

Effects of Poor Health and Safety Behaviour of Construction Workers in Lagos State

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Abstract- Purpose- The research project is an assessment of the effects of the health and safety behavior of construction workers in Lagos state. Health and safety is a safety risk controlling mechanism that must be implemented to ensure a hazard-free construction work experience and enhance productivity in the construction industry. The construction workers play an important and arguably the largest role in the construction industry which makes them more accident-prone than the other professional workforce in the industry. This necessitates that the poor health and safety behavior of construction masons be studied. This study aims to ascertain the effects of the behavioral patterns of construction workers (masons, carpenters and iron benders) towards health and safety so that there would be an awareness of the essence of health and safety practices on the construction site.

Research Methodology-With regards to this, well-structured interviews were prepared to get some focus-group-based interviews of construction workers. The derived data was analyzed through the use of descriptive methods.

Findings- The research study revealed that many of the construction professionals coupled with the construction workers are aware of the necessity of the implementation of the health and safety concepts in the construction industry. Also, many of the respondents agreed that fall from heights and falling objects are the commonest hazards faced by construction masons. In addition to that, it was observed that lack of adoption of safety measures by construction organizations, ignorance about the importance of safety, and overconfidence on the part of the workers are the major factors contributing to poor safety behaviors among workers.

Limitation- Some important limitations encountered in the course of this research are communication barrier because the construction workers do not really understand English language which really makes it difficult in explaining certain health and safety concepts to them an averseness of organizations to disclose relevant safety information and lack of adequate records of safety issues in Nigeria.

Recommendation- In line with this, the research recommends that there should be presence of safety meetings/tool box talks, adequate delivery of safety equipment to construction sites, adequate safety supervision, adequate site safety meetings, and functional health and safety laws in the state.

Social Implications/Value- This research has been able to contribute to the body of knowledge identifying the common injuries among construction workers, discovering the effects of bad safety behavior, unearthing the factors discouraging good safety behavior among masons, and identifying the factors that can promote a good safety behavior among construction artisans in Lagos State to develop a more effective construction industry.

Keywords: Accidents, Awareness, Behavior, Construction Masons, Construction site, Hazard and Health and Safety.

I. INTRODUCTION

1.2 Background of Study

The construction industry is a massive labour-intensive industry with a high hazard rate. The construction industry has been observed to be the most hazardous industry which has led to the death and fatal injuries of many workers. Therefore, there is a need for an effective mitigating mechanism to minimize the hazard rate. Health and safety according to Occupational Health and Safety Agency is defined as the set of policies, regulations and procedures that are set to protect individuals' and workers' well-being, security, and welfare in various environments, most importantly, their workplace. (Zafar, 2023)

The construction industry has been observed to be a major catalyst for social and economic development around the world. When compared with other labor-

intensive industries, the construction industry has historically experienced a high rate of fatalities and disabilities for an industry of its size. It produces 30% of all fatal industrial accidents across the European union, despite the low employed 10% of the working population. The unpleasant situation is worse in developing countries, particularly Nigeria where there are no reliable sources of data for such accident records at appropriate ministries nor keep proper records on accidents and the insincere data been released on the part of the contractors during research works coupled with their averseness to release site accidents during research works. (Mba & Hildah, 2014)

Globally, the issue of safety risks in the construction industry has been rampant. In the UK, roughly one-third of all occupational deaths have been prevalent in the construction industry. The fatality rate in the Norwegian construction industry was significantly higher than that in other sectors. According to data released by the Ministry of Housing and Urban-Rural Development, China, at the beginning of 2020, from January to December 2019, a total of 773 work safety accidents resulting in 904 deaths occurred in China. In Africa, it was observed in 2014, that 20% of all fatal injuries were in construction, which is the greatest percentage across all of the industry sectors included. The main causes of fatalities observed within the construction sector were as follows: falls accounted for 59% of all fatalities, being struck by a falling or moving object accounted for 3% of all fatalities, a major collapse or over the cause of 5% of construction fatalities, being hit by a moving vehicle made up 10% of all fatal accidents and electricity was the cause of 5% fatalities. (Kiganda, 2021)

It has been observed that unsafe work practices, absence of safety equipment, poor health and safety culture and non-implementation of the Learning From Incidents concept are major contributors to construction site accidents.

The concept of Health and Safety management is to ensure that the risks to the well-being of the workers are appropriately identified, assessed, and mitigated or eliminated. Health and Safety management provides a template for this concept. When appropriately applied, it is an effective mechanism

against construction site death and injuries. Some of the major relevant bodies in the Nigerian construction industries are the masons, iron benders and the carpenters. They all play a significant part in the production of a building. Thus, anything that would hamper their productivity ought to be studied and mitigated.

Masons are essential bodies in the construction of buildings. They contribute a large part in the number of laborers in the construction industry. A person who lays or constructs masonry is called a mason. They help in the arrangement and setting-up of bricks, plastering works and rendering works in the industry.

Masonry work is an important phase in the construction of buildings. It contributes a large percentage of the construction labour force. Therefore, there is the need to ensure productivity in this section of work by maintaining a good health and safety culture.

It has been observed that there is the negligence and averseness to the concept of construction health and safety on the part of the workers which has led to many fatal accidents and deaths.

Therefore, being a large contributor of the workforce in the industry, efforts should be made to ensure their adequate site safety. It has been observed that the construction industry workers have a poor construction health and safety culture which is caused by many factors. A good safety culture among construction workers would reduce injuries, absenteeism, reduced agitation of workers, a positive effect on the overall project costs, and improvement in productivity. (Ikechukwu, 2020)

1.3 Statement of Research Problem

It has been noticed that the developed countries take health and safety more seriously than the developing countries. This signifies that the workers in the construction industry are extremely prone to death and fatal injuries in the developing countries. Therefore, the construction artisans being the largest workforce in the construction industry are the most susceptible to construction site hazard.

It has been observed globally that the artisans are more prone to injuries and illnesses than the other professionals in the construction industry. This is because of many factors which include the large workforce size, prevalent work at heights, poor training, inadequate safety awareness, ignorance on the parts of the workers and stubbornness.

An effective safety culture is necessary for maximum productivity in the construction industry. It has been observed in many cases in the Nigerian construction industry that the construction workers are always reluctant to use their safety equipment and the employers are often negligent in motivating them to use the equipment to enhance safety. In addition, it has been observed that the poor safety culture has an adverse effect on productivity in the construction industry.

Therefore, the factors discouraging a good safety culture among construction workers and their resultant effects have to be analyzed along with the measures that can be taken to promote a good safety culture in the construction industry.

1.4 Research Question

In order to create a well-organized approach to the subject matter, some questions need to be formulated to which answers would be provided in the course of the research so as to arrive at reasonable points that would assist the research work. Thus, this research work is expected to answer the following questions to justify those above:

- i. What are the poor safety behaviors among construction workers?
- ii. What are the causes of poor safety behavior among construction workers?
- ii. What are the effects of poor safety behavior among construction workers?
- iii. What are the factors that can promote a good safety behavior among construction workers?

1.5 Aims and Objectives

The aim of this research is to ascertain the common hazards that construction workers are susceptible to, discover the causes of poor safety behavior among construction workers and ascertain the effects of poor safety behaviors among construction workers towards

health and safety so that there would be an awareness of the importance of construction health and safety on construction sites.

The specific objectives of this research work are:

- i. Establish the poor safety behaviors among construction workers.
- ii. Identify the causes of poor safety behavior among workers.
- iii. Determine the effects of poor safety behavior among workers.
- iv. Identify the factors that can promote healthy and safe behavior among workers.

1.5 Justification of Research

The construction industry has been observed to be the most hazardous and dangerous industry. Due to the high number of workers participating in the construction industry. It has led to more deaths and injuries than any other industry. An adequately mitigated safety risk can ensure a low rate of injury and a reduced incident of site deaths.

The artisan aspect of work in construction contributes a large percentage of the activities in most construction projects. Thus, an effectively supervised artisanry work aspect contributes well to the success of a project. The artisanry work aspects involve a large number of workers ranging from workers in the carpentry unit, masonry, welding, etc.

This implies that there is a high safety risk among the construction artisans because the higher the number of workers, the higher the safety risk on every project.

It has been observed that the artisanry work is a high safety-risk aspect of work due to many factors ranging from overconfidence on the part of the workers, inadequate provision of safety equipment by the organization, and laxity towards risk on the part of the workers.

Therefore, since the artisanry work aspect contributes a great deal to the success of a construction project and to the overall productivity in the construction industry, there is the need to adequately observe the major causes of safety risks in the construction industry, the behavioral pattern of artisans towards

construction health and safety and the recommendations for the reduction of hazards in the construction industry.

II. LITERATURE REVIEW

2.2 Theoretical Framework of Health and Safety

2.2.1 The Concept of Health and Safety

Occupational safety and health is generally defined as the science of the anticipation, evaluation and elimination of the hazards that arise in or from the work place that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment. (Alli, 2008).

Employees remain the most important resource in organizations considering their enormous efforts at driving material resources at their disposal towards accomplishing organizational set goals and objectives. However, it is not always easy achieving targets and high job performance through employees and this has been a major concern for organization. Employee performance in most Nigerian organizations are decreasing and this is a major threat to the private sector initiatives of the government. Occupational health and safety practices are so important among other HRM practices considering the roles they play and their direct impact on production technicians' performance in manufacturing organizations. It directly affects the output of the firm and guaranty health and safety of its employees who are on the factory floors, especially the production technicians and the factory floor operatives. Occupational health and safety practices involve all managerial activities aimed at protecting and maintaining the physical injury and psychological and social health of workers and their families. It can also be viewed as the study of factors or conditions influencing the survival of workers not only in the place of work but also at home with the aim of promoting health, safety and welfare of the workers and their family.

The joint International Labour Organisation ILO (2006) and WHO (2004) constituted in 1950 and revised in 1995, defined occupational health as the "promotion and maintenance of the highest degree of physical, mental and social well-being of workers in

all occupations". ILO further summarised occupational health definition as the "prevention of departure from health among workers caused by their working conditions; the prevention of workers in their employment from risks resulting from factors adverse to health, the placing and maintenance of the workers in occupational environment adapted to their physical and psychological well-being; and the adaptation of work to man and man to his work. (Alase, Taiwo, Hassan, & Okunsanya, 2021)

2.2.2 History of Health and Safety

According to ILO (2020), the occupational safety and health convention, number 155 was adopted by the governing body of the ILO office on 22 June 1981 (ILO155 1981). The convention came into force on 11 August 1983. The convention consists of 5 parts with 30 articles. The convention aims to formulate national policies on OSH for member countries with the view to prevent industrial accidents and to minimize hazardous conditions as reason-ably as possible. According to the ILO online bulletin, 66 member countries have ratified the convention since it came into force. Fifteen African countries have ratified the convention, including Nigeria, South Africa, Central Africa Republic, Cote d'Ivoire, Gabon, Ethiopia, Lesotho, Mauritius, and Niger, among others. A total of 121 ILO members are yet to ratify the convention. Part one of the convention covers the scope and definitions of pertinent terms. Part two includes the general character of OSH policies for member countries while parts three and four centre on the implementation of the policies at national and enterprise levels, respectively. The final section covers the general provisions of the convention. Parts one and two cover the scope of An Overview of Occupational Safety and Health Systems in Nigeria 197 the convention. According to part two, the convention covers every economic sector, including the public sector. However, ratifying members may apply to the director of the ILO for the exclusion of specific sectors such as maritime shipping or fishing (Art. 1). Article 4 makes it mandatory for ratifying members to implement coherent OSH national policies. Such a strategy will aim to prevent workplace accidents. Furthermore, article 8 makes it compulsory for ratifying members to ensure that the provisions of the convention come into force once adopted. Specifically, article 8 states

that approving members should institute an adequate system of inspection. Besides, part 12 provides that such an inspection system should ensure the safeguarding of equipment and types of machinery at the enterprise and minimize hazardous conditions. Part IV of the Convention specifies employers' roles in the OSH system at the enterprise level of ensuring a safe working environment without any financial contribution from the workers. Finally, article 19 of the convention specifies the roles of workers in the OSH system at enterprise level. (Olawepo, Seedat-Khan, & Ehiane, 2021)

In the late 19th and early 20th centuries, employers ran their businesses as they saw fit to make profit. Employee safety and health were not their concern. In fact, in official terms these things were nobody's concern. In the U.S. injured employees had to litigate to obtain compensation for their injuries. The cost of doing so effectively prevented employees from going to court. Besides, employees were rarely successful since, under common law, if the employee knew of the hazards the job entailed or if the injuries were brought about as a result of the negligence of the employee or a co-worker, the employer was not liable. From these origins, there has emerged an approach and practice with regard to health, safety and welfare issues. The national safety council had been established in 1913 in the U.S. after safety conscious managers and engineers spearheaded its founding (major disasters led to changes in thinking). Significantly the international labour organization 1959, provided that occupational health services should be established in or near a place of employment for the employee welfare. (Adebola, Ayinde, & Olopade, 2018)

2.3 Health and Safety in The Nigerian Construction Industry

The Nigerian construction industry has experienced a massive growth rate over the years. This is due to the high rate of infrastructural development, increased demand for housing because of the booming population and the increased demand for building structures among business outfits. The industry has contributed massively to job creation and the economical development of the nation. However, there has been a high rate of fatal injuries and death of construction workers due to increased building

collapse and the poor construction health and safety culture and its implementation.

The contractors in the construction industry who are meant to play a good role in its implementation are often averse to health and safety concepts. They are frequently opposed to the idea of hiring an HSE-Health and Safety Executive, training their employees as regards safety and providing the necessary safety equipment. This is a result of their perceiving the HSE policy implementation as a costly and time-consuming process. In addition, the contractors often find it hard to release sensitive information and give accurate reports about site accidents and deaths because of their desire to portray a good reputation for their company.

On the other hand, the construction workers are often negligent, not well-educated on safety matters and are most often averse to the use of their safety equipment. Contrary to what we have in the developed countries, the Nigerian construction industry activities are not well regulated by regulatory bodies as regards health and safety. This makes the construction companies to be negligent and unwilling to implement health and safety policies because no controlling body will hold them responsible. An example of an effective regulatory body is OSHA- Occupational Health and Safety Administration that is active in the United States, a developed country. This massively reduces the rate of construction site accidents and deaths. (Fayose, et al., 2024)

Furthermore, most Nigerian construction companies coupled with other developing countries do not take the issue of safety seriously during construction but considers it as a burden. It has been observed that the provision of good and sound policies, health and safety plans can be a yardstick of having rapid advancement of employees, their progress, and a maintained workplace that is considered to be free from real construction hazard that can cause injury to employees. Also, non-provision of safety equipment was also one of the problems encountered by the workers. The non-availability of employed safety officers on construction sites is another problem majorly facing the safety of workers in the construction industry. The presence of a safety

officer in a construction company will no doubt help in curtailing the hazard rates and injury risks among construction workers. (Isah, 2019)

In many developed countries, there is usually a provision for safety insurance for construction workers. The workers are insured against injuries that could hamper their wellbeing and exhaust their financial resources. This is contrary to what we have in a developing country like Nigeria where there is the absence of safety insurance provision to cover the workers in case of an injury. Absence of on-the job safety training for workers is another factor contributing to the poor safety situation in the country. Safety training provisions for construction workers will no doubt help in adequately reducing the hazard rates and minimizing the number of injuries on construction sites. In addition, it has been observed that many construction firms make no provision for health and safety plan when embarking on a fresh project. Implementing a health and safety plan will no doubt massively help in foreseeing the safety risks and mitigating them.

An appropriate health and safety plan approved by the government which would no doubt improve construction health and safety is not prevalently practiced in Nigeria. (Isah, 2019) The top nine principal factors that influence safety performance in the Nigerian construction sites are relationship between supervisors and employees on site, geographical location (environmental factors: natural and working environment), working procedure, ear defenders not worn (while working under noisy equipment), talk by management on safety, tidy site, safety communication, operatives job experience (Duration in construction) and ladders used without being tied secured.

Safety of workers on construction site is very important because of the mere reason that occurrence on sites result in consequences like delay in completion time, after overall cost of executing project, taint the reputation of the construction of the construction firm, demotivate the co-workers and in some cases lead to the death of the workers.

Injury occurrence on construction sites are rarely reported by the workers, because they have the

perception that nothing can be done about it even when they report it. According to ILO,

2.78 million workers die on a yearly basis with an estimated loss of GDP of 2.99 trillion dollars yearly as a result of work-related diseases alone. The top nine principal factors influencing safety performance in the Nigerian construction industry are relationship between supervisors and employees on site, geographical location (environmental factors: natural and working environment, working procedure, ear defenders not worn (while working under noisy equipment), talk by management on safety, tidy site, safety communication, operatives job experience (Duration in construction) and ladders used without being tied secured. (Fayose, et al., 2024)

2.2 Level of Safety Awareness Among Construction Workers in The Nigerian Construction Industry

It is highly evident that one of the factors that can effectively mitigate health and safety risks on construction sites is an adequate safety education and awareness among workers.

The Nigerian construction industry consists of workers that are highly averse to the use of safety equipment and the construction organizations are also guilty of not adequately educating the workers on the importance of health and safety. It has been observed that unsafe act and unsafe working conditions are the major causes of accidents on construction sites. This is majorly caused by the unawareness of the workers about the concepts of health and safety. Most regulating bodies in developing countries like Nigeria do not often visit construction sites to regulate the health and safety on site which makes the workers indifferent and negligent to the pertinence of health and safety. By comparing two types of models on safety, Robens offers a challenge to the traditional approach to safety in the workplace, known as the 'careless worker' model. In this model, employers assumed that most of the accidents were due to the employee's failure to take safety seriously, or failing to protect themselves. In his report, he recognized that the 'careless worker' model does not explain occupational ill-health caused by toxic substances, noise and badly designed and unsafe systems of work. A new approach to occupational health and

safety, the ‘shared responsibility’ model assumes that the best way to reduce levels of occupational accidents and disease relies on the cooperation of both employers and employees. In order to maintain a safe and healthy work place, workers and supervisors must be taught to keep a health and safety mind set. Such mindedness does not always accompany the acquisition of skill or knowledge on equipment operation. Most persons learn how to drive an automobile, for example, with relatively little difficulty. An attitude of maturity is however, necessary . Though employers are required to design and maintain safe and healthy systems of work, the concomitant duty of the employee is to behave in a manner that safeguards his or her own health and that of his/her co-worker. Applied sciences on “Safety at work” concluded that personal safety, a safe environment and safe behaviour were important components that employers need to ensure their availability within their organizations. According to this research, enforcing safety by adjusting the environment people have to work in and detecting risks at work so that workers can avoid dangerous situations is key. Hints from statistics in the UK that are compiled every year reveal that the education sector as a whole produces a significant number of four to five deaths over the last six years and more than 3000 injuries. This means that a teacher or a classroom assistant could be at risk. Part two of the Canadian Labour Code stipulates the duties of both the employer and employee. These duties have a goal of preventing occupational related injuries and disease. Employees have a responsibility to take all reasonable and necessary precautions to ensure their health and safety, and that of anyone else who may be affected by their work or activities. They are required to use all materials, equipment, devices and clothing that are provided by the employer. (Katunge, 2016)

2.2.1 Role of Administration in Health and Safety Legislation

Early research by psychologists and sociologists examined individual dispositions and social causes utilizing disciplinary frameworks in developing concepts and theoretical insights into Occupational Health and Safety. The findings were enhanced by the results of workplace surveys by industrial relations specialists that drew attention to the

importance of legislation and innovative non-regulatory as well as regulatory strategy. The concern for health and safety has been there in history. Early researchers were concerned about theoretical insights into employee health and safety. Surveys which were done later focused on the importance of legislation. In technical questions pertaining to workplace health and safety, there is the social element. That is, for example, the power relations in production: who tells whom to do what and how fast. After all, a machine does not go faster by itself; someone designed the machinery, organized the work, and designed the job . This implies that ‘health and safety is not simply a technical issue such as supplying hard hats and goggles or ensuring adequate ventilation, because it raises the question of economic costs and power relations’. This is true of all institutions including schools. A review conducted by the Health and Safety Commission (HSC) under health and safety regulation in 1994 revealed that people were confused about the differences between; Guidance, Approved Codes of Practices and Regulations. The commission went ahead to provide a way out of this confusion. The results included what health and safety law requires. The Health and Safety at Work Act of 1974, sets out the duties which employers have towards employees and members of the public, and also the duties of employers to themselves and to each other. Legislation applies to employers and employees. The legislation at the national level is supposed to be made part of domestic law by employers (HSE, 2003/2008). In India, for an employer to meet the legal requirements, he or she must provide labour welfare facilities . The two stated that labour health, safety and welfare activities are necessary for improving employee working conditions, economic and living standards. They were very quick to point out that in the olden days, employers suppressed the worker by paying less salary and extracting more work in an unsatisfactory working environment. With the birth of the “Regulation and Employment Act” of 1948, employers were required to provide satisfactory working environment. The Safety, Health, and Welfare at Work Act of 2005 repealed and replaced the Safety, Health and Welfare at work Act of 1989. The purpose of the former was to make further provision for the safety, health and welfare of persons at work. The act clarifies and enhances the

responsibilities of employers, the self-employed, employees and other parties in relation to safety and health at work. It also provides a range of enforcement measures that may be applied, and specifies penalties that may be applied for breach of occupational safety and health laws. Many states have passed the 'right to know' legislation that guarantees individual workers the right to know of hazardous substances in the workplace, and requires employers to inform employees of the same. There are state and federal laws to protect the welfare of the worker. The major one is the Occupational and Safety Health Act (OSHA), which became effective in 1971, whose purpose is "to assure" as far as possible, every working woman and man in the nation safe and healthy working conditions, and to preserve our human resources." To accomplish this, there are provisions for safety and health standards, research, information, and education and training in occupational safety and health. OSHA is comprehensive, covering such things as record keeping, inspection, compliance, and enforcement of safety standards. It lists over 5000 safety and health standards, ranging from density of particle in the air to the height at which a fire extinguisher is to be mounted. On the same note, in the 1960s, white collar trade unions pressed for health and safety legislation to be extended to cover employees in laboratories, education, hospitals and local government (Bratton & Gold, 1999). If the research findings by Reilly et al. (1995) that show the benefits of union safety committees can be reproduced, the existing health and safety legislation in France and Germany, which obliges companies above a certain size to have joint Consultative Health and Safety committees, may become the norm or "maximalist" model. The Health and safety commission stated; Accidents and ill-health are never inevitable; they often come from failures in control and organization (Bratton & Gold, 1999). There are current trends working to oppose safety and health legislation (Bratton & Gold, 1999). This is emphasized by Bain (1997), who persuasively argues that, in Europe and the USA, powerful business lobbies and governments have mounted an offensive against health and safety legislation. The source of the current campaign for "deregulation" of health and safety safeguards is market driven and can be located in growing competitive pressures (Bain, 1997). Managers can

exert a greater influence on health and safety. They are in immediate control and it is up to them to keep a constant watch for unsafe conditions or practices, and to take immediate action. They can achieve by establishing safety committees consisting of health and safety representatives who offer advice on health and safety policies and procedures. (Katunge, 2016)

2.3 The Common Hazards Among Construction Workers in The Construction Industry There are diverse hazards common on construction sites. These hazards in some cases are not severe and, in many cases, can be severe. The construction industry is a major stakeholder in the economic and social development of a nation and must be well maximized to realize its full potential. This can be done by ensuring the workers who are the major contributors to the growth of this industry are well catered for through the elimination of construction hazards.

Some of the common hazards that are prevalent in the construction industry fall from height, falling objects, premature collapse of structures being demolished, dust and fumes, presence of asbestos dusts, noise and vibrations from heavy equipment, electrocution, fires and explosions from the use of flammable and explosive substances.

Work at heights is a common source of hazards on the construction site. Accidents mostly occur through this process when the specifications for work at heights are not followed and safety precautions are not taken by workers. It has been observed that work at heights accounts for more deaths and injuries more than any other workplace activity each year. It includes working on a scaffold, or from a mobile elevated platform, working near an excavation area or cellar opening if a person could fall into it and be injured, painting or pasting and erecting bill posters at height, working using a ladder without safety precautions at great heights. All these can cause falls at heights. Also, falling objects is one of the major causes of construction accidents on the construction site. It involves construction debris falling from great heights. These falling materials can be extremely dangerous and can cause serious injuries and death. They can be caused by non-provision of suitable safety nets to catch falling debris, non-utilization of chutes or hoists to transport waste materials to

ground level, throwing of wastes from great heights without caution, non-utilization of hard hats or safety helmets by workers or site visitors and non-utilization of warning signs around areas susceptible to falling objects. In addition, demolition works creates a lot of hazards on the construction sites which include falling debris, premature collapse of the structure being demolished, dust and fumes, the sitting up of drainage systems by dust, the problems arising from spit fuel oils, manual handling, noise and vibration from heavy plant and equipment, electric shock, fires and explosions from the use of flammable and explosive substances, smoke from burning waste timber, pneumatic drills and power tools, the existence of services such as electricity, gas and water, collision with heavy plant and plant and vehicles overturning.

Vehicles and traffic routes are also contributors to the on-site construction hazards. On-site construction hazards by the use of vehicles are mostly as a result of overturning on slopes and at the edges of excavations, poorly maintained braking systems, and driver error due to lack of training and/or experience. Fire is another hazard that is common on construction sites. Non-provision of fire points, and assembly points, no extinguisher provision, no site evacuation plan, non-contact with the emergency services, non-accident reporting and investigation and rescue from excavations and confined spaces.

Many excavations collapse without warnings resulting in serious injury or death on the construction site. The specific hazards associated with excavations are collapse of the sides, materials falling on workers in the excavation, falls of people and/or vehicles, workers being struck by plant, specialist equipment such as pneumatic drills, hazardous substances particularly near the site of current or former industrial processes, influx of ground or surface water and entrapment in silt or mud, proximity of stored materials, waste materials or plant, and proximity of adjacent buildings or structures and their stability.

Other hazards common on the construction sites are noise pollution from vibration, dust (including asbestos), cement, solvents, and paints and cleaners. Extreme exposure to asbestos dust would lead to

respiratory diseases such as asbestosis and cancer which is a serious ailment and it has been observed to kill more people more than any work-related cause and it has been found to have no known cure. High level of noise can lead to hearing loss and exposure to materials such as cement and silica can cause skin problems such as dermatitis. Noise hazards majorly come from machinery used for demolition, excavation and piling and from compressors, concrete mixers and other operations such as hammering and riveting.

Also, electrical accidents such as electrical shock, equipment, contact with overhead powerlines and buried cables. Trips being the commonest hazard on the construction site is caused by ineffective management of access routes which include stairwell, corridors and footpaths. (Fayose, et al., 2024)

III. RESEARCH METHODS

The research methodology to be used is based on work done in the previous chapter, which is the literature review. The literature review reveals the details, concepts, and significance of health and safety in the construction industry, common hazards among workers as well as the poor safety culture among construction workers as well as other stakeholders in the Nigerian construction industry. This generated information would be evaluated and would be useful as a template for the research methodology.

3.2 Research Design

The research design is an identified design concept used for conducting scientific research. The research design can come in various forms. It can be in the form of experiments, survey, case study, history, research problem, semi-experimental and archival analysis. However, this study employed a qualitative methods with convenient selection of its respondents for its research design.

3.3 Study Population

The study population is the subset of the target population available for study. I.e. The total number of people considered for the study. Also, it implies identifying the characteristics that members of a group have in common. The target population to be

used for this study comprises the foremost construction workers which include masons, carpenters and tilers in some selected areas of Lagos State, Nigeria.

3.4 Study Area

This research work was carried out in Lagos state. Lagos remains the nation's economic and commercial capital. It is the most populous state in Nigeria, the 4th most populous city in the world and the most populous urban centre in Africa. It is located in the South Western part of Nigeria, bound in the north and east by Ogun state and in the west by the Republic of Benin.

Lagos being a highly developed area with continuous infrastructural development provides a good platform for this research work. This is because the majority of the massive construction projects are in Lagos and the best construction companies and technologies are in Lagos.

This would provide us a large pool of construction workers that would be able to give details about their respective safety culture. Furthermore, Lagos state is the best place for construction activities in the country and a place where adequate construction standards are been observed. This would provide sufficient numbers of enlightened construction workers for the research work.

3.5 Sampling Technique

The sampling technique adopted in this research work is the purposive sampling technique. It involves selecting the sample population that is most useful for the purpose of this research. Purposive selection of respondents was done to get a good number of construction workers that work in a hazard-prone environment. In assuring the respondents about the purpose of the research, well detailed explanations were given to them about the research.

3.5.1 Sample Size

The sample size of a survey study is vital in making adequate inferences about a population from a sample. Sampling involves the selection of a subset of individuals from the population to analyze the features of the whole population. A sample of 113 respondents comprising of all construction workers

and relevant construction site stakeholders were considered. Focus- group based interviews were also carried out among construction masons. 11 interviews were carried out. A total of 5 construction sites/companies that carry out building construction, and other types of construction works were selected.

3.6 Sources of Data

This research incorporates the use of both primary and secondary sources of data to provide an in-depth knowledge of the area of study. It also provides a good platform for the researcher to have a broad information in terms of the available data from past and present research works in the area of interest.

3.6.1 Primary Data

The primary data for this research work was collected from the respondents through the use of interviews directed to the construction workers. The questionnaires were directed to the contractors, construction workers and other construction site stakeholders in Lagos State. Construction companies who are currently engaged on on-going construction projects and are capable of adopting construction health and safety policy are used as the source of data for this research work. The contractors would give insightful views about their personal dispositions about health and safety as well as the behaviors of their construction workers towards health and safety. Other construction site stakeholders who are highly relevant in this study area include site engineers, builders, architects, and site health and safety executives. The aforementioned professionals can give insightful information that would enhance the quality of this research work. Most importantly, the construction workers/laborers who are the main subjects of this research work would give first-hand quality information about this study area through the interviews.

3.6.2 Secondary Data

The secondary data used for this research work was the literature review as indicated in the previous chapter. The literature review gave an in-depth, quality, and broad knowledge of this study area which has provided relevant data for the research work. Relevant concepts like construction site hazards, safety procedures, global hazard rates and Nigerian construction companies' disposition

towards health and safety were observed so as to provide a quality research. Also, it gives a wide range of sources of information on past identical researches carried out in the same area. In addition, a source where the ideas, methods, results, and experiences of researchers can be easily accessed. The secondary sources used for this research work include journals, books, conference proceedings, blog reports, students' thesis and other secondary data sources.

3.7 Data Collection Instrument

This study incorporates the use of a well-structured questionnaire as a data collection instrument to collect data and well-structured interview questions. The questionnaire questions were produced to be well opened enough so that the respondents would give in-depth information. The questions in the questionnaire were structured to provide information on the common site hazards, construction workers' behavior towards safety and health, construction companies' disposition to the concept of health and safety and adequate recommendations to improve construction health and safety in Nigeria.

IV. RESULTS AND DISCUSSION

4.2 PRESENTATION OF RESULTS

4.2.1 Demographic Attributes of the Respondents

The respondents to the interviews conducted in this research comprises majorly of carpentars, bricklayers and iron benders who occupy the major body in the construction industry.

4.2 Data Analysis on Objective 1: Establishment of The Poor Safety Behaviours Among Construction Artisans

This objective investigated the poor safety behaviors of construction professionals as regards to safety among the construction workers in Lagos state.

Qualitative Data

The responses from the interview that was conducted, the respondents have the following comments. Among Masons: Respondent 1 "Top companies take safety important, while the small companies do not take safety seriously" This could be attributed to the complexity of construction works that the large companies get involved in and due to the low-capital

base of the small firms. Respondent 2 "some companies do not provide adequate safety equipment". Respondent 3 "There is a good awareness about basic safety equipment among masons". Respondent 4 "Safety equipment are available for protection". Respondent 5 "Health and safety involve the use of safety boots, helmets and gloves for protection on the site". Respondent 6 "The use of safety equipment can prevent site injuries and accidents"

Among carpenters: Respondent 1: "Lack of provision of adequate safety equipment can contribute to poor safety behaviors" Respondent 2 "There is adequate awareness on the basic safety equipment among carpentars" Respondent 3 "Stubbornness on the part of some of the artisans contribute to poor safety behavior"

Among Iron Benders: Respondent 1: "There is adequate awareness but lack of adequate provision of safety equipment among masons." Respondent 2 "Lack of provision of adequate safety equipment contributes to poor safety". Respondent 3: "Absence of safety equipment hinders adequate usage". Respondent 4: Poor behavior is common because artisans don't care about the importance of safety equipment on the site."

However, it was gathered that individual workers have an awareness level due to health and safety not necessarily from the effort of the top management. It can be deduced from the qualitative research that there is an adequate level of safety awareness among the construction artisans in Lagos state. In addition, the level of knowledge of the artisans about health and safety is only limited to the basic safety equipment.

4.3 Data Analysis on the Identification of the Causes of Poor Safety Behaviors among Construction Artisans

This objective outlined and analyzed the common injuries and hazards that are evident among the construction masons in Lagos State.

Among masons: Respondent 1 "Weak scaffolds is a common cause for fall from heights" Respondent 2 "Poor attitude to safety by small organizations is a

common factor that causes site injuries”, Respondent 3 “Disobedience on the part of the masons is a common cause of site injuries among masons

Among carpenters: Respondent 1: “Nail injuries are commonest among carpenters” Respondent 2: “Stubbornness on the part of the workers is a contributor to poor safety behavior” Respondent 3: “Inadequate safety equipment provision can cause poor safety behavior”

Among Iron Benders: Respondent 1: “Poor safety supervision on the parts of the contractors can cause poor safety behavior among artisans” Respondent 2: “Commonest hazards include falling objects” Respondent 3: “Other iron benders do not use the equipment well because of absence of safety equipment. Respondent 4 “Not making safety compulsory on the site contributes to poor behavior” “The usage of hard drugs contribute to poor safety behavior” Respondent 5 “Inadequate provision of safety equipment by organizations contribute to poor safety behavior.”

Qualitative Data

From the interview embarked upon, it was gathered that weak scaffolds is a common cause of fall from heights and poor attitude to safety by small organization is a common factor that causes site injuries among masons. Inadequate safety equipment provision was observed to cause poor safety behavior among carpenters. In addition, usage of hard drugs was observed to cause poor safety behavior among artisans. Lastly, poor safety supervision on the parts of the contractors can cause poor safety behavior among artisans..

4.4 Determination of the Effects of Poor Safety Behavior Among Artisans

Qualitative Data

From the interview that was embarked upon, the following was gathered from the respondents: Among Masons:

Respondent 1 “Overconfidence on the part of the workers discourages a good safety behaviour among masons”. Respondent 2 “Inadequate supply of safety equipment can cause injuries”. Respondent 3 “Inactive government safety policies hinders

adequate adoption of health and safety among masons” Respondent 4 “Many masons feel uncomfortable when using safety equipment”.

Respondent 5 “Masons do not use their safety equipment when not working with companies”. Respondent 6 “Absence of acclimatization to the use of safety equipment among masons contributes to poor safety behaviour”.

Among Carpenters: Respondent 1: “Lack of budget for safety in construction projects contributes to poor safety behaviours among artisans.” Respondent 2: “Carelessness on the part of the workers can contribute to poor safety behavior among masons” Respondent 3

Among Iron Benders: Respondent 1: “Commonest hazards among iron benders include falling objects.”, “Injuries affect productivity on site” Respondent 2 “The commonest injuries among iron benders are nail injuries and injuries from binding wire.” Respondent 3 “Injuries from binding wire is the commonest among iron benders.”

Therefore, we can infer from the interviews conducted among the artisans that the effects of poor safety behaviors contribute to overconfidence on the part of the masons and avoidable injuries. On the part of the carpenters, nail injuries was observed to be the major effect of poor safety behavior and injuries from binding wire and hazards from falling objects were noticed to be the major effects of poor safety behavior among iron benders.

4.5 Data Analysis on Identification of The Factors that can Promote a Healthy and Safe Behavior among Workers.

This objective identified and analyzed the factors that can promote a good safety behavior among masons.

Qualitative Data

According to the interview conducted, the following was gathered from the respondents:

Among Masons: Respondent 1 “Some companies engage in safety trainings which promotes a good safety behavior”, Respondent 2 “ Enforcement of safety by construction companies would help in

enhancing a good safety behavior among masons”, Respondent 3 “Masons that do not work with companies do not take safety seriously”, Respondent 4 “ Positive government policies towards safety can promote a good safety behavior among masons” Respondent 5 “ Adequate compensation for safety adoption can help in enhancing safety” Respondent 6 “ Safety training creates enough awareness among masons”

Among Carpenters: Respondent 1: “Adequate provision of safety equipment on the site can promote site safety” Respondent 2: “Adequate safety supervision can promote safety among artisans” Respondent 3: “Government intervention can help in promoting safety”

Among Iron Benders: “Adequate supervision of health and safety can promote good safety behavior” Respondent 2: “Adequate supervision from site safety officers will promote a good safety behavior among artisans. “Government intervention can promote site safety and consequently promote a good safety behavior among iron benders.” “Education on the part of the iron benders to the importance of safety can improve workers behavior” Respondent 3: “Government intervention can help in promoting safety” “Making the usage of safety equipment compulsory among artisans can improve safety.”

Therefore, it can be gathered from the interviews conducted that safety trainings, enforcement of safety by construction companies, positive government policies and adequate compensation for safety compliance would help in promoting a good safety behavior among artisans.

V. CONCLUSION AND RECOMMENDATION

This study evaluated the effects of poor health and safety behavior of construction artisans in Lagos State through the analysis and interpretation of data obtained using well-structured interviews. The objectives that guided the research work were the establishment of the poor safety behaviors among construction workers, identification of the causes of poor safety behavior among artisans, determination of the effects of poor safety behavior among workers,

and identification of the factors that can promote healthy and safe behavior among workers.

It can be deduced from the analyzed qualitative data that many of the construction professionals coupled with the construction artisans are aware of the necessity of the implementation of the health and safety concepts in the construction industry. Also, many of the artisans believed that lack of provision of adequate safety equipment can contribute to poor safety behaviors. In addition to that, it was observed that lack of adoption of safety measures by construction organizations, ignorance about the importance of safety, usage of hard drugs and overconfidence on the part of the workers are the major factors contributing to poor safety behaviors among workers. Furthermore, according to the analyzed data it was observed that adequate delivery of safety equipment, adequate safety supervision, presence of toolbox talks/ site safety meetings, and functional health and safety laws are the most effective factors in promoting a healthy and safe behavior among masons.

5.2 Recommendations

Based on the findings of the research, the study recommends that in order to promote a healthy and safe behaviour among masons in Lagos state, the following should be adopted:

- i. adequate safety trainings would help in enhancing site safety compliance among construction artisans.
- ii. tool box talks/ site safety meetings should be enhanced. This would help in creating adequate awareness and seriousness among the construction artisans.
- iii. adequate safety supervision should be enhanced on the construction site among the artisans. This would increase the likelihood of safety compliance among artisans.
- iv. and, there should be an adequate supply of safety equipment to the construction site. A site where there is sufficient safety equipment can enhance safety compliance and a consequent good safety culture.

5.3 Contribution to Knowledge

The research has been able to contribute to the body of knowledge by evaluating the level of awareness of construction professionals about the concepts of health and safety, identifying the commonest hazards among construction masons, evaluating the factors discouraging a good safety behaviour and outlining the factors that can promote a good safety culture among masonin Lagos state and Nigeria at large.

5.4 Areas for Further Research

We are now in a computer age, the advent of Artificial Intelligence has brought ease to major organizational sectors. Other areas of research relating to the implementation of AI in the implementation, control, and coordination of health and safety processes can be worked on.

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