

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA**



**OCCUPATIONAL HAZARDS AND SAFETY PRACTICES AMONG
HOSPITAL WORKERS AT GREATER ACCRA REGIONAL
HOSPITAL, RIDGE**

BY

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DECLARATION

I, Ernest K. P. Nyame-Annan do hereby declare that, with the exception of references made to works done by other authors and which have been duly acknowledged, this work was done by me under supervision. I also declare that this work has not been submitted for the award of any degree in this university or elsewhere.

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DATE



DEDICATION

I dedicate this work first and foremost to almighty God who gave me the strength, knowledge and wisdom for this project. I also dedicate this work to my wife and children; your prayers and support has helped me a lot. Finally, I dedicate this work to all who have assisted me throughout my education.



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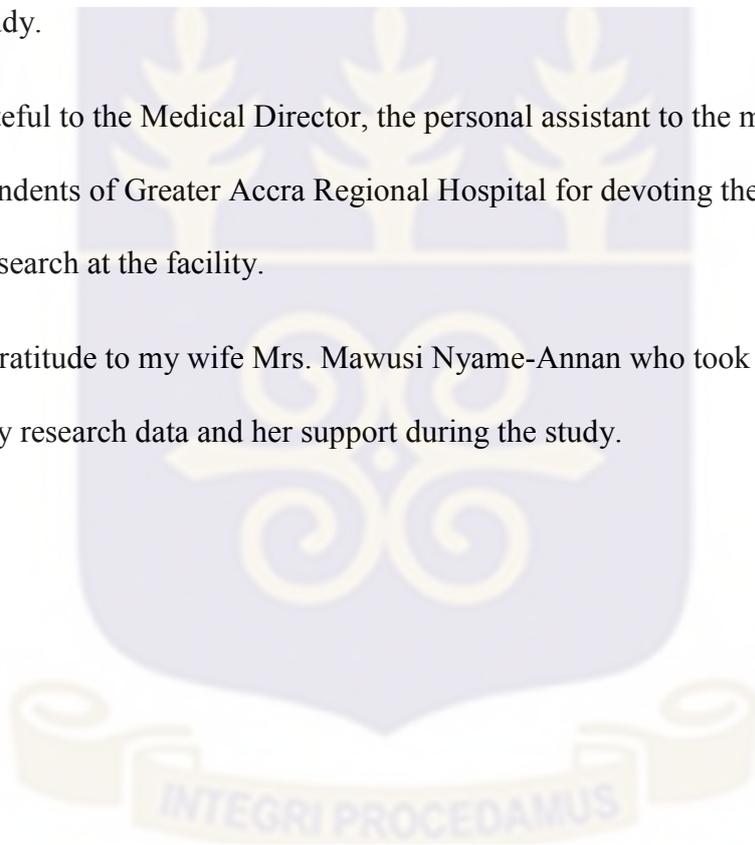
Many thanks to the Almighty God for His sufficient Grace that enabled me to successfully complete this research.

I would like to sincerely thank Dr. John Arko-Mensah who took time out of his busy schedule to guide me on this dissertation.

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LIST OF ACRONYMS

AIDS-	Acquired Immune Deficiency Syndrome
GHS-	Ghana Health Service
GDP-	Gross Domestic Product
HCFs-	Health Care Facilities
HCV-	Hepatitis C Virus
HBV-	Hepatitis B Virus
HCWs-	Health Care Workers
HIV-	Human Immunodeficiency Virus
ICD-	Institutional Care Division
ICRC	International Committee of Red Cross
IPC-	Infection Prevention and Control
MOH-	Ministry of Health
OSH-	Occupational Safety and Health
PEP-	Post Exposure Prophylaxis
WHO-	World Health Organization



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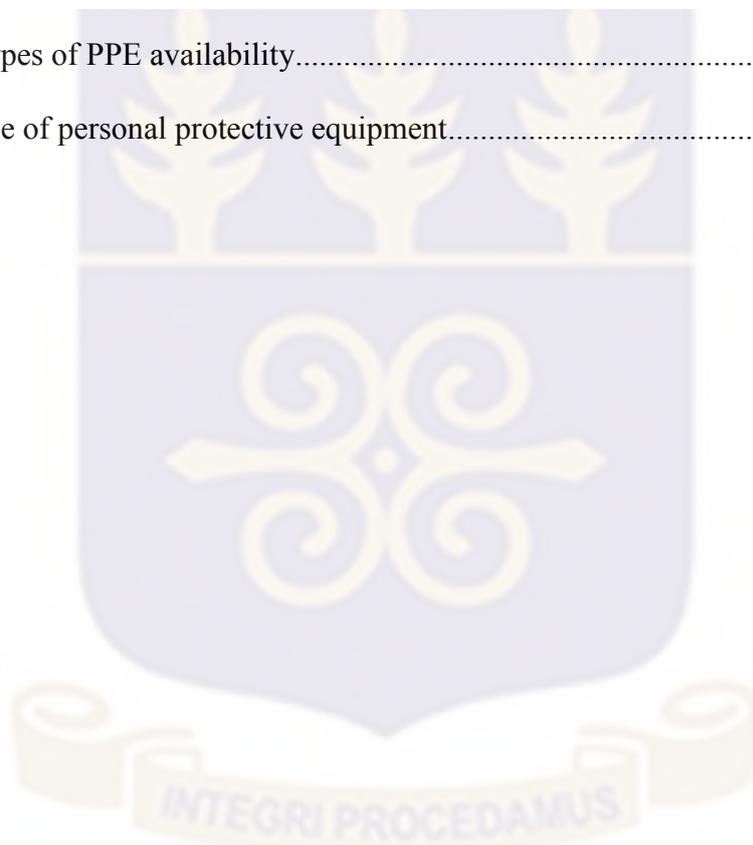
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DEFINITION OF TERMS

Knowledge: This is what the Respondents knowledge about occupational hazards and safety as pertains to their work environment.

Attitude: This is Respondent's behavior and actions towards occupational hazards and safety

Perception: This is respondent's view about occupational hazards and safety.

Personal Protective Equipment: Items worn by health care workers to protect themselves during work.



ABSTRACT

Introduction: Healthcare facilities like other work places are characterized by a high level of exposure to occupational hazards which could significantly endanger the safety and health of workers, and impact on the rate of occupational injury and infections among hospital workers. Traditionally, healthcare workers are viewed as professionals who are capable of maintaining their health without assistance. Hospitals and health institutions were also considered to be safer than other working environment.

Objective: The objective of the study was to assess the occupational hazards and safety practices among hospital workers at the Greater Accra Regional Hospital.

Methods: A cross-sectional study employed the simple random sampling method to select 246 respondents. A structured questionnaire was designed and administered to study participants. Data collected from respondents were entered into MS EXCEL for organization, and analyzed using STATA version 14.

Results: The study found high knowledge and awareness of occupational hazards and safety among the hospital workers. There was positive attitude towards occupational safety practices. However, there was presence of occupational injuries and illnesses among healthcare workers.

Conclusion: The development and implementation of an effective occupational health policy to guide hospital workers is imperative.

Keywords: Occupational, Hazards, Safety, Practices, Attitude

CHAPTER ONE

INTRODUCTION

1.1. Background

Traditionally, professionals working in a hospital are seen as people who are capable of keeping their health without help and hospitals and other health facilities were also considered to be safer than other workplaces. As a result few resources are allocated to the occupational health of these hospital workers. However, the hospital environment presents healthcare employees with various occupational hazards, including exposure to infectious agents, needle stick and sharp injuries, musculoskeletal disorders (MSD), exposure to carcinogenic agents, latex allergies, violence and stress (Lugah *et al.*, 2010).

The World Health Organization (WHO) in 2007 endorsed the Global Plan of Action on Workers' Health, to be implemented from 2008-2017 to provide political framework for development of infrastructure, policies, technologies and partnerships for achieving basic level of occupational safety throughout the world (WHO, 2007). The Global Plan of Action addresses all aspects of employees' health, including prevention of workplace hazards, protection and promotion of safety practices at work, employment conditions and improving the response of health systems to employees' health. It, thus, links occupational health to public health (Bekele, Gebremariam, Kaso, & Ahmed, 2015).

Thus, working in a safe environment is the basic right of all employees and the Occupational Safety and Health Act of 1970 and the Workers Right to know laws were important landmarks in the history of occupational safety and health. They embedded in the law the principle that employers had a responsibility to protect their employees (Rosner & Markowitz, 2016). It is thus instructive to assess the knowledge, attitude and

perceptions of health care workers with respect to occupational hazards and the extent to which personal protective equipment were used in the discharge of their duties.

1.2. Problem statement

The World Health Organization (WHO) estimates that at any point in time more than 1.4 million people globally have infections they acquired in healthcare centres. Hospital workers were at risk of being exposed to numerous infectious diseases, including, human immunodeficiency virus (HIV), tuberculosis (TB), hepatitis B, and influenza. In other countries, health care workers were three times more likely than the general public to contract TB. In general, airborne infections posed a significant danger to hospital employees especially in low- and middle-income countries (Lavoie et al, 2010).

Shockingly, 90% of blood borne infections occurred in low-income countries, stressing the vulnerability of hospital staff in these areas. Professionally, Health Care Workers see to patients through different preventive and curative services. However, while they focused on providing care, they are exposed to hazards that could affect their health and well-being. This is the norm in developing countries where health care services are besought with minimum protective precautions against being exposed to various occupational hazards (Aluko et al., 2016).

In addition, poor attitude toward occupational safety and health, and knowledge on occupational hazards among hospital workers substantially contributed to their vulnerabilities (Aluko et al., 2016).

In Ghana, very little is said about occupational health hazards confronting healthcare practitioners and other hospital workers. The Greater Accra Regional Hospital is one of the busiest hospitals in the country, and serves as one of the three referral health centres in the Region and beyond. There was the need to assess the occupational dangers posed to hospital employees and other workers in this facility, and utilization of personal protective equipment by healthcare workers in the health facility.

1.3 Research Questions

- 1) What is the level of awareness about occupational hazards among workers at the Greater Accra Regional hospital?
- 2) What is the attitude of workers towards the use of personal protective equipment as an important barrier in minimizing occupational hazards?
- 3) What is the perception of workers about the health implications of occupational hazards in the hospital?
- 4) Are there administrative policies and training on use of personal protective equipment?

1.4 Objectives

1.4.1. General Objective

To assess occupational hazards and safety practices among hospital workers at Greater Accra Regional Hospital in Accra, Ghana.

1.4.2. Specific Objectives

1. To assess the awareness, knowledge, attitude and perception of workers about occupational hazards at the Greater Accra Regional Hospital.
2. To determine the prevalence of occupational related diseases among healthcare workers.
3. To assess the use of personal protective equipment among workers at the hospital.

1.5. Justification

Assessing the knowledge, attitude and perceptions of hospital workers regarding occupational dangers has the ability to spread awareness in occupational health hazards and to regulate and set standards to promote safety and health in the various hospitals. (Aminde et al., 2015)

Adequate knowledge of occupational hazards coupled with a positive attitude and perceptions among hospital workers is highly crucial for preventing the occurrence of various kinds of occupational diseases and injuries. However there is limited data on hospital workers knowledge, attitude and beliefs of occupational dangers in developing countries where the burden of occupational diseases and injuries continue to increase (Agbana et al., 2016).

The study is expected to help provide data on the knowledge, attitude and perceptions of hospital workers about occupational hazards associated with the healthcare environment and ways to reduce the occurrence of these hazards by using equipment to protect employees at the hospital.

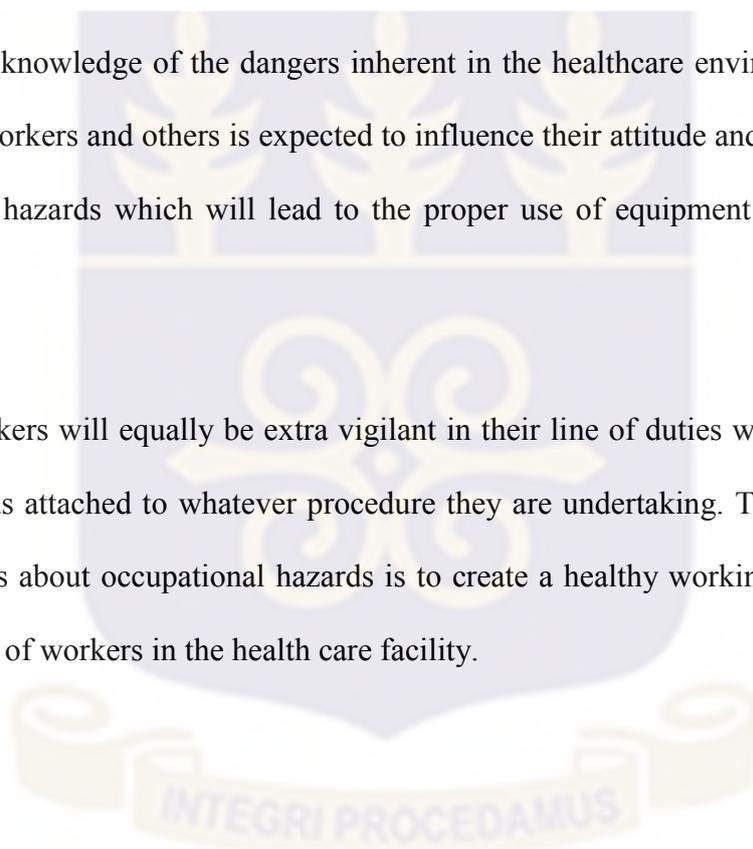
The findings of this study would help stakeholders such as the Ministry of Health, Ghana Health Service and other healthcare related organization fashion out the requisite policies help to improve the safety and health of HCWs in the country.

1.6. Conceptual framework

Figure 1.1 illustrates the relationship between hospital workers knowledge, attitude and beliefs about hazards in occupation and other safety practices.

An adequate knowledge of the dangers inherent in the healthcare environment among all health care workers and others is expected to influence their attitude and perceptions about occupational hazards which will lead to the proper use of equipment to protect staff in their duties.

Hospital workers will equally be extra vigilant in their line of duties when they know the health hazards attached to whatever procedure they are undertaking. The ultimate aim of the awareness about occupational hazards is to create a healthy working environment for all categories of workers in the health care facility.



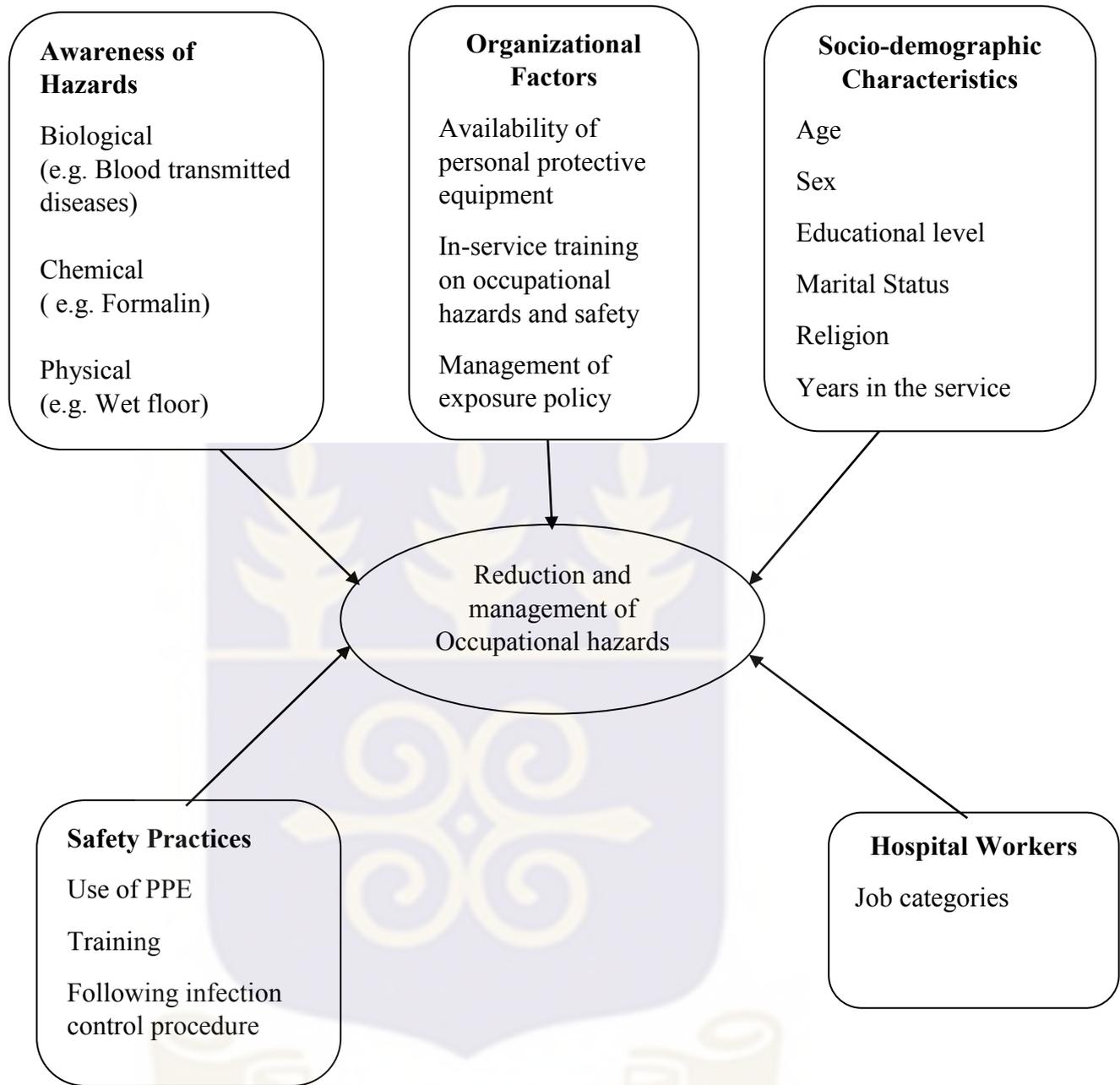


Figure 1.1: Conceptual framework of occupational hazards and Safety practices among hospital employees.

CHAPTER TWO

LITERATURE REVIEW

2.0 Background

This chapter describes important literature on occupational hazards and safety practices in relation to the objectives of the study. Occupational hazards issues from global perspective and sub-regional levels were reviewed. The healthcare environment and the categories of occupational hazards that may affect the workers at healthcare facilities and also reviewed.

2.1. Occupational Hazards.

Occupational hazards are defined as degree or risk posed by activities and programs engaged upon at workplace. In this regard, occupational hazards refer to all activities in the workplace that have the ability to promote the risk of infections and injury. Occupational safety on the other hand is controlling the hazards in the work place to achieve an acceptable level of risk. Safety in the work place general is the protection of the health and safety of staff while doing their various jobs. (Aluko et al, 2016).

Occupational health is defined as the whole of all the activities that are engaged in with the aim of attaining and maintaining the maximum level of health and safety for everyone who is involved in any employment whatsoever and this is done through the approaches of disease prevention, safety assurance and general health promotion (Agbana et. al., 2016).

Globally, Health Care Facilities (HCFs) employ more than 59 million staff to offer various services to clients and patients, and are full of hazards and high risks. Hospitals, like other high risk work places are fraught with maximum exposure to dangerous agents, which highly puts at risk the health and life of workers. Thus in their duties, workers may be

exposed to dangers which highly affects their health and quality of life as well as their immediate and extended families. Thus, there is the need to protect HCWs from workplace hazards, including employees in other high risk environments like mining and construction work (Aluko et al., 2016).

2.2. Occupational health hazards in healthcare environment

The hazards in HCFs are grouped by WHO into biological, physical, ergonomic, mechanical, chemical and psycho-social (WHO, 2002). Various research have proven that occupational injuries and sicknesses among HCWs placed the highest of any organization though could be reduced. The prominent hazards to HCWs include blood-borne infections [Hepatitis B virus (HBV), Hepatitis C virus (HCV) and Human Immunodeficiency Virus (HIV)], back pain, assault from patients, stress, exposure to hazardous chemicals, exposure to radiation, allergic reactions to latex materials; and so on. (Aluko et al., 2016).

These hazards can be grouped as follows: physical, chemical, biological, ergonomic factors, psychosocial and organizational problems (Niu, 2010).

2.2.1. Biological Hazards

Health care workers are mostly in direct contact with patients, especially those with infectious diseases such as hepatitis, Tuberculosis (T.B), HIV/AIDS, rubella, influenza and cytomegalovirus (CMV) are some of the biological hazards faced by HCWs in their day-to-day work. The emergence of many drug resistant TB poses a fresh danger to HCWs. Also, inadequate clean water, lack of general protection against blood-borne diseases, lack of sterilized equipment and proper waste disposal have all contributed to the sturdy increase in these infections (Lugah et al., 2010).

In a study in East Asia, over 50% of HIV infection cases among hospital employees were nurses, followed by blood collectors and laboratory staff (Gold et al. 2004). However, stigmatization is known as the number one blockade to prevent and treat HIV. A research conducted revealed that nurses are afraid of disclosing their HIV status more than being infected with HIV (Houtman, Jettinghoff, and Cedillo 2007).

Hepatitis B is mostly spread through blood and enters a vulnerable person when the skin breaks – mostly through needle stick. It is a risk to staff working in renal-dialysis units, laboratories, Sexual Transmission Infection (STI) clinics, blood-trans-fusion centres, dental surgeries and drug-addiction clinics. Patients chronically infected with rubella virus could pose a threat to pregnant women who could easily infect patients at the obstetric and gynaecological units. The threat of infection with HIV from the patient is minimal, if the workers adhere to general infection control measures. Needle stick and sharp injuries are frequent in the hospitals. Nurses, especially students have the highest risk of needle stick pricks. Preventing the spread of HIV via a needle stick injury is highly necessary, especially in high HIV areas. The threat of being infected with HIV from patients is high in developing countries where the infectious diseases are high and there is a problem with hygienic conditions in health care centres (Niu, 2010).

2.2.2. Chemical Hazards

The chemical hazards that are mostly found in laboratories include noxious vapors, bleach, harsh detergents, lead, flammables, solvents, radiation and many more. International chemical standards have improved currently, but there is lack of enforcement of chemical standards in developing countries. Where there is a change of tasks, employees may not be fully trained on proper handling of chemicals. There may be inadequate supply of gloves,

goggles, masks and lack of adequate ventilation to protect the worker of the hazard exposure. A survey has shown that 71% of dentists in Nigeria were frequently exposed to hazardous levels of dental amalgam, that could result in poisoning them (Fasunloro and Owotade 2004). In several low-income countries where chemical processes and new technologies are introduced to the system, the extent of chemical exposures is not immediately measured, and more research is needed.

Hospital staff are exposed to numerous chemical agents which are being used in health facilities which includes disinfectants, anaesthetic agents, chemical sterilizing agents and cytostatic or laboratory reagents. Most of these agents irritates respiratory tract and the skin and can cause allergy. Others, such as formaldehyde, ethylene oxide, hexachlorophene, are known human carcinogens, teratogens and mutagens. The occupational allergic agents that can cause irritant dermatitis include acrylic, latex, epoxy chemicals in dentistry and orthopaedics, laboratory chemicals such as organic solvents, formaldehyde, cobalt and chromium. Agents such as antibiotics and animal protein—especially the penicillin group – are well-known allergic agents which can cause conjunctivitis, dermatitis and asthma. Thus, it is necessary to know that once an allergy has developed, it is very difficult to control the effect of the exposure. Therefore, there is the need to minimize or prevent exposures to the human body (Niu, 2010).

2.2.3. Physical Hazards

The physical hazards could be ward beds, drip stands, wet floors and faulty electric socket. Hospital employees may work in facilities that do not meet safety requirement sometimes knowingly or unknowingly. The worker may be injured if he or she did not adhere to safety practices. The person injured situation would be serious if immediate care is not

given. Some cultures consider pain as a sign of weakness. In Malaysia, ergonomics was the area of OSH where hospital employees showed the lowest level of knowledge (Lugah et al. 2010). For such reasons, hospital employees may not report an injury or strain; and mostly don't access adequate treatment, and is mostly undocumented. In war situations, healthcare staff risk their lives to attend to the victims. In Iraq, Côte d'Ivoire, Afghanistan, Democratic Republic of the Congo, Pakistan, Sri Lanka and Somalia, health facilities, ambulances, first-aid posts and health staff have been source of target by the fighters (ICRC 2011).

The physical hazards exposure to hospital workers are generally include magnetic fields, electric shock, ionizing radiation, noise, vibration, heat and cold. There is the needs to put in place measures to reduce ergonomic hazards among hospital workers. The exposure of Ionizing radiation poses dangers to workers not only in radiotherapy and radiological departments, but also in dental facilities, laboratories, electro-microscopy units, nursing wards and operation rooms as well.

In medical care unit, radiation is used for both therapeutic and diagnostic purposes. The highest occupational exposure in the medical care unit is the use of radiation in preparing and assessing radiopharmaceuticals and radiology interventions. Doses exposure to the hands can possibly move up to an annual limit of 500 mSv. Thus, it is necessary for workers working in such environment to protect themselves by using personal protective equipment to reduce the dose level to the entire body.

Vibration and noise are minor hazards in healthcare facilities, except in orthopedical surgery and dental surgery. A noise level of 80–90 dB (A) generated from a surgical drills

and high-speed dental turbines can cause harm to the operators ear drum if maintained for a long time.

Excessive ambient temperatures are minor hazards for the HCWs. But in some low-income countries, some categories of hospital workers undertaking certain procedures, high level temperatures could be a health problem to them. Employees who are exposed to cold and heat include boiler-room workers, operating theatre staff, laboratory technicians, and maintenance and service personnel. To ensure a good air quality in a facilities that generate heat it is important to develop appropriate building design and adhere to regular maintenance. Such health facilities must have proper ventilation to prevent the “sick building syndrome”. The highly recommended areas for proper ventilation are operating theatres and laboratories where there is a specific need to control hazardous gases, fumes, dusts, etc. (Niu, 2010).

2.3. Knowledge and Awareness of occupational hazards

Knowledge and awareness of occupational hazards play an adequate role in preventing injuries and diseases among hospital employees. Programmes which create awareness can be used to educate workers on positive attitudes and solidify safe working behaviors (Lugah et al., 2010).

In a survey conducted in Malaysia to find out the level of occupational dangers, knowledge and awareness among hospital workers, a total of 284 (91.3%) respondents out of 311 responded to the survey. These include nurses (48.2%), doctors (16.1%), medical personal, (pharmacists, laboratory workers, radiology technicians and physiotherapists (11.8%), administrative personal (1.1%) and others who were not part of the above

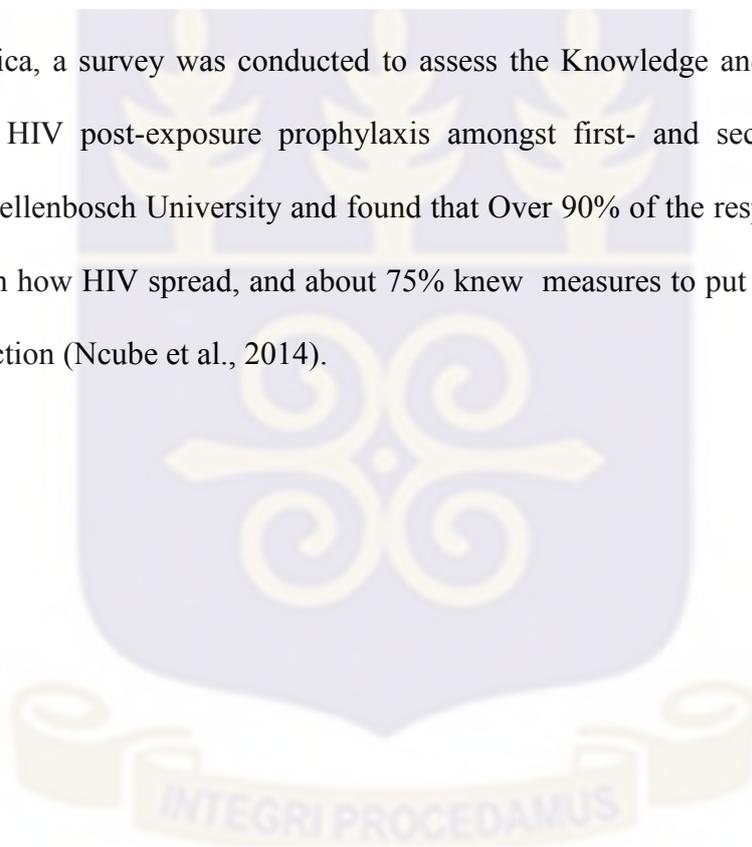
categories were (24%). The majority of the people who responded were female (59.2%). The participants who responded were between the aged 22–67 years, with a mean age of 43.2 ± 8.9 years. The year of work in the hospital was 1–45 years, but majority of the workers had worked for more than 20 years.

The total score was 17.0%–97.3%, with 62.0% (95% confidence interval [CI] 59.7, 64.2) as a mean. The participants who responded were more knowledgeable about personal protective equipment, with a mean score of 72% and least knowledgeable about legislations, with a mean score of 57%. When the scores among different categories of workers were compared, there was a significant difference ($p < 0.05$) in the overall mean scores, with administrative officers and nurses scoring very low compared to the others. Only 34.2% of the people who responded had good knowledge of occupational health hazards and there was no significant difference in the level of occupational health hazards knowledge of the people who responded in terms of number of years in the service.

The occupational health hazards awareness mean score was 58.0% (95% CI 56.1, 60.1). 75.8% of the people who responded were aware that safety issue should be of a concern to everybody within the health facility, and 58.7% of the respondents recognized that health and safety practice should be the responsibility of workers in the hospital. Only 40.5% of the people who responded knew that in case of accident they have to report first to their direct supervisor instead of the safety and health personnel (43.7%). Only 57.8% of the people who responded were familiar with the role of an occupational health doctor, which include fitness for work assessments, performing disability assessment, diagnosing and treating occupational illness, and as well as performing risk assessments of occupational hazards and safety at the hospital. Awareness of occupational safety and health legislation

indicated to be very low, with a mean score of 57.0% (95% CI 54.1, 60.8). 71.5% of the people who responded were aware that a health and safety committee is necessary in each hospital organization, but 14% didn't answer this question. Only 45.4% of the people responded knew that the head of the organization should be the chairman of the occupational health hazards committee, 18.0% didn't answer this question, and while the others either answered that the chairman should be in charge of the health and safety or the engineer of the hospital.

In South Africa, a survey was conducted to assess the Knowledge and attitudes of non-occupational HIV post-exposure prophylaxis amongst first- and second year medical students at Stellenbosch University and found that Over 90% of the respondents had good knowledge on how HIV spread, and about 75% knew measures to put in place to prevent possibly infection (Ncube et al., 2014).



CHAPTER THREE

METHODS

3.1 Study design

A cross-sectional design was used for this study conducted among Hospital Workers at the Greater Accra Regional Hospital, Ridge, Accra, Ghana.

3.2 Study Area

The study was conducted at the Greater Accra Regional Hospital, Ridge located in the Accra Metropolitan Assembly (AMA).

3.2.1 Study Location

The AMA covers an area of 137sq km The Metropolis is located on longitude 05 35' and Latitude 00 06' The Metropolis is bounded on; the East by the a- Dadekotopon Municipal Assembly, on the South by the Gulf of Guinea, on the West by Ga South and Central Municipal Assemblies, and on North by the Ga West and La-Nkwatanang Municipal Assembly.

The 2010 population and housing census estimated the population of the AMA as approximately 1.7 million. In addition to this figure it is estimated that on daily basis there is an influx population of 1 million to the City for various socioeconomic activities. The AMA has almost 42% of the total population of the Greater Accra Region with a population density for 112 per kilometre squared.

Migration from rural areas to the cities is a major driver of urban growth of 3.1% which is higher than the national rate. Several surveys on urban poverty have explored the push and

pull factors related to rapid urban growth in Ghana including, lack of employment opportunities, better opportunities, quality formal and informal skills training and higher social mobility.

3.2.3 Metropolitan Economy

Accra, as the Capital of Ghana, has contributed immensely to the economic development of the nation. It hosts a number of manufacturing industries, health institutions, oil companies, telecommunication, financial, tourism, education, and other important establishments. These institutions provide employment opportunities to the residents of the City. Their presence continues to attract people from all parts of the country and beyond to transact various businesses. They also contribute massively to internally generated revenue of the Assembly in the form of business operating permit, property rate, etc.

3.2.4 Health Care Facilities

There are Two (2) Government Hospitals, Six (6) Polyclinics, and Ten (10) Smaller Health Facilities which are under the Ghana Health Service that provide healthcare services in the Metropolitan area. Four Quasi-Governmental and a host of private health care providers also offer clinical services. Services provided are Out-patient and In-patient, Public Health Services (Child Health Services, Reproductive and, Nutrition, Pharmacy, X-ray and Laboratory).

The Greater Accra Regional hospital where the study was conducted is located at the heart of the metropolis and serves as the regional hospital for the greater Accra region. It thus receives referrals from all over the region including healthcare facilities within the

metropolis. It is a government hospital that provides wide range of healthcare services.

Figure 3.1 shows a directional map of the study location.

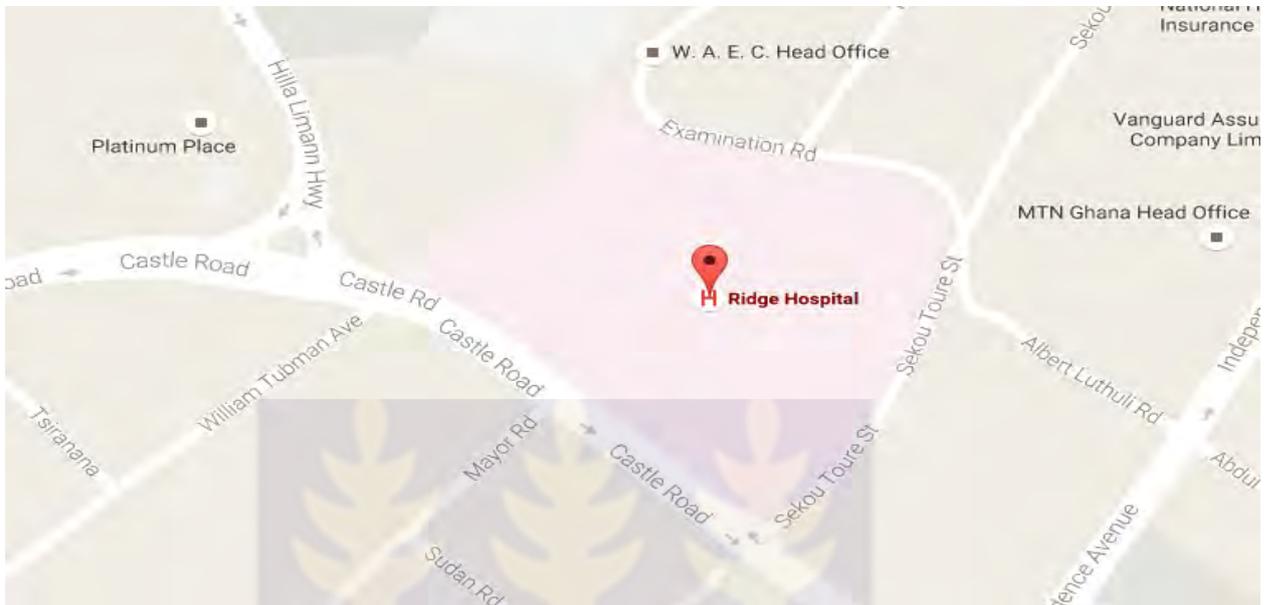


Figure 3.1: Directional map of Greater Accra Regional Hospital, Ridge (Adapted from Google map).

3.3 Study Population

The study population included hospital workers of the Greater Accra Regional hospital who were present at the time of the study. Hospital workers in this study include nurses (Nurses, Midwives and Healthcare assistants), Doctors (Doctors and Physician assistants), Laboratory staff (Biomedical scientists and laboratory technicians), Pharmacists (Pharmacists and dispensary technicians), Radiologists, Physiotherapists, Orderlies, Mortuary staff.

3.4 Variables

The following variables were under consideration in the study;

3.4.1 Dependent variable

Occupational hazards and safety practices among hospital workers.

3.4.2 Independent variables

1. Number of years of work
2. Professional category
3. The number of training on occupational hazards and safety.

3.4.1 Inclusion criteria

All hospital workers working in the Greater Accra Regional Hospital at the time of the study and who were willing to participate in the study were included.

3.4.2 Exclusion criteria

Hospital workers who were not staff of the Greater Accra Regional Hospital at the time of the study were excluded from the study. Also healthcare workers who were staff of the Ridge hospital but not willing to participate in the study were excluded.

3.5 Sampling method

The quota sampling and simple random sampling method was used in sampling participants of the study. The quota sampling method was first used to determine the number of participants to sample from each category of hospital workers as shown in Table 3.1.

After determining the quota to be sampled from each category of the health workers, the simple random sampling method using balloting was then used to sample the participants.

Table 3.1: Sample Proportions

Category of hospital workers	Number	Proportion	Sample
Nurses	410	$410/540 \times 100 = 76\%$	$76/100 \times 270 = 205$
Doctors	36	$36/540 \times 100 = 7\%$	$7/100 \times 270 = 19$
Laboratory Staff	22	$22/540 \times 100 = 4\%$	$4/100 \times 270 = 11$
Pharmacists	28	$28/540 \times 100 = 5\%$	$5/100 \times 270 = 14$
Radiology	6	$6/540 \times 100 = 1\%$	$1/100 \times 270 = 3$
Physiotherapist	4	$4/540 \times 100 = 0.7\%$	$0.7/100 \times 270 = 2$
Orderlies	34	$34/540 \times 100 = 6\%$	$6/100 \times 270 = 16$

3.5.1 Sample size determination

A sample size of 246 was derived using Fisher's sample size formula shown below:

$$n = Z^2 P (1-P) / (d)^2$$

Where,

n = sample size required.

Z = confidence level (95% level of confidence - 1.96).

P = Estimated prevalence of Occupational Hazards occurrence (20%).

d = Margin of error (5% = 0.05).

Substituting, $n = (1.96)^2 (0.2 \times 0.8) / (0.05)^2 = 246$.

3.6 Data Collection tools and techniques

Structured questionnaire was designed and administered to respondents to collect the data for the study. The questionnaire was interviewer administered with the help of three trained research assistants. Each item on the questionnaire was read and explained to individual respondents who chose the options as they deemed fit.

3.7 Data Processing and Analysis

The administered questionnaires were coded and entered into Microsoft Excel. The data was cleaned, validated and exported to STATA (statistical analysis software) Version 14.

Pearson Chi-square test was performed to determine any relationship between socio demographic characteristics of respondents and their knowledge, attitude and perception of occupational hazards and safety practices. Also relationship between professional category of hospital workers, duration of work, availability of training schedule of occupational hazards and knowledge, attitude and perceptions of occupational health hazards were established.

3.8 Quality Control

Three research assistants were recruited, trained and supervised to assist the principal researcher to administer questionnaire and they were monitored appropriately throughout the data collection process. The questionnaires for the study was brief, elaborate and easy to understand. The data collected was checked and cleaned by the principal researcher for completeness and accuracy.

3.8.1 Training of Research Assistants

Prior to the start of field work, three research assistants were recruited and taken through three days training to equip them with the required skills needed to assist in the study. The training helped to clearly spell out their roles to play in the conduct of the study.

3.8.2 Pre-Test/ Pilot Study

The questionnaires designed to be used in the study were pre-tested in La General Hospital. This enabled the identification of errors and ambiguous questions sequencing and correction prior to the field data collection.

3.9 Ethical Considerations

In order to ensure that the research meets ethical standards, approval was sought from the Ethical Review Committee of the Ghana Health Service (GHS) Research and Development Division, Accra.

3.9.1 Access and approval of study area

An introductory letter was also obtained from the Head of Department, Behavioural Environmental and Occupational Health Sciences (BEOHS), School of Public Health, College of Health Sciences, University of Ghana and sent to the head of the hospital and the Accra Metropolitan Health Directorate. Subsequently, a copy of the approval letter from the Ghana Health Service Ethical Review Committee was also sent to them.

3.9.2 Study subjects

The study subject included nurses and midwives, doctors, laboratory staff, pharmacists, radiographers and physiotherapists, orderlies and mortuary staff of the Greater Accra Regional hospital.

3.9.3 Privacy and confidentiality

The questionnaire was coded and names of respondents were not required in filling out the questionnaire. The interview was conducted in an isolated area with individual respondents so as to guarantee their privacy. Participants' names were not mentioned in the report of the study and information gathered on participants were kept strictly confidential between the researcher and the study participants.

3.9.4 Compensation

Study participants were not given any compensation for participating in the study. This was made known to participants before they chose to take part in the study.

3.9.5 Risk and Benefits

Apart from the time that was lost by study subjects in answering the questionnaires, there was no risk or cost associated in participating in the study. Participants were not given any direct benefits.

3.9.6 Voluntary withdrawal

Participation in the study was entirely voluntary and participants may choose not to answer any individual question or all the questions. Participants were given the

opportunity to withdraw from the study if they wish. In the event of any withdrawal by a participant, all data gathered on the participant were deleted.

3.9.7 Consenting process

Respondents in the study were approached individually to explain the objectives of the study to them and their consent sought. The decision to take part in the study was absolutely voluntary and refusal to take part did not affect the relationship between the participant(s) and the researcher. In addition, respondents were made to sign a written consent form after a detailed explanation to them before they take part in the study.

3.9.8 Data storage and usage

Data collected in this study were strictly for research purposes. The data were stored with passwords on electronic media and in safely locked boxes. Anonymity was ensured in dissemination of findings from this study since participants were not identified by their names.

3.9.9 Declaration of conflict of interest

The researcher as the principal investigator do hereby declare no conflict of interest in this study.

3.9.10 Funding of the study

This study is in partial fulfilment of requirements towards the award of a Master of Public Health (MPH) degree at the School of Public Health, College of Health Sciences, University of Ghana, Legon. Hence, there was no funding from any source and all estimated cost of the study was borne solely by the researcher.

CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter presents the data from the research such as Socio-demographic characteristics of respondents, knowledge and awareness of occupational hazards and safety of respondents, attitude and perceptions about occupational hazards and safety, prevalence of occupational hazards and occupational safety practices.

4.1 Socio-demographic characteristics of respondents

A total of 246 hospital workers were interviewed for this study using a semi-structured questionnaire. The Socio-demographic characteristics of the study respondents are presented in table 4.1. Majority, 187 (76.0%) were females whereas 59 (24.0%) were males. Those between the ages of 21 and 30 years constituted the majority, 148 (60.2%) and only 7 (6.9%) were below age 20 years. In terms of educational level attained, more than half 124 (51.2%) had obtained diploma/tertiary level of education and none of the hospital workers had below Junior High School level education. All workers who participated in this study were either Christians or Moslems, with 215 (87.8%) being Christians compared to 30 (12.2%) who were Moslems. 117 (47.6%) of the study respondents had worked less than one year, 64 (26.0%) had been on the job for 1-5 years, and only 7 (2.8%) had worked for more than 20 years.

Table 4.1: Socio-demographic characteristics of respondents

Variable	Frequency	Percentage (%)
Age		
Below 20 years	17	6.9
21-30 years	148	60.2
31-40 years	47	19.1
41-50 years	17	6.9
Above 50 years	17	6.9
Gender		
Male	59	24.0
Female	187	76.0
Educational level		
None	0	0.0
Primary	0	0.0
JHS	10	4.1
O/A Level/SHS	12	4.9
Technical/Vocational	0	0.0
Diploma	129	52.4
Degree	80	32.5
Masters	7	2.9
PhD	3	1.2
Others	5	2.0
Religion		
Christian	215	87.4
Islam	30	12.2
ATR	1	0.4
Others	0	0.0
Number of years worked		
Less than 1 year	117	47.6
1-5 years	64	26.0
6- 10 years	33	13.4
11-15 years	17	6.9
16-20 years	8	3.3
20 years Above	7	2.8

In terms of the professional composition of study participants, nurses formed the majority of the study participants as shown in Figure 4.1.

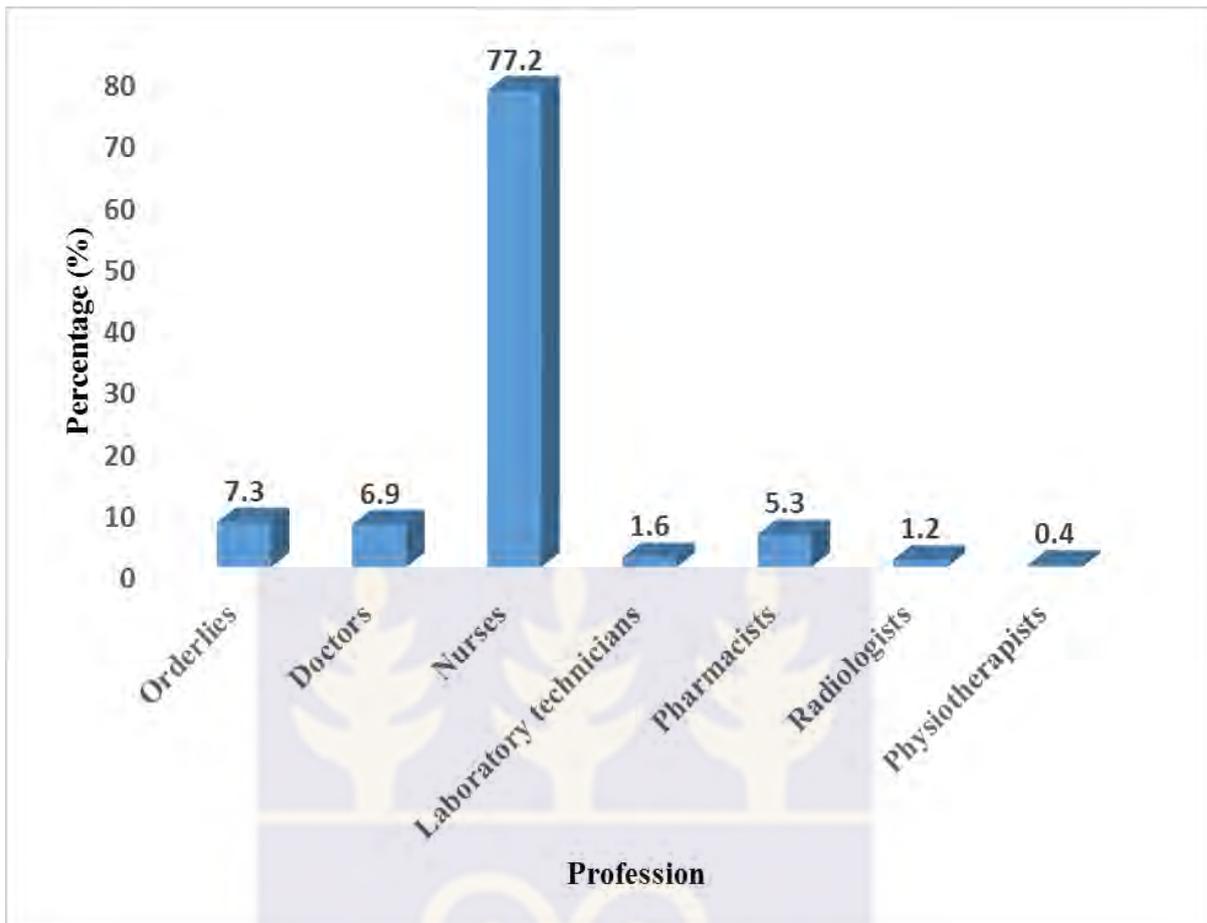


Figure 4.1: Professional composition of respondents

4.2: Respondents Knowledge and Awareness of Occupational Hazards and Safety

Awareness of occupational safety was determined by asking respondents whether they have ever heard about occupational hazards and safety or not. As shown in Figure 4.2, majority 228 (92.7%) of the hospital workers were aware about occupational hazards and safety. Only 18 (7.3%) of them had little or no knowledge about what constituted occupational hazards and safety.

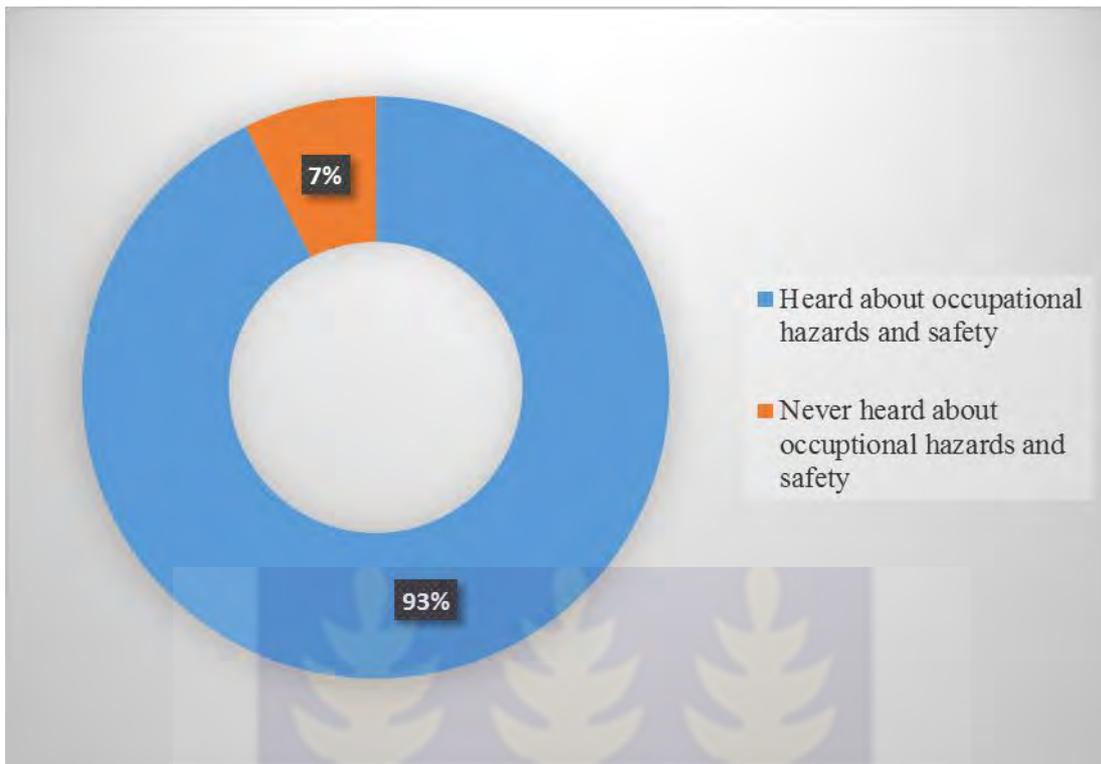


Figure 4.2: Respondents' Awareness of Occupational Hazards and Safety

Additionally, respondents were asked three questions regarding occupational hazards, occupational safety and general workplace safety in order to assess their knowledge. Almost all 240 (97.6%) respondents answered correctly as to what they perceived constituted occupational hazards while only 3 (2.4%) could not tell what occupational hazard was. Similarly, with respect to occupational safety and workplace general safety, majority 239 (97.2%) knew what they were as shown in Table 4.2.

Table 4.2: Respondents knowledge of occupational hazards and safety

Variable	Response	Frequency	Percentage (%)
Occupational Hazard refers to all workplace activities that have the potential to cause/increase the risk of injury or ill health	TRUE	240	97.6
	FALSE	6	2.4
Occupational safety is the control of hazards in the health facility to reduce risk	TRUE	237	96.3
	FALSE	9	3.7
Workplace safety generally refers to the process of protecting the health and safety of workers while on the job	TRUE	236	95.9
	FALSE	10	4.1
The hospital environment poses danger to me as a healthcare worker	TRUE	241	98.0
	FALSE	5	2.0
How would you rate your current knowledge of occupational hazards and safety in the facility	Excellent	44	17.9
	Good	132	53.7
	Fair	64	26.0
	Poor	6	2.4
Knowledge of department in the hospital that handles occupational hazards and safety issues	YES	163	66.3
	NO	83	33.7

4.2.1 Sources of Knowledge and awareness of occupational hazards and safety

In order to identify sources of knowledge and awareness of occupational hazards and safety among respondents, they were made to identify different sources from which they had knowledge and awareness about occupational hazards and safety. The hospital was reported as the highest source of information for respondents. Television was the second highest source of information on occupational hazards and safety while posters/banners constituted the least reported source of information for respondents as illustrated in figure 4.3.

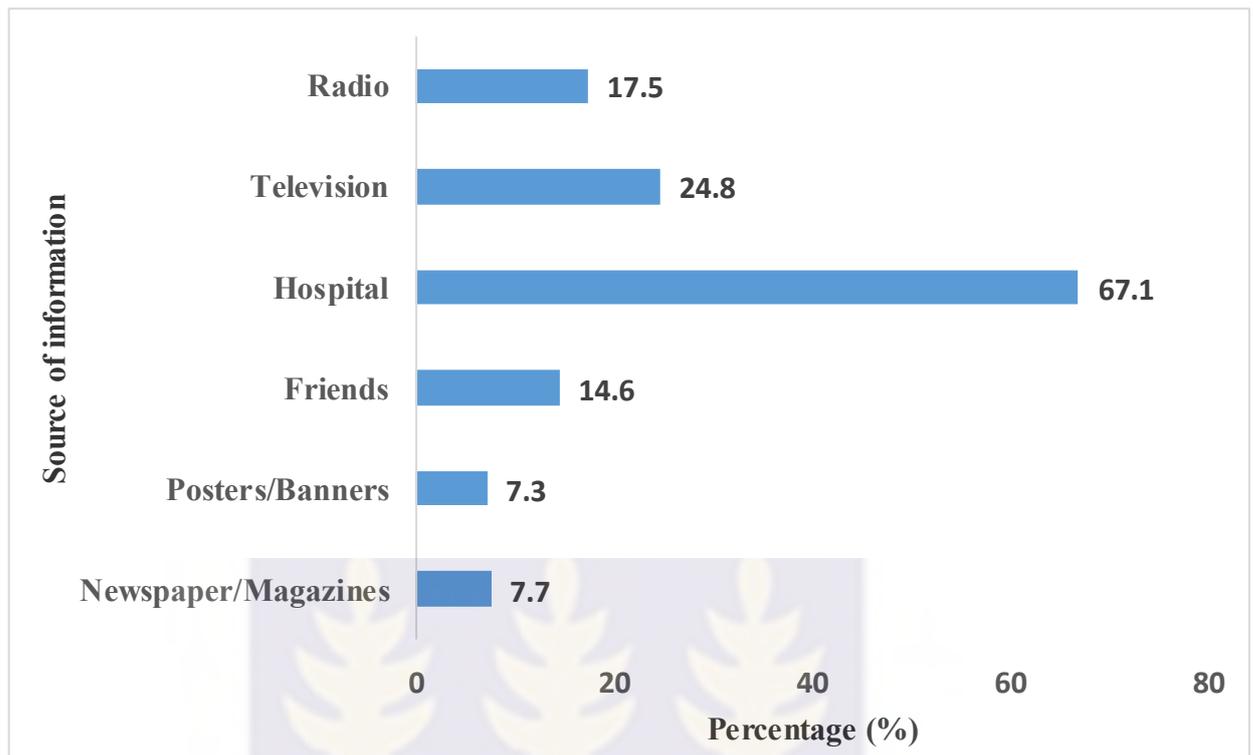


Figure 4.3: Respondents' Sources of information on occupational hazards and safety.

4.2.2 Bivariate analysis of socio-demographic characteristics of healthcare workers and knowledge and awareness of occupational hazards and safety

A Pearson's Chi-square test was done to identify association between background characteristics of hospital workers and their knowledge and awareness of occupational hazards and safety. It emerged that educational level of study participants were statistically significantly associated with knowledge and awareness of occupational hazards and safety. As illustrated in table 4.3, number of years of work of hospital workers, age and professional background were not significantly associated with knowledge and awareness of occupational hazards and safety.

Table 4.3: Bivariate analysis of socio-demographic characteristics of hospital workers and knowledge and awareness of occupational hazards and safety

Variable	Knowledge of OHS		df	χ^2	P-value
	Yes-n(%)	No-n(%)			
Age			4	8.06	0.089
Below 20years	15 (88.2)	2 (11.8)			
21-30 years	133 (91.1)	13 (8.9)			
31-40 years	47 (100.0)	0 (0.0)			
41-50 years	16 (100.0)	0 (0.0)			
Above 50 years	17 (100.0)	0 (0.0)			
Gender			3	2.67	0.45
Male	50 (89.3)	6 (10.7)			
Female	176 (95.1)	9 (4.9)			
Educational level			7	22.63	0.002
None	0 (0.0)	0 (0.0)			
Primary	0 (0.0)	0 (0.0)			
JHS	8 (80.0)	2 (20.0)			
O/A Level/SHS	12 (100.0)	0 (0.0)			
Technical/Vocational	113 (91.9)	10 (8.1)			
Diploma	77 (97.5)	2 (2.5)			
Degree	7 (100.0)	0 (0.0)			
Masters	3 (100.0)	0 (0.0)			
PhD	5 (100.0)	0 (0.0)			
Others	0 (0.0)	1 (100.0)			
Religion			1	6.51	0.011
Christian	203 (95.3)	10 (4.7)			
Islam	25 (83.3)	5 (16.7)			
ATR	0 (0.0)	0 (0.0)			
Others	0 (0.0)	0 (0.0)			
Number of years worked			5	5.99	0.306
Less than 1 year	102 (91.1)	10 (8.9)			
1-5 years	58 (93.5)	4 (6.5)			
6- 10 years	33 (100.0)	0 (0.0)			
11-15 years	17 (100.0)	0 (0.0)			
16-20 years	8 (100.0)	0 (0.0)			
20 years Above	7 (100.0)	0 (0.0)			

4.3 Attitude and Perceptions about Occupational Hazards and Safety

The study found positive attitude towards occupational hazards and safety among study participants. Of the 246 hospital workers who participated in this study, almost all 243 (98.8%) of them reported that matters of occupational hazards and safety concern them, 236 (95.9%) believed that they can sustain injuries in the hospital environment while 239

(97.2%) of them believed that they need to protect themselves while at work in the hospital.

In terms of workshop attended relative to occupational hazards and safety, almost half 117 (47.6%) had ever attended a workshop on occupational hazards and safety. Majority 157 (63.8%) of the respondents reported that they will seek for assistance from departments and staff in the hospital who are responsible for occupational hazards and safety issues.

Most 239 (97.2%) participants believed occupational hazards and safety issues should be taken seriously hence they would recommend management to organize frequent training of healthcare workers. However, 6 (2.4%) of them were neutral in terms of frequent training of healthcare workers as far as occupational hazards and safety issues are concerned.

Table 4.4 represents responses of healthcare workers regarding their attitude and perceptions towards occupational hazards and safety.

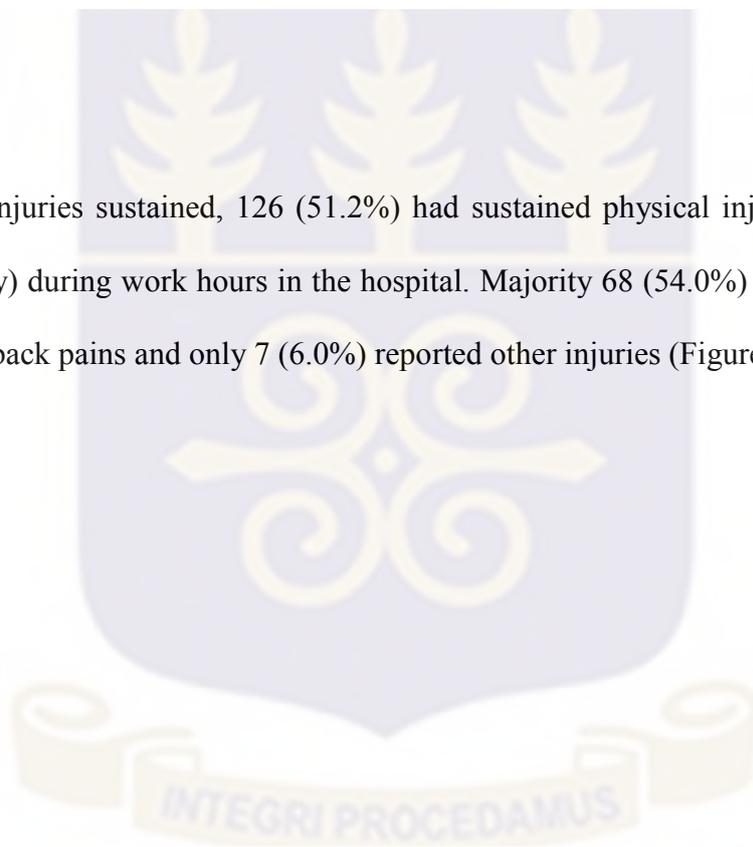
Table 4.4: Attitudes and perceptions towards occupational hazards and safety

Variable	Response	Frequency	Percentage (%)
Occupational hazards and safety matters should concern me as a healthcare worker	YES	243	98.8
	NO	3	1.2
I can be injured in the hospital environment	YES	236	95.9
	NO	10	4.1
I need to protect myself at all times while at work in the hospital	YES	239	97.2
	NO	7	2.8
I attend workshop on occupational hazards and safety	YES	117	47.6
	NO	129	52.4
I will seek assistance from designated departments and staff responsible for occupational hazards and safety issues	YES	157	63.8
	NO	89	36.2
It is necessary for management to undertake regular frequent training of healthcare workers regarding occupational hazards and safety	YES	239	97.2
	NO	7	2.8

4.4 Prevalence of occupational hazards

By the nature of their work, healthcare workers encounter many and diverse occupational hazards, from physical injuries to being exposed or infected with infectious pathogens such as *Mycobacterium tuberculosis*, HIV, Hepatitis B. Thus, this study assessed the prevalence of these occupational hazards among study participants. Of the 246 respondents, 34 (13.8%) said they had ever acquired an infection from the hospital while 212 (86.2%) had not. Among the infection acquired, 4 was *M. tuberculosis*, one (1) person had acquired Hepatitis B and no one had acquired HIV, whereas 29 had acquired other infections.

In terms of injuries sustained, 126 (51.2%) had sustained physical injuries (needle stick and leg injury) during work hours in the hospital. Majority 68 (54.0%) reported of having experienced back pains and only 7 (6.0%) reported other injuries (Figure 4.4).



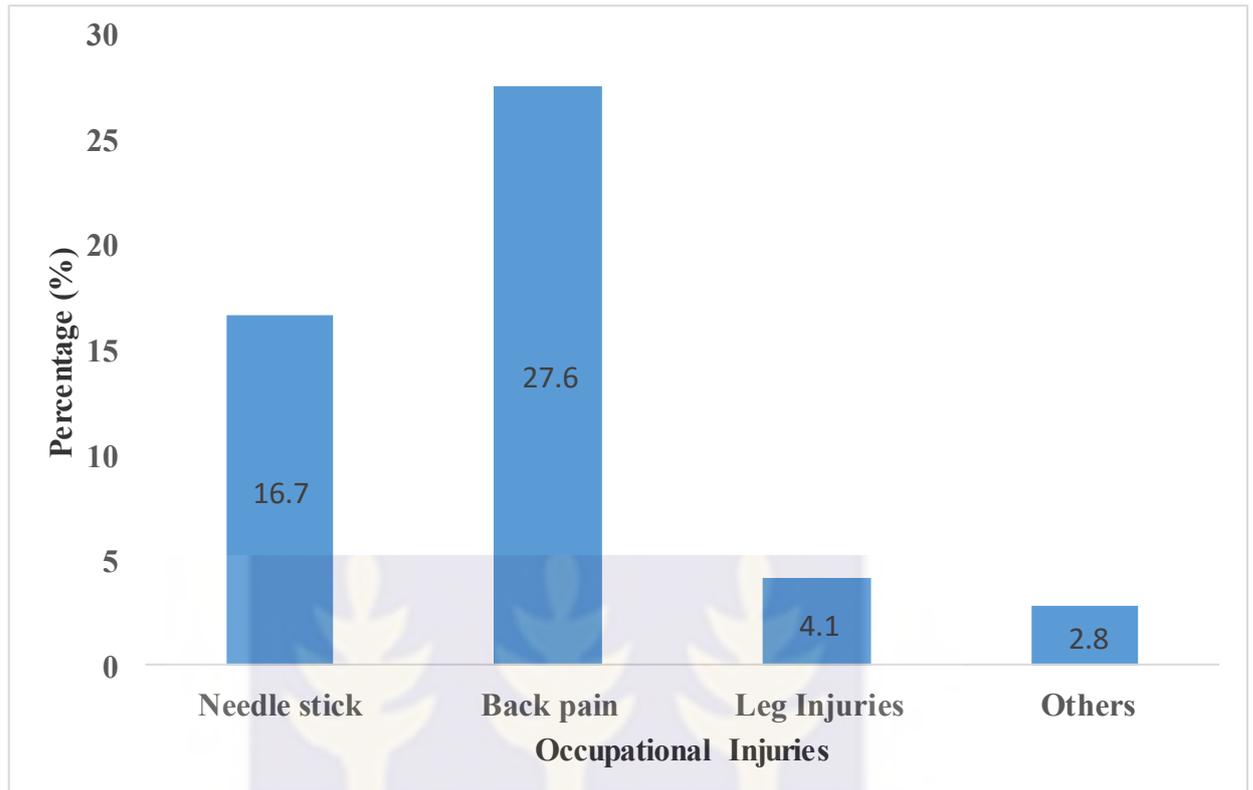


Figure 4.4: Prevalence of occupational injuries

4.5: Occupational Safety Practices

The study assessed practices among healthcare workers in relation to occupational safety such as availability of personal protective equipment, use of personal protective equipment as well as accessibility of personal protective equipment. Most respondents 220 (89.4 %) believed they have personal protective equipment to use at the hospital while 26 (10.6%) do not. The use of personal protective equipment as an occupational safety practice was moderate as more than half 149 (60.7%) of the healthcare workers in this study use personal protective equipment all the time while 97 (39.4%) do not.

Majority 185 (75.2%) of respondents agreed that personal protective equipment are always available for use while 61 (24.8%) disagreed. While 58 (23.6%) of respondents think that

personal protective equipment are not easily accessible for use in the hospital, majority 188 (76.4%) disagreed.

In terms of types of personal protective equipment availability, the study found that hand gloves were the most available personal protective equipment available to healthcare workers while the goggles as a personal protective equipment was the least available. Table 4.5 illustrates details of respondents' views on the kind of personal protective equipment available to them in the hospital for use.

Table 4.5: Types of PPE availability

Type of PPE	Availability	Frequency	Percentage (%)
Head Cover	YES	182	74.0
	NO	64	26.0
Hand Gloves	YES	229	93.1
	NO	17	6.9
Face Mask	YES	216	87.8
	NO	30	12.2
Apron	YES	204	82.9
	NO	42	17.1
Boots	YES	137	55.7
	NO	109	44.3
Goggles	YES	99	40.2
	NO	147	59.8
Gowns	YES	174	70.7
	NO	72	29.3

The use of personal protective equipment by hospital workers is a measure of their practice of occupational safety. This study assessed the use of personal protective

equipment among respondent and found that the most frequently used personal protective equipment was the hand gloves while the least used was goggles as shown in table 4.6.

Table 4.6: Use of personal protective equipment

Type of PPE	Use	Frequency	Percentage (%)
Head Cover	YES	163	66.3
	NO	83	33.7
Hand Gloves	YES	226	91.9
	NO	20	8.1
Face Mask	YES	213	86.6
	NO	33	13.4
Apron	YES	190	77.2
	NO	56	22.8
Boots	YES	116	47.2
	NO	130	52.8
Goggles	YES	73	29.7
	NO	173	70.3
Gowns	YES	141	57.3
	NO	105	42.7

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter discusses the findings of the study in the context of literature reviewed.

5.1 Socio-demographic Characteristics of respondents

The age distribution of 21-30 years constituted the majority of respondents, which indicated a youthful workforce. It also indicated that most of them were matured enough to appreciate the need to take care of their healthcare needs. The finding to the effect that most of them attained diploma level education implied that majority of the study participants were well educated to exercise good judgement and understanding regarding occupational hazards and safety matters. It further suggests that their response to the questions posed in the study were based on a good understanding. Thus, the findings resulting from the analysis of their responses can be relied upon. However, almost half of them have worked for less than one year and this could mean that their experience in terms of exposure to occupational hazards and safety issues in the hospital environment was limited.

5.2 Knowledge and awareness of occupational hazards and safety

The objective of this study was to assess the extent to which healthcare workers were aware of and knew about occupational hazards and safety. General awareness about occupational hazards was very high among all categories of health workers. The study found awareness of occupational hazards and safety to be almost universal among respondents with 92.7% of them reporting awareness of occupational hazards and safety. The level of awareness found in this study was high compared to findings of a study in

Malaysia that assessed the level of occupational hazards knowledge and awareness among hospital workers, which found a general occupational health hazards awareness among health professionals to be 58.0% (Lugah et al., 2010).

Awareness of occupational hazards and safety issues alone is not enough to ensure proper observance of occupational safety measures. Hospital workers need to have good knowledge about occupational hazards and safety. Overall, (90.8%) of people who responded had good knowledge about occupational hazards and safety practices in the workplace, consistent with a findings in Nigeria, which identified that 89% of healthcare workers surveyed had knowledge on hazards existing in their healthcare facilities (Aluko et al., 2016). Also, a study in Malaysia reported 97.3% knowledge level among health professionals (Lugah et al., 2010). This high knowledge of occupational hazards and safety among respondents is encouraging because the occurrence of accidents and injuries is said to be minimal when healthcare workers know the dangers inherent in the work they do as well as the safety measures they needed to deploy during work. The high knowledge shown by respondents could partly be explained by the fact that about half of them said they had attended a workshop on occupational hazards and safety.

In contrast to the high knowledge and awareness level of occupational hazards and safety found in this study, Anisha (2009) and Viragi et al. (2013) found low knowledge and awareness level in their study among healthcare workers in Malaysia. This differences in findings could be due to the fact that Nurses and Dentists only were respondents in Anisha and Viragi et al. studies focused on all healthcare workers.

The fact that the hospital was reported as the major source of knowledge and awareness of occupational hazards and safety implied that issues of occupational hazards and safety were discussed often at the hospital. Post-employment seminars in the hospital was found to be the main source of information on awareness/knowledge of occupational hazards and safety practice in a large hospital in Belgaum city in India (Fasunloro & Owotade, 2004).

In a bivariate analysis between background characteristics of respondents and knowledge and awareness, educational level of healthcare workers was significantly associated with knowledge and awareness, consistent with findings by Aluko et al., (2016).

5.3 Attitude and perceptions about occupational hazards and safety

The analysis of results showed that overall most respondents (83.4%) had positive attitude towards occupational hazards and safety practices and this could be attributed to the high knowledge showed by study participants. It could also be due to the fact that most hospitals have in-service training on occupational hazards and safety in a bid to educate staff to work safely and free from occupational infections and injuries. Most participants believed that occupational hazards and safety issues concerned them, thus, suggesting that most respondents had a sense of shared responsibility as far as occupational hazards and safety issues of the hospital were concerned. They probably acknowledged the fact that they stood the greatest risk of the consequences of poor occupational hazards and safety measures or practices.

Furthermore, this study revealed that majority (97.2%) of respondents appreciated the need to protect themselves during work and this could be due to the finding that most (95.9%) respondents recognized the fact that they could be injured in the hospital in the

course of their work. Additionally, almost all the number of study respondents (97.2%) saw the need for capacity building of staff on occupational hazards and safety through regular and frequent in-service trainings and workshops and this could be indicative of the readiness of respondents to comply with effective occupational hazards and safety measures that may be implemented in the hospital.

5.4 Occupational safety practices

The hospital environment presents various forms of hazards requiring healthcare workers to constantly adopt preventive measures in order to avoid being injured or infected. The availability and use of personal protective equipment by respondents as occupational safety measures were examined in this study. The results showed that most respondents 220 (89.4%) believed there was availability of personal protective equipment to use at the hospital and this was crucial since non-availability of protective equipment constitute a major hindrance to effective observance of occupational safety. It is also worthy of note that most participant (75.2%) believed there was always constant availability of personal protective equipment for use. In terms of accessibility, majority (76.4%) agreed that PPE were always accessible to healthcare staff. These revelations by respondents is quite important considering the fact that constrains in availability and accessibility of protective equipment for use by healthcare workers is said to be a major bane for developing countries (Bemelmans et al., 2011).

The hand gloves were reported as the most available personal protective equipment while the goggles were the least available. This is understandable since hand gloves are frequently used protective equipment by all cadre of healthcare workers and in almost all clinical procedures compared to goggles which are used for eye protection and only

required in certain kind of clinical procedures. It could also be due to the fact that the goggles are always not commonly displayed but are only brought out for use when needed compared to the hand gloves which are always conspicuously displayed all the time.

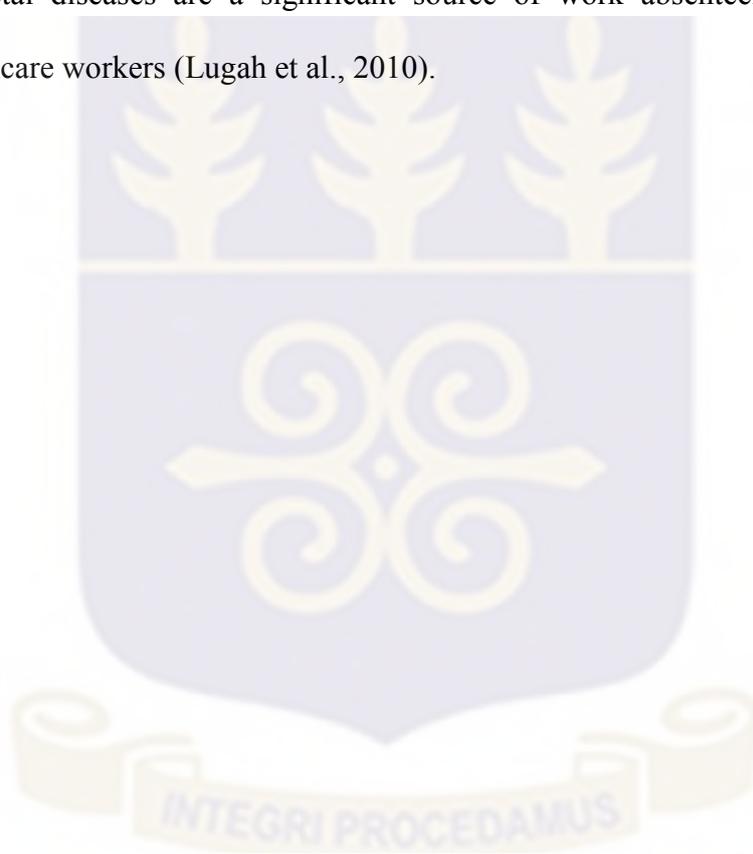
Moreover, availability and accessibility of PPE per se is not indicative of usage and healthcare workers are not protected from occupation hazards unless they use personal protective equipment. The extent of usage of PPE was also examined and the findings revealed that hand gloves (91.9%) was still the most used PPEs by healthcare workers. This observation is good since wearing of hand gloves protects the healthcare worker from contact with infectious body fluids of patients thereby limiting the potential infections transmission. This finding is supported by studies in Ethiopia which reported that wearing of hand gloves was prominent among healthcare workers and is a crucial occupational safety practice in preventing infection transmission (Tesfay & Habtewold, 2014). Aluko et al (2016) also found that in their study, wearing hand gloves for routine clinical procedure was practiced by 279 (96.2 %) respondents.

5.5 Prevalence of occupational injuries and infections

Six (6) respondents had been exposed to dangerous pathogens. Four (4) said they acquired *M. tuberculosis*, one (1) HIV and another, one (1) Hepatitis B infection. However many more said they had been exposed to other infections. Any infection acquired at a hospital is serious, and steps must be taken to achieve zero infectivity. This suggests some laxity in safety measures or use of PPEs by these healthcare workers and thus indicative of lapses in adherence to occupational safety measures. This could also be attributable to the accidental needle prick injuries reported as the second highest occupational injury among study respondents. Sharp related injuries and stress were the major health related hazards

experienced by healthcare workers (Nsubuga & Jaakkola, 2005; Ziraba et al., 2010; de Castro et al., 2009).

With respect to ergonomic injuries, back pain emerged prominent among respondents. This finding points to improper ergonomic practices during working periods and this is corroborated by a study in Malaysia which revealed that awareness of ergonomics and its definition among the hospital worker is quite low (39.1%). It is worrying as musculoskeletal diseases are a significant source of work absenteeism and disability among healthcare workers (Lugah et al., 2010).



CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Summary

The objective of the study was to examine occupational hazards and safety practices among hospital workers at the Greater Accra Region hospital, Ridge. The study employed a cross-sectional design using quantitative method. A structured questionnaire was used to collect data from 246 respondents. The data collected was cleaned, coded and entered into Microsoft Excel and exported into STATA version 14 for analysis.

6.1 Conclusion

The study found high level of awareness and knowledge about occupational hazards and safety among healthcare workers. The hospital was the main source of knowledge and awareness on occupational hazards and safety. Educational level of respondents was found to be significantly associated with knowledge and awareness about occupational hazards and safety. The study established that respondents had a positive attitude towards occupational hazards and safety. However there was significant prevalence of occupational injuries and illnesses among the hospital workers in this study.

6.2 Recommendations

The following recommendations were made for consideration by policy makers, policy implementers and researchers:

6.2.1 Government

Government acting through the ministry of education and ministry of health, should develop and implement policies aimed at incorporating occupational hazards and safety

trainings in the various healthcare training institutions across the country. This will ensure that health professionals acquire knowledge of occupational hazards and safety before they are deployed to the hospital level to work.

The Ghana Health Service should develop strategies to implement formulated policies on occupational hazards and safety to ensure that healthcare facilities adhere to strictly to effective occupational safety measures. The healthcare facilities should constantly train and re-train staff in occupational safety practices. Protocols should also be developed at the hospital level to guide healthcare workers in following effective occupational safety measures during work.



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APPENDICES

Appendix A: Participant's Consent Form

School of Public Health
College of Health Sciences
University of Ghana

Research Topic: Occupational hazards and safety practices among hospital workers at Greater Accra Regional Hospital, Accra

Principal investigator: Ernest K.P. Nyame-Annan

General information about the research

My name is Ernest P. Nyame-Annan a student pursuing Masters in Public Health in the School of Public Health, University of Ghana. I am the principal researcher in this study and together with my research assistants we are conducting a study on occupational hazards and safety practices among hospital workers at the Greater Accra Regional Hospital.

The study is purely an academic exercise and it forms part of the researcher's work towards the award of a Master's in Public Health.

I warmly invite you to take part in this academic study. We would like you to read this consent or let someone read it to you to guide you in making your decision.

Possible Risk

There is no possible risk associated with this study but we anticipate some discomfort during the interview process given the sensitivity of some of the questions. You may feel

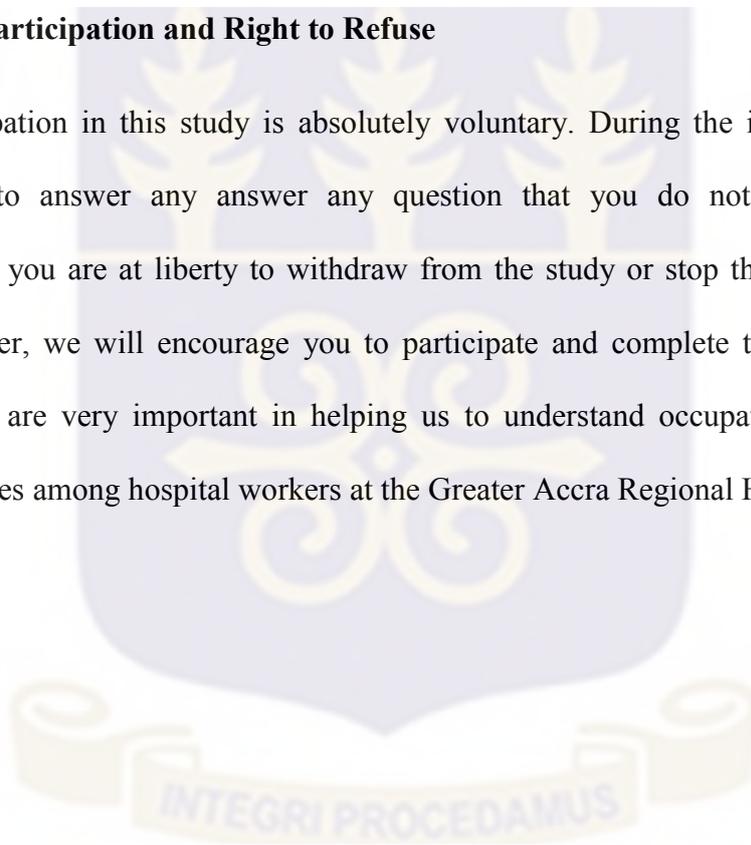
uncomfortable answering those questions or you may not know the answer to a particular question. You are free to skip any questions you are not comfortable answering.

Possible Benefits

There is no direct benefit to the participants of this study. However, the information you will provide will contribute to the overall knowledge on occupational hazards and safety practices at health facilities.

Voluntary Participation and Right to Refuse

Your participation in this study is absolutely voluntary. During the interview, you can choose not to answer any answer any question that you do not want to answer. Additionally, you are at liberty to withdraw from the study or stop the interview at any time. However, we will encourage you to participate and complete the questions since your options are very important in helping us to understand occupational hazards and safety practices among hospital workers at the Greater Accra Regional Hospital.



Confidentiality

Every single information you provide will be held in absolute confidence and data collected in this study are strictly for research purposes and will be stored with passwords on electronic media and in safely locked boxes. Access to the data will be limited strictly to the researcher and supervisor. Anonymity will be ensured in dissemination of findings from this study since participants will not be identified by their names.

Ethical Approval

The study has been reviewed and approved by the Ghana Health Service Ethical Review Committee (GH-ERC). This committee is there to ensure that participants in researches are protected from harm and their rights are respected.

Participant's Consent Form

I hereby declare that the above document describing the purpose, procedure as well as risks and benefits of the research titled "Occupational hazards and safety practices among hospital workers at Ridge regional hospital in Accra" has been thoroughly explained to me in English/Ga/Twi language. I have been given the opportunity to ask any question about the research which have been answered to my satisfaction. I hereby voluntary agree to participate as a subject in this study.

(Participant's Signature or Thumbprint)

_____/_____/____

(Date)

If the participant cannot read the form themselves, a witness must sign here.

I, _____ was present while the purpose, procedures as well as the risks and benefits were read to the participant. All

questions were answered and the participant has voluntarily agreed to participate as a subject in this study.

(Witness Signature or Thumbprint)

_____/_____/_____

(Date)

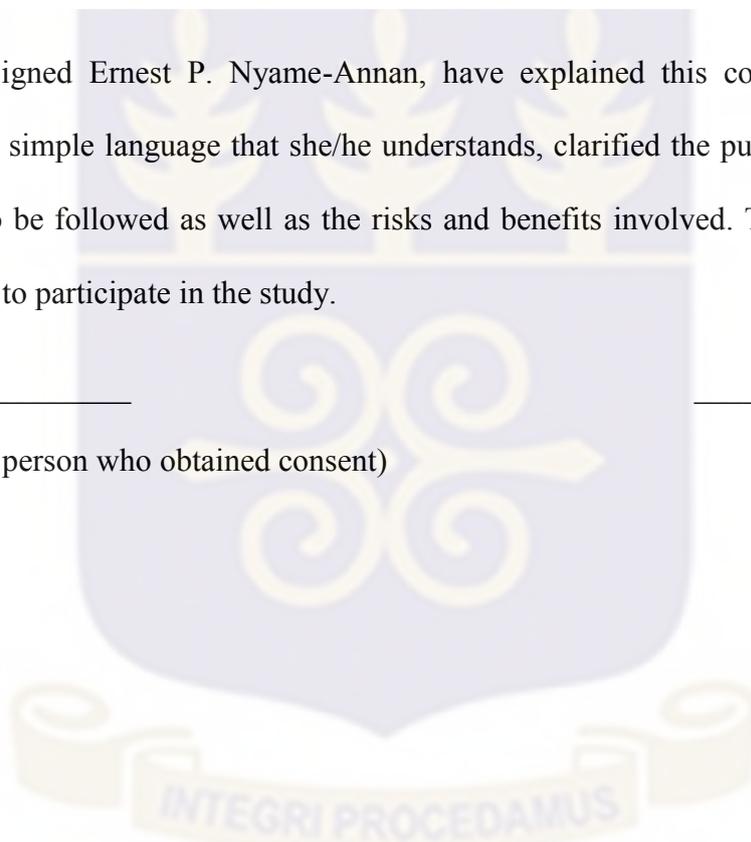
Interviewer's Statement and Signature

I, the undersigned Ernest P. Nyame-Annan, have explained this consent form to the participant in simple language that she/he understands, clarified the purpose of the study, procedures to be followed as well as the risks and benefits involved. The participant has freely agreed to participate in the study.

(Signature of person who obtained consent)

_____/_____/_____

Date



Contact for Additional Information

If you have any questions about the study later, you may contact: (Ernest P. Nyame-Annan, Tel: 0244535671, E-mail:epna@post.com)

Your Right as a Participant

If you have any questions about your rights as a research participant, you can contact the Ghana Health Service Ethical Review Committee at the following address:

Hannah Frimpong

GHS-ERC Administrator

GHS-Ethical Review Committee

Research and Development Division

Ghana Health Service

P. O. Box MB 190

Accra-Ghana

Office: 233(0)243235225 / 0507041223

Email: Hannah.Frimpong@ghsmail.org



Appendix B: Questionnaire

Questionnaire on Occupational hazards and safety practices among hospital workers at the Greater Accra Regional Hospital.

Serial No.....

This questionnaire is to collect data on knowledge, attitude and perception about occupational hazards and safety practices among hospital workers at Ridge hospital. I will be grateful if you could make time to complete it. Every piece of information will be held in absolute confidence.

Thank you

Date.....

Interviewer.....

Please fill in the blanks and mark (√) unless otherwise indicated.

SECTION 1: SOCIO-DEMOGRAPHIC DATA

1. What is your gender? Male Female
2. Age (As at last birthday) a. 15-19 b. 20-29 c. 30-39 d. 40-49 50-59
60 above
3. Educational level a. Tertiary b. Secondary c. JHS d. Primary e. None
4. What is your profession?
5. Which department?

6. How many years have you been working in this facility?

Less than 1 year 1-5 years 5-10 years 10-15 years 15-20 years

More than 20 years

7 Religion: a.Christian b.Muslim c. ATR d. Others

SECTION 2: KNOWLEDGE OF OCCUPATIONAL HAZARDS AND SAFETY

8. Have you heard about occupational health and safety before? Yes No

9. From what source? a. Radio b. Television c. Hospital d. Friends e.

Posters/banners f. Newspapers/Magazines

10 . Occupational hazards refer to all workplace activities that have the potential to cause/increase the risk of injury or ill health TRUE FALSE

11. Occupational safety is the control of hazards in the health facility to reduce risk. TRUE FALSE

12 . Workplace safety generally refers to the process of protecting the health and safety of workers while on the job,. TRUE FALSE

13 . Have you ever acquired any infection from the facility before? Yes No

14. Which type of infection? TB HIV Hepatitis

Others:.....

15. How did you treat the infection?

Self medication Medical attention others:.....

16. Have you been injured at the facility before?

17. What type of injury?

Needle prick Back pain Leg injury Others.....

18. How did you manage the injury?

Self medication Medical attention others.....

19. Have you attended any workshops/ training on occupational health and safety?

Yes No

20. How would you rate your current knowledge of occupational hazards in the facility?

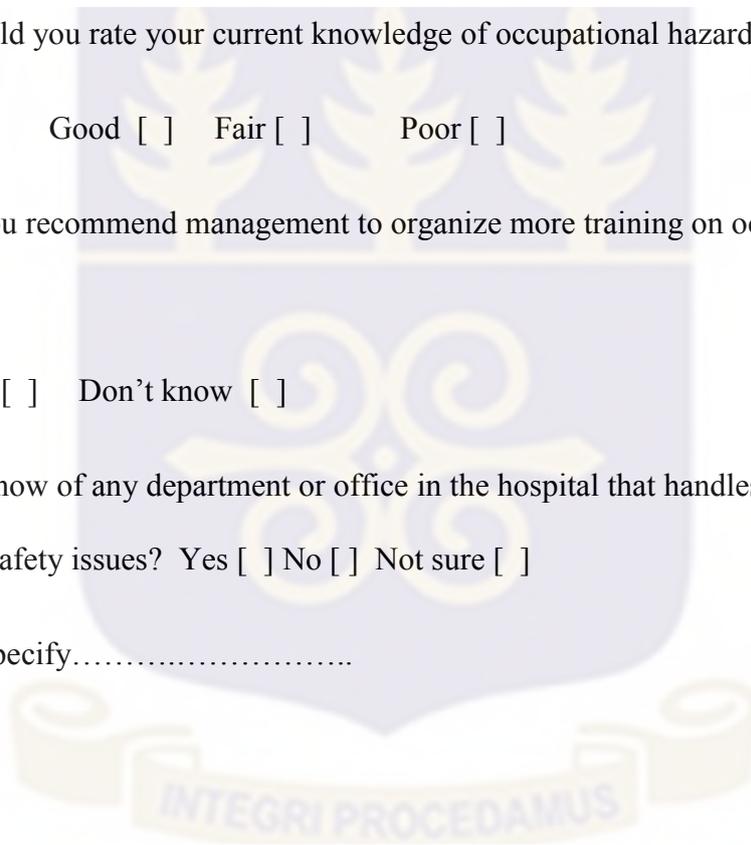
Excellent Good Fair Poor

21. Would you recommend management to organize more training on occupation health and safety?

Yes No Don't know

22. Do you know of any department or office in the hospital that handles any occupational hazards and safety issues? Yes No Not sure

23. If yes , specify.....



SECTION 3: ATTITUDE AND PERCEPTIONS ABOUT OCCUPATIONAL HAZARDS AND SAFETY

24 . Occupational hazards and safety matters should concern me as a health care worker?

Yes [] No []

25 . The hospital environment poses danger to me as a worker? Yes [] No []

26. I need to protect myself at all times while at the hospital? Yes [] No []

SECTION 4: SAFETY PRACTICES AND USE OF PERSONAL PROTECTIVE EQUIPMENT

27 . Do you have protective equipment to use in your facility ? Yes [] No []

28 . Do you use personal protective equipment when working all the time ? Yes [] No []

Sometimes []

29. Which of the following PPE are available for your use?

Type of PPE	Yes=1	No=2
Head cover		
Hand gloves		
Nose/Mouth mask		
Apron		
Boots		
Protective Goggles		
Protective garment		

30. Which of the following PPE do you use at work?

Type of PPE	Yes=1	No=2
Head cover		
Hand gloves		
Nose/Mouth mask		
Apron		
Boots		
Protective Goggles		
Protective garment		

31 . Which personal protective equipment do you use most often? Please list

.....

.....

32. Are there personal protective equipment always available for use? Yes [] No []

33. Are the personal protective equipment easily accessible for use? Yes [] No []

Any additional information

.....

.....

.....

