

**ASSESSMENT OF OCCUPATIONAL AND HEALTH PRACTICES IN FURNITURE  
INDUSTRIES IN MINNA, NIGER STATE**

**BY**

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**2018/3/74384TI**

**DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION  
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION  
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**

**APRIL, 2023**

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**A RESEARCH PROJECT SUBMITTED TO THE  
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**APRIL, 2023**

## **DECLARATION**

I, Bashir Umar with Matriculation Number 2018/3/74384TI an undergraduate student of the Department of Industrial and Technology Education certify that the work embodied in this project is original and has not been submitted in part or in full for any other diploma or degree of this or any other university.

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Bashir Umar  
2018/3/74384TI

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**Date**

## CERTIFICATION

This project has been read and approved as meeting requirements for the award of B.Tech. Degree in industrial and Technology Education, School of Science and Technology Education, Federal University of Technology.

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**Mrs. Franca**  
**Project Supervisor**

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**External Examiner**

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**Date**

## **DEDICATION**

This project work is dedicated to Almighty Allah.

## **ACKNOWLEDGEMENTS**

In the name of Allah the beneficent the merciful, Allah to whom all the praise and thanks be to. Lord of mankind, in and all that exist. The most Gracious, the most merciful, the only owner and the only ruling judge of the day of the recompense. May the peace and blessing of Allah be upon our noble Prophet Muhammad (S.A.W).

I wish to express my profound gratitude to my project supervisor in person of Mrs. Onwankwo Franca for her guidance, correction and support.

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## **ABSTRACT**

The study was design to assess the occupational and health practices in furniture industries in Minna, Niger State. Four-research questions and four null hypotheses were formulated to guide the study. A descriptive survey research was used for this study. The population of this study was 30 registered furniture industries in Minna metropolis, the respondents was comprise of 30 managers of the industries. Due to the manageable size of the study population, the study utilized the whole population, hence, there was no sample. The research instrument for data collection was structure questionnaire. The instrument was validated by three Lecturers in the Department of Industrial and Technology Education, Federal University of Technology, Minna. The instrument used for the data collection was administered to the respondents by the researcher and two research assistant in the study area. Mean and standard deviation was used to analyze the data collection for the study, while t-test statistics was used to test the null hypothesis. From findings, it reveals that all occupational safety and health practices in furniture industry are in good condition; this shows and provided that workers in furniture industries in Minna metropolis, always adhere to the use of available occupational safety and health facilities and also report all cases of any forms of accident to their supervisors, and further provide that the supervisors are performing their tasks optimally and also accidents can be prevented when tools are in good shape and are kept clean; as an accident is are unexpected, unplanned event or a sequence of events that occurs through a combination of causes that results in physical harm. The study therefore conclude that the burden of occupational health and safety problems lies on the shoulders of both the workers and the machinery. Based findings, the study recommends that; there should good maintenance of first aid room for the workers and workers should be more encouraged to report defective tools, test equipment to the supervisors among others.

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## CHAPTER ONE

### 1.0

### INTRODUCTION

#### 1.1 Background to the Study

Historically, the wood and furniture industries have been classified as one of the most dangerous manufacturing industrial sector (Yener *et al.*, 2015). Wood works and furniture manufacturing are often labour intensive and production oriented. Employees typically work at a fast pace in order to meet up with demands. Such labour intensive practices may result in a high priorities being given to manufacturing in order to meet production targets there by ignoring personal safety. An employee can therefore be exposed to many risk factors within his working environment. Some of such factors includes; Exposures to harmful chemical substances, ergonomic risks which can lead to occupational health diseases, exposures to structural factors coupled with improper practices that can lead to preventable accidents with severe consequences.

Occupational health hazards are dangerous phenomenon, human activities or condition that may cause injuries, other negative health impacts or even loss of lives at workplace (Gosasye, 2015).

It could be in the form of injuries sustained from slip, trip and fall (STF), long time effect of extended standing periods due to jobs demands, lifting of heavy equipment, accidents involving machines and equipment that could lead to cuts, hammer blow, excessive noise and vibrations.

Others are inhalation of dusts from woods and chemical substances from adhesives and paints.

These occupational hazards could have both short and long term effect on human health.

Occupational health study is dedicated to the safety and wellbeing of employees as well as vocational workers in their respective fields. It is the field of public health that studies trends in illnesses and injuries in similar occupational population, proposes preventive strategies and

guide implementation of regulations to prevent reoccurrences of such health hazards (Gosasye, 2015). It has been reported that; the largest account of occupational accident reported annually are those associated with manual handling of equipment. This account for about 34% of accidents and mishap causing mild to severe injuries to employees. Health Safety and Environment (HSE 1992).

Poor understanding of occupational hazards in the informal sector and measures to control such hazards is a cumbersome matter. The informal sector is usually taken to include small medium enterprises generally with less than ten employees. They are unregistered with common laws, often without formal contracts of employment (Saima *et al.*, 2019)

Occupational hazards are mostly under reported due to inadequate research (Manyele, 2005), (Nsubuga *et al.*, 2005) In Nigeria, most furniture industries operate as privately owned small and medium enterprises (SMEs). They are particularly vulnerable to huge number of occupational risks as they have fewer resources to put to use for worker protection against accidents. The Nigerian furniture industry is a developing labor intensive economic sector. Substantial technological advances are being adopted even though most furniture worker's activities are carried out within residential environment as SMEs and micro firms. This puts the workers and employees in these firms as well as residents under dangerous working environment. The main health and safety risk factors include working with machinery and equipment, fire and explosion, slips, trips and falls, exposure to wood dust and, other hazardous substances contained therein ((Mohan, *et al.*, 2013). Other risky exposures includes: increased levels of noise and vibrations at work ( handling of operations which can result into musculoskeletal disorders (Punnett *et al.*, 2005; Thetkathuek & Meepradit, 2016), These work-related injuries not only cause human

suffering for workers and their families but also result in significant economic costs to individuals, businesses, and society as a whole.

In Minna, Niger State, the furniture industries mostly operate in the form of informal sector. They operate as micro firms and SMEs without any formal employment of staffs. Most workers in this firms are mostly young children with majority being within the teenage age range. They are taken as apprentices without enjoying any payment benefits or wages but contributes greatly to production activities in their respective workshops. Workers belonging to these units' lacks basic safety facilities such as; personal protective equipment (PPE), medical care facilities such as first aid.

The improvement of work environment in furniture enterprises is desirable not only from the respective of workers, but will also contribute significantly to labour productivity and promotes economic growth. The adoption of adequate occupational safety and health practices will increase the competitiveness and productivity of enterprises by reducing the costs resulting from occupational accidents and by enhancing worker's motivation. It also reduces the cost of repair or replacement of damaged machine or equipment due to accidents. Moreover, a decrease in work-related accidents and illness relieves the pressure on public and private social protection and insurance systems.

In order to achieve continuous improvement of worker's safety and health, a systematic, integrated, proactive, participative, and multiple-strategy approach is needed towards Occupational Safety and Health (OSH) management. This was addressed by the Framework Directive 89/391/EEC (European Union, 1989). The application of OSH management is based on relevant OSH criteria and standards, and is aimed at preventing accidents at workplace (Kjellén, 2000). Sound OSH management in terms of adequate risk assessment and follow-up

preventive measures, incorporated into the overall management of an organization, and addressing regulatory, technical/engineering, organizational, and managerial aspects, is critical to ensure OSH excellence (EU-OSHA, 2010).

The five-step risk assessment method developed by the Health and Safety Executive in the United Kingdom as a simple approach to manage risks, particularly in SMEs has been endorsed globally (ILO, 2011). This risk assessment procedure can be easily adapted to the size and scope of the enterprise, as well as to the available human and financial resources.

The present study is aimed at analysing and estimating the effects of applying OSH management practices (in terms of comprehensive risk assessment) on the rate of work-related accidents in some furniture industries in Minna, Niger State on the basis of developed risk assessment questionnaire, tailored to some specific furniture industry characteristics.

Reports from US National Alliance for the mentally ill (NAMI, 1999), affirms that occupation is one of the most important aspects of life for most people. This can be attributed to the fact that; it provides financial security, some level of personal identity, and an opportunity to make a meaningful contribution to the development of his community. Occupation is very essential in human life because; it provides both financial and psychological support to individuals. These supports promote mental well-being of individuals by way of providing time structure, social contact, and collective effort in a social context. Outside the family, it provides social identity, and helps individuals to organize their daily lives (Warr, 1987). This suggests that; the work environment should be devoid of hazards as much as possible to provide healthy and decent environment for smooth running of activities in the place of work.

## **1.2 Statement of the Problem**

Research on occupational Hazard in the woodwork related industries suggested that workers in such industries are at high risk of developing lower respiratory diseases, allergenic disorders, cancer, and lung diseases (Amedofu, 2003). In Minna Niger state, the level of awareness of Government regulations in terms of the control of occupational hazards and its health effects, is very poor. This may have resulted into avoidable accident fatalities considering the number of teenage children that are mostly taken as apprentices to the advantage of most workshop owners who enjoys free or cheap labour.

Safety practices are extremely important in every furniture workshop. However, there are numerous problems militating against their effective implementation. Some of these problems includes; lack of proper awareness on occupational hazards in furniture work, non-availability and affordability of safety equipment, lack of safety regulation enforcement by government, carelessness etc. These results into endangering of lives and properties. The effect of occupational accidents, risks and hazard are enormous ranging from disabilities due to health fatalities, destruction of equipment due to accidents and ultimately death. Hence there is need to assess the occupational and health practices in furniture industries in Minna, Niger State.

## **1.3 Purpose of the Study**

The purpose of this study is to assess the occupational safety and health practices in furniture industries in Minna, Niger State. Specifically the study will:

1. Identify the various occupational health and safety hazards common in furniture industries in Minna, Niger State
2. Assess the level of awareness of occupational health and safety practices in furniture

industries in Minna, Niger State

3. Assess the availability of occupational health and safety equipment in furniture industries in Minna, Niger State
4. Identify strategies for reducing occupational health and safety hazards in furniture industries in Minna, Niger State.

#### **1.4 Significance of the Study**

The findings of this study will be beneficial to the following: the furniture makers, researchers, the students and Occupational health and safety regulatory agencies.

The findings will be beneficial to the furniture makers and furniture industries owners as the findings would expose them to safety hazards in the workshop and ways of conducting themselves while in the workshop so that accidents would be avoided.

The researchers can work on number of accidents and how it could be reduced considerably through the enhancement of safety and health prevention measures. Each worker is entitled to a safe and healthy working condition: resulting in worker safety and overall good health.

In addition, it would be beneficial to the students as they would become aware of issues which they may have considered as unimportant but are of great importance as far as safety is concerned.

It would be beneficial to the occupational health and safety agencies as they would be exposed to ways through which the safety awareness of workers and stakeholders in industry can be improved to ensure a reduction in the rate of occupational accidents; thereby securing the lives or both workers and valuable equipment from accidents and damages.



## **1.5 Scope of the Study**

This study is delimited to the assessment of occupational safety and health practices by some furniture industries in Minna, Niger State. It covers occupational health standards and regulations as it concerns the workers (employees/apprentices) in their workshops.

## **1.6 Research Questions**

1. What are the occupational safety and health practices in furniture industries in Minna, Niger State?
2. What are the level of awareness of workers on occupational safety and health practices in furniture industries in Minna, Niger State?
3. What are the available facilities for occupational safety and health practices for furniture industries in Minna, Niger State?
4. What are the strategies for improving occupational safety and health practices in furniture industries in Minna, Niger State?

## **1.7. Hypotheses**

**H<sub>01</sub>:** There is no significant difference between the Mean responses of the technical staff and Management staff of furniture industry on the occupational health and safety practices in furniture industries in Minna, Niger State.

**H<sub>02</sub>:** There is no significant difference between the mean responses of the technical staff and management staff of furniture industry on the level of awareness of occupational health and safety practices in furniture industries in Minna, Niger State

**H<sub>03</sub>:** There is no significant difference between the mean responses of the technical staff and management staff of furniture industry on the available occupational health and safety facilities in furniture industries in Minna, Niger State.

**H<sub>04</sub>:** There is no significant difference between the responses of the technical staff and management staff of furniture industry on the strategies improving occupational safety and health practices in furniture industries in Minna, Niger State.

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

The Literature review of this study has been organized under the following sub-headings:

- Theoretical Framework
- Conceptual Framework
- Review of Related Empirical Studies
- Summary of Literature Reviewed

### 2.1 Theoretical Framework

#### 2.1.1 Health Behavior Theory and Applications to Occupational Safety and Health

The HBM, developed in the 1950s, is one of the most widely used theories of health behavior and posits that health behaviors are a function of whether a person (1) feels threatened, (2) believes that change of a specific kind will result in a beneficial outcome at an acceptable cost, (3) experiences an extrinsic stimulus (such as instructional information or a reminder system), and (4) feels competent to take the necessary action to overcome perceived barriers and successfully engage in or carry out the activity or action in question. Thus, the key constructs of the HBM are perceived susceptibility and perceived severity, perceived benefits and perceived barriers, cues to action, and the most recent addition to the model, the construct of self-efficacy (Glanz *et al.*, 2010).

As Glanz and Bishop (2010) note, the HBM has most often been applied to research related to asymptomatic health issues, such as health screening. The model has also been used in unintentional-injury research and in OSH to explain safety-related behaviors of health care workers. An OSH-related example of the use of this model comes from Sadeghi and colleagues,

who conducted a quasi-experimental study of infection control practices to prevent transmission of blood-borne illness among 100 emergency room workers in Iran. The study evaluated an educational intervention based on the HBM to modify the attitude and behavior of nurses in emergency centers (randomized to a treatment or control group) regarding awareness of and compliance with infection control practices (standard precautions, or SPs).

Pre- and postintervention data were collected from participants via questionnaires designed to reflect HBM constructs. Study results suggest that knowledge scores related to SPs increased in the intervention group, with significant differences ( $p < .001$ ) in perceived susceptibility, perceived severity, perceived benefits and barriers, cues to action, and self-efficacy. No significant changes were detected in the control group. The results also demonstrated an increase in preventative health behaviors—such as checking blood for hepatitis B (HBsAb) antibody levels—among the intervention group versus the control group (statistical significance was not reported).

The authors concluded that the use of the HBM was effective for designing and testing an intervention to educate emergency personnel on infection control procedures and that the model should be used in future interventions with this high-risk group of workers.<sup>62</sup> This example highlights the utility of the HBM for designing interventions and conducting research to encourage actions that may reduce the risk of future occupation-related injury or disease among health care workers.

### **2.1.2 Theory of Planned Behavior**

The TPB, an extension of the theory of reasoned action, has been demonstrated to explain a large proportion of the variance in intention to perform a number of health behaviors (Montaño &

Kasprzyk, 2015). The TPB posits that attitude, subjective norms, and perceived behavioral control directly influence a person's intention to engage in a behavior.

Attitude refers to the extent to which a person favorably or unfavorably evaluates a particular behavior. Subjective norms refer to whether important others (such as family members and coworkers) approve or disapprove of a behavior and relate to the motivation to model the behavior of others. Perceived behavioral control is conceptualized as the “perceived ease or difficulty of performing the behavior (p. 188).” Under this model, behavioral intention is the most important predictor of a person's actual behavior.

An example of the TPB used in an OSH intervention with health care workers comes from Rickett and colleagues, who used the theory to examine the frequency of safe manual patient-handling practice. Specifically, the behavior under investigation was the use, among 189 health care workers in the United Kingdom, of a hoist to move patients with low physical functioning from bed to chair. The study assessed the role of social-cognitive variables from the TPB on intentions to use the hoist device.

### **2.1.3 A Unifying Behavioral Theory Framework**

Attempts have been made to create a unifying theory of behavior by combining the elements of many behavioral theories. For example, in 1991, the National Institute of Mental Health convened a workshop bringing together creators of behavioral theory to develop a unifying framework to facilitate health behavior change (Fishbein *et al.*, 1991). Their discussions led to an enumeration of 5 theories that, taken together, contain virtually all the variables that have been used in attempts to understand and change human behaviors:

- Health belief model
- Social cognitive theory

- Theory of reasoned action
- Theory of self-regulation and self-control
- Theory of subjective culture and interpersonal relations

When all 5 theories and their many variables had been considered, consensus was reached on 8 factors that appear to account for most of the variation in health-related behaviors: (1) intentions, (2) environmental barriers, (3) skills, (4) outcome expectancies (or attitudes), (5) social norms, (6) self-standards, (7) emotional reactions, and (8) self-efficacy. It is likely that these same 8 variables might also regulate and predict change in injury risk–prevention behaviors in many settings, including the workplace (Martin Fishbein, personal communication, 2003).

## **2.2 Conceptual Framework**

### **2.2.1 Concept of Occupational Health and Safety**

Increased globalization has caused important changes for many developing countries; in terms of developmental changes through which a country passes; such as underdevelopment and poverty, industrial revolution, industrialization which has increased the risks that workers are exposed to (Mendes, 2009). Concerns and are still being expressed that industrialization and mechanization are becoming more prominent and this may unravel some factors contributing to casualties and ill health at work, Ocheya (1999).

According to Okeola (2009), each worker is entitled to a safe and healthy condition at workplace; resulting in worker safety and overall good health. This is evident in the development of legislations in which employers and employees all have responsibilities to ensure safety. As a result, The US Bureau of Mines was created in 1907 to investigate accidents, examine health hazards and also make recommendations for improvement. In the 1960s there was a passage of legislations, promoting workplaces safety. Among these acts are; the service

Contract Act of 1965, the Federal Metal and safety Act, and the Contract Workers and Safety Act. These led to the passage of the Occupational Safety and Health Act in 1970 (Goetsch, 2008). The International Labour Organisation (ILO) developed guidelines on occupational safety and health in order to ensure continual improvement of performance (ILO 2001).

The Occupational Safety and Health Administration (OSHA) is the government's administrative arm of Occupational safety and Health (OSH) Act, formed in 1970. The OSHA sets and revokes safety and health standards, investigates problems, assesses penalties, conducts inspections, petitions the court to take appropriate actions against unsafe employers, provides safety training, provides injury prevention consultation and also maintains a data base of health and safety statistics (Goetsch, 2008). Since the work of ensuring occupational safety in the workplace is a collective responsibility; the different parties concerned with the passage, implementation and adherence to laws and regulation on occupational safety and health have the following roles to play.

### **2.2.2 The role of the government on the implementation of occupational safety and health rules**

#### **Supervision**

Supervision is an effort to pay attention, observe and control the ongoing activities. Supervision is carried out on officers who are carrying out work health efforts programs, supervision is also carried out on the industry, where workers carry out their activities to avoid accidents and occupational diseases.

According to the informant, the government, through the health office, has supervised the implementation of the occupational health efforts program in relation to activities carried out at the target workplaces, this was stated by the informant

Supervision is carried out to the manager of the occupational health efforts in health center, namely during the implementation of a routine OSH officer meeting which is held once a month at the health department.

This condition shows that the supervision has been carried out by the government but is still running independently, it is expected that in the future, to increase the role in terms of supervision should be carried out collaboratively, integrated, carried out dynamically and continuously. Good supervision is dynamically, by adopting a positive attitude, namely providing guidance and direction Omisore (2014) According to Mor, Travis, Pyun, and Xie (2014) the results of supervision as input or advice should be utilized for the progress of workers. The research of Henry, Nantongo, Wagner, Embrey, and Trap (2017) shows that the power of supervision lies in the feedback producing OSH policies.

### **Training**

The government is expected to provide OSH training, both for OSH managers, industry and workers, to increase knowledge in the OSH field. During this time, the government through the Medan City Health Office has provided OSH training, especially for OSH managers in the health center, but the training provided has been unstructured, because it was given during the monthly staff meeting, as the following informants said:

"The government in this case the health office has provided training related OSH." (05)

Not only the health department, OSH centers have also held training for small and medium enterprises in the working area of the health center, but not all industries in the health center work area have been trained.



"For training alone, we often collaborate with health center, and have already been there for friends at the health center, there have also been for friends at small and medium enterprises."

### **Financing**

The Occupational Health Effort Program requires a financial to run well, this budget can be used for promotive, preventive, curative and rehabilitative efforts, but not yet available to the fullest. According to informant that OSH training and testing of the work environment can be budgeted so that it can be utilized by small and medium industries. "...can be used for training and testing every year should be budgeted for activities for industries that are considered lacking ability or small and medium enterprises designated by the health center, ...."

### **Policy**

Occupational safety and health policies are very important as a basis for the implementation of the occupational health efforts in Nigeria. The role played by the government in relation to policies is still not maximal, there are no local regulations governing OSH specifically, besides the government through the health department needs to make operational standards for safety and health implementation procedures in health center. The following are the opinions of the informants regarding this matter:

### **Cooperation**

The activities will work better if it is carried out in collaboration, as stated by informants, the following excerpt:

"We are in the service of health, social security of workers engaged in promotion and prevention, labor in licensing, so collaboration."

"For self-training, we often collaborate with health center and have already been there for friends at the health center, there have also been friends for small and medium enterprises.".

### **2.2.3 The role of the Employers on the implementation of occupational safety and health rules**

- Provide a workplace free from serious recognized hazards and comply with standards, rules and regulations issued under the OSH Act.
- Examine workplace conditions to make sure they conform to applicable OSHA standards.
- Make sure employees have and use safe tools and equipment and properly maintain this equipment.
- Use color codes, posters, labels or signs to warn employees of potential hazards.
- Establish or update operating procedures and communicate them so that employees follow safety and health requirements.
- Employers must provide safety training in a language and vocabulary workers can understand.
- Employers with hazardous chemicals in the workplace must develop and implement a written hazard communication program and train employees on the hazards they are exposed to and proper precautions (and a copy of safety data sheets must be readily available). See the OSHA page on Hazard Communication.
- Provide medical examinations and training when required by OSHA standards.
- Post, at a prominent location within the workplace, the OSHA poster (or the state-plan equivalent) informing employees of their rights and responsibilities.
- Report to the nearest OSHA office all work-related fatalities within 8 hours, and all work-related inpatient hospitalizations, all amputations and all losses of an eye within 24 hours. Call our toll-free number: 1-800-321-OSHA (6742); TTY 1-877-889-5627.

[Employers under federal OSHA's jurisdiction were required to begin reporting by Jan. 1, 2015. Establishments in a state with a state-run OSHA program should contact their state plan for the implementation date].

- Keep records of work-related injuries and illnesses. (Note: Employers with 10 or fewer employees and employers in certain low-hazard industries are exempt from this requirement.
- Provide employees, former employees and their representatives access to the Log of Work-Related Injuries and Illnesses (OSHA Form 300). On February 1, and for three months, covered employers must post the summary of the OSHA log of injuries and illnesses (OSHA Form 300A).
- Provide access to employee medical records and exposure records to employees or their authorized representatives.
- Provide to the OSHA compliance officer the names of authorized employee representatives who may be asked to accompany the compliance officer during an inspection.
- Not discriminate against employees who exercise their rights under the Act. See our "Whistleblower Protection" webpage.
- Post OSHA citations at or near the work area involved. Each citation must remain posted until the violation has been corrected, or for three working days, whichever is longer. Post abatement verification documents or tags.
- OSHA encourages all employers to adopt a safety and health program. Safety and health programs, known by a variety of names, are universal interventions that can substantially reduce the number and severity of workplace injuries and alleviate the associated

financial burdens on U.S. workplaces. Many states have requirements or voluntary guidelines for workplace safety and health programs. Also, numerous employers in the United States already manage safety using safety and health programs, and we believe that all employers can and should do the same. Most successful safety and health programs are based on a common set of key elements. These include management leadership, worker participation, and a systematic approach to finding and fixing hazards. OSHA's Safe and Sound page contains more information.

#### **2.2.4 The role of the employees on the implementation of occupational safety and health rules**

Workers are responsible for their own safety on the job. This means that you have the right to refuse to do any act or operate any tool, appliance, or equipment when you have reasonable cause to believe that to do so would put you in danger.

It is your responsibility to wear proper clothing for the job site and to use the PPE provided by your employer or required for your job.

As a worker, you should keep the following personal responsibilities in mind:

- You must not remove any safety equipment from machines or equipment. This includes shields from grinders, mixers, etc.
- You must have had adequate instruction about a piece of machinery or equipment before you use it.
- You must make sure that no machine, equipment, or tool is used in a way that would cause injury to someone else.
- You must make sure that there are safe entrances to and exits from the workplace.

- You must make sure that the work area is safe for the movement of workers, equipment, and materials.
- You must wear protective eyewear when using grinders and other equipment that may be hazardous to the eyes.

Primarily, the role of an OSHA inspection officer involves monitoring and ensuring compliance with workplace health and safety legislation. An inspection officer provides information and ensures that all involved with safety at a workplace comply with legislative requirements, OHS inspection officers visit workplaces for a variety of reasons including to:

- i. Provision of penalties for factories who contravene the regulation (Work safe 2007)
- ii. Investigate workplace accidents;
- iii. Creation of safety awareness
- iii. Provision of occupational safety and health policy to provide an enabling environment for safety and health:
- iv. Investigate reports of unsafe or unhealthy conditions and dangerous work practices.
- v. Conduct workplace health and safety audits,
- vi. Inspect workplaces for workplace health and safety hazards;
- vii. Provide information and advice on the legislation

With the realization that all hands should be on deck in order to maintain a safe workplace; there came along long needed incentives for employers to begin playing an active role in creating and maintaining safe workplace. This in turn, led to the development of organized safety programmes sponsored by managements. The early safety programmes were based on the three E's of safety: engineering, education and enforcement.

With realization that all hand should be on deck in order to maintain a safe workplace; there came along needed incentives for employers to begin playing an active role in creating and maintaining safe workplace. This in turn, led to the development of organized safety programmes sponsored by managements. The early programmes were based on three E's of safety: engineering, education and enforcement.

The engineering aspect of safety involves improvement of designs to both product and process. By altering the design of a product, the process used to manufacture it can be simplified and as a result the product is made less dangerous, this is called designing for safety. The education aspect of safety programme ensures that employees know, how to work safely, the importance of doings so and the safety is expected by management. Safety education covers the what, when, where, why and how is safety. The rules, regulations, practices and procedures. It is worthy of note that supervisors and employers play a vital role in the enforcement of modern safety programmes.

### **2.2.5 Work and Health**

The knowledge and understanding of the relationships and interactions between work and health is important in the practice of occupational health and safety. Both work and health positively and negatively affect each other. Work is supposed to be a means of economic survival and source of satisfaction and happiness where properly planned and executed. It also provides for social status and companionship as well as shared responsibility. But on the negative aspect, it can result to stress, dissatisfaction and threat to employee's health and wellbeing and their attendant morbidity and death. It means that work has effect on health and vice versa.

The working environment and the working conditions can positively or negatively affect the employees' health protection and health maintenance. Also the workers' health can affect his or her performance and productivity depending on environmental dispositions and the nature of occupational organization and policies. Poor health reduces productivity and worker's efficiency, Achalu (2000)

Work as defined by the Longman Active Study dictionary (2010) means the job or the activities a person does regularly to earn money. The same dictionary defines work as physical or mental activity and effort. Healihas (2013) defined by the same dictionary means the general condition of your body and how healthy you are (Longman Active Study Dictionary, 2010). The World Health Organisation defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity ([www.wiki answer.com](http://www.wikianswer.com)).

The health of a worker is very important in the workplace as most workers spend at least eight hours a day in the workplace. Therefore, the work environment should be safe and healthy, yet this is not the case of many workers. Every day, workers are faced with a multitude of health hazard such as dusts, gases, noise vibration and extreme temperature The International Labour Organisation (ILO 2011).

Health is essential in work, I can influence work positively; this can be observed in a situation where countries with good health and safety record perform better economically than those with a poor record (OHS 2009). The effect can be immediate as in accidents such as moving machinery coming in contact with the hands or fingers (Foster 1991); or it may not be immediate when compared to the accident, this is because some effects take years before they manifest or are even noticed. For example, people who work with heavy, noisy machines with little or no ear

protectors. It took years before most of these people realized that they were *gradually going or* have even become virtually deaf (Atwell 1991).

The demand on the health of many workers is more than what the health of the workers can handle. In concurrence with this truth, Atwell (1991) suggested that in considering a person suitable for employment, the health status must be assessed and ensure that it corresponds with the requirement of the work. This can be done through a pre-employment health and medical assessment, which may take one or more of these forms:

- i. Questioning the potential employee based on his or her health status:
- ii. Examining or screening should be done on the potential employee by an occupational health nurse or doctor;
- iii. Testing the potential employee through physical and mental exercises.

He further stated that the health screening procedures should be run properly. He commented unhappily about the improper medical examinations conducted in some workshops. He found out that many workers in some industries are suffering from advanced and serious illness; but they managed to get employment by sending their fit relatives for the medical examination before engagement. He suggested that the industrial physician and the management should make use of passports to make sure that those finally employed are those examined medically.



### **2.2.6 History of Occupational Health in Nigeria**

The development of occupational health in Nigeria followed the pattern in other developing countries. Originally, the main occupation was unmechanized agriculture and animal husbandry. The workforces were mainly women and children. Payment for work was not known. Workers were exposed to many types of health hazards. Treatment then was not organized. Later, manufacturing including construction came into being. Modern occupational health, as reported by Achalu. (2000, p. 25) started as a result of colonization and industrialization by Britain. In Nigeria, the first occupational health services were introduced by the Medical Examination Board of Liverpool Infirmary in 1789 with the main aim of caring for the health of British slave dealers from Africa to Britain. However, after the abolition of slave trade, the Royal Niger Company of Britain increased its exploration and trading activities in Nigeria.

The Company organized its own health services which were later inherited by the United African Company (UAC). During the British colonial rule, many of their soldiers were dying of malaria. This led Colonel Lugard to establish health services to take care of the health and welfare of soldiers and other colonial administrators. Later, during the Second World War, the Medical Corps was separated to cater for the military alone leading to the creation of Public Health Service which became the nucleus of the National Health Service. After the world war, many industries started emerging and the chief among them were construction of rail lines and coal mining. This attracted employment of many Labourers especially young men.

These workers commonly worked 12-14 hours shift; 7 days a week under terrible conditions of dust, physical hazards, accidents, smoke, heat and noxious fume among others. Feeding was very poor; workers were dying in their forties and fifties. People had no knowledge between

work conditions and health. They accepted work related illnesses and injuries as part of the job and lived shorter lives. Employers attributed workers' poor health and early death to workers' personal habits on the job and their living conditions at home. Little or no attention was paid to prevention of the hazards in work places. Payment was very poor and dismissal very common because job seekers were many. Workers' reaction to poor conditions at work resulted in the death of coal miners in Enugu. This originated.

These developments and awareness lead to the worker's day in Nigeria establishment of some occupational health services in some Nigerian industries and occupational health legislations Act in Nigeria,' The earliest practices that can be regarded as occupational health services in Nigeria were carried out by British Companies like UAC, John Holt. This was followed by establishment of some occupational health services by Nigerian governments in the Railway Corporation and Coal Mines.

Such services included pre-employment and periodic medical examination, treatment of minor illnesses and accidents. In some cases, general practitioners were hired on part time basis, especially in urban centre to take care of the sick injured workers. The increased industrialization and its impact on health, safety and welfare of workers lead to the creation of occupational health unit in the Federal Ministry of Health and the Institute of Occupational Health in Oyo State Ministry' of Health. These agencies organized courses for managers, safety officers, medical officers, occupational hygienists, and other personnel involved with the protection, maintenance and promotion of health and welfare of workers in Nigeria.

### **2.2.7 Legislation of safety**

Legislation involves making laws in order to protect the health of workers in an industry by the legislative arm of the community (Advanced Learners Dictionary, 2001 The state or country

where the industry is located may decide to pass a law. Legislation can be used to eliminate or reduce exposure of workers to occupational hazards. This is because, if the industrialists are not legally compelled to protect the workers, they may not do anything to help prevent workers' exposure to hazards, especially when they still make their profits and workers are always there to be hired and dismissed at will with the slightest flimsy excuses. According to workplace safety and Insurance Bureau (Asogwa, 2007), occupational diseases can be prevented by:

- a) Finding out what materials and substances were being used in their workplace with the aim of ensuring safety provisions.
- b) Finding out how to work safely around materials and equipment in their workplace
- c) Use protective equipment provided by their employer. Make sure that they know how to use the facilities if not ask questions.
- d) Be alert to the symptoms of change in your health status and be able to report on time.
- e) Always tell the company doctor where they work, what they do and what substances they work with because this information will help in making accurate diagnosis.
- i) Keep records of all jobs and industries that they worked with in order to find the cause of the illness.
- g) Periodic health education of all the workers la provide them with adequate knowledge of all the hazards that can cause diseases associated with their Occupation and the preventive measures to adopt as well as the importance of keeping safety rules of the occupation.

h) All the workers should be trained and retrained periodically on how to use the protective devices provided by the management in the language familiar to them; regular supervision and monitoring to ensure compliance to the proper use of the devices; information on safety provisions and their importance should be displayed on the posters and notice boards and the sign posts mounted at strategic positions in the company. At times hand bills should be provided for personal keeps for constant consultation and reminder. Managers should show good example by using the devices always.

Dating back to 1802 when the Health and Murals of Apprentices Act was passed by the government of Manchester and England as a result of an outbreak of fever among the children working in the collon mills. This signified the beginning of government's involvement in workplace safety Other Laws and Acts have been passed since then, this has led to an improvement in safety (Goetsch 2008). The legislation for enforcing safety and health standards in Nigerian workplaces are the factories Act Cap 126, Laws of the Federation of Nigeria, 1990.

Other regulatory bodies are in National Agency for Food and Drug Administration and Control (NAFDAC). Standards Organization of Nigeria (SON). These bodies are responsible for both the protection of the safety and health of the workers as well as those of consumers and the environment.

Safety legislation are aimed at achieving the following as they affect industries, their clients their workers and the environment at large with regards to their health and safety:

- i. To promote personal responsibility and effort on everyone's part to avoid accident and prevent health hazards and injuries to themselves and to others who may be affected by their mistakes and to comply with statutory obligations;

- ii. To create an awareness on the need for risk assessment for all potential hazardous activities for these responsible for the management of equipment or the working environment;
- iii. To ensure that the industry provides facilities, equipment and substances that are subject to safe systems of work;
- iv. To provide an environment in which everyone can carry out his or her duty without fear or intimidation, harassment, violence or unnecessary stress;
- v. To provide support on matters of occupational safety through the manager, who will be responsible for advice to the factory, regular auditing and has the responsibility and right for enforcement;
- vi. To monitor the health and safety performance of the company through regular report to the Board of Directors and a provision of a report on health and safety performance on the factories' website;
- vii. To ensure that arrangements are made to act upon health and safety matters at all levels through regular staff meetings.

There is a great expectation for the improvement of a safe working condition as a result of an increase in the level of awareness. Below is a list of safety acts passed by several legislatures:

1. WAC 296-800-1105; provide your employees a workplace that is free from hazards that are causing and are likely to cause serious injury or death
2. WAC 296-800-11015, prohibit employees from entering or being in an unsafe workplace
3. WAC 296-800-101 Stakes responsibility for the safe conditions of tools and equipment used by employees.
4. WAC 296-800-11015, Establish, supervise and enforce rules that lead to a safe and

healthy work environment that are effective in practice

5. WAC 295-800-11015 protects employees from exposure to hazardous concentrations of biological agents that may result from the processing, handling or usage of materials or waste. (Washington State Department of Labour and Industries).

### **2.2.8 Safety culture**

Safety culture is made up of shared and accepted attitude, beliefs and practices supported by documented policies and procedures throughout an organization. It is an atmosphere that shapes safe behaviours and practices. A safety culture takes time to create and results in everyone's commitment to safety as an important part of doing business Hale (2000). The OHS (2009) suggests that in order to ensure adequate safety culture within an organization: lack of management and lack of trust or fear must be dealt with. Effective safety culture has the potential of promoting or increasing the morale of employers or employee and also to reduce workplace injuries.

A good safety culture in a workplace exists when safety and health is understood to be and is accepted as a high priority. Safety and health does not exist in a vacuum isolated from other aspects of an organization, such as people and financial management. Safety culture is an integral part of the overall corporate culture (OHS 2009). Corporate culture is often referred to as the bond that glues an organization together. It is said to be a contributing factor to the performance of an organisation by means of socializing the workers in a way that increases commitment to the goals of the organization (Pizziet al. 2002)

Promoting safety culture starts with having a safety policy. The policy should make it known that safe work practices are required of the employees at all levels and at all times (Goetsch 2008). The safety policy acts as a foundation upon which all promotional efforts are built. A policy that is not built on a sound safety culture promoting occupational health and safety as well as the well-being of the organization's employees and stakeholders is bound to be fruitless. Promotion of a safety culture with a view to preventing accidents in the workplace can be achieved through the following:

1. Communication and consultation
2. Understanding and recognizing safety hazard.
3. Leadership that is visible
4. Taking responsibility
5. Understanding potential emergencies
6. Risk assessment
7. Employee involvement and participation:

The use of safety slogans according to Pizzi (2002) is another effective way of ensuring a good safety culture. It involves the use of short words, phrases or sentences which take the form of reminders such as: “the chance taker is the accident maker” “Safety first, last and always”

### **2.2.9 Training as a tool for Safety**

The training of employees is a great importance in order to achieve a safe working environment, Everyday workers are faced with a multitude of health hazards such as dust, smoke, gases, noise, vibration and extreme temperature (The International Labour

Organization 2011). Generally, workers are not aware of the risks involved in day-to-day industrial work. The workers take risks as inherent in jobs. There are some workers who consider it a matter of male pride to carry on construction work at a point high up from the ground level without any safety belt, Brave (2002). Some safety hazards faced by workers in the furniture workshop include

- i. Walking on slippery floors;
- ii. Using blunt cutting tools
- iii. Being hit or trapped by falling objects;
- iv. Being hit by machinery that moves such as forklifts, work safe (2006).

The United Kingdom's Health and Safety Executive suggests that some employees may have particular needs such as:

- i. People changing jobs or taking extra responsibilities need to know about any new health and safety implications;
- ii. New recruits need basic induction training on how to work safely including arrangement for first aid
- iii. A re-training programme for some worker skill which may require updating

The employees should also be exposed to the different types of personal protective equipment's and their functions. Examples include.

- i. Body protection (coveralls chemical protective clothing, apron);
- ii. Eye protection (impact glasses, splash goggles);
- iii. Face protection (welding face shields);



- iv. Fall protection (fall arrest harnesses);
- v. Foot protection (safety foot wear);
- vi. Hand protection (gloves);
- vii. Head protection (hard hats);
- viii. Respiratory protection (purifying and air-supply respirators).

It is obvious that training is a process of teaching and learning, and such there will be quality improvement in the teaching and learning technique, if the trainers and learners are familiar with the following principles learning:

- i. Success in learning tends to stimulate additional learning as a result training session should be long enough to ensure that progress is seen but as much as possible should not allowed boredom to set in
- ii. Learners need immediate and continuous feedback to know if indeed the.
- iii. The process of repetition and application should be built into the training process, as people never forget what they have done over time.
- iv. Trainees should be exposed to the practical aspect of what they are being taught theoretically, as people learn by doing.

#### **2.2.10 Health hazards in the wood and furniture industry**

The World Health Organization (WHO) report 2000 notes that, occupational health risks are one of the leading causes of morbidity and mortality in the world in general and developing countries in particular in India alone, research reports estimated an annual incidence of occupational disease between 924,700 and 1,902,300 cases and 121.000 deaths (Leigh et al, 1999). Numerous studies on many industries including the leather tanning industry, textiles and

metal ware have found that workers in these industries work in inhuman physical conditions for very long hours (Nihila 2002).

A survey by Adei and Kunfaa (2005) make a finding which revealed that employees in the wood processing industry were exposed to physical, ergonomic, mechanical and chemical hazards. The perceived physical hazards in the study were sawdust, noise and extreme hot temperature. Sawdust was a major hazard in all the Wood Processing companies surveyed which is consistent with the work place health and safety hazards survey by the MOH (1998), that showed that woes dust and shavings were major hazards among woodworkers. The percentage of workers as the study maintains who were provided with nose masks and those who claimed to use it may be an over estimation.

Apart from one small company surveyed, where all workers were seen wearing their nose masks, some workers in the rest of the companies surveyed had their nose masks on their foreheads because they found them unbearable to use. Amedofu (2002) as cited in Adei and Kunfaa (2005) observed that hearing impairment usually develops slowly over a long time and the impairment can reach the handicapping stage before an individual becomes aware of what has happened. The researcher had to shout when administering the questionnaire to some of the workers at their administration block which, were insulated from noise. This suggests that majority of workers were not aware of their hearing impairment.

It therefore appears where earmuffs were provided use was not clearly understood. Most supervisors and workers in the wood processing companies surveyed perceived noise as an inevitable part of the production process. The supervisors had no idea of the quantitative noise levels the workers were exposed to and only 6.5 percent knew that the maximum allowable noise limit for eight-hour shift should not be more than the recommended levels by Environmental

Protection Agency (EPA) in Nigeria. Amedofo and Asamoah-Boateng (2003) showed that workers in sawmills, and com mills were exposed to noise levels exceeding the recommended levels by Environmental Protection Agency (EPA) in Nigeria.

Workers at the boiler and kiln dryer sections in the large and medium sized companies perceived their work environment to be hot. Workers at the boiler sections experienced profuse sweating although no temperature monitoring equipment was in place. The companies with clinics (three large and one medium-sized) processing companies) had a record, complaints of fatigue, discomfort and heat exhaustion as a result of the excessive heat exposure. Ezeon (2004), reported heat exhaustion caused by exposure to high temperature among kiln workers in a Nigerian company.

### **2.3 Review of Related Empirical Studies**

Kareem *et al.* (2019). Assessed the level of implementation of safety regulations in furniture industry in Oyo State. The study adopted a descriptive survey research design which involves the use of questionnaire to determine the opinion of respondents. The target population of the study was 60 respondents that consist of 45 furniture makers and 15 upholstery makers. The entire population was used for the study. The instrument for data collection was a 38-item questionnaire; the instrument was validated by two experts in the Department of Industrial and Technology Education, Federal University of Technology, Minna, Niger State. Three research question were formulated to guide the study. The questionnaire was administered to the respondents by the researcher in Oyo State. The study was carried out in three local government areas of Oyo State. The data obtained were analyzed using mean and standard deviations, binding of the study shows that level of implementation of safety and health regulations is high

and as such the rate of accident is minimal. Also, loss of hearing, asbestos related diseases, chronic gastritis among others are the health related diseases in the furniture industry.

According to the finding, smoking, eating and drinking should be prohibited in the workshop; prohibition of the use of mobile phones while working are some of the strategies to be adopted by furniture industry to safety rule and regulations. Based on these findings the following recommendations were made; Furniture makers should always wear appropriate and approved workshop dresses in the workshop so as to be safe and free from hazard, good ventilation system should be ensured in workshop, Government and non-government organizations should assist individual on safety gadgets and furniture makers should also participate in safety awareness program.

The study reviewed is related to this study as the two studies seek to find out the health practices in furniture industries. The studies are also related in terms of instrument for data collection and data analysis. Though, the two studies differ in terms of area of the study, population and sampling technique.

Adedejiet *al.* (2022) Evaluate the Ergonomics of Carpentry and Furniture-Making Enterprise at the Illoabuchi Cluster Sawmill/Wood Market in Port Harcourt, Nigeria Over the years, forestry-related professions have been consistently considered as one of the most hazardous occupations around the world.

Awareness to address this issue through ergonomic improvement interventions is increasing, yet insufficient information is available about ergonomic conditions of Nigerian carpentry and furniture-making (CFM) enterprise.

This study evaluated the ergonomics of CFM at the Illoabuchi cluster sawmill/wood market in Port Harcourt, Nigeria using qualitative and quantitative approaches. The carpenters/furniture makers (CFMs) were exclusively males 51.9% of them were within the age of 26 and 35 years with 72.2% of them being married.

The height of tables is weakly positively correlated with the height of CFMs ( $r = 0.250$ ,  $p < 0.026$ ), implying that a vast number of the tables used were not anthropometrically matched. The occupational hazard outcomes frequently suffered by the CFMs included bruised/hands cut (34.4%), back pain (25.9%), nasal infection (25.9%), muscle pain (8.6%), and eyes infection (5.2%). These findings provide evidence by which the ergonomical target interventions to reduce future hazards and also to lessen the impacts of previous hazards on CFMs can be implemented.

The study reviewed is related to this study as the two studies seek to find out the health practices on furniture industries. The studies are also related in terms of instrument for data collection and data analysis. Though, the two studies differ in terms of area of the study, population and sampling technique.

Zubairu, S. N. & Ayuba, P. (2012). Conducted a study on post-occupancy evaluation of factories in Minna to determine the working conditions of staff. The study presents the results of a post-occupancy evaluation of selected factory buildings in Minna. A survey of registered and functional factories was undertaken to examine the condition of factories: staff working conditions, space management, and user satisfaction. The research investigated the technical aspects, environmental conditions, adequacy of space provision within factory buildings, personal protective equipment (PPE), Health and Safety(H&S) regulations and facilities standards, ventilation and maintenance standards of factories in Minna from the perspective of the workers. The research made some recommendations that would help entrepreneurs in the

management of factories in Nigeria with useful guidelines for creating a better working environment for factory workers. The research concludes that post- occupancy evaluation should be carried out annually on factories so as to guarantee health and safety of the occupants.

The study reviewed is related to this study as the two studies is on factories. The studies are also related in terms of study area. Though, the two studies differ in terms of research design, population and sampling technique.

Diweet *al.* (2016). Conducted a study on occupational hazards, safety and hygienic practices among timber workers in a South Eastern State, Nigeria. Timber workers, especially in developing countries, are faced with challenges of prevention and control of work place hazards and illnesses. To determine the awareness of occupational hazards, effects, safety and hygienic practices among timber workers in a South Eastern State in Nigeria. A cross sectional descriptive design that used the total population of timber workers involved in the processing and marketing of wood in three major timber markets in a South Eastern State in Nigeria. Data was collected using a pretested semi-structured questionnaire.

Descriptive analyses were done with frequencies and summary statistics. The majority of the respondents were aware of the hazardous nature of wood dust (96%) and their main source of awareness was from personal experiences (55%). In spite of the fact that the predominant hazard effects in the majority were nose, throat irritation and cough (33%), the majority were of the opinion that the respirator was not important. Only 13% of the respondents that use personal protective equipment (PPE) always use them and the main reason for not using PPE is forgetfulness (38%). Proper hygiene and sanitation was poorly practiced, as all respondents indiscriminately disposed of waste wood (100%) and about one third (33%) did not have a bath after work each day. Timber workers in our environment are faced with increased risks of

diseases, accidents and challenges of protection and safety. As a consequence, there is a need for proper education and enforcement of consistent use of the different protective devices.

The study reviewed is related to this study as the two studies seek to find out the occupational health practices. The studies are also related in terms of instrument for data collection and data analysis. Though, the two studies differ in terms of area of the study, population and sampling technique.

#### **2.4 Summary of Reviewed Literature**

From the reviewed literature, it is a known fact that the need for occupational safety and health can be dated back to more than a century old. Within this period of time; companies, factories, employers and employees have sought for a safe working environment; using strategies aimed at improving the working environment, compensating those affected by their work negatively.

The various roles played by the employers, employees, and the government as a strategy towards the advancement and promotion of safety was also looked into although, rather unfortunate that despite all the effort geared towards the prevention of occupational hazard and death we are still be devilled with the frustrating occurrence of these occupational accidents, injuries and death in the workshops, factories and industries; thereby economy leading of the nation to loss of manpower which in turn affect productivity and finally the economy of the nation.

As and a safety result, of the researcher above consequences saw it necessary to explore various ways by which loss of man power, purchase of equipment and machine due to damage, low productivity can be prevented Finally, it is hoped that this research will foster productivity and growth in the furniture workshop and the economy of the nation at large.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

This chapter describes the procedure that was used in the study. They include research design, area of the study, population, Instrument for data collection, validation of the instrument, Administration of the instrument, method of data analysis and decision rule.

#### **3.1 Research Design**

This study adopt a descriptive survey research design. This is because it will involves the use of questionnaire to determine the opinion and responses on the assessment of occupational safety and health practices in furniture industries in Minna, Niger State. According to Olaten (1999) survey research design is a descriptive study in which the entire population or representative sample of the entire population is studied by collecting and analyzing data from the group through the use of questionnaire.

#### **3.2 Areas of Study**

The study was carried in Minna, Niger state. Minna is a city in Middle Belt Nigeria. It is the capital city of Niger State, one of Nigeria's 36 federal states. It consists of two major ethnic groups: the Gbagyi and the Nupe.

#### **3.3 Population of the Study**

The population of this study was 30 registered furniture industries in Minna metropolis, the respondents was comprise of 30 managers of the industries.

#### **3.4 Sample and Sampling Technique**

Due to the manageable size of the study population, the study utilized the whole population, hence, there was no sample.



### **3.5 Instrument of Data Collection**

The research instrument for data collection was structure questionnaire. The instrument was divided into five parts. Section A deals with the personal data of the respondents and instruction on how the questionnaire was answered. Section B, contain fifteen (15) the availabilities of facilities for occupational safety and health practice in furniture industry in Minna metropolis. Section C deal with the level of awareness of worker on occupational safety and health practices for furniture industry in Minna metropolis which contains thirteen (13) items. Section D deals with the occupational safety and health practicees for furniture industry in Minna metropolis which contains sixteen (16) items. Section E der with the strategies for improving occupational safety and health practices for furniture industry in Minna metropolis which contains sixteen (16) items.

### **3.6 Validation of the Instrument**

The instrument was validated by three Lecturers in the Department of Industrial and Technology Education, Federal University of Technology, Minna. Their suggestion was used to modify and produced the final copy of the instrument that will be used for the data collection.

### **3.7 Administration of the Instrument.**

The instrument used for the data collection was administered to the respondents by the researcher and two research assistant in the study area.

### **3.8 Method of data analysis**

Mean and standard deviation was used to analyze the data collection for the study, while t-test statistics was used to test the null hypothesis that was formulated for study 0.5 level of significance. A four (4) point rating scale was used to analyze the data as shown below.

Strongly Agree (SA) = 4points

Agree (A) - 3points

Disagree (D) = 2 points

Strongly Disagree (SD) = 1 point

Therefore, the mean value of the 4point scale is: 2.50 was chosen as the agreed or disagreed point. This is interpreted relatively according to the rating point scale adopted for this study.

Therefore, an item with response below 2.50 was regarded or considered as disagreed while an item with response at exactly 2.50 and above will be regarded or considered as agreed.

## CHAPTER FOUR

### 4.0 RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter deals with the presentation and analysis of data with respect to the research questions and hypotheses formulated for this study, the result of data analysis for the research question were presented first, followed by those of the hypotheses tested for the study

#### 4.2 Research Question One

What are the occupational safety and health practices in furniture industries in Minna, Niger State?

*Table 4.1: Mean response of technical staff and management staff of furniture industry on occupational safety and health practices in furniture industries in Minna metropolis, Niger State.*

| S/N | ITEMS   | $X_1$ | $X_2$ | $X$  | REMARK    |
|-----|---|-------|-------|------|-----------|
| 1   | Availability of health care centre            | 2.51  | 2.31  | 2.40 | Disagreed |
| 2   | Well-equipped first aid box                   | 2.44  | 2.33  | 2.35 | Disagreed |
| 3   | Availability of first aid room                | 2.77  | 1.75  | 2.26 | Disagreed |
| 4   | Provision of earmuffs                         | 3.66  | 3.76  | 3.71 | SA        |
| 5   | Provision of fire alarm                       | 3.16  | 3.11  | 3.13 | Agreed    |
| 6   | Provision of Lockers                          | 3.66  | 3.67  | 3.66 | Agreed    |
| 7   | Provision of Canteen or Cafeteria for staff   | 3.33  | 3.16  | 3.24 | Agreed    |
| 8   | Availability of hard hats                     | 2.84  | 2.44  | 2.63 | Agreed    |
| 9   | Availability of toilet                        | 2.91  | 2.61  | 2.76 | Agreed    |
| 10  | Provision of wishing areas                    | 2.66  | 2.55  | 2.61 | Agreed    |
| 11  | Portable drinking water                       | 2.58  | 2.55  | 2.63 | Agreed    |
| 12  | Provision of Nose masks                       | 3.26  | 3.16  | 3.21 | Agreed    |
| 13  | Provision of Safety goggles                   | 3.08  | 3.05  | 3.06 | Agreed    |
| 14  | Provision of safety boots                     | 2.88  | 2.58  | 2.73 | Agreed    |
| 15  | Availability of overalls                      | 2.64  | 2.44  | 2.54 | Agreed    |
| 16  | Availability of functional fire extinguishers | 1.88  | 2.70  | 3.29 | Agreed    |

Key: N1 = 12, N2=18, SA- Strongly agreed

$N_1$ , is the number of the technical staff,  $N_2$  is the total number of the management staff,  $X_1$  is the mean response of the technical staff,  $X_2$  is the mean response of the management staff, and  $X$ , is the average mean of both technical and management staff for the study

From Table 4.1 above revealed technical staff and management staff of furniture industry on the level of awareness of workers on occupational safety and health practices in furniture industry in Minna metropolis, Niger State acknowledge that the above items mention on the table and the occupational safety and health practices in furniture industry in Minna metropolis which have the average ranging mean of 2.54 to 3.75 respectively. This implies that the items were agreed upon by the respondent to be the level of safety awareness which they equally practice for safety purpose at the workplace. They were all agreed upon because all the items mention was about the decision rule of 2.50 and above. While item 1, 2 and 3, was disagreed it to be the safety practices in furniture industry in Minna metropolis this may be due to that such item were not available in the furniture industry in mina metropolis. In which the average mean response is below 2.0 which is the decision rule.

### 4.3 Research Question Two

What are the level of awareness of workers on occupational safety and health practices in furniture industries in Minna, Niger State?

*Table 4.2: Mean response of technical staff and management staff of furniture industry on the level of awareness of workers an occupational safety and health practices in furniture industries in Minna metropolis, Niger State.*

| S/N | ITEMS   | X1   | X2   | Xt   | REMARK |
|-----|---|------|------|------|--------|
| 17  | Keep all hand tools clean and in safe working order   | 2.58 | 2.88 | 2.73 | Agreed |
| 18  | Containers containing chemicals should be clearly labeled with the name of the chemical                           | 2.55 | 2.54 | 2.54 | Agreed |
| 19  | All tools and machines should be handling with care and machine should be operated by experts                     | 2.75 | 2.88 | 2.81 | Agreed |
| 20  | Clean up spilled liquids immediately  | 3.33 | 3.22 | 3.27 | Agreed |
| 21  | Report defective tools, test equipment to the manager   | 3.08 | 3.22 | 3.30 | Agreed |
| 22  | Report all accidents to the supervisors or managers regardless of the severity                                    | 3.16 | 3.39 | 3.27 | Agreed |
| 23  | Solid waste should be kept in bins with lids or cover so as to prevent rain from coming in contact with the waste | 3.75 | 3.66 | 3.70 | SA     |
| 24  | Liquid hazardous waste should not he put in the general   | 2.83 | 2.80 | 2.81 | Agreed |

|    |  |           |      |      |        |  |
|----|--|-----------|------|------|--------|--|
|    | waste bin  | waste bin |      |      |        |  |
| 25 | Workers should not carry sharp edged or pointed tools in their pockets           | 3.11      | 2.83 | 2.97 | Agreed |  |
| 26 | Workers should not indulge in horseplay or play practical jokes workshop         | 3.33      | 3.27 | 3.30 | Agreed |  |
| 27 | Hand glove should be use when dealing with hazardous chemicals and sharp objects | 3.89      | 3.33 | 3.61 | SA     |  |
| 28 | Workers must wear safely goggles when required                                   | 3.17      | 2.76 | 3.27 | Agreed |  |
| 29 | The floor workshop should be kept clean of scraps and litter                     | 3.33      | 3.08 | 3.20 | Agreed |  |
| 30 | Workers must be with proper clothing at all times when working workshop          | 3.25      | 3.22 | 3.27 | Agreed |  |

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Key: N1=12, N2= 18

N1 is the number of the technical staff, N2 is the total number of the management staff, X1 is the mean response of the technical staff, X2 is the mean response of the management staff, and Xt, is the average mean of both technical and management staff for the study.

From Table 4.2 above revealed technical staff and management stall of furniture industry on the level of awareness of workers on occupational safety and health practices for furniture industries in Minna metropolis, Niger State, acknowledge that the above items mention on the table are the available facilities for Occupational safety and health practices for furniture industry Minna metropolis which have the average ranging mean of 2.54 to 3.70 respectively. This implies that the items were agreed upon by the respondent to be the level of safety awareness which they equally practice for safety purpose at the workplace. They were all agreed upon because all the items mention was about the decision rule of 2.50 and above. Looking at the level of their response, it implies that occupational safety and practice at workplace were partially practice with the average frequency of 50 % to 69 % practice. It equally shows that the management staff and the technical staff should improve in the level of safety awareness in respective of their response.

#### 4.4 Research Question Three

What are the available facilities for occupational safety and health practices in furniture industries in Minna, Niger State?

**Table 4.3: Mean response of technical staff and management staff of furniture industry on the availability of facilities for occupational safety and health practices in furniture industries in Minna metropolis, Niger State**

| S/N | ITEMS                        | X1   | X2   | Xt   | REMARK    |
|-----|------------------------------|------|------|------|-----------|
| 31  | Health care centre           | 2.40 | 2.30 | 2.35 | Disagreed |
| 32  | Equipped first aid box       | 2.25 | 2.22 | 2.23 | Agreed    |
| 33  | First aid room               | 2.46 | 2.00 | 2.23 | Disagreed |
| 34  | Ear muffs                    | 3.33 | 3.44 | 3.38 | Agreed    |
| 35  | Fire alarm                   | 2.56 | 2.49 | 2.50 | Agreed    |
| 36  | Lockers                      | 3.66 | 3.65 | 3.66 | SA        |
| 37  | Hard hats                    | 3.16 | 3.11 | 3.13 | Agreed    |
| 38  | Washing area                 | 3.33 | 3.16 | 3.24 | Agreed    |
| 39  | Portable drinking water      | 2.83 | 2.44 | 3.63 | Agreed    |
| 40  | Nose masks                   | 2.91 | 2.61 | 2.76 | Agreed    |
| 41  | Safety goggles               | 2.66 | 2.55 | 2.60 | Agreed    |
| 42  | Safety boots                 | 2.58 | 2.55 | 2.56 | Agreed    |
| 43  | Coveralls                    | 3.16 | 3.16 | 3.16 | Agreed    |
| 44  | Functional fire extinguisher | 3.09 | 3.05 | 3.06 | Agreed    |

Key: N1 = 12, N2=18, SA = strongly agreed

$N_1$ , is the number of the technical staff,  $N_2$  is the total number of the management staff,  $X_1$ , is the mean response of the technical staff,  $X_2$ , is the mean response of the management staff, and  $X$  is the average mean of both technical and management staff for the study.

From Table 4.3 above revealed technical staff and management staff of furniture industry on the available facilities for occupational safety and health practices for furniture industries in

Minna metropolis, Niger State acknowledge that the above items mention on the table are the available facilities for occupational safety and health practices for furniture industry Minna metropolis which have the average ranging mean of 2.56 to 3.76 respectively. This implies that the items were agreed upon by the respondent to be with available facilities, they were all agreed on because all the items mention were about the decision rule of 2.50 and above. While item and 31 and 33 was disagreed with that they are not available in the furniture industry in which their average mean response was below the decision rule of 2.50

#### 4.5 Research Question Four:

What are the strategies for improving occupational safety and health practices in furniture industries in Minna metropolis Niger State?

***Table 4.4: Mean response of technical staff and management staff of furniture industry on the strategies for improving occupations safety and health practices in furniture industries in Minna metropolis, Niger State.***

| S/N | ITEMS  | X1   | X2   | Xt   | REMARK |
|-----|--|------|------|------|--------|
| 45  | Workers should be encouraged to have good maintenance culture for machine and equipment                                | 3.33 | 3.22 | 3.27 | Agreed |
| 46  | Safety slogans should be adopted and used as safety reminder for the for Workers                                       | 3.08 | 3.22 | 3.30 | Agreed |
| 47  | Mandatory' induction Courses Should he recommend for every new Employee  | 3.58 | 3.33 | 3.45 | Agreed |
| 48  | The workshop should possess is own safety code   | 3.25 | 3.27 | 3.26 | Agreed |
| 49  | Every technical officer should be provided with the workshop's safety Code   | 3.08 | 3.22 | 3.30 | Agreed |
| 50  | Safety and danger signs should be placed in locker rooms and passages for people to see                                | 3.38 | 3.16 | 3.22 | Agreed |
| 51  | Every worker should be provided with protective wears such as safety boots overall etc                                 | 3.75 | 3.66 | 3.70 | SA     |
| 52  | Workers should be trained on how to recognize potential hazards  | 2.83 | 2.63 | 2.73 | Agreed |
| 53  | All accidents, whether major or minor should be promptly repaired and documented for protective or corrective purposes | 3.11 | 2.83 | 2.97 | Agreed |

|    |   |      |           |        |
|----|---|------|-----------|--------|
| 54 | Behaviours and habits that underline and joeplitize safety should be discouraged  | 3.27 | 3.30      | Agreed |
| 55 | Management and supervisors should ensure and compliance to the rules and regulation for the workers                       | 3.33 | 3.38 3.35 | Agreed |
| 56 | Inexperienced workers should not be allowed to perform any operation without supervision                                  | 3.08 | 3.22 3.30 | Agreed |
| 57 | Equipment, machines and working tools should be tested in order to ensure at they are in good work condition before usage | 3.38 | 3.16 3.27 | Agreed |
| 58 | Equipment, machines and working tools that 70 pose a threat the safety of workers should be disposed off                  | 3.75 | 3.66 3.70 | SA     |
| 59 | Workers should be encouraged to have maintenance culture for machine and equipment  | 2.83 | 2.63 2.72 | Agreed |
| 60 | Seminars workshops on safety should be organize   | 3.33 | 3.22 3.27 | Agreed |

Key: N1=12, N2= 18

*N<sub>i</sub>, is the number of the technical staff, N<sub>2</sub> is the total number of the management staff, X<sub>i</sub>, is the mean response of the technical stall, X<sub>2</sub> is the mean response of the management stall, and X is the average mean of both technical and management staff for the study.*

From Table 4.4 above revealed technical staff and management staff of furniture industry on the strategies for in proving occupational safety and health practices in furniture industries in Minna metropolis, Niger State, acknowledge that the above items mention on the table are the occupational safety and health practices in furniture industry in Minna metropolis which have the average ranging near of 2.54 10 3.70 respectively. This implies that the items were agreed upon by the respondent to be the strategies to improve occupational health and safety practices at the furniture industry. They were all agreed upon because all the items mention was about the decision rule of 2.50 and above.



#### 4.6 Hypothesis One

There is no significant difference between the Mean responses of the technical staff and Management staff of furniture industry on the occupational health and safety practices in furniture industries in Minna, Niger State.

*Table 4.5: t-test Analysis of Mean responses of the technical staff and management staff of furniture industry on occupational safety and health practices in furniture industries in Minna metropolis, Niger State.*

| S/N | ITEMS   | Xi   | X2   | SD1  | SD2  | t-cal | REMARK |
|-----|---|------|------|------|------|-------|--------|
| 1   | Availability of health care centre            | 2.51 | 2.31 | 0.58 | 0.63 | 0.19  | NS     |
| 2   | Well-equipped first aid box                   | 2.44 | 2.33 | 0.67 | 0.49 | 0.74  | NS     |
| 3   | Availability of first aid room                | 2.77 | 1.75 | 0.79 | 0.57 | 0.15  | NS     |
| 4   | Provision of earmuffs                         | 3.66 | 3.76 | 0.65 | 0.59 | 0.18  | NS     |
| 5   | Provision of fire alarm                       | 3.16 | 3.11 | 0.93 | 0.75 | 0.17  | NS     |
| 6   | Provision of Lockers                          | 3.66 | 3.67 | 0.65 | 0.53 | 0.45  | NS     |
| 7   | Provision of Canteen or Cafeteria for staff   | 3.33 | 3.16 | 0.54 | 0.57 | 0.67  | NS     |
| 8   | Availability of hard hats                     | 2.84 | 2.44 | 0.49 | 0.65 | 0.47  | NS     |
| 9   | Availability of toilet                        | 2.91 | 2.61 | 0.45 | 0.51 | 0.66  | NS     |
| 10  | Provision of wishing areas                    | 2.66 | 2.55 | 0.51 | 0.62 | 0.19  | NS     |
| 11  | Portable drinking water                       | 2.58 | 2.55 | 0.57 | 0.48 | 0.35  | NS     |
| 12  | Provision of Nose masks                       | 3.26 | 3.16 | 0.62 | 0.45 | 0.19  | NS     |
| 13  | Provision of Safety goggles                   | 3.08 | 3.05 | 0.73 | 0.43 | 0.49  | NS     |
| 14  | Provision of safety boots                     | 2.88 | 2.58 | 0.51 | 0.55 | 0.18  | NS     |
| 15  | Availability of overalls                      | 2.64 | 2.44 | 0.57 | 0.51 | 0.77  | NS     |
| 16  | Availability of functional fire extinguishers | 1.88 | 2.70 | 0.42 | 0.61 | 0.69  | NS     |

Key: Xi= Technical staff mean score, SD1 = technical staff Standard Deviation, X2= management staff Mean Score, SD2 = management standard Deviation. NS= Not significant, t-table value = 1.96.

The data in Table 4.5 above shows t-test Analysis of Mean responses of the technical staff and management staff of furniture industry on occupational safety and health practices in furniture industries in Minna metropolis, Niger State.

It can be seen that the calculate t-values (t-cal) of all of the 16 items were less than the I-table value of 1.96 at 0.05 level of significance and 62 degree of freedom. This means that the opinion

of the technical staff and management staff of furniture industry did not differ significantly on all the items. On this basis, the null hypothesis is upheld for all the items. It can there are be stated that there is no significant different in the response of technical staff and management staff of furniture industry and therefore the null hypothesis one is accepted for the hypothesis one.

#### 4.7 Hypothesis Two

There is no significant difference between the mean responses of the technical staff and management staff of furniture industry on the level of awareness of occupational health and safety practices in furniture industries in Minna, Niger State

*Table 4.6: t-test Analysis of Mean responses of the technical staff and management staff of furniture industry on the level of awareness of workers an occupational safety and health practices in furniture industries in Minna metropolis, Niger State*

| S/N | ITEMS   | X <sub>1</sub> | X <sub>2</sub> | SD <sub>1</sub> | SD <sub>2</sub> | t-cal | REMARK |
|-----|---|----------------|----------------|-----------------|-----------------|-------|--------|
| 17  | Keep all hand tools clean and in safe working order   | 2.58           | 2.88           | 0.57            | 0.49            | 0.57  | NS     |
| 18  | Containers containing chemicals should be clearly labeled with the name of the chemical                           | 2.55           | 2.54           | 0.48            | 0.57            | 0.17  | NS     |
| 19  | All tools and machines should be handling with care and machine should be operated by experts                     | 2.75           | 2.88           | 0.65            | 0.49            | 0.19  | NS     |
| 20  | Clean up spilled liquids immediately  | 3.33           | 3.22           | 0.54            | 0.71            | 0.43  | NS     |
| 21  | Report defective tools, test equipment to the manager   | 3.08           | 3.22           | 0.60            | 0.71            | 0.36  | NS     |
| 22  | Report all accidents to the supervisors or managers regardless of the severity                                    | 3.16           | 3.39           | 0.67            | 0.47            | 0.19  | NS     |
| 23  | Solid waste should be kept in bins with lids or cover so as to prevent rain from coming in contact with the waste | 3.75           | 3.66           | 0.71            | 0.69            | 0.65  | NS     |
| 24  | Liquid hazardous waste should not he put in the general waste bin waste bin                                       | 2.83           | 2.80           | 0.56            | 0.47            | 0.29  | NS     |
| 25  | Workers should not carry sharp edged or pointed tools in their pockets  | 3.11           | 2.83           | 0.58            | 0.51            | 035   | NS     |

|    |  |      |      |      |      |      |    |
|----|--|------|------|------|------|------|----|
| 26 | Workers should not indulge in horseplay or play practical jokes workshop         | 3.33 | 3.27 | 0.62 | 0.66 | 0.51 | NS |
| 27 | Hand glove should be use when dealing with hazardous chemicals and sharp objects | 3.89 | 3.33 | 0.59 | 0.69 | 0.37 | NS |
| 28 | Workers must wear safely goggles when required                                   | 3.17 | 2.76 | 0.47 | 0.52 | 0.53 | NS |
| 29 | The floor workshop should be kept clean of scraps and litter                     | 3.33 | 3.08 | 0.69 | 0.60 | 0.39 | NS |
| 30 | Workers must be with proper clothing at all times when working workshop          | 3.25 | 3.22 | 0.58 | 0.71 | 0.17 | NS |

Key:  $X_1$  = Technical staff mean score  $SD_1$  = technical staff standard deviation,  $X_2$  management staff Mean Score.  $SD_2$ = Management standard Deviation, NS- Not significant, t-table value 1.96

The data in table 4.6 above shows the t-test analysis of Mean responses of the technical staff and management staff of furniture industry on the level of awareness of workers an occupational safety and health practices in furniture industries in Minna metropolis, Niger State

It can be seen that the calculated t-values (t-cal) of all the 14 items were less than the t-table value of 1.96 at 0.05 level of significance and 62 degree of freedom. This means that the opinion of the technical staff and management staff of furniture industry did not differ significantly on all the items. On this basis, the null hypothesis is upheld for all the items. It can therefore be stated that there is no significant difference in the response of technical staff and management staff of furniture industry, therefore the null hypothesis two is accepted.

#### **4.8 Hypothesis Three**

There is no significant difference between the responses of the technical staff and management staff of furniture industry on the available facilities for occupational safety and health practices in furniture industries in Minna metropolis, Niger State.

**Table 4.7: t-test Analysis of Mean responses of the technical staff and management staff of furniture industry on the available facilities for occupational safety and health practices in furniture industries in Minna metropolis, Niger State**

| S/N | ITEMS                        | X <sub>1</sub> | X <sub>2</sub> | SD <sub>1</sub> | SD <sub>2</sub> | t-cal | REMARK |
|-----|------------------------------|----------------|----------------|-----------------|-----------------|-------|--------|
| 31  | Health care centre           | 2.40           | 2.30           | 0.51            | 0.59            | 2.22  | S      |
| 32  | Equipped first aid box       | 2.25           | 2.22           | 0.75            | 0.64            | 0.15  | NS     |
| 33  | First aid room               | 2.46           | 2.00           | 0.66            | 0.60            | 2.82  | S      |
| 34  | Ear muffs                    | 3.33           | 3.44           | 0.65            | 0.61            | 0.47  | NS     |
| 35  | Fire alarm                   | 2.56           | 2.49           | 0.45            | 0.42            | 0.17  | NS     |
| 36  | Lockers                      | 3.66           | 3.65           | 0.65            | 0.59            | 0.63  | NS     |
| 37  | Hard hats                    | 3.16           | 3.11           | 0.93            | 0.75            | 0.17  | NS     |
| 38  | Washing area                 | 3.33           | 3.16           | 0.49            | 0.61            | 0.78  | NS     |
| 39  | Portable drinking water      | 2.83           | 2.44           | 0.71            | 0.98            | 1.17  | NS     |
| 40  | Nose masks                   | 2.91           | 2.61           | 0.66            | 0.84            | 1.04  | NS     |
| 41  | Safety goggles               | 2.66           | 2.55           | 0.77            | 0.98            | 0.32  | NS     |
| 42  | Safety boots                 | 2.58           | 2.55           | 0.79            | 0.78            | 0.95  | NS     |
| 43  | Coveralls                    | 3.16           | 3.16           | 0.38            | 0.36            | 0.11  | NS     |
| 44  | Functional fire extinguisher | 3.09           | 3.05           | 0.90            | 0.72            | 0.93  | NS     |

Key: X<sub>1</sub>= Technical staff mean score, SD<sub>1</sub> = technical staff Standard Deviation, X<sub>2</sub>= management staff Mean Score, SD<sub>2</sub> = management standard Deviation. NS= Not significant, t-table value = 1.96.

The data in Table 4.7 above shows t-test Analysis of Mean responses of the technical staff and management staff furniture industry on the available facilities for occupational safety and health practices for furniture industries in Minna metropolis, Niger State.

It can be seen that the calculate t-values (t-cal) of some of the 15 items were less than the I-table value of 1.96 at 0.05 level of significance and 62 degree of freedom. This means that the opinion of the technical staff and management staff of furniture industry did not differ significantly on all the items. On this basis, the null hypothesis is upheld for all the items. It can there are be stated that the e is no significant different in the response of technical staff and management staff of furniture industry and therefore the null hypothesis one is accepted for the research

hypothesis three.

While the t-cal valve for 31 and 33 is above the t-cal valve which show that there is a significant difference the re one of the technical and management staff of furniture industry in Minna metropolis. This may be due to that the items mention are some essential facilities that is very needed in the furniture industry and the industry were not capable to provide such item.

#### 4.9 Hypothesis Four

There is no significant difference between the responses of the technical staff and management staff of furniture Industry on the strategies for improving occupational safety and health practices in furniture industries in Minna metropolis, Niger State.

*Table 4.8: t-test Analysis of Mean responses of the technical staff and management staff of furniture industry on the strategies for improving occupational safety and health practices in furniture industries in Minna metropolis, Niger State.*

| S/N | ITEMS  | X <sub>1</sub> | X <sub>2</sub> | SD <sub>1</sub> | SD <sub>2</sub> | t-cal | REMARK |
|-----|--|----------------|----------------|-----------------|-----------------|-------|--------|
| 45  | Workers should be encouraged to have good maintenance culture for machine and equipment                                | 3.33           | 3.22           | 0.90            | 0.60            | 0.91  | NS     |
| 46  | Safety slogans should be adopted and used as safety reminder for the for Workers                                       | 3.08           | 3.22           | 0.96            | 1.04            | 0.51  | NS     |
| 47  | Mandatory' induction Courses Should he recommend for every new Employee  | 3.58           | 3.33           | 1.21            | 0.96            | 1.04  | NS     |
| 48  | The workshop should possess is own safety code   | 3.25           | 3.27           | 1.07            | 1.21            | 0.25  | NS     |
| 49  | Every technical officer should be provided with the workshop's safety Code   | 3.08           | 3.22           | 0.90            | 0.80            | 0.44  | NS     |
| 50  | Safety and danger signs should be placed in locker rooms and passages for people to see                                | 3.38           | 3.16           | 0.90            | 1.13            | 0.63  | NS     |
| 51  | Every worker should be provided with protective wears such as safety boots overall etc                                 | 3.75           | 3.66           | 0.45            | 0.46            | 0.16  | NS     |
| 52  | Workers should be trained on how to recognize potential hazards  | 2.83           | 2.63           | 0.66            | 0.73            | 0.52  | NS     |
| 53  | All accidents, whether major or minor should be promptly repaired and documented for protective or corrective purposes | 3.11           | 2.83           | 0.83            | 0.77            | 0.74  | NS     |

|    |   |      |      |      |      |      |    |
|----|---|------|------|------|------|------|----|
| 54 | Behaviours and habits that underline and joeplitize safety should be discouraged  | 3.27 | 0.45 | 0.48 | 0.47 | NS   |    |
| 55 | Management and supervisors should ensure and compliance to the rules and regulation for the workers                       | 3.33 | 3.38 | 0.83 | 0.78 | 0.00 | NS |
| 56 | Inexperienced workers should not be allowed to perform any operation without supervision                                  | 3.08 | 3.22 | 0.57 | 0.67 | 1.16 | NS |
| 57 | Equipment, machines and working tools should be tested in order to ensure at they are in good work condition before usage | 3.38 | 3.16 | 0.88 | 0.89 | 1.81 | NS |
| 58 | Equipment, machines and working tools that pose a threat the safety of workers should be disposed off                     | 3.75 | 3.66 | 0.88 | 0.77 | 1.05 | NS |
| 59 | Workers should be encouraged to have maintenance culture for machine and equipment  | 2.83 | 2.63 | 0.51 | 0.59 | 0.80 | NS |
| 60 | Seminars workshops on safety should be organize   | 3.33 | 3.22 | 0.90 | 0.60 | 0.91 | NS |

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Key:  $X_1$  = Technical staff mean score  $SD_1$  = technical staff standard deviation,  $X_2$  management staff Mean Score.  $SD_2$ = Management standard Deviation, NS- Not significant, t-table value 1.96

The data in table 4.8 above shows the t-test analysis of Mean responses of the technical staff and management staff of furniture industry on the strategies for improving occupational safety and health practices in furniture industries in Minna metropolis, Niger State

It can be seen that the calculated t-values (t-cal) of all the 16 items were less than the t-table value of 1.96 at 0.05 level of significance and 62 degree of freedom. This means that the opinion of the technical staff and management staff of furniture industry did not differ significantly on all the items. On this basis, the null hypothesis is upheld for all the items. It can therefore be stated that there is no significant different in the response of technical staff and management staff of furniture industry, therefore the null hypothesis four is accepted.

#### **4.10 Discussion of the Findings**

From the findings, research question one dealt with the occupational safety and health practices in furniture industry in Minna metropolis, Niger State. Table 4.1 revealed that all occupational safety and health practices in furniture industry are in good condition; this shows and provided that workers in furniture industries in Minna metropolis, always adhere to the use of available occupational safety and health facilities and also report all cases of any forms of accident to their supervisors, and further provide that the supervisors are performing their tasks optimally: Pius (2009) as he indicated that proper planning and better statistic is facilitated when workers report all cases of accidents to their supervisors, seeing that this information will help in documentation, as it provide a data for reference for protective and corrective purposes in order to protect any future occurrences, all this available occupational safety measure must be put into proper practiced by all workers, only then the safety and health of workers will be improved, this has successfully been achieved due to the fact that industrialist have been legally compelled to protect the workers, in order to reduce exposure of workers to occupational hazard, in accordance to the workplace safety and insurance bureau (Asogwa, 2007), if not they might not do anything to help prevent the workers, exposure to hazard, seeing that the keep making their profits and workers are always there to be hired and dismissed at any time with flimsy excuses.

As it also provides an understanding of the role of the human factor as a causative agent in the accident, as to show a behaviour and habits that undermine safety cannot be discouraged. The table 3.130 showed that there are series of occupational safety measure that are put in place which are provision of functional toilet, provision of washing area, provision of functional and well equipped clinic, provision of standard first aid box, provision of emergency bus etc.

The OHS (2009). Also put forward that the furniture workshops contain dangerous chemicals including oils, solvents, antifreeze and gasoline and such containers and cabinets should be correctly labelled with the contents they hold inside and the specific hazard that the content pose and that the container lids should be closed tightly as this will crable the workers in furniture in industries in Minna metropolis to properly adhere to the use or right chemicals and materials for the right Job and thereby work free from industrial hazards.

Research question two ' dealt with the level of awareness of workers on occupational safety and health practices in furniture industries in Minna Niger State.

Table 4.2 showed that the works are aware that hand tools should be kept clean and in safe working order. Accidents can be prevented when tools are in good shape and are kept clean; as an accident is are unexpected, unplanned event or a sequence of events that occurs through a combination of causes that results in physical harm (injury or fatality) to an individual, damage to property, a rear miss, a loss or a combination of these effects (Pius 2009). The same table also showed that workers are aware that they must wear safety goggles when carrying out duty in time of operation, as it will ensure the protection of the eyes from flying particles, the adherence of the woodworkers to level of awareness will definitely bring about the achievement of occupational safety and health work habit, as Stephen J. (2012) reported that wood workers are exposed to various forms of hazards ranging from bacterial, viral and chemical infection down to physical injury. The table also revealed that the workers are aware that the floor of the workshop should be kept clean of scraps or litter; this is good because these scraps or litter pose as safety hazards to the health of the workers.at such being aware about all this safety and health measures is not enough, if they are being properly practice by the workers, as the OSH 2005) also established that the safety and health of the workers and the protection of machines, tools



and equipment can be guaranteed in an environment filled or sensitized with adequate awareness and practices on safety and health activities.

Research question three dealt with the available facilities for occupational safety and health practices for furniture industries in Minna metropolis, Niger State are. The findings as indicate in table one revealed that there are some manageable facilities on health centre which could be used for first aid treatment of the staff, majority of the for future Industries, such as equipped first aid box, car nulls, fire alarm, lockers, hard hats, toilet, washing area, portable drinking water, nose marks, where revealed to available to extend could be used for first aid treatment of the staffs, whenever an injury or accident occurs, following the cases of many two personnel affected by industrial hazard such as excess noise, gases, vibration and extreme temperature, in spite of available facilities this shows that there is lack of proper use of the available safety and health facilities and no adherence to the laws and regulation on the occupational safety and health act formed in 1979 goetsch (2008), or may be as a result of the low level of information on occupational safety by the technical staff and the worker which can equally cause a setback to productivity of the staffs, Bamford (1991) . At such the need for proper supervision to cross checked adherence to all safety and health laws, it further revealed that the first aid room should be large enough to hold a health examination with enough space at each side for people to work, and provide a well-ventilated environment which is healthy, if not it can cause harm to an unconscious victim, at last all the experienced safety and health personnel should be provided so as to ensure adequate adherence and proper utilization of the available safety and Health facilities found in furniture industries in Minna Niger State.

Research question four deal with the strategies for improving occupational safety and health practices in furniture industries in Minna metropolis, Niger State. The findings in table four

showed a consensus agreement in the encouragement of workers towards having sound maintenance culture on the machines and equipment by the workers. In order to ensure that the machines and equipment .attain their productivity life span and not pose as a threat to the safety and health of workers, a good maintenance of the machines and equipment is very paramount. Goetsch (2008) stressed that the success of any programme aimed at increasing safety culture is dependent on the involvement of the employees in the development stage of the programme to the implementation and monitoring stage, this show that is furniture industries in Minna metropolis have a clear knowledge awareness) of being exposed to various types of hazards, that is why they are in agreement towards having a good culture on the machine and equipment, even down to one personal health, which is in accordance to Stephen. J. (2012) who reported that wood workers are exposed to various forms of hazards ranging from bacterial, viral and chemical infection down to physical injury. There was also an agreement that safety posters and danger signs should be placed on lockers and passages for people to you This is good as these posters and danger signs act 5 supplement and provide instructions, warnings and information on safety. The use of safety slogans is also important as it passes a message in a unique way. There was also an agreement on the need for mandatory induction Courses for every new employee. These courses should, cover the what, when where and how of safety. This is in line with (Goetsch, 2008) who opined that a good induction course all safety should seek to instil in the workersthe ways of recognizing potential hazards.

## CHAPTER FIVE

### CONCLUSION AND RECOMMENDATIONS

#### 5.1 Summary

The study was carried out to identify the assessment of occupational safety and health practices in furniture industries in Minna, Niger State. To achieve this, the study was structured into five chapters.

Chapter one dealt with the background to the study where statement of the problem for this study was presented. Objectives, research questions and hypotheses were raised.

Significance and scope of the study were presented

Chapter two covers the review of related studies, where numerous materials were assessed. Concept of Occupational Health and Safety, Work and health, History of Occupational Health in Nigeria, Legislation of safety, Safety culture, Training as a tool for safety, Health Hazards in the Wood and Furniture Industry and several empirical studies were also reviewed.

Chapter three presents the methodology used to carry out this study. Survey design, the research study was carried out in in Minna Metropolis Niger State, population of the study was 30 registered furniture Industries in Minna Metropolis the respondents comprise of 30 managers of the industries. Questionnaire was the instrument used for data collection. Data collected for the pilot study was analyzed using.

Chapter four presents result and discussion. Data collected were statistically analyzed and result presented in a tabular for in. The research questions answered were analyzed using Mean and standard deviation, while t-test statistics was used to test the null hypotheses that was formulated for study. Summary of the findings and discussion were presented. The two null hypotheses stated, were retained.

Finally, chapter five presents summary of the study, where each chapter discussed was summarized in detail. Implications of the study was also presented based on the findings; Conclusion is also presented based on the findings. And recommendations are also made for managers of the industries, students, technicians and policy makers who may be interested on furniture craft and Suggestion for further study was also made.

## **5.2 Implications of the study**

The finding of the study has the following implications on both furniture industries in Minna Metropolis and the managers of the industries. They include:

- Lack of first aid room; which leads to improper attention given to the accident victim; as such the victim does not get adequate rest needed for recovery.
- Lack of awareness towards safety and health rules and regulations; this is evident as workers are not aware that car batteries which are classified as hazardous waste should be collected by a licensed contractor, there by posing health hazards.
- Lack of implementation of safety and health rules and regulations. This is seen in the fact that containers containing chemicals are not labelled with the name of the chemical. This is hazardous as these chemicals contain harmful substances.
- Lack of adherence to safety and health rules and regulations. This is evident as the workers do not report defective tools, test equipment to the manager, which is a source of potential accident.

## **5.3 Conclusion**

The burden of occupational health and safety problems lies on the shoulders of both the workers and the machinery. The number of accidents could be reduced considerably through the enhancement of safety and health prevention measures.

Each worker is entitled to a safe and healthy working condition: resulting in worker safety and overall good health. This in turn would result in increased productivity. Such progress can only be achieved through prevention- a tool for eliminating unnecessary human suffering and damage to tools. It is therefore high time that owners of workshops proceed quickly from complaints to preventive measures; as a safe and healthy workplace is a wealthy workplace.

#### **5.4 Recommendations**

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

1. There should good maintenance of first aid room for the workers.
2. Workers should be more encouraged to report defective tools, test equipment to the supervisors
3. The workers should be encouraged to wear proper clothing at all times when working in the workshop.
4. Containers containing chemicals such as lubrication oils, antifreeze and fuel should be clearly labelled with the name of the chemical
5. Spilled liquids should be cleaned immediately.

#### **5.5 Suggestion for further study**

The following related areas have been suggested for further research:

1. Evaluation of risk assessment in the furniture industries
2. Assessment of the impact of technology on furniture Industries

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**APPENDIX**  
**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**  
**DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION**  
**ASSESSMENT OF OCCUPATIONAL SAFETY AND HEALTH PRACTICE IN**  
**FURNITURE INDUSTRY IN MINNA NIGER STATE**

Dear respondent

This questionnaire is designed to elicit information from the respondents on the “Assessment of Occupational Safety and Health Practices in Furniture Industries in Minna, Niger State”,

Please, kindly give responses on the questions in the questionnaire to provide data for this study. Any information provided would be treated with confidentiality.

**PART I**  
**PERSONAL DATA**

Name of industry .....

Status: Technical staff of furniture industry ( ). Management staff of furniture industry ( )

Please read this questionnaire items carefully and tick the response appropriate to each item.

The response categories are:

SA = Strongly Agreed = 4 points

A = Agreed = 3 points

D - Disagreed = 2 points

SD = Strongly Disagreed = 1 point

**PART II**  
**SECTION A**

**Research Question One:** What are the occupational safety and health practices in furniture industries in Minna, Niger State?

| S/NO | ITEMS                         | SA | A | D | SD |
|------|-------------------------------|----|---|---|----|
| 1    | Health care Centre            |    |   |   |    |
| 2    | Equipped first aid box        |    |   |   |    |
| 3    | First aid room                |    |   |   |    |
| 4    | Ear muffs                     |    |   |   |    |
| 5    | Fire alarm                    |    |   |   |    |
| 6    | Lockers                       |    |   |   |    |
| 7    | Canteen or Cafeteria          |    |   |   |    |
| 8    | Hard hats                     |    |   |   |    |
| 9    | Toilet                        |    |   |   |    |
| 10   | washing areas                 |    |   |   |    |
| 11   | Portable drinking water       |    |   |   |    |
| 12   | Nose masks                    |    |   |   |    |
| 13   | Safety goggles                |    |   |   |    |
| 14   | Safety boots                  |    |   |   |    |
| 15   | Overalls                      |    |   |   |    |
| 16   | Functional fire extinguishers |    |   |   |    |

**Research Question Two:** What are the level of awareness of workers on occupational safety and health practices in furniture industries in Minna, Niger State?

| S/No | ITEMS   | SA | A | D | SD |
|------|---|----|---|---|----|
| 17   | Workers should not carry sharp edged or pointed tools in their Pockets  |    |   |   |    |
| 18   | Keep all hand tools clean and in safe working order   |    |   |   |    |
| 19   | Report defective tools, test equipment to the manager   |    |   |   |    |
| 20   | All tools and machines should be handle with care and machine should be operated by experts                       |    |   |   |    |
| 21   | Clean up spilled liquids immediately  |    |   |   |    |
| 22   | Hand glove should be use when dealing with hazardous chemicals and sharp objects Workers must wear safety goggles |    |   |   |    |

|    |   |  |  |  |  |
|----|---|--|--|--|--|
|    | when required   |  |  |  |  |
| 23 | Report all accidents to the supervisors or managers regardless of the severity                                    |  |  |  |  |
| 24 | Containers containing chemicals should be clearly labelled with the name of the chemical.                         |  |  |  |  |
| 25 | Solid waste should be kept in bins with lids or cover so as to prevent rain from coming in contact with the waste |  |  |  |  |
| 26 | Liquid hazardous waste should not be put in the general waste bin   |  |  |  |  |
| 27 | Workers should not indulge in horseplay or play practical jokes in workshop                                       |  |  |  |  |
| 28 | The floor workshop should be kept clean of scraps and litter  |  |  |  |  |
| 29 | Workers must be with proper clothing at all times when working in workshop  |  |  |  |  |

**Research Question Three:** What are the available facilities for occupational safety and health practices for furniture industries in Minna, Niger State?

| S/No | ITEMS   | SA | A | D | SD |
|------|---|----|---|---|----|
| 30   | Provision of washing areas                    |    |   |   |    |
| 31   | Availability of health care centre            |    |   |   |    |
| 32   | Well-equipped first aid box                   |    |   |   |    |
| 33   | Availability of first aid room                |    |   |   |    |
| 34   | Provision of ear muffs                        |    |   |   |    |
| 35   | Availability of functional fire extinguishers |    |   |   |    |
| 36   | Provision of Lockers                          |    |   |   |    |
| 37   | Provision of Canteen or Cafeteria for staff   |    |   |   |    |
| 38   | Availability of hard hats                     |    |   |   |    |
| 39   | Availability of toilet                        |    |   |   |    |
| 40   | Provision of fire alarm                       |    |   |   |    |

|    |                             |  |  |  |  |
|----|-----------------------------|--|--|--|--|
| 41 | Portable drinking water     |  |  |  |  |
| 42 | Provision of Nose masks     |  |  |  |  |
| 43 | Provision of safety boots   |  |  |  |  |
| 44 | Availability of overalls    |  |  |  |  |
| 45 | Provision of Safety goggles |  |  |  |  |

**Research Question Four:** What are the strategies for improving occupational safety and health practices in furniture industries in Minna, Niger State?

| S/No | ITEMS  | SA | A | D | SD |
|------|--|----|---|---|----|
| 46   | Management and supervisors should ensure and enforce compliance to the safety rules and regulations by workers                 |    |   |   |    |
| 47   | Workers should be encouraged to have good maintenance culture for machine and equipment  |    |   |   |    |
| 48   | Safety slogans should be adopted and used as safety reminder for the for Workers   |    |   |   |    |
| 49   | Workers should be trained on how to recognize potential hazards  |    |   |   |    |
| 50   | Equipment, machines and working tools that pose a threat to the Safety of workers should be disposed off                       |    |   |   |    |
| 51   | Mandatory induction courses should be recommended for every new Employee   |    |   |   |    |
| 52   | The workshop should possess its own safety code  |    |   |   |    |
| 53   | Every technical officer should be provided with the workshop's safety Code   |    |   |   |    |
| 54   | Safety and danger signs should be placed in locker rooms and passages for people to see  |    |   |   |    |
| 55   | Every worker should be provided with protective wears such as safety overalls etc  |    |   |   |    |
| 56   | Seminars/ workshops on safety should be organized for workers on a regular basis   |    |   |   |    |
| 57   | All accidents, whether major or minor should be promptly reported and documented for protective or corrective purposes         |    |   |   |    |
| 58   | Behaviours and habits that undermine and jeopardize safety should be discouraged   |    |   |   |    |
| 59   | Inexperienced workers should not be allowed to perform any operation without supervision                                       |    |   |   |    |
| 60   | Equipment, machines and working tools should be tested in order to ensure that they are in good working condition before usage |    |   |   |    |