum X^2$	$\sum XY$	r
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	ΣY	ΣY^2		
Awareness of Chemical Hazards	1269	17069	274812	.48
Safety Practices	5168	274812		

Source: Field data (2020).

The result in Table 4.5 indicates the relationship between paint factory workers' awareness of chemical hazard and their safety practices. The r-value of .48 between the two variables indicates a moderate relationship between awareness of chemical hazard and safety practices among paint workers in Akwa Ibom State. This is an indication that some paint workers who are aware of chemical hazards carryout the needed safety practices.

Hypothesis 1

Awareness of physical hazards does not significantly relate with safety practices of workers in paint factories in Akwa Ibom State.

Table 6: Simple linear regression of awareness of physical hazards and safety practices of factory workers.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1626.914	1	1626.914	46.346	.000 ^b
Residual	3405.045	97	35.104		
Total	5031.960	98			

a. Dependent Variable: Safety Practices, R = .569

b. Predictors: (Constant), Physical Hazard

Source: Field data (2020).

The result in Table 4.6 indicates that a calculated F-value of 46.35 at 1 and 97 degrees of freedom and a p-value of .000 at .05 levels of significance. This is an indication that the calculate R-value of .569 is significant at .05 levels of significance. Therefore, the null hypothesis which stated that awareness of physical hazards does not significantly relates with safety practices of workers in paint factories in Akwa Ibom State is rejected. Hence, awareness of physical hazards significantly relates with safety practices of workers in paint factories in Akwa Ibom State.

Hypothesis 2

Awareness of mechanical hazards does not significantly relate with safety practices of workers in paint factories in Akwa Ibom State.

Table 7: Simple linear regression of awareness of mechanical hazards and safety practices of factory workers.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1109.276	1	1109.276	27.430	.000 ^b
Residual	3922.684	97	40.440		
Total	5031.960	98			

a. Dependent Variable: Safety Practices, R = .470

b. Predictors: (Constant), Mechanical Hazard
Source: Field data (2020).

The result in Table 4.7 indicates that a calculated F-value of 27.430 at 1 and 97 degrees of freedom and a p-value of .000 at .05 levels of significance. This is an indication that the calculate R-value of .470 is significant at .05 levels of significance. Therefore, the null hypothesis which stated that awareness of mechanical hazards does not significantly relates with safety practices of workers in paint factories in Akwa Ibom State is rejected. Hence, awareness of mechanical hazards significantly relates with safety practices of workers in paint factories in Akwa Ibom State.

Hypothesis 3

Awareness of psychosocial hazards does not significantly relate with safety practices of workers in paint factories in Akwa Ibom State.

Table 8: Simple Linear Regression of Awareness of Psychosocial Hazards and Safety Practices of Factory Workers.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	165.033	1	165.033	3.289	.073 ^b
Residual	4866.927	97	50.175		
Total	5031.960	98			

a. Dependent Variable: Safety Practices, R = .181

b. Predictors: (Constant), Psychosocial Hazards

Source: Field data (2020).

The result in Table 4.8 indicates that a calculated F-value of 3.289 at 1 and 97 degrees of freedom and a p-value of .073 at .05 levels of significance. This is an indication that the calculate R-value of .181 is not significant at .05 levels of significance. Therefore, the null hypothesis which stated that awareness of psychosocial hazards does not significantly relates with safety practices of workers in paint factories in Akwa Ibom State is accepted.

Hypothesis 4

Awareness of ergonomic hazards does not significantly relate with safety practices of workers in paint factories in Akwa Ibom State.

Table 9: Simple linear regression of awareness of ergonomic hazards and safety practices of factory workers.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1250.426	1	1250.426	32.075	.000 ^b
Residual	3781.534	97	38.985		
Total	5031.960	98			

a. Dependent Variable: Safety Practices, R = .498

b. Predictors: (Constant), ergonomic Hazards

Source: Field data (2020).

The result in Table 4.9 indicates that a calculated F-value of 32.075 at 1 and 97 degrees of freedom and a p-value of .000 at .05 levels of significance. This is an indication that the calculate

R-value of .498 is significant at .05 levels of significance. Therefore, the null hypothesis which stated that awareness of ergonomic hazards does not significantly relates with safety practices of workers in paint factories in Akwa Ibom State is rejected. Hence, awareness of ergonomic hazards significantly relates with safety practices of workers in paint factories in Akwa Ibom State.

Hypothesis 5

Awareness of chemical hazards does not significantly relate with safety practices of workers in paint factories in Akwa Ibom State.

Table 10: Simple linear regression of awareness of chemical hazards and safety practices of factory workers.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1166.424	1	1166.424	29.270	.000 ^b
Residual	3865.536	97	39.851		
Total	5031.960	98			

a. Dependent Variable: Safety Practices, R = .481

b. Predictors: (Constant), Chemical Hazards

Source: Field data (2020).

The result in Table 4.10 indicates that a calculated F-value of 46.35 at 1 and 97 degrees of freedom and a p-value of .000 at .05 levels of significance. This is an indication that the calculate R-value of .481 is significant at .05 levels of significance. Therefore, the null hypothesis which stated that awareness of chemical hazards does not significantly relates with safety practices of workers in paint factories in Akwa Ibom State is rejected. Hence, awareness of chemical hazards significantly relates with safety practices of workers in paint factories in Akwa Ibom State.

Discussion of Findings

The result obtained from hypothesis one which states that awareness of physical hazards does not significantly relate with safety practice of workers in paint factories in Akwa Ibom State revealed that there is a significant relationship between awareness of physical hazards and safety practices among paint factory worker. The reason for the result could be that many paint factories in Akwa Ibom State have train their workers on various physical hazards possible in the factory.

The result obtained from hypothesis two which states that awareness of mechanical hazards does not significantly relate with safety practice of workers in paint factories in Akwa Ibom State revealed that the workers were conscious of related mechanical hazards accompanying their occupation. The reason for the result could be the type of training and orientation given to them about different machines in the factory.

The result obtained from hypothesis three which states that awareness of psychosocial hazards does not significantly relate with safety practices of workers in paint factories in Akwa Ibom State revealed that the workers were not conscious of the causes and effect of various psychosocial hazards associated with their job. The reason could be that most workers do not have a better understanding of what psychosocial hazards entails since it is not like physical hazard that one can easily point to.

The result obtained from hypothesis four which states that awareness of ergonomic hazards does not significantly relate with safety practice of workers in paint factories in Akwa Ibom State

revealed that the workers were conscious of related ergonomic hazards and effects within their work environment. This indicated that the workers had knowledge of the various causes and effects of ergonomic hazards associated with their job, hence, they applied effective control measures in order to reduce the occurrence of an acute or chronic health defects

The result obtained from hypothesis five which states that awareness of chemical hazards does not significantly relate with safety practice of workers in paint factories in Akwa Ibom State revealed that the workers were conscious of related chemical hazards and effects within their workplace. This shows that the workers had knowledge of possible chemical hazards associated with paint raw materials and products, hence, they adhere to safety practice guidelines as the key to reducing the risk of injury and illness among workers in paint factories.

Conclusion

The study focused on awareness of occupational hazards and safety practices of workers in paint factories in Akwa Ibom State. The level of knowledge demonstrated by respondents on awareness of potential hazards within their workplace is in correlation with safety practices, therefore, measures aimed at promoting safety practices and, minimizing exposure to physical, mechanical, psychosocial, and chemical hazards were achieved through engineering, medical and legislative measures. While the engineering measures helped in protecting against exposures, the medical measures helped in early detection of the effects of these exposures and the legislative measures helped in enforcing the implementation of international occupational safety and health (OSH) regulations. This can be partly achieved by developing an effective occupational health service for this group of workers. Effective controls protect workers from workplace hazards; help avoid injuries, illnesses, and incidents; minimize or eliminate safety and health risks; and help employers provide workers with safe and healthful working conditions.

Based on the research findings, the researcher concluded that workers in paint factories in Akwa Ibom State were cognisance of potential physical, mechanical, ergonomic and chemical hazards as well application of safety measures but had low conceptualization of psychosocial hazards in their workplace.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. There is the need to develop effective framework that will promote the integration and implementation of Occupational Safety and Health (OSH) regulations and guidelines in paint factories so as to reduce associated occupational hazards in Akwa Ibom State in line with global best practices.
2. There is need to promote workers adherence to recommended occupational safety practices guidelines.
3. Nigerian government in collaboration with appropriate agencies should enforce with sanction the implementation of international safety standards in paint factories.
4. Regular awareness programs should be conducted to impart education regarding safer work procedures and use of personal protective devices.

5. Effective implementation of workplace safety regulations in all paint factories should be institutionalized and made mandatory.

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