UNIVERSITY OF CAPE COAST

WORK PRACTICES OF MORTUARY ATTENDANTS IN SEKONDI-TAKORADI METROPOLIS: THE ROLE OF HEALTH AND SAFETY GUIDELINE OF THE MINISTRY OF HEALTH, GHANA

GODWIN AGBEY YAO DUMAHASI

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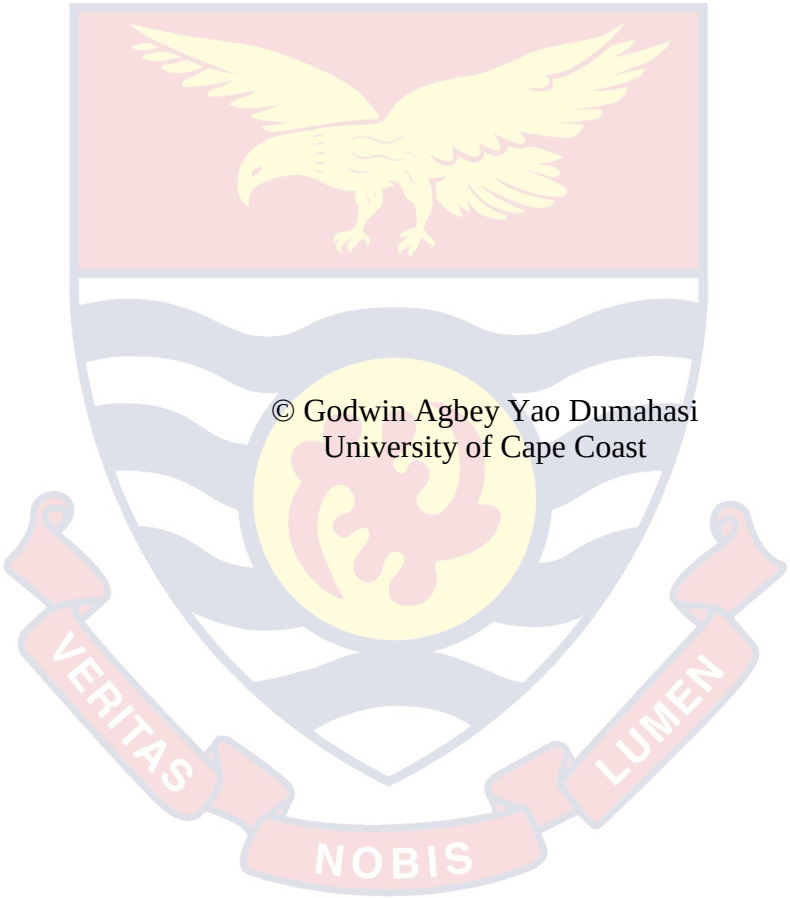

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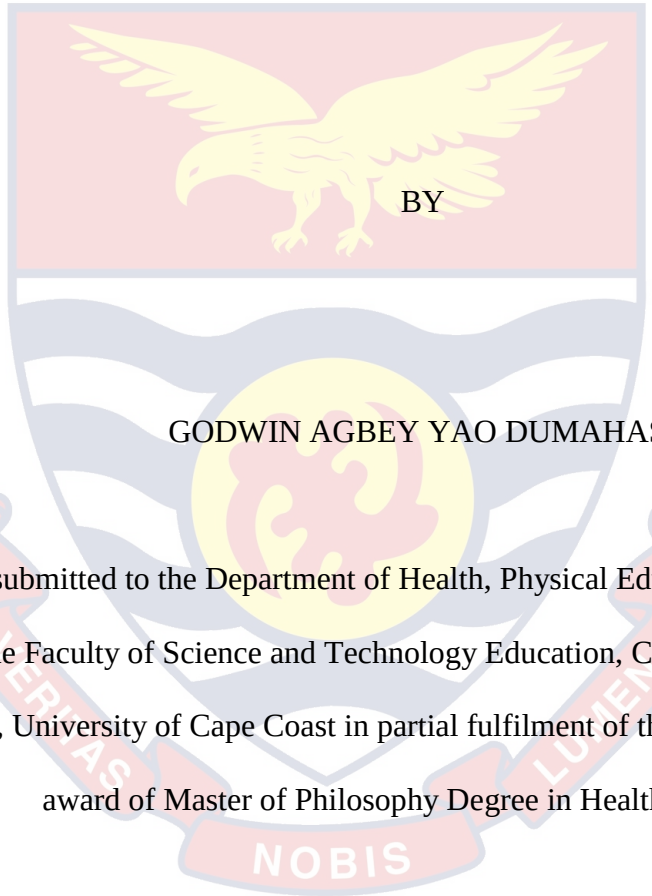

BY

GODWIN AGBEY YAO DUMAHASI

Thesis submitted to the Department of Health, Physical Education and Recreation of the Faculty of Science and Technology Education, College of Education Studies, University of Cape Coast in partial fulfilment of the requirements for the award of Master of Philosophy Degree in Health Education

JUNE 2020

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature …….. Date……

Name: Godwin Agbey Yao Dumahasi

Supervisor's Declaration

I hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature:…….…… Date:……..

Name: Dr. Edward Wilson Ansah

ABSTRACT

Mortuary Attendants (MAs) have 100-200 times greater chance of experiencing unknown threats while processing dead bodies (Chui, Chong, Chong, & Wagener, 2007). Therefore, there is the need to protect them from these threats. The purpose of this study was to explore how the Occupational Health and Safety (OHS) Policy Guideline of Ministry of Health (MoH) was influencing the work practices of MAs in the Sekondi-Takoradi Metropolis (STM). A descriptive qualitative method was used to study the MAs. Three purposively sampled mortuary facilities (Effman's Clinic, Takoradi Hospital, Western Regional Hospital), with a total population of 37 participants were studied. They included all the 16 MAs and 21 Senior Hospital Officers as key informants on safety issues at the morgues. A researcher-generated interview guide, Botha's Interview Guide, and an adapted mortuary assessment checklist were used to collect data. Qualitative content analysis was used to analyse data, reporting the data verbatim and organising it under themes based on the research objectives. The results revealed low awareness and knowledge among MAs about the OHS Policy Guide of MoH. Also, MAs in STM reported many health and safety hazards, which may adversely affect their health conditions, especially at long-term. Further, managers of health facilities in STM have not provided enough structures towards improving safety working environment for MAs. Health managers in STM are entreated to increase the provision of Personal Protective Equipment to MAs and intensify monitoring and supervision of mortuary facilities.

KEY WORDS

Accident

Compliance

First Aid

Hazard

Incident

Mortuary Attendants

Personal Protective Equipment (PPEs)

Risk

Workplace

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I am grateful to all my friends and family members who contributed diversely towards my MPhil studies. I thank the senior hospital officers of the Western Regional Hospital, Takoradi Hospital, and Effman's Clinic who permitted and assisted me in conducting this study at their mortruary facilities in Sekondi-Takoradi Metropolis in the Western Region. To the mortuary attendants, thank you for answering my instrument and making my second degree a reality.

DEDICATION

To my mother, Katherine Adzo Adobor, and my brother, Noah Dumahasi

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LIST OF ACRONYMS

Abbreviation	Full Meaning
EC	Effman's Clinic
EPA	Environmental Protection Agency
EVD	Ebola Viral Disease
IPC	Infection Prevention and Control
ILO	International Labour Organisation
MA	Mortuary Attendant
MSD	Musculosketal Disorders
MoH	Ministry of Health
NHIA	National Health Insurance Authority
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
SARS	Severe Acute Respiratory Syndrome
STM	Sekondi-Takoradi Metropolis
TH	Takoradi Hospital
UDHR	Universal Declaration of Rights
WHO	World Health Organisation
WRH	Western Regional Hospital

CHAPTER ONE

INTRODUCTION

Occupational Health and Safety (OHS) has long assumed international concern and remained a significant area of focus for labour experts (Lehtinen & Oronen, 2009; WHO, 2001). Globally, work-related accidents or diseases alone account for the death of a worker in every 15 seconds, with additional 153 workers suffering work-related accidents (International Labour Organisation [ILO], 2017). Studies show that workers all over the world, regardless of the industry, occupation or job task, are exposed to work-related health hazards, especially in modern work environments (Pouliakas & Theodossiou, 2010a). Specifically, healthcare workers have been identified as being exposed to high levels of work-related hazards and diseases such as the Severe Acute Respiratory Syndrome (SARS), Ebola Viral Disease (EVD), and the Covid-19 pandemic (Brooks et al., 2020; Ghana Health Service (GHS), 2020; Ministry of Health [MoH], 2010). Even within the healthcare setting, mortuary attendants are particularly confronted with high levels of work-related risks because of poor environmental health and safety practice issues. The mortuary environment is prevalent with cancer causing agents, circulatory diseases, and fatal occupational injuries (Litana & Kapambwe, 2017). However, most developing nations including Ghana are yet to implement a comprehensive national Occupational Health and Safety policy. Ghana has some few legislations and individual sector-based policies on the subject, though fragmented and lack comprehension (Anaman & Osei, 2007).

Background to the Study

Health is an inalienable right and is at the heart of human progress. It controls whether or not children can attend school, parents can work to support the family, infants can grow and thrive, and women can survive childbirth (The Global Health Initiative Strategy [GHIS], 2010). Thus, all human beings have the right to a standard of living adequate and appropriate for their health and well-being and that of their families. These may include healthcare and essential social services, and the right to security in case of old age, unemployment, disability, sickness, widowhood (Universal Declaration of Human Rights [UDHR], 1948-1998). Therefore, ensuring complete and productive employment and decent job for everyone is key to achieving the Sustainable Development Goals, goals 8 in 2030 (ILO, 2020). A healthy employee with a decent work environment will by far be more efficient and productive than one that is unhealthy and confronted with poor work conditions (ILO, 2017). Safety of workers in a business model is not just the protection and well-being of the workers. It is estimated that each year 2.78 million workers die from occupational accidents and work-related diseases (of which 2.4 million are disease-related) and an additional 374 million workers suffer non-fatal occupational accidents (ILO, 2019a).

Also, Hämäläinen, Takala, and Kiat (2017) estimated that 2.78 million work-related deaths occurred annually across the world, which is higher than the 2.33 million deaths estimated in 2014. Work-related mortality accounted for 5% of the global total deaths and the biggest share of work-related mortality came from work-related diseases which accounted for 2.4 million (86.3%) of the total

estimated deaths. Fatal accidents accounted for the remaining 13.7% (Hämäläinen et al.). For example, cancer was ranked the number one main cause of work-related fatalities, followed by circulatory diseases, with accidental but fatal occupational injuries coming third. The danger here lies in the fact that workers with the potential for long working careers ahead of them are the most impacted (ILO, 2003a). These findings exclude data from most developing countries, especially Africa with no reliable data on OHS (ILO). The connection between work exposure and injury is usually clear, in contrast to many occupational diseases where the cumulative effects of occupation may coexist and interact with many other causative factors (Wagstaff & Sigstad Lie, 2011). The secondary effects of workplace accidents to third-parties (e.g. transport passengers, hospital patients, or the general public) increase the importance of preventing occupational accidents (Wagstaff & Sigstad Lie).

According to Chang, Xu, Rebaza, Sharma and Cruz (2020) and WHO (2020), health-care workers face an elevated risk of exposure to infectious diseases, including the novel coronavirus (Covid-19). It is therefore imperative to ensure the safety of healthcare workers not only to safeguard continuous patient care but also to ensure they do not transmit these infections. According to WHO, 8,098 cases and 774 (9·6%) deaths occurred during the SARS outbreak in 2002, of which health-care workers accounted for 1,707 (21%) cases. Litana and Kapambwe (2017) also described healthcare facilities as arguably one of the most hazardous working environments. Skin contact with infectious fluids (through mucous membrane, broken skin) and droplet aerosols from patients render health

personnel laible to contract contagious diseases like tuberculosis, hepatitis, and Human Immunodefiency Virus (HIV) among many others. Exposure to physical hazards from repetitive lifting and moving, threats of violence, and chemical risks are daily experiences of healthcare workers (Almost et al., 2018).

Muchiri (2003) attributes the ineffective enforcement and inspection of occupational health and safety services in most African countries to: (i) the general lack of adequate information, (ii) lack of comprehensive OHS policy, (iii) insufficient number of qualified occupational health and safety practitioners, and (iv) poor infrastructure and funding. Furthermore, adherence to OHS practices in the health sector in sub-Saharan Africa has been poor (Muchiri). Since hospitals are made up of both caregivers and patients, effective OHS practices do not only benefit the workers but also impacts positively on the health outcomes of patients (Muchiri).

In all organisations, there are categories of workers particularly at risk of OHS related diseases and injuries. Mortuary attendants are one such group of health-care personnel that receive little or no attention from employers even though their working environments expose them to great danger (Litana & Kapambwe, 2017). Employers either take for granted or totally ignore the safety concerns of these employees and thus leaving them in harm's way (Litana & Kapambwe). Toheeb (2012) also revealed that health-care managers in most African countries hardly pay attention to the health and safety concerns at the morgue. Toheeb explained further that inertia and resistance to change account for the sluggish response to OHS concerns at the morgue. Sirengo (2014) found that

electric shock and fires, back, neck and arm pains were common hazards at the mortuary workers. These pains were associated with the carrying of heavy loads and bodies, and improper working postures. Accordingly, other OHS concerns like noise from wailing relatives of the deceased and screeching sound when dragging cold trays, depression resulting from exposures to hazards, tension in handling some types of bodies and in dealing with emotionally weary relatives of the deceased physiological symptoms like diarrhoea due to poor hygienic conditions of the morgue were very common among mortuary attendants (Sirengo).

Respect for the dead is a value deeply ingrained in all societies, cultures and religions (Government of Ireland, 2013). This respect should not be compromised when a person dies from an infectious disease. However, it can be difficult to balance respect for the deceased person with the health and safety of those who come into contact with the body. Accordingly, significant number of infections may not have been readily identified before death and for this reason safety standards must be adopted for the handling of all dead bodies. Some infectious diseases, such as the Coronavirus, mutate into new strands and thus become difficult to manage (WHO, 2020). While there exists a large body of evidence with regard to infection control in the living, very little evidence exists that is pertinent to handling of the deceased (Government of Ireland).

Receipt of bodies, storage, and release of same and their properties effectively, safely, efficiently, securely, and appropriately expose mortuary attendants to huge health hazards including physical, chemical, and radiation risks

(Okoth-Okelloh et al., 2013). Mortuaries are uniquely designed and sited to reflect their core functions which include: (i) the receipt and storage of bodies, (ii) performing post-mortem, (iii) demonstration of findings from post-mortem in cases of clinical interest or teaching purposes, (iv) accommodating visiting relatives, and (v) provision of a section for viewing and identification of dead bodies (Okoth-Okelloh et al.). Litana and Kapambwe (2017) argue that bacteria and viruses provide sufficient risk of infection in mortuaries, mainly in high risk autopsies and when there is spillage of body fluids from cadavers resulting in direct contact. The morgue has always been a potential source of infection and persons engaged directly or indirectly in conducting procedures on dead bodies are at greater risk of exposure to blood-borne viruses (Sagoe-Moses, Pearson, & Jagger, 2001).

The human immunodeficiency virus, hepatitis B, hepatitis C, hepatitis D and G viruses, tuberculosis, Creutzfeldt Jakob disease, herpes, hantavirus pulmonary syndrome, smallpox, human T-cell lymphotropic virus type I and infections from other pathogenic organisms are but some of the blood-borne viruses mortuary attendants are exposed to (Riddell & Sherrard, 2000; Sagoe-Moses, Pearson, & Jagger, 2001). The increasing need for mortuary services, especially in sub-Saharan Africa, has stretched the OHS problems of mortuary attendants to the brink. In the face of limited resources and competing priorities, key stakeholders in the mortuary industry are unable to adequately resource this area of health service (Okoth-Okelloh et al., 2013). Sirengo (2014) observed that the mandate of hospitals is to ‘‘save lives’’, or at least ‘‘delay death’’. The stuck

reality, however, is that people are dying from all sort of diseases, daily, and that puts a strain on mortuary facilities.

Following the global spread and escalation of the Covid-19 disease and its declaration as a global pandemic by WHO, the organisation charged health managers of member countries to, as a matter of urgency: (i) assume overall responsibility and ensure that all necessary preventive and protective measures are taken to minimize occupational safety and health risks, (ii) provide information, instruction and training on occupational safety and health, including refresher training on infection prevention and control (IPC), and use, put on, take off and dispose of personal protective equipment (PPE), and (iii) provide adequate IPC and PPE supplies (masks, gloves, goggles, gowns, hand sanitizer, soap and water, cleaning supplies) in sufficient quantity to health-care or other staff (WHO, 2020). Realising the gap in preparation, following the outbreak of the deadly Covid-19 diseases in Ghana, mortuary attendants threatened to lay down their tools as they felt exposed to the disease (Coronavirus: Mortuary workers to boycott dead bodies, 2020; Mortuary workers to lay down tools, 2020). The Mortuary Workers Association of Ghana (MOWAG) criticised management of health facilities for not giving their workers any training and that they lack relevant PPEs to deal with the Covid-19 deceased (Coronavirus: Mortuary workers to boycott dead bodies; Mortuary workers to lay down tools).

Ghana, over the years, has been plagued with numerous workplace accidents in both formal and informal sectors of the economy (Ansah, 2017). In 2018, Ghana recorded 36 cases of occupational accidents of which 13.9% were

fatal and 86.1% non-fatal (Ministry of Employment and Labour Relations, 2019). It must be understood that most work-related accidents in Ghana, as is the case in most developing countries, remain largely unreported (Ministry of Employment and Labour Relations) and such accidents occur in many sectors including industries, commerce, education, and health. This excludes figures from the informal sector. However, addressing these OHS challenges remains problematic because of lack of national policy and commitment of governance and employers.

Ghana has a number of legislations/laws on OHS, albeit scrappy and narrow in scope and content. Some of these legislations/laws include: (i) C045 - Underground Work (Women) Convention, 1935 (No. 45), ratified on 20th May, 1957; (ii) C115 - Radiation Protection Convention, 1960 (No. 115), ratified on 7th November, 1961; (iii) C119 - Guarding of Machinery Convention, 1963 (No. 119), ratified on 18th March, 1965; (iv) C120 - Hygiene (Commerce and Offices) Convention, 1964 (No. 120), ratified on 21st November, 1966; (v) C148 - Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (No. 148), ratified on 27th May, 1986; (vi) C184 - Safety and Health in Agriculture Convention, 2001 (No. 184), ratified on 6th June, 2011; (vii) Persons with Disability Act, 2006 (Act 715); (viii) Workmen's' Compensation Act 1987 (PNDCL 187); (ix) Factories, Offices and Shops Act, 1970 (act 328); (x) Civil Liability Act, 1963 act 176; (xi) Labour Act, 2003. Act 651; and (xii) the Mortuaries and Funeral Facilities Act, 1998 (Act 563) (Anaman & Osei Asamoah, 2007).

To deal with some of these inefficiencies and protect health sector workers, and for the essential role played by the health sector, the Ministry of Health (MoH), Ghana, developed and started implementing a guideline on OHS for the health sector. The policy guideline provides that MoH commits to the creation of safe work places that promote health and safety practices and which seek to prevent the incidence of hazards related to job and the work environment, reduce exposure and alleviate impact of hazards as much as rationally practicable (MoH, 2010). It mandates health managers especially, and their subordinates to support full implementation of the policy in line with their functions and obligations. Among its 10 broad policy objectives is the demand on health-care managers to promote a safe and healthy work environment, work practices, and procedures for all staff of the health sector in order to minimize work-related injuries and illnesses (MoH).

Statement of the Problem

The global outbreak of the Covid-19 disease and its effects on the health systems of affected countries (WHO, 2020), and the outbreak of other highly infectious diseases such as the three haemorrhagic fevers (Ebola, Lassa and Dengue) in West Africa pose a great threat to Ghana (WHO, 2019). Between 2014-2016, West Africa experienced a major outbreak of Ebola virus disease (formerly known as Ebola haemorrhagic fever) (WHO, 2019), affecting countries like Guinea, Sierra Leone and Liberia (WHO, 2019). In addition, between April – July, 2017, Côte d'Ivoire experienced an outbreak of dengue fever, and in January, 2019, West Africa experienced the largest outbreak of lassa fever in

countries such as Nigeria, Benin, Guinea, Liberia and Togo (WHO, 2017; 2019). The current Covid-19 pandemic has stretched the health systems of affected countries, including Ghana, to the brink of collapse (Ghana Health Service, 2020; WHO, 2020). Considering the epidemiological trends of these diseases and their impact on countries with weak health systems, including Ghana, WHO called on health managers to take urgent steps to protect the health and safety of health workers.

Given the location of Sekondi-Takoradi Metropolis and the human activities across the Ghana-Côte d'Ivoire border, there is a need to strengthen OHS standards in mortuaries and safety practices of the attendants within the metropolis. My personal experiences show that hospitals within the Sekondi-Takoradi Metropolis receive patients and dead bodies from nearby countries including Côte d'Ivoire and Liberia, and this could potentially expose MAs to infectious diseases. There also seem to be no available evidence of any study evaluating the MoH guideline against the work practices of MAs in Ghana. This gap could potentially place MAs in a situation where their health and safety needs may not be adequately addressed.

Purpose of the Study

The purpose of study was to explore how implementation of the Occupational Health and Safety Policy Guideline of MoH was influencing the health safety conditions at the mortuaries and the work practices of mortuary attendants in the Sekondi-Takoradi Metropolis.

Research Objectives

The following are the objectives of the study:

1. To explore the knowledge of mortuary attendants in Sekondi-Takoradi Metropolis on the MoH's OHS guidelines.
2. To determine the health and safety challenges associated with mortuary work, as perceived by the mortuary attendants in Sekondi-Takoradi Metropolis.
3. To examine the safety measures provided for mortuary attendants by hospital managers in the Sekondi-Takoradi Metropolis.
4. To determine the safety practices amongst mortuary attendants in Sekondi-Takoradi Metropolis.

Significance of the Study

Lapses in the OHS practices at the morgue would not only affect mortuary attendants but could potentially expose staff of other units of the hospital to "mortuary borne diseases". The introduction of the MoH's OHS Policy Guide in 2010 is meant to protect health and ensure safety of all healthcare workers but there seem to be no available evidence of any study evaluating the MoH guideline against the work practices of mortuary attendants in Ghana. Findings of this study will therefore: (i) help re-focus attention of hospital managers to the OHS concerns of mortuary attendants in hospitals in the Sekondi-Takoradi Metropolis, (ii) provide a useful framework for possible policy formulation and review, (iii) be a significant addition to existing knowledge on the subject, (iv) provide the basis for future research on the subject.

Delimitation

The study was delimited to MAs and selected senior hospital officers of health facilities with mortuaries located in the Sekondi-Takoradi Metropolis in the Western Region of Ghana.

Limitations

The participants (mortuary attendants) and senior hospital officers of Western Regional Hospital, Takoradi Hospital, and Effman's Clinic used in this study were selected purposively. The purposive sampling procedure limited the generalizability of the research findings.

Definition of Terms

Accident: An unintended, undesired or unplanned incident resulting in, or could have resulted in, injury, ill-health, death, damage or exposure to one or more persons or substance(s) (Phoenix Health and Safety [PHS], 2018; Victoria State Government [VSG], 2020).

Compliance: Meeting requirements of applicable legislation, regulations, industry standards, guidelines, codes of conduct, code of ethics and organisational policies (VSG, 2020).

First Aid: Aid or treatment provided to one or more persons who suffer injury or illness. This aid/treatment is usually minor in nature or given until medical aid can be provided (VSG, 2020).

Hazard: It is a potential source of harm, injury, ill-health, loss or damage to a person or persons, property and the environment (Health and Safety Authority [HAS], 2020; PHS, 2018; VSG, 2020).

Incident: An event that has led to or could have led to an injury. Incidents include near misses, accidents, and injuries (VSG, 2020).

Mortuary Attendants, MAs: Include all who work at mortuary facilities in the Sekondi-Takoradi Metropolis.

Personal Protective Equipment (PPEs): All devices or appliances designed to be worn or held by an individual for protection against one or more health and safety hazards, e.g. safety helmets, gloves, goggles, safety footwear, coveralls, aprons (HSA, 2020).

Risk: The likelihood of harm arising from exposure to any hazards and the consequence of that harm (HSA, 2020; VSG, 2020).

Workplace: A place, whether or not in a building or structure, where employees or self-employed persons work e.g. school, regional office, camp etc (VSG, 2020).

Organization of the Study

The study was organized under chapters one, two, three, four, and five. Chapter one, the introduction, dealt with background of the study, statement of the problem, purpose of the study, research objectives, significance of the study, delimitations, limitations, and definitions. Chapter two reviewed related literature under the following variables; increasing attraction to mortuary work, awareness about health and safety hazards at the morgue, exposure to chemicals and biological hazards, exposure to physical strain, vaccination against diseases, training and level of education, exposure to psychological hazards, implementation of universal precautions for formaldehyde exposure and related

ventilation. The chapter also dwelled on the concept of occupational health and safety, occupational health and safety concerns at the morgue, overview of occupational health and safety in Ghana, the occupational health and safety policy guideline of the MoH, the environmental impact assessment guidelines for the health sector of Ghana, and theoretical framework of occupational health and safety. Chapter three, the methodology, focused on research design, study area, population, and sampling procedure used in the study. The data collection instruments, data collection procedures, and data processing and analysis also form part of the chapter three. Chapters four and five were composed of the results and discussion, summary, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

The purpose of this study was to explored how implementation of the Occupational Health and Safety Policy Guideline of MoH is influencing the health safety conditions at the mortuaries and the work practices of mortuary attendants in the Sekondi-Takoradi Metropolis. This chapter presented the review of related literature. Literature for this study was organised around the following themes:

1. Overview of the concept of occupational health and safety
2. Occupational health and safety concerns at the morgue
3. Some concepts in occupational health and safety
    i. Hazardous working conditions
    ii. Physical agents
    iii. Chemical agents
    iv. Ergonomic conditions
    v. Working time arrangements
    vi. Workplace violence and psychological conditions
    vii. Musculoskeletal disorders (MSDs)
    viii. Psychosocial health problems
    ix. The concept of prevention
4. Overview of occupational health and safety in Ghana
5. The Occupational Health and Safety Policy Guideline of the Ministry of Health, Ghana

6. The Environmental Impact Assessment Guidelines for the Health Sector of Ghana
7. Theoretical framework of occupational health and safety

i. Compensating Wage Differentials (CWDs) theory

ii. The theory of Sub-Optimal Allocation of Job Market risk

8. Empirical analysis of related studies
9. Conclusion

Overview of the Concept of Occupational Health and Safety

The National Institute of Occupational Safety and Health [NIOH] (1997) argues that OHS dates back to the era of Industrial Revolution, the late 18th to 19th century, characterised by innovations such as the iron founding, cotton spinning and textiles, and steam engines. This period saw the advent of cotton mills, iron industries and semi-automated factories, which formed the foundation base for the Industrial Revolution. Notwithstanding the economic development associated with the Industrial Revolution, its negative impact on lives and limbs, that is the health and well-being of employees in the factories and industries, was significant (NIOH). Workers were exposed to dangerous gasses, acids, toxins, extreme heat and cold temperatures, sound and light which seriously impacted on their physical, psychological health, and social well-being. The consequences were so significant that it generated a global scholarly inquest of leading thinkers of the time, who reasoned that issues of industrial health and hygiene must be dealt with (NIOH).

One such study was on the impact of industrial metals and chemical

compounds on human beings by Alice Hamilton, an American toxicologist, physician and educator. Hamilton became famous for her pioneering works involving industrial diseases and hygiene. Notable among her publications were 'Exploring the Dangerous Trades, an autobiography' (1943), 'Industrial Toxicology' (1934), and 'Industrial Poisoning in the United States' (1925). Occupational health and safety is a multi-disciplinary field that interrelates with other disciplines such as public health, occupational or industrial hygiene, occupational medicine, medical sociology, safety engineering, toxicology, environmental health, epidemiology, public policy, health physics, industrial sociology, social law, industrial relations, labour law, occupation health psychology, and ergonomics (NIOH, 1997).

Even though the determination to address the OHS issues dates back to the Industrial Revolution, the subject gathered more momentum today due to advances in science and technology across the world (NIOH, 1997). OHS requires concerted effort by all key stakeholders such as the government, departments and agencies, organisations, and other bodies accountable for ensuring the promotion and protection of the safety and well-being of all employees. The fight will require the formulation of effective health and safety policies and guidelines, design of effective systems in every workplace and that they are enforced in the best way possible (NIOH). Studies show that globalisation partly accounts for major fluctuations in the structure of labour markets globally (Chen, Le Rouzic, Kearney, Mansky, & Benichou, 2004).

The waning of jobs with secure and permanent contracts and job

associated social benefits, coupled with the corresponding increase in dangerous and insecure jobs, are fast occurring in both industrialised and developing nations. The shifting and worsening state of job means that for most, employment may not only fail to guarantee a successful opportunity out of poverty but will further add up to existing susceptibilities (Chen et al., 2004; Lund & Marriott, 2011). Shashi argued that any person involved in an occupational activity is at risk of occupational hazard, whether operating a lathe machine or with computer, travelling to meet clients or studying for an impending examination. These hazards, if ignored, may lead to occupational disease(s). Awareness of hazards and appropriate preventive measures mitigate or prevent most occupational diseases (Shashi, Ramakrishna, Bobby, & Varghese, 2016). In short, no occupation is without an occupational hazard and all occupational hazards can be prevented (Fingerhut et al., 2005).

The association between work exposure and injury is often clear, in contrast to most OHS diseases where the collective impact of work may coexist and interface with many other causative factors (Wagstaff & Sigstad Lie, 2011). It is further established that 85% of the work-related deaths globally occur in developing countries (Singer & Bowman, 2002) where four out of 10 foremost causes of death include infectious diseases in low and middle-income countries (WHO, 2008a). For instance, Africa comes second to Asia in accounting for about two-thirds of global work-related mortality (ILO, 2019a). ILO collates and publishes global accident rates which are mostly dependent on figures provided by member countries with very weak, varied, wide or even none existent

recording and notification systems. Considerable under-reporting is pervasive in general, and many reporting and compensation systems globally also openly ignore some essential service sectors, with well-known higher than average accident frequency rates (Lund & Marriott, 2011; Subhani, 2010; Takala, 2017). Under-reporting of injury is high in most developing countries but the under-reporting of occupational illnesses is worse (Kemp, 2005).

The secondary effects of workplace accidents to third-parties such as transport passengers, hospital patients, or the general public underscores the apparent need for effective prevention systems (Wagstaff & Sigstad Lie, 2011). Given the increasing rate of "non-standard" working hours in modern society, it becomes even more relevant to understand the costs of this trend in order to give well-founded policy (Wagstaff & Sigstad Lie). Workers themselves may not be able to tell the difference between job-related and other injuries and illnesses. This could be due to the inability of the employee to recall the actual cause of injury or illness acquired or due to a general lack of awareness of OHS issues. Medical experts could also lack adequate OHS knowledge and know-how to appropriately diagnose work associated illnesses (Lund & Marriott, 2011; NOIH, 2004).

There is a general misconception in sub-Saharan Africa that hospitals are safe, since their mandate is to deliver ‘health’, which is considered their core objective (Subhani, 2010). However, studies showed that healthcare employees are particularly vulnerable to work-acquired infectious diseases (Sepkowitz & Eisenberg, 2005). This fact notwithstanding, work-related deaths among

healthcare employees remain largely unknown. Whilst it is projected that the annual rate of mortality for health sector employees from job associated activities, including infection is 17–57 per 1 million employees (Sepkowitz & Eisenberg), not much data exists on the OHS associated concerns in mortuaries. The morgue is treated as a deserted healthcare department in sub-Saharan Africa (Babatunde et al., 2010) even in the wake of a growing need for mortuary services, since the priority of health sector staff is mainly "to save lives" (Okoth-Okelloh et al., 2013).

Health Care Workers in general are potentially at risk of infection by pathogens such as HIV, tuberculosis and hepatitis from needle stick injuries and contact with body fluids (Demiryurek, Bayramoglu, & Ustacelebi, 2002; Healing, Hoffman, & Young, 1995; Knight & Bodsworth, 1998; Lauzardo, Lee, Duncan, & Hale, 2001; Sterling et al., 2000). Exposure to hazards at the morgue is becoming a well-established fact, and it is probably the case for all complex and potentially hazardous systems where humans interact. Worker-fatigue, sleep loss, and circadian desynchronization have damaging impacts on human performance and decision-making (Heron & Reason, 1995; Wagstaff & Sigstad Lie, 2011).

Occupational Health and Safety Concerns at the Morgue

Hospitals are a source of joy as well as sorrow (Patel, Patel, Vidua, & Arora, 2016). The birth of new born brings happiness to the family, but death is a stark reality and a visit to the mortuary reinforces this fact (Pankaj & Singh, 2017). Occupational Health and Safety is as important in the healthcare setting as it is in any industrial or agricultural setting. The type of hazard and nature of

exposure depends largely on the kind of job and work environment the employee operates from (Shashi et al., 2016). Shashi argued further that many studies exist on incidence of needle stick injuries and other occupational hazards among HCWs but not enough studies exist about mortuary attendants.

Preservation of dead bodies has religious, cultural and even forensic importance (Allibone, Oakes, & Shannon, 1981; Babb, Hall, Marlin, & Ayliffe, 1989; Tinubu, Mbada, Oyeyemi, & Fabunmi, 2010). The morgue has long been identified as a potential source of hazards and attendants who engage directly or indirectly in processing dead bodies are at a huge danger of exposure to blood-borne viruses and other infections including human immunodeficiency virus, hepatitis B, hepatitis C, hepatitis D and G viruses, non-A, non-B hepatitis, smallpox, Creutzfeldt Jakob disease, hantavirus pulmonary syndrome, tuberculosis, human T-cell lymphotropic virus type I, SARS and infections from other pathogenic organisms (Chui et al., 2007; Healing, Hoffman, & Young, 1995; Riddell & Sherrard, 2000; Sagoe-Moses, Pearson, & Jagger, 2001; Shashi et al., 2016; Sharma & Reader, 2005). It has been revealed that mortuary attendants are at a greater risk of exposure to hazards, daily, in comparison to other corps of HCWs because they stay and work in an environment full of hazards and risks (Sharma & Reader).

According to Patel et al. (2016), the chances of exposure to hazards and risks are very high as very often the ante mortem medical, personal and family histories of corpses are not available and adequate safety measures are not in place (Patel et al., 2016). Mortuary attendants have a ten-fold increased risk and

relative risk, compared to the general population and also have 100-200 times greater chances of encountering unknown threats while processing dead bodies (Chui et al., 2007; Riddell & Sherrard, 2000). The morgue is a site of sadness, mystery, repulsion or grief and the living hoped that they will never need to visit such a place. For a family that has lost a loved one to sudden death, this becomes a reality (Brysiewicz, 2007; Ogunnowo, Anunobi, Onajole, & Odeyemi, 2010).

It is also observed that most bodies coming to the morgues do not necessarily come with the cause of death which could just be anything (Douglas & Peterside, 2016). Majority of mortuary workers are not formally educated and usually come from very low social backgrounds (Douglas & Peterside). Mortuary attendants are usually unaware of the hazards inherent in a corpse not to talk of control and preventive measures to apply (Douglas & Peterside). It is also established that most mortuary attendants spend more time at work than at home (European, 2004), and as such are at a great risk of exposure to hazards (Wu, Liu, & Lu, 2007).

The growing necessity for mortuary services in sub-Saharan Africa amid competing priorities presents serious OHS challenges to the industry stakeholders (Okoth-Okelloh et al., 2013). The vulnerability of health sector staff became more apparent with many of them counted among the Ebola fatalities in West Africa (WHO, 2019). OHS, with focus on infection prevention, is extremely relevant in morgues (Great Britain, 2003), given that OHS-based management systems lessen incidence of accidents and injury apart from enhancing productivity (Subhani, 2010). To reinforce the urgent need for effective health and safety systems at the

morgue, Douglas and Peterside (2016) revealed that mortuary services are a neglected business, especially in developing countries and hospitals continue to struggle to maintain mortuary facilities and services. Mortuaries are usually not of acceptable standard with old infrastructure and often treated as dumping grounds for dead bodies leading to poor corpses' storage. This was confirmed by Hallgrímur, Whitelaw and Indrojit (2007), Kazungu et al. (2015), and Stevens, Duncton, Peters and Simmons (2010) who established that the situation is worse in developing countries where mortuaries are unhygienic fuilled with rodents and foul odour.

In their studies, Chui et al. (2007), and Riddell and Sherrard (2000) also established that in most developing countries, majority of mortuaries are seriously antiquated and far away from the modern safety norms. In Kenya, for example, following the outbreak of post-election violence-related deaths in 2007/2008, public morgues were totally deserted, which resulted in worsening of already awful conditions of storage and preservation of dead bodies (Obonyo, Omondi, & Mwinzi, 2008).

Some Concepts in Occupational Health and Safety

Several concepts are use in describing work health and safety. In this write up, concepts such as hazardious work conditions, physical agents at workplace, chemical agents, ergonomic conditions, working time arrangements, workplace violence and psychological conditions, , musculoskeletal disorders, psychosocial health problems and their prevention measures are analysed.

Hazardous working conditions

According to Pouliakas and Theodossiou (2010a), sufficient evidence exists to show that workers all over the world are exposed to hazards associated with work, especially in modern work environments. Effects of OHS hazards on health and wellbeing of workers is examined independently based on the impact of (i) physical agents: which include, radiation, room temperature, vibration, noise; (ii) chemical agents: which include benzene, pesticides, lead, asbestos; (iii) ergonomic conditions: which include lifting of heavy materials, repetitive movements, inconvenient work postures; (iv) working time arrangements: which include night work, shifts, extended and unbalanced workdays; and (v) workplace violence, discrimination, harassment, and bullying (Pouliakas & Theodossiou).

Physical agents

Findings from a study by the European Survey of Working Conditions showed that about 25-30% of all respondents reported experiencing noise at their workplace. Some work environments can be particularly noisy, especially, where heavy machines and equipment are involved, like at shipyards, mortuaries, and industries (Pyykko, Toppila, Zou, & Kentala, 2007). Litana and Kapambwe (2017) found that 90.9% of mortuary attendants were regularly exposed to physical strain resulting in arm, neck, and back pain, whilst 100% of them had frequent work related psychological stress and 9.1% experienced hearing problems once, due to exposure to extreme noise.

It was also found that young employees, labourers, mortuary attendants, casual workers, and drivers have a pronounced risk of exposure to noise during

work and also run the risk of hearing loss (European Agency for Safety and Health at Work [EASHW], 2000). Work associated noise is a foremost source of numerous auditory conditions with the potential for serious indicators of disease (Pyykko et al., 1989; Robinson, 1971). Another very common physical agent at the work environment is vibrations which affects nearly a quarter of the total European labour force (EASHW). The three most prevalent conditions associated with vibration and noise are back ache, dermatitis, and hypertension (Hannunkari, Jarvinen, & Partanen, 1978). Mortuaries are usually greeted with drumming, wailing, honking of car horns, by relatives who are receiving corpses. Exposure to physical hazards is thus a significant health and safety concern at the morgue (Litana & Kapambwe, 2017).

In a publication by Kannan (2012), it was established that extreme and sudden variations between outside and inside temperatures has negative effects on the human body due to exposure to frequent transition between hot environment into an air-conditioned one (cold room). Eye infections, muscular spasms and respiratory infections are attributed to variations in temperature (Kannan). Temperature in the morgue exposes its attendants to the risk of severe asthma attacks, flu, runny noses, sinusitis, severe pains, sore throat, muscular pain, pharyngitis, cold, and muscular aches. The recommended temperature for the average work environment is pegged at 23°C and 25°C to prevent vulnerability to illnesses and ensure healthy living (Kannan).

Chemical agents

Exposure to chemicals with often serious adverse consequences to health is common at the morgue (White & Proctor, 1997; Wong & Trent, 1999). Evidence abounds that some employees handle dangerous substances at work, or inhale dusts, fumes, vapours, and other health threatening materials (EASHW, 2005). A number of studies have drawn attention to the possible link between exposure to chemicals at the morgue and prevalence of neural disorders, such as memory loss and personality disorders (Grasso, Sharratt, Davies, & Irvine, 1984; Kaukiainen, Akila, Martikainen, & Sainio, 2008; Wang & Chen, 1993). Some of these chemicals may also have implications on the reproductive systems of workers who may be exposed to them (EASHW, 2000). Formaldehyde is a hydrophilic chemical used in antiseptics, adhesives, and lacquers worldwide. It is also used in the morgue for embalming cadavers (Sugata, Miyaso, & Osaka, 2016). The International Agency for Research on Cancer (IARC) classifies formaldehyde as a group I compound which is carcinogenic in humans (IARC, 2006).

Furthermore, contact with chemicals may induce sick building syndrome and multiple chemical sensitivity (Sahlberg et al., 2013). Garrett et al. (1999) observed that contact with formaldehyde can be associated with prevalence of allergic diseases. In view of the risks inherent in the use of this chemical, the United States Environmental Protection Agency (US EPA) set the maximum formaldehyde level in indoor air at 0.1 ppm (US EPA, 1997). Even though a number of studies have relied on the electroencephalography, computer axial

tomography scan and electrophysiology, in measuring the effects of chemical hazards, most studies have failed to demonstrate a causal association between chemical substances and health because of difficulties of controlling for a number of other relevant determinants of ill-health, such as diet, drug use, ageing, alcohol consumption, etc. (Collins, Brown, & Newman, 1989; Marsh, Lucas, Youk, & Schall, 1999; Swaen, Haidar, & Burns, 2007).

A study involving mortuary workers showed that 100% of them suffered frequent exposures to fixatives, detergents and solvents, 54.5% of them experienced frequent formalin contacts, 18.2% and 27.3% were continuously exposed to needle pricks and had contact with body fluids of the dead, respectively. The side effects of most harmful chemicals usually turn to manifest later in life after the exposure and this makes it difficult for most researchers to determine the degree of harm caused (Litana & Kapambwe, 2017). It is thus difficult to gauge the true effect of preventive measures put in place to mitigate the effects of these carcinogens, also because most institutions do not have up-to-date record required to conclusively establish a correlation between job-associated incidents and carcinogen exposure (Pouliakas & Theodossiou, 2010a).

Ergonomic conditions

Poorly designed workstations and related work practices such as repetitive movements whilst performing a task, strenuous work postures, and lifting of heavy objects can expose employees to many adverse consequences on health (Pouliakas & Theodossiou, 2010a). Amongst the many health conditions associated with poor work design, musculoskeletal disorders is the most severe

and reported manifestation which is known to affect a significant segment of employees (Pouliakas & Theodossiou). Litana and Kapambwe (2017) observed that 18.2% of mortuary attendants suffered fracture or joint dislocation through falling, slipping or tripping once. Among health workers, mortuary attendants suffer a great deal from musculoskeletal disorders compared to other cadre of healthcare workers. Pouliakas and Theodossiou argued further that notwithstanding the heavy injection of machines and automation of most work procedures in modern times, the danger posed by bad working conditions are on the rise.

Working time arrangements

Work schedules or shifts influence to a very large extent the health and safety of workers. Adverse working time schedules such as long and irregular work shifts do have detrimental effects on both the mental and physical wellbeing of the workers. Working for long hours, usually lasting beyond 10 hours per day or 48 hours per week, has been found to be linked with a higher risk of hypertension, myocardial infarction and heart diseases (Artazcoz, Cortes, Borrell, Escriba-Aguir, & Cascant, 2007; Liu & Tanaka, 2002; Nakanishi, Yoshida, & Nagano, 2001; Sokejima & Kagamimori, 1998). Extended working hours have also been identified to increase negative health outcomes such as lower cortisol secretion, increased blood pressure, and increased heart rate, due to insufficient rest (Dahlgren, Kecklund, & Akerstedt, 2005; 2006; Kripke, Simmons, Garfinkel, & Hammond, 1979; Lusardi, 1999; Tochikubo, Ikeda, Miyajima, & Ishii, 1996).

In fact, employees with irregular work schedule and night shifts stand the risk of digestive disorders, disturbed biological rhythm, and eventually physiological disturbances (Bjorvatn, 2007; Boggild & Knuttson, 1999; Costa, 2003; Mott, Mann, McLoughlin, & Warwick, 1965). Adverse work schedules are known to be significant determinants of exhaustion and burnout, workplace injuries, musculoskeletal disorders, and absence from work due to sickness (Currington, 1986; Kalimo & Toppinen, 1997; Lusinyan & Bonato, 2007; Wergeland, Veiersted, & Ingre, 2003; Wooden, 1990). For instance, Dembe, Erickson, Delbos and Banks (2005) observed that there is a high probability of hazard injury amongst employees who work for very long hours without adequate time for recuperation.

Additionally, working overtime greatly increases the danger of OHS injury by 61%. The negative effects of long working time go as far as to threatening the work-life balance of employees, which is established to be associated with reduced level of self-assessed well-being (European Foundation for the Improvement of Working and Living Conditions, 2002; Pouliakas & Theodossiou, 2010a). Finally, long working hours, usually working beyond 60 hours per week, mostly results in disabilities which eventually lead workers to opt for voluntary retirement (Krause, Frank, & Dasinger, 2007). Amongst the many reasons for embarking on strike in 2018, mortuary attendants in Ghana cited repeated denial of annual leave and also working beyond 8 hours, daily (Mortuary workers to strike over unfavourable working conditions, 2018).

Workplace violence and psychological conditions

Workplace violence is a serious occupational health and safety concern which manifests in forms such as bullying, sexual harassment, racial discrimination, physical violence and psychological torture. Most cases of workplace violence go unrecorded and this makes it difficult to measure the degree of the phenomenon. Studies showed that around 2-3% of employees experience sexual harassment, and 9% suffer from bullying and victimisation at work, whereas the rate of physical violence is around 3-9%. The implications of this phenomenon on worker absenteeism, staff attrition and retention, productivity and health and safety issues are significant (Paoli & Merllie, 2001). Psychopathologic, psychosomatic and behavioural symptoms are amongst the key adverse health effects related to workplace violence (Cassitto, Fattorini, Gilio, & Rengo, 2003). Health and social workers, whose nature of work requires that they deal with the public, are mostly in greater danger of workplace violence. Healthcare professionals are usually confronted with workplace violence and are known to have longer absence from job (Brousse, Fontana, & Ouchchane, 2008).

The mortuary environment can be a major source of both physical and psychological hazard to attendants (Geest, 2006). Members of the public usually give money to mortuary attendants to take good care of their dead relatives deposited at the morgue (Geest). These unofficial payments result in competition for the care of dead bodies among mortuary attendants. The situation sometimes gets out of control to the extent that bodies in the care of colleague mortuary attendants are made to decompose through the use of 'juju'. In some extreme

cases, some mortuary wardens even engage in criminal practices such as trading in body parts for ritual purposes (Geest, 2006). The mortuary environment has thus become very dangerous and unsafe for effective work. Mortuary attendants are also exposed to physically attack by relatives who may be unhappy with mortuary procedures (Geest).

Musculoskeletal disorders (MSDs)

This condition is usually described as OHS complications of the human locomotor apparatus i.e. skeleton, muscles, cartilage, tendons, ligaments and the nerves. EAHSW, argue that MSDs are among the most prevalent OHS concerns at the morgue (Cady, Bischoff, & O'Connell, 1979). MSDs are associated with physical, psychosocial and ergonomic factors, painful or tiring positions at work, such as high work load and speed of work, whole body vibrations from tools or machinery, repetitive movements, lifting or pushing heavy loads, computer use, and in general, with work that involve physical strain on the body (Cady et al., 1979). EASHW (2000) submit that apart from the agricultural and construction sectors, the morgue also has a high prevalence of the MSDs.

In addition, women have been found to be less at risk of physical risk factors, even though both male and female genders are equally predisposed to hand or arm movements and job associated with painful or tiring positions NIOH (1997). More generally, manual workers are more predisposed to MSDs. Employees involved in dangerous employments like the morgue, are also considerably at risk of repetitive activities and working in painful or tiring posture. According to NIOH (1997), there is sufficient and credible epidemiologic

proof to draw a strong relationship between work-associated MSDs of the upper extremity, neck, and low back and particular job-associated physical factors. This is exactly the situation in organisations with rather high incidence of exposure and especially with a blend of two or more physical factors.

Psychosocial health problems

The work environment is beset with factors that shape the conduct and behaviour of employees in the organisation. These factors, such as hierarchical relations, job control, job demand, and work pace, if not well controlled, can generate and even worsen psychosocial health problems, such as stress, anxiety and depression (EASHW, 2000). EASHW argue that in contrast to other work based hazards, psychosocial health problems are more prevalent among health sector employees. Nonetheless, work conditions such as noise, heat, precarious contracts, and shift work add up to increasing incidence of stress (Wege, Dragano, & Erbel, 2008). Apart from these, other factors that influence psychosocial health problems are incidence of unforeseen disruptions at work, high speed work, lack of control over working procedures, workload and burnout (EASHW).

According to the Cox model, stress is an innate incapacity by the individual to realise their potentials, which at the extremes can result in a wide array of mental and physical ailments and may bring about deranged relations at the workplace and job dissatisfaction (Cooper & Fairburn, 1987; Gibbons & Newton, 1998; Ali & Lindstrom, 2008). Other studies also report that occupations that are usually characterised by tight and irregular time schedules and heavy workload, such as those experienced by health staff or managerial workers, are

particularly at risk of hypertension and higher rates of stress (Cifuentes, 2008; Michie & Williams, 2003; Yamasue, Hayashi, Ohshige, Tochikubo, & Souma, 2008). Joensuu and Lindsstrom (2003) gave an elaborate review of the impact of stress and work on sickness absence. It was observed that in Sweden, the rate of long-term absence from work attributed to psychological problems rose from 14% in the early 1990s to 25% in 2001. Impact of stress is usually revealed in absence sustaining for many months, and is reported to retain aetiological effect on many health problems and an injurious impact on most, if not all, moods associated with health and well-being. Foppa and Noack (1996) report an association between stress at work and musculoskeletal pain.

The concept of prevention

Prevention has been found to be an essential concept in occupational health and safety. Studies revealed that organisations that adopt very proactive approach towards the implementation of comprehensive workplace risk prevention regimes would most likely experience minor accident levels than those that merely follow the minimum legal conditions (Sugata et al., 2016). Hunt and Habeck (1993) appealed to organisations to carefully manage internal information, fully examine accidents and incidents, promote a "prevention culture" and adopt systems to improve workplace ergonomics. Health promotion programmes like stress management seminars, nutritional awareness, ergonomic management, use and importance of personal protection equipment, and anti-smoking campaigns which assume the form of a broad single-goal activities are

most probable to thrive with adequate direction at every stage of the organisation (Wilson, 1996).

Additionally, in a study by Arocena, Nune and Villanueva (2008), it was found that organisations that have very stringent standards for the prevention of occupational risks are most likely to record low accidents. The study looked at some six preventive dimensions including (i) documentation and emergency prevention, (ii) preparedness and response, (iii) communication and workers participation, (iv) strategies formulated for eliminating risk at source (v) training and risk management, and (vi) actions taken in view of foreseeable changes (Arocena et al.).

They further observed that important synergies existed between innovative preventive efforts and organisational factors with regard to their impact on the reduction in the rate of injuries at a workplace. A key strategy in occupational risk prevention which has proven to be effective in the reduction of workplace diseases and injuries is the provision of effective OHS training for workers (Arocena et al.). Cohen and Colligan (1998) argue that there is a plethora of data to prove the importance of training in enhancing worker knowledge about workplace hazards, and in applying safer work practices and other positive actions. The study noted that factors like the trainer credentials, the size of the training group, extra-training factors (e.g. the method of instruction, goal setting, motivational incentives, feedback, and managerial actions, and the length or frequency of training), are considered substantial contributing factor to success of the training procedure. Meanwhile, critics of this study drew attention to the fact

that most intervention studies are unable to sufficiently divorce the provision of training from other forms of interventions involving engineering and ergonomic (Wilson, 1996).

Overview of Occupational Health and Safety in Ghana

There has been a sturdy rise in the volume of investment in almost all key sectors of the economy of most African countries over the years (Amponsah-Tawiah & Dartey-Baah, 2011). This is largely due to the level of peace and stable democracy experienced across the African continent, coupled with the forces of globalisation. There is a significant rise in the workforce across the continent and work has become far more complex and demanding than it used to be, few decades past (Ministry of Employment and Labour Relations, 2014). The labour market has thus become very sophisticated with hardly a day passing without a work-related accident (Ministry of Employment and Labour Relations). Whilst industrialisation is key to the overall growth and development of the African continent, concerns for OHS quickly comes to the fore. Ghana, like most developing countries, is experiencing a phenomenal growth in its labour force but with a worsening rate of unemployment too (Amponsah-Tawiah & Dartey-Baah, 2011).

Sadly, there is no clear commitment on the part of the state to safeguard the health and wellbeing of its labour force. The Ghana Labour Commission (2000) published a total of 8,692 work-related accidents for the year 2000 and 4,088 for the 1999. These figures do not give a true account of the depth of OHS problems in Ghana as there are no robust structures in place for documenting the

occurrences. Given the overriding importance of OHS, ILO mandates all member countries to implement national policies on the subject. The ILO constitution provides for the protection of the worker against sickness, diseases and injury associated with work as a fundamental principle of social justice (ILO, 2003b).

Regardless of the ILO's directive on the subject coupled with the numerous investments that the country attracted over the decades, Ghana still lacks a national policy on OHS. An occupational services policy drafted together by the Ministries of Manpower Youth & Employment, Health and Lands, Forestry & Mines since the year 2000 has not been adopted. There seems to be no urgency on the part of the state for a comprehensive national policy on OHS (Amponsah-Tawiah & Dartey-Baah, 2011). For example, from the over 70 conventions and recommendations by the ILO that are OHS related, only 10, including conventions 45, 81, 89, 90, 103, 115, 119, 120, 147 and 148, were ratified by Ghana. Sadly, 4 of the fundamental OHS conventions which include conventions 155, 161, 170 and 174, were all not ratified (Amponsah-Tawiah & Dartey-Baah).

Ghana has a number of legislations on OHS, albeit scrappy and narrow in scope and content. Some of these legislations/laws include: (i) C045 - Underground Work (Women) Convention, 1935 (No. 45), ratified on 20th May, 1957; (ii) C115 - Radiation Protection Convention, 1960 (No. 115), ratified on 7th November, 1961; (iii) C119 - Guarding of Machinery Convention, 1963 (No. 119), ratified on 18th March, 1965; (iv) C120 - Hygiene (Commerce and Offices) Convention, 1964 (No. 120), ratified on 21st November, 1966; (v) C148 -

Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (No. 148), ratified on 27th May, 1986; (vi) C184 - Safety and Health in Agriculture Convention, 2001 (No. 184), ratified on 6th June, 2011; (vii) Persons with Disability Act, 2006 (Act 715); (viii) Workmen's' Compensation Act 1987 (PNDCL 187); (ix) Factories, Offices and Shops Act, 1970 (act 328); (x) Civil Liability Act, 1963 act 176; (xi) Labour Act, 2003. Act 651; and (xii) the Mortuaries and Funeral Facilities Act, 1998 (Act 563) (Anaman & Osei Asamoah, 2007; Environmental Protection Agency, 2010; ILO, 2019).

Although the labour act of Ghana, Act 651, makes some provision for OHS in Section 15, the most profound ILO Conventions 155 and 161 were not provided for (Amponsah-Tawiah & Dartey-Baah, 2011; Environmental Protection Agency, 2010; ILO, 2019b). In Ghana, the Factories, Offices and Shops Act 1970, Act 328 and the Workmen's Compensation Law 1987, PNDC Law 187 are the two main statutes that seek to address the OHS concerns. These two statutes are however sketchy, lack comprehension, and woefully inadequate in addressing all the key issues of OHS in Ghana. The key provisions of the Factories Offices and Shops Act 1970 address issues regarding global principles of guaranteeing the safety, health and welfare of workers in the factories, offices, shops, dock work and construction. The Workmen's Compensation Law 1987 addresses issues such as payment of cash compensations to workers who may sustain injury from work related accidents and when death occurs, payable to dependants using the courts (Amponsah-Tawiah & Dartey-Baah; ILO, 2019b). Coupled with the major deficiencies in the above mentioned documents, Ghana also lacks adequate

number of trained OHS professionals required to engineer the needed change in the system. To fill the gap created by the lack of a national policy on OHS for Ghana, individual agencies and institutions have crafted their own OHS policy guidelines. In view of the essential role played by the health sector and the huge OHS issues therein, the Ministry of Health, Ghana, since 2010, developed and implemented a policy guideline on OHS for the health sector (MoH, 2010).

The Occupational Health and Safety Policy Guideline of the Ministry of Health, Ghana

This policy guideline was jointly commissioned in 2009 by the Ministry of Health/Ghana Health Service and aided by the World Health Organization country office. The aim of the policy guide is to provide a safe and healthy working environment as far as reasonably practicable, for all health-sector staff, in line with the 1992 constitution and the Labour Act 2003, Act 651.

Policy statement

The policy statement provides that MoH commits to the creation of safe work places that promote health and safety practices and which seek to prevent the incidence of hazards related to job and the work environment, reduce exposure and alleviate impact of hazards as much as rationally practicable. It mandates health managers especially, and their subordinates to support full implementation of the policy in line with their functions and obligations. To aid compliance with the policy, all health institutions, their managers and subordinates are to observe the following:

a) Provide adequate training for all staff and ensure accountability in the prevention of illnesses and injuries associated with work;

b) Design, operate and maintain the job environment, job processes and procedures in a way that controls and minimises hazards and risks associated with work.

c) Ensure the productivity, health and well-being of all staff through effective health promotion programmes;

d) Uphold an effective management system that integrates OHS with service delivery and decision making processes. Pursuant to this, management and staff of all health institutions and facilities shall develop suitable objectives and targets, continuously observe performance, and pursue continual progress.

e) Ensure that all activities of the institutions and facilities are in harmony with relevant national OHS laws and regulations.

f) Ensure that all staff, clients, the general public and relevant regulatory authorities are provided with clear and accurate information about operations of the institution and facility that bother on OHS.

g) Collaborate with relevant institutions within and without Ghana to develop strategies for sustainable training schemes that will ensure the availability of the adequate number and mix of skilled and well trained personnel to deliver effective OHS services through.

h) Provide information to suppliers, partners and contractors about the OHS standards of the sector and encourage them to adopt sound OHS management practices.

i) Apply sound scientific principles to contribute to OHS policies, initiatives and regulations. This includes the provision of suitable structures including locations for executing OHS activities including laboratories for undertaking performance testing and research as far as reasonably practicable.

j) Apply sound scientific management principles in the management of OHS at the institutional /facility level.

k) Formulate and implement suitable strategic action plans (SAPs) to realise the preferred outcomes for service delivery as well as effective control of risks.

l) Ensure that the OHS policy is applied in a manner so as to protect clients of health facilities from injury.

m) Establish a strategy for continuous reporting on OHS at all institutional /facility level and produce for the attention of all concerned annual reports on OHS situation in the health sector (MoH, 2010).

Policy objectives

The objectives of this policy are to:

1. Realise and uphold the complete well-being, quality of life and job performance of healthcare employees with the view to reducing the effect of job on their physical and mental health.
2. Promote a safe and healthy work environment, work practices and procedures for all employees of health facilities with the view to reducing job-associated injuries and illnesses.

3. Uphold a culture of safe and healthy attitudes and practices.
4. Provide safe work environment, work practices and procedures for all employees of health facilities with the view to reducing job-associated injuries and illnesses.
5. Ensure that health and safety management in the workplace forms an integral part of management function of healthcare institutions that is continuous and stimulates a culture of co-operation among the key stakeholders such as government, employers and their employees, in the spirit of tripartitism.
6. Institute and regularly review strategies and remedies that completely eliminate or alleviate danger presented by workplace hazards.
7. Promote the assimilation of OHS educational programmes with the view to minimising workplace hazards and risks into the job plans of health facilities.
8. Expedite observance of OHS policy and legislation by contractors and suppliers to all health facilities.
9. Educate contractors, suppliers and the general public about OHS programmes and protocols of the health facilities and how they can observe with them.
10. Implement strategies focused towards ensuring adequate financing of OHS services (MoH, 2010).

Scope of the policy

This policy and technical guidelines are mainly applicable to:

1. all healthcare staff including those in government, quasi-government, private as well as NGO's;
2. prospective healthcare staff;
3. clients, patients and visitors to all health facilities; and,
4. health institutions as well as students on practical attachments.

The provisions of this policy and technical guidelines are applicable to all health institutions and administrative units. They are intended to assist health facility managers implement the OHS policy, formulated with the laws of the country and other international OHS protocols in mind (MoH, 2010).

General principles

The following general principles will therefore inform the operations of OHS:

1. Ensure collaboration between employers and employees in the formulation of programmes for the enhancement of the work environment;
2. Use professional guidance in planning and organizing work, including the design of workplaces, the choice and maintenance of machinery as well as other equipment and substances used in health care work including allied services;
3. Ensure a periodic review of OHS policy and guidelines focused on new knowledge and research findings. Such periodic reviews will be aimed at identifying key problems with the policy in totality or regarding specific parts, and develop effective strategies for dealing with the problems. The

initial review should take place after the first 2–3 years of implementation of this policy (MoH, 2010).

The Environmental Impact Assessment Guideline for the Health Sector of Ghana

The ultimate object of the Environmental Protection Agency (EPA) is to protect human and environmental health by creating standards and laws promoting the health of individuals and the environment. Maintaining a healthy environment is central to increasing quality of life and years of healthy life (U.S. Department of Health and Human Services [USDHHS], 2020). Globally, 23% of all deaths are due to preventable environmental factors. Poor environmental quality has its greatest impact on people whose health status is already at risk. Therefore, environmental health must address the societal and environmental factors that increase the likelihood of exposure and disease (USDHHS). In Ghana, the span of control of EPA extends to the operation of morgues. Presented below are specific guidelines of EPA regarding the establishment and operation of morgues in Ghana (EPA, 2010).

Purpose of this guideline

These guidelines are developed to provide project developers, financiers, facility managers, as well as other decision makers an array of technical and background information required in preventing, reducing and regulating Environmental, Health and Safety (EHS) impacts during the construction, operation and decommissioning phases of a project or facility in the health sector. The Health Sector Guidelines' main focus on the Environmental Assessment of projects that fall within the health sector include, particularly:

- Hospitals, Clinics, Laboratories, and other Health Facilities;
- Mortuaries, Funeral Homes etc, and
- Solid and Liquid Waste Treatment and Disposal

(Environmental Protection Agency, 2010).

It should be understood that the guideline delimits itself to the identification of potential health hazards and general effects on health and the environment. The guidelines do not contain details on the health impact, that is specific diseases, injuries, and related exposure standards, or the effects due to specific development projects. In addition, the guidelines do not proffer to the analysis, predictions and assessment of environmental impact which a particular undertaking could bring (EPA, 2010).

Guidelines for the Operation of Mortuary Facilities

As regards the operational requirements for mortuaries, the guidelines raise a number of germane issues on the activities of mortuaries but lays emphasis on the disposal of liquid and solid wastes. Sources of liquid waste include:

1. Water from the washing of dead bodies;
2. Liquid generated from draining dead bodies of all fluids, and
3. Waste generated in the use of chemicals.

Sources of solid waste include:

1. Human parts;
2. Contaminated clothing etc; and
3. Obsolete machinery and equipment (EPA, 2010).

The agency acknowledged that the improper disposal of these agents could result in soil and water contamination with adverse implication to the general public.

Occupational Health and Safety Concerns at the Morgue

On the subject of the Occupational Health and Safety implications of mortuary services, the agency (EPA) draws attention to some fundamental hazards inherent in the work of mortuary attendants.

These include:

1. The effects of cold-room temperature on the health of mortuary attendants;
2. Injuries from manual handling of bodies;
3. Possibility of exposure to diseases;
4. Hazards connected to usage, handling and disposal of chemicals; and
5. Hazards from excessive noise by mourners (EPA, 2010).

Cold rooms and provision of care for the dead

Cold rooms are special rooms reserved for the provision of care after death (last offices). They are designed with all the basic facilities required to guarantee safety of staff and integrity of the dead body. It is a temporary holding site for the dead body before being released to the morgue or funeral home. They provide adequate privacy and an atmosphere free from interruptions during this special care (Worcestershire, 2015). Some of its features include sinks, washrooms, windows, air condition, furniture, beds, bowl, soap, towels, disposable wipes, gloves, and apron, hair comb, equipment for nail care, equipment for oral care including equipment for cleaning dentures, shroud or patient's own nightclothes, and clean sheets (Halborg, 2016). 'Care after death' or 'last offices' is care given

to a body after death. It is a process that demonstrates respect for the deceased and is focused on respecting their religious and cultural beliefs, as well as health and safety and legal requirements (Higgins, 2008). The process is carried out with regard to the wishes expressed by the patient before death and the wishes of their family following death. While these wishes will influence practice, nurses must ensure care is compliant with legal guidelines and have a high regard for health and safety issues. The body, following death, must be prepared for transfer to the mortuary or funeral directors in a way that does not compromise health and safety (Higgins).

Theoretical Perspective of Occupational Health and Safety

Brondizio, Leemans and Solecki (2014) posit that the theoretical framework of a study is the specific theory or theories about aspects of human endeavour that can be useful to the study of events. Ravitch and Carl (2016) concur that the theoretical framework assists researchers in situating and contextualizing formal theories into their studies as a guide. Moreover, the theoretical framework serves as the focus for the research and it is linked to the research problem under study. The current study considered two theories: the sub-optimal allocation of job market risk and the compensating wage differentials (CWDs).

The theory of sub-optimal allocation of job market risk

The theory holds the position that occupational hazards tend to be more prevalent amongst low level employees than the middle and upper level employees. There are, in fact, convincing observations on the basis of both equity

and efficiency concerning the need for effective occupational health and safety policies. The findings are pivoted on the understanding that the equilibrium level of safety provision, as stated in the theoretical term of the free market, would usually be suboptimal. From the position of equity, the argument is usually made that the social class distribution of work-related accidents and illnesses is altered, with exposure to risk affecting a moderately vulnerable segment of the workforce. This group of workers are usually lower income earners with lower levels of education (Henderson, 1983).

Henderson (1983) argued that the prevention costs, such as the ante-factum outlays of preventive practices and equipment, may experience increasing marginal costs as the degree of practice of OHS in the organisation goes up. Damage costs are expected to decrease at a diminishing rate as OHS levels rise, since the severity of occurrences at higher levels of safety would likely be suppressed. It is nonetheless true that organisations, usually, do not foot all of the damage costs of injury at work. Accidents that rarely occur, or illnesses that manifest only after years or even decades following primary contact with hazardous agent, may not be detected with certainty (Henderson).

Cognitive psychologists argue that individual employees constantly underrate the chances of an accident or illness occurring at work. A number of studies showed that individuals do not always react in a rational way to instructions concerning danger (Kahneman, Slovic, & Tversky, 1982; Kahneman & Tversky, 1979, 2000; Slovic, 2000). In the view of Denscombe (1993), people have an intrinsic resistance to reject information because they are affected by

cognitive limitations. In summarising findings by a large body of psychological experiments, Gilbert (2006) argued that human beings commit systematic errors in their views about the future. This is mainly so because they fail to appreciate the fact that current emotions interfere with the assessments of the future, referred to as presentism, and thus repeatedly undercasting how differently they will feel subsequent to the occurrence of an incident.

In another study to establish the possibility of dying from various causes amongst students, significant inconsistencies were observed between the responses given and actual statistical figures, with respondents repeatedly undercasting some causes of death, especially natural causes, and hugely overcasting the chances of others, especially the unnatural causes (Bernstein, 1996). Weinstein (1989) makes a strong case that optimism bias is one common characteristic of people, since they are frequently observed to overcast their personal immunity from harm, trusting, rather, that some hazards are more risky for other people than for themselves.

Findings from the above studies thus revealed that workers tend to undercast the degree, nature and severity of hazards related to carrying out some tasks, as they estimate the potential of an accident or illness affecting them as being less probable than that which would be predicted based on statistical analysis and expert view. In reality, most jobs are usually offered on a take-it-or leave-it basis and turning down a job offer may mean unemployment for the individual, especially where there are no alternative offers available. A potential employee can hardly decline an offer of a job under a circumstance like this

(Biddle & Zarkin, 1988; Herzog & Schlottmann, 1990). The key factors that influence the sub-optimal allocation of job market risk is diagrammatically presented below.

Compensating wage differentials (CWDs) theory

The compensating wage differentials (CWDs) theory drew inspiration from the study by Smith (1776), which argued that potential employees will opt for jobs with relatively higher risk because of the high remuneration attached. This position is upheld by Geest (2006) who observed that there is sturdy increase in the number of people, especially young men, expressing interest and involved in mortuary work from across all tribes in Ghana, notwithstanding the huge health risks associated with it. The trade in Ghana used to be the preserve of a few older men with northern heritage but this has completely changed over the years (Geest). It is observed that because of this behaviour of potential employees, market forces are created to ensure payment of wage premiums by organisations with relatively poor conditions of work, to ensure the recruitment and retention of valuable labour (Pouliakas & Theodossiou, 2009, 2010a, 2010b, 2010c).

Accordingly, workers who are risk-averse will consider job offers from organisations that have relatively safer work conditions, whilst workers that are less risk-averse will be more desirous of working for organisations with relatively higher risk working environments. The strategy of matching preferences of both employees and employers results in the prediction that jobs associated with higher risk of injuries and illnesses should, in equilibrium, provide compensating

remuneration way above the market equilibrium rate of pay (Marin & Psacharopoulos, 1982; Pouliakas & Theodossiou, 2010a; Smith, 1776).

According to this theory, firms will be compelled to give priority to and improve upon the working conditions of workers, when market forces ensure that CWDs lift up the cost of non-OHS provisions of organisations. Many a study has looked at an important approach in CWDs called the "value of life" (Thaler & Rosen, 1976). This approach seeks to gauge the monetary value that workers on their own put on their lives, to the extent that they are prepared to take up offers of a higher propensity of a fatal job accident occurring.

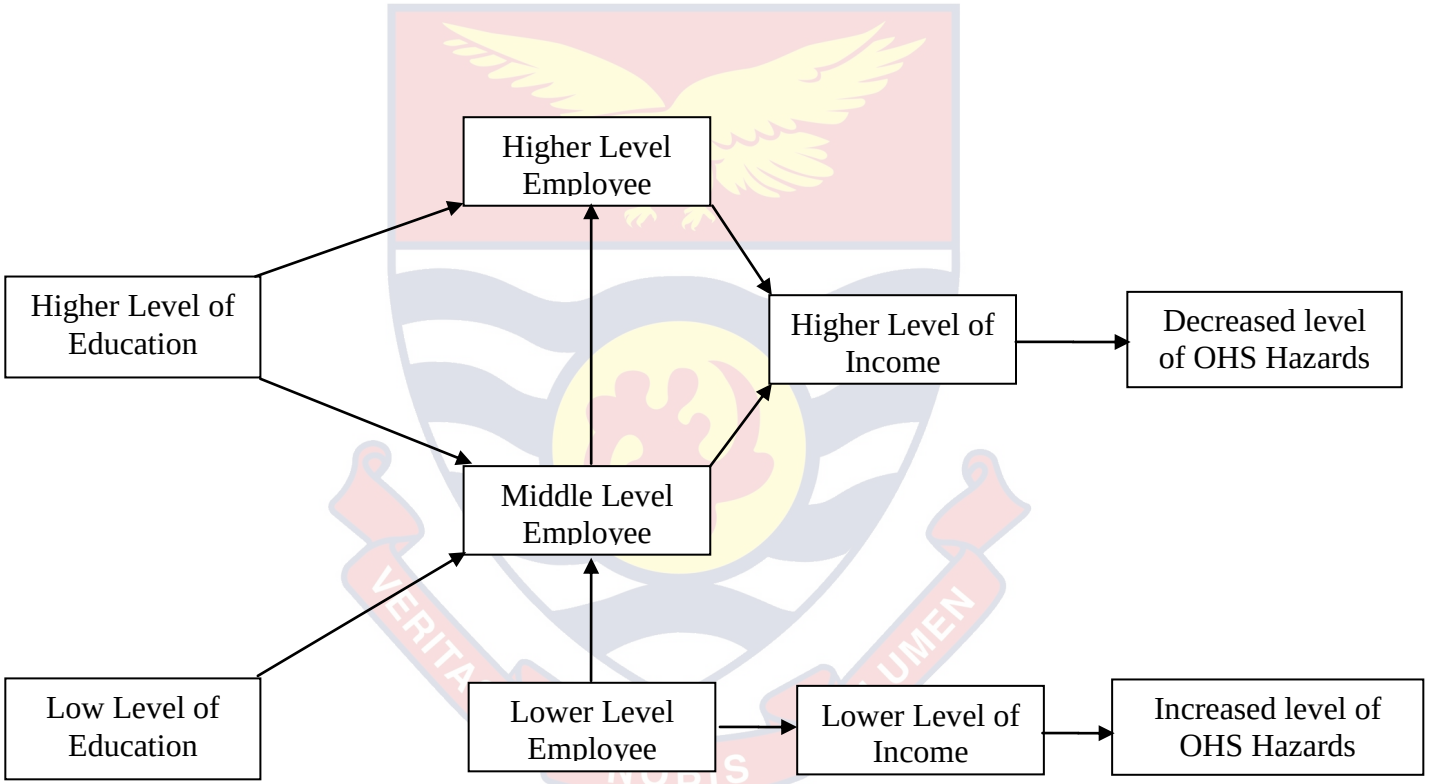

Figure 1: The Conceptual Framework Showing Factors Influencing Sub-Optimal Allocation of OHS Hazards among Employees

Many studies have established that, ceteris paribus, jobs with a higher level of fatal risk and unhealthy conditions of work have higher income level than safer jobs (Arabsheibani & Marin, 2000; Marin & Psacharopoulos, 1982; McNabb, 1989; Smith, 1776; Viscusi, 1993). Notwithstanding the large body of studies confirming the existence of a positive and statistically significant CWDs for fatal injuries, others fail to establish any significant CWDs for non-fatal injuries (Sandy & Elliot, 2005; Siebert & Wei, 1994; Wei, 2007).

Regardless of the popularity amongst researchers about the reliability of the CWDs theory, some disagree with the estimation of the risk variables. According to the critics, the measurement errors in the risk variables used in the theory arise due to "aggregation bias" (La live, 2003). Furthermore, the aggregation bias clouds the relevant differences in the degree of work-related risks confronted by workers who undertake different duties, even if they are categorised within the same occupation (Arabsheibani & Marin, 2000).

Elliott and Sandy (1998) criticised the CWDs theory for overstating the influence of job disamenities on workers who are unsatisfied with their remuneration and further questioned the validity of CWDs gotten from workers answers to questions of work risk. In view of the criticisms against the CWDs, Viscusi (2004) observed that measurement error bias usually results in underestimation of measurement of CWDs. The diversity in individual preferences for risk and pay (Garen, 1988; Hintermann, Alberini, & Markandya, 2008; Hwang, Reed, & Hubbard, 1992) can affect estimates of CWDs too, by

clouding essential unnoticed variables that may simultaneously influence both individual's appetite for pay and their choices for work risk.

Empirical Analysis of Related Studies

This section discussed some related works on the subject which sought to highlight the health and safety issues of mortuary attendants. It specifically looked at the following areas: increasing attraction for mortuary work, exposure to chemicals and biological hazards, exposure to physical strain, vaccination against diseases, training and level of education, exposure to psychological hazards, implementation of universal precautions for formaldehyde exposure and PPE use, and provision of ventilation facilities.

Increasing attraction for mortuary work

In a study involving mortuary attendants in South Africa, mortuary work was found to be dehumanising, traumatic, and unattractive to most respondents (Brysiewicz, 2007). The lack of commitment of hospital mamagment to the health and safety needs of mortuary attendants coupled with the poor state of facilities left them exposed to many hazards in the morgue. However, in a similar study conducted among mortuary attendants in Ghana, Geest (2006) revealed that there was sturdy increase in the number of people, especially young men, expressing interest and involved in mortuary work from across all tribes. According to Geest, mortuary work used to be the preserve of older men with northern heritage but this has completely changed over the years. Mortuary attendants receive gifts, including money, from families of the deceased to ensure that such dead bodies

are well taken care off. Mortuary facilities have become one important sources of revenue for hospitals in Ghana (Geest).

Exposure to chemicals and biological hazards

According to a study among mortuary attendants in Jamaica, it was revealed that body fluids from cadaver and Formalin were the most common exposures at the morgue (Gershon et al., 2007). Majority of respondents frequently experienced them in the course of work. In a similar study among mortuary attendants in India, it was found that incidence of exposure to Formalin and bodily fluids from dead bosies was high among respondents (Shashi et al., 2016). There are proper safety systems in place to protect the attendants from these hazards.

Additioanlly, in Port Harcourt, Nigeria, it was reported that 58% of mortuary attendants were exposed to formaldehyde and other chemicals at the morgue, while 100% of them frequently had direct skin contact with or inhaled disinfectants and fixatives (Douglas & Peterside, 2016). This was largely due to weak adherence to the universal precautions and incorrect handling of bodies owing to poorly designed and congested work stations. Consistent with this, Sirengo (2014) found that 71.9% of mortuary attendants in Nairobi, Kenya, were frequently exposed to chemicals at the morgue. Also, Shashi et al. (2016) revealed that exposure to chemicals such as formaldehyde solution and bodily fluids was very high among mortuary attendants in India, due to lack of cleanliness and poor IPC systems. Beside, bouts of cough and redness of eyes were common among respondents.

Exposure to physical strain

In a study conducted by among mortuary attendants in Zambia, Latina and Kapambwe (2017) found that 90.9% of respondents regularly experienced physical strain resulting in neck, back, and arm pain. Similarly, a study in the former Republic of Transekei showed that 25% of respondents sustained physical strain that led to neck, back, and arm pain (Meel, 2001). Sirengo (2014) found that mortuary attendants in Kenya suffered frequent eye strain, electrocution, and electric burn or fire during work. In Nigeria, a study among mortuary attendants revealed high incidence of exposure to electrical hazards among respondents (Douglas & Peterside, 2016). However, in another study among mortuary attendants in Nigeria, it was found that pain in the back, neck and arms were rarely reported despite claims by the workers that their job was physically demanding (Ogunnowo et al., 2010).

Vaccination against diseases

In a study among mortuary attendants in Zambia, it was found that 100% of respondents said they were vaccinated against diseases in te morgue (Litana & Kapambwe, 2017). However, in a similar study conducted in Maharashtra, India, among mortuary attendants, it showed that many respondents were the only ones vaccinated against hepatitis B vaccine (Meenakshi, Smrutiranjan, & Abhay, 2015). Again, in study conducted among mortuary attendants in Kenya, it was revealed that apart from post-exposure prophylaxes, respondents were not vaccinated against diseases in the morgue (Sirengo, 2014). This was largely due to the fact hospital management made no provision for vaccinatuion in their

health and safety plan for the year. In a similar study by Douglas and Peterside (2016), it was reported that 96% of mortuary attendants had, in some point, reported exposure to hazards in the course of duty while 15% were absent from duty as a result of illness due to infection from the morgue.

Training and level of education

In a study conducted among nurses and doctors in Birmingham, result found unsatisfactory levels of awaness and knowledge accompanied by frequent episodes of poor compliance with universal precautions among health workers (Stein, Makarawo, & Ahmad, 2003). Though high levels of education and training was recorded among respondents, adherence to safety practice was poor. Simialrly, Douglas and Peterside (2016) reported that even though 100% of mortuary attendants in Port Harcourt were found to have high levels of awaness and knowledge about hazards in the morgue, repsondents do not adhere to the universal precautions. However, in a study conducted among mortuary attenmdants in Birmingham, it was reported that respondents were likely to have lower educational status and to be poorly supervised (Bakhshi, 2001). Inadequate knowledge, negative attitudes, lack of proper guidelines and essential supplies, and environmental factors could contribute to increased exposure to hazards in the morgue (Bakhshi).

Exposure to psychological hazards

A study conducted among mortuary attendants in Nigeria found that psychosocial hazards such as work-induced stress, stigmatisation, depression and substance abuse were common complaints among mortuary attendants (Douglas

& Peterside, 2016). Regular contact and interaction with bereaved relatives of the deceased is a common source of psychological hazard among mortuary attendants. Silmilarly, in a study among mortuary attendants in Zambia, it was revealed that 100% of respondents regularly suffered psychological stress (Sirengo, 2014). The exposure resulted largely from continuously consoling stressed and depressed bereaved families on the death of dear ones as well as the isolation and stigma from some hospital staff, and family members (Sirengo).

Implementation of Universal Precautions for Formaldehyde exposure and PPE use

Universal precautions are simple infection prevention measures that reduce the risk of transmission of disease pathogens in healthcare settings (Sadoh, Fawole, Sadoh, Oladimeji, & Satiloye, 2006). Universal blood and body fluid precautions require that all body fluids be treated as infectious, notwithstanding the source of a person's diagnosis. The universal precautions mandate barrier protection whenever there is potential contact between the health care worker and blood, and other body fluids (Knight & Bodsworth, 1998). All dead bodies are potentially infectious and universal precautions should be regarded as safety measures to be implemented for every case (Saene Van, Silvestril, & Dela Cal, 2003). A safe workstation is the greatest security against infections (ILO, 2020).

According to Okoth-Okelloh et al. (2015), universal precautions were absent in many mortuary installations in Kenya. For example, 66.7% of the morgues had no appropriate engineering control features for safety and ease of work and only 7.7% of mortuaries had universal precautions instituted. Most of the mortuary facilities were hastily constructed without adequate hygeien

facilities such as sinks and washrooms (Okoth-Okelloh et al.). This is consistent with previous findings by Okoth-Okelloh et al. (2013), who reported that mortuaries were obsolete and not fit for purpose. Management of hospitals diverted resources meant for upgrading mortuary facilities to renovating other essential departments of the hospital (Ogunnowo et al., 2010).

A study in Kenya also found that mortuary attendants do not fully appreciate the role of PPEs in the provision of adequate barrier from hazards (Ogunnowo et al., 2010). Sirengo (2014) also revealed that mortuary attendants in Zambia do not wear the full working gears while working on dead bodies, even though the PPEs were available. Additionally, Shashi et al., (2016) found that mortuary attendants in Bangalore do not adhear to the standard operating procedures as PPEs were woefully inadequate. It was also reported that water supply to mortuaries in Knenya was irregular and resulted in the attendants ignoring the universal safety precautions (Nyaberi, Kakai, Obonyo, & Othero, 2014). A similar study among mortuary attendants in Nigeria revealed that over 60% of the respondents do not use PPEs whiles doing their work (Douglas & Peterside, 2016).

Provision of ventilation facilities

In Nairobi, Kenya, Nyambega (2012) found that ventilation in 79.5% of mortuaries was very poor. The study showed that mortuary attendants had to endure the stench from a large pile of decomposing bodies. Alcohol abuse became prevalent among mortuary attendants since they could not contain the situation without it. The situation reflects a disturbing deficit in preparedness, inadequate

planning and weak oversight in the design and maintenance of mortuary facilities by hospital management (Nyambega). Dixit (2008) argued that with effective ventilation facilities in place, exposure to formaldehyde will significantly reduce, especially during dissection and embalming. In a similar study, it was found that 48% of mortuary facilities in Kenya had weak facilities for ventilation. Hospital management do not seem to care much about the OHS concerns of mortuary attendants (Mbaisi, Wanzala, & Omolo, 2013).

Summary

The role of OHS in promoting and protecting the health and well-being of workers cannot be overemphasized (Lehtinen & Oronen, 2009; WHO, 2020). The overwhelming number of workers who suffer and even die from work related hazards raises moral, legal and also business arguments for more sustainable ways of achieving the ideal of decent work for all (ILO, 2020). Mortuary attendants are one such group that are particularly at risk of work-related hazards of frightening proportions, especially in this era of Covid-19, HIV/AIDS, Ebola, Lassa, Dengue, SARS, and other extremely contagious diseases (MoH, 2010; Wagstaff & Sigstad Lie, 2011; WHO, 2020).

The morgue is a place of mystery, gloom, sorrow or abhorrence and the living hope that they will never need to visit such a place. For relatives who have lost a dear one to an abrupt death, this becomes a reality (Brysiewicz, 2007; Ogunnowo et al., 2010). Stevens et al. (2010) found that the poor state of mortuaries is worse in developing countries where they are found to be unhygienic with rodents and foul odour (Chui et al., 2007). Riddell and Sherrard

(2000) also reported that in most developing nations, a significant number of morgues are miserably antiquated and defy contemporary safety standards. The situation in Ghana is no different from that of most developing countries in Africa (Kaledzi, 2020). Even in the face of these overwhelming concern for a robust OHS regime in all ILO member countries, Ghana is yet to implement a national policy on the subject (Liu, Nkrumah, Akoto, Gyabeng, & Nkrumah, 2020)

Efforts by MoH, Ghana, to make up for the absence of a national policy on OHS gave birth to the OHS Policy guideline for the health sector. The objective two of this policy provides that managers of healthcare facilities promote a safe and healthy work environments, work-practices and procedures for all health sector employees so as to reduce job related injuries and illnesses (MoH, 2010). Given the high risk nature of mortuary work, it would be useful to find out how implementation of this Policy Guideline is impacting workprcatices of mortuary attendants in the Sekondi-Takoradi Metropolis.

CHAPTER THREE

RESEARCH METHODS

The purpose of this study was to explore how implementation of the Occupational Health and Safety Policy Guide of MoH is influencing the work practices of mortuary attendants (MAs) in the Sekondi-Takoradi Metropolis (STM). This chapter describes the research methods, including the research design, population, sampling procedure, and the data collection instruments used. In addition, it contains data collection procedure, and data processing and analysis.

Research Design

The qualitative design was used in this study. This method is exclusively focused on collecting and analysing qualitative data in a study (Flick, 2014). Again, the concurrent explanatory approach was employed to collect and analyse all data. In this approach, the researcher does not wait for one period of data collection method to elapse before initiating the other method (Terrell, 2011). Therefore, methods such as participant-observation, interviews, direct observation, and describing records are most commonly used for collecting data under this approach (Cohen, Manion, & Morrison, 2011).

The focus of the study was also about the practices of safety among the attendants, and that such data could be best gotten from the attendants themselves, through observation, and by interviewing the managers of these attendants. However, in terms of research method, smaller sample size raises the issue of generalizability to the whole population of the research (Harry & Lipsky, 2014;

Thompson, 2011). To overcome some of these weaknesses, I used all the attendants in the metropolis and interviewed key informants who were the "best" in position to give such information.

Basic requirements for a modern/ standard morgue

The function and operations of a mortuary facility requires that some minimum standards are met in the structural design and equipment needs (Sirohiwal, Paliwal, Sharma, & Chawla, 2011). Therefore, every mortuary needs to have the following minimum facilities to meet both medico-legal and occupational health and safety requirements:- i) Reception – office space for all administrative duties. ii) Medical officer's room – to discuss details of cases with police and relatives and write reports, iii) Entry Lobby – for receipt of cases, with provision for separating decomposed and infectious bodies (known HIV/hepatitis/Covid-19/Ebola death cases), iv) Exit lobby – for viewing and release of bodies to relatives, v) Store – for holding chemicals and other materials, vi) Autopsy Room – for performing autopsies, vii) Body holding (refrigeration) room – for storing and preserving bodies, must have a lift/carriage for handling bodies, viii) Embalming room – for processing body before storage, with extractor, air conditioner, and washrooms and toilets facilities provided. A modern standard mortuary must have two separate sinks for both warm and cold, for handwashing and other hygienic practices, ix) Changing room – for donning and doffing. In addition, all sections of the morgue must be well lit, ventilated, and secured. There is the need for spacious car pack and security personnel assigned to the morgue (Sirohiwal et al.).

Unfortunately, Sirohiwal et al. (2011) described most mortuary facilities in Africa as neglected and lacking even the basic facilities for the departed souls, public and the mortuary attendants. Some of these gaps include i) Lack of store room – Office of the mortuary in-charges used as store, ii) Lack of Medical officer's room, iii) No entry lobby for proper receipt of and separating decomposed and infectious bodies, iv) No autopsy room, v) No lift/carriage for lifting bodies, vi) No functional handwashing sinks, vii) No bath room and water closet facilities, viii) No exit lobby. Morgues are generally poorly lit, poorly ventilated, and lack adequate security (Sirohiwal et al.).

Study Area

The study area comprised of hospitals in the Sekondi-Takoradi in the Western Region of Ghana. These healthcare facilities included the Western Regional Hospital, Takoradi Hospital, and Effman's Clinic. Western Regional Hospital (also known as Effia-Nkwanta Regional Hospital) was established in 1938 as a Military Hospital by the then British West African Royal Frontier Force (BWARFF) Base in Takoradi. It is currently a-230 bed hospital situated about 500 metres from the sea and shares borders with Adiembra road to the north, Poasi road to the south, Essaman to the east and West African Mills II to the west, and covers an area of 202 hectares. The hospital is the main referral centre for all medical conditions requiring specialist attention and serves as the head of clinical governance for all health facilities within the Western and Western North Regions. It has several specialist units and patronized by clients within and outside the region with its catchment area extending to Cote d'ivoire on the West,

Central Region on the east and part of Ashanti and Bono Ahafo Regions. As part of its range of services, the facility has a mortuary facility with a holding capacity of 100 bodies, second largest morgue in Sekondi-Takoradi Metropolis (Western Regional Hospital 2019 Annual Report, 2020).

Takoradi Hospital (also known as European Hospital) is one of the legacies bequeathed to Ghana by the colonial masters. It is a-120 bed facility built in the mid 1920's, and officially commissioned in 1929. It was built purposely to serve the medical needs of the Europeans who were brought in by the colonial masters to build the Takoradi Harbour, hence the name "European Hospital". Some top government officials and their dependants were later allowed to use the facility, strictly by appointment. In addition, the hospital was used as the final screening and medical centre for the Royal West African Frontier Forces (RWFF) prior to their departure for the World War II. After the commissioning of the Habour, the hospital continued to serve the whites (expatriates) and some high-ranking government and private officials who were working for the colonial regime. This restrictive service to a section of the populace was annulled by the first president of the country, Dr. Kwame Nkrumah, when he visited the metropolis. The hospital has since that period been functioning as the Metropolitan Hospital, rendering medical services to the metropolis and beyond. As part of its range of services, the facility has a mortuary facility with a holding capacity of 60 bodies (Takoradi Hospital 2019 Annual Report, 2020).

Effman's Clinic (also called Dr. Mensah Hospital) is a privately owned hospital located at Apremdo on the Takoradi-Agona road in Takoradi. The

hospital is a 30-bed facility established in 2013 and provides general medical services to clients. The facility also has a mortuary facility located about 500 meters away from the clinic and with a holding capacity of 600 bodies, and currently the biggest facility in the Western Region (Effman's Clinic 2019 Annual Report, 2020).

Population

The study population comprised all 16 mortuary attendants from all the three functional mortuary facilities in the Sekondi-Takoradi Metropolis, and 21 Senior Hospital Officers, as key informants. A total study population of 37 was used for the study, and deemed appropriate. They include: Western Regional Hospital – six MAs/ 13 Senior Hospital Officers, Takoradi Hospital – four/seven, and Effman's Clinic – six/one (Creswell, 2014). The senior hospital officers included: Western Regional Hospital – Health Services Administrator – 2, Occupational Health and Safety Focal Persons – 1, Quality Assurance/ Training/ IPC Coordinator – 1, Procurement Manager – 1, Internal Auditor – 1, Pathologist – 1, Environmental Health Officer – 1, Ward In-charges – 3, and Human Resource Manager – 1; Takoradi Hospital – Health Services Administrator – 1, Quality Assurance/ Training Coordinator – 1, IPC Coordinator – 1, Internal Auditor – 1, and Ward In-charges – 4; Effman's Clinic – Medical Director – 1.

Their main duties for the morgue include: the Health Services Administrator has overall oversight for the morgue and therefore is responsible for every activity that goes on there; the OHS Focal Person/Quality Assurance Coordinator is responsible for ensuring that the morgue meets the requirements of

the OHS Policy Guide of MoH; the Procurement Manager is responsible for ensuring that items procured for the morgue are adequate, regular and meet the safety requirements of the OHS Policy Guide of MoH; the Internal Auditor is responsible for ensuring that all activities at morgue are carried out in line with all policies of the service; the Pathologist is the direct head of the morgue and responsible for the day-to-day running of the place; the Environmental Health Officer is responsible for ensuring that the morgue and its operations promote and protect the health of staff and environment; the Ward In-charge is responsible for performance of the "last offices" for the dead body before realising same to MAs; the Human Resource Manager is responsible for providing the adequate number and mix of personnel for the morgue and ensure enforcement of their conditions of service; the Training Coordinator is responsible for ensuring that the attendants attain competence through a robust and effective training regime; and the IPC Focal Person is responsible for ensuring that the attendants apply the universal precautions at work.

Sampling Procedure

A sample size of 37, made up of all MAs (16), within Sekondi-Takoradi Metropolis and 21 senior hospital officers of the hospitals were involved in the study. This included six mortuary attendants and 12 senior officers from the Wetsern Regional Hospital, four mortuary attendants and eight senior officers from Takoradi Hospital, six mortuary attendants and one senior hospital officer from Effman's Clinic. This was adequate according to Creswell's (2013) rule-of-thumb which suggested five to 25 interviews for Phenomenological Analysis

(PA). Additionally, purposive sampling technique was used to select all participants for the interview.

Purposive sampling allows the selection of participants that meet a specific criterion (Gall, Gall, & Borg, 2007). This strategy allowed the selection of Mortuary Attendants who met the inclusion career qualifications, experiences, and level of responsibility. Also, it permitted me to sample senior hospital officers with responsibility for mortuary attendants.

Data Collection Instruments

Two data collection instruments were used for this study; interview guide and observation checklist. The interview guide was made up of 36 items divided into five sections. Section one (five items) explored the background information of MAs including age, gender, level of formal education, and work experience of MAs. Section two (three items) described awareness about the Occupational Health and Safety Policy Guide of MoH among MAs in the Sekondi-Takoradi Metropolis. Section three (four items) describes the knowledge about the Occupational Health and Safety Policy Guide of MoH among MAs in the Sekondi-Takoradi Metropolis. Section four (14 items) examined the conditions under which the MAs work, relative to the requirements of the Occupational Health and Safety Policy Guide of MoH. Section five (12 items) appraised the safety infrastructure put in place by management of the hospitals for the promotion and protection of health and safety of the MAs.

The observation checklist was made up of two parts: one was an 18-item checklist that assessed compliance of the working environments and other safety

requirements expected of mortuary facilities, and part two was a six-item checklist which examined the availability and use of PPEs and work practices. The questions and checklist were derived from the literature (Brysiewicz, 2007; Douglas & Peterside, 2016; Geest, 2006; Gershon, 2007; Litana & Kapambwe, 2017; National Pathology Accreditation Advisory Council [NPAAC], 2013; New South Wales Government [NSW], 2012; Shashi et al., 2016). Sample questions for mortuary attendants: *"Do you please know any of the responsibilities of workers as captured in the policy?", "Do you please know any of the responsibilities of employers/ management as captured in the policy?", "Were you given orientation on your specific duties during recruitment?"* and *"Have you had medical screening since your recruitment?"* Examples of questions asked members of management: *"Do you have an OHS plan for the morgue?", "Do you have a training schedule for mortuary attendants?", "Do you provide medical screening for mortuary attendants at the time of recruitment?", and "Do you have an OHS focal person for the morgue?"*

Pre-testing of instruments

Two MAs and three senior hospital officers from Takoradi Hospital were interviewed to pre-test the instrument. The three senior hospital officers used during the Pre-testing were not part of the main study. The recorded interviews were saved on a computer drive and transcribed using Phenomenological Analysis (PA) (Creswell, 2013).

Validity of the interview guide was established using the following procedures. Initially, a 5-item interview guide was used to interview two MAs and

three senior hospital officers from Takoradi Hospital, to evaluate and report any sentence ambiguity or grammatical errors. Furthermore, my supervisor refined the wording and quality of prompts to enhance the guide.

Though the items used for the study are already existing ones that are reported to be reliable, further reliability assessment was needed to ensure its applicable in this context (NPAAC, 2013; NSW, 2012). Peer-debriefing was done to give feedback regarding the research to respondents. This helped correct general errors and researcher biased assumptions. Credibility through member-checking was conducted by sharing interviews and interpretations with respondents to check its genuineness. Again, dependability was ensured by taking researcher notes of events during the study. Comprehensive notes were taken during analysis and interpretation as the study progressed to achieve confirmability of data. Finally, authenticity was achieved through a thorough description of participants' experiences (Creswell & Creswell, 2017; Connelly, 2016; Grossoehme, 2014).

Data Collection Procedures

Data collection ensued after approval of the research protocol was obtained from my supervisor. Subsequently, ethical authorisation to carry out the study was obtained from the Institutional Review Board [IRB] of the University of Cape Coast [UCC], Cape Coast (Appendix E: UCCIRB/CES/2020/19). In addition to the ethical approval, I took introductory letters from the Department of Health, Physical Education and Recreation, UCC (Appendices A, B, & C) to introduce myself to the Western Regional Director of Health Services, the STM

Director of Health Services, the Medical Directors of Western Regional Hospital in Sekondi, Takoradi Hospital in Takoradi, and Effman's Clinic in Apremdo, Takoradi, to seek permission for data collection. In addition, an informed consent form describing the purpose of the study, and estimated time required for the interview was shown to the respondents. Each participant signed the consent form to partake in the survey (Appendix A).

I did the data collection alone at the three hospitals. At this point, both the senior hospital officers and MAs were contacted face-to-face in their respective units, wards, and offices for the interview and observations. To ensure confidentiality and anonymity of participants, responses were coded instead of the use of names of persons or units. The facilities were visited on daily basis for three weeks each. This occurred during break period (12–2 pm) to prevent too much interference with the routine activities of the MAs. A walk-through assessment of the mortuary was conducted using the observation checklist. The observations covered floor (whether hard and durable, moisture resistant and easily cleaned, floor ducts and trenches absent, junctions between walls and floors well covered/ sealed), walls (whether thick, durable and permanent, fitted with pale blue colour tiles up to the ceiling), doors (whether wide sliding and fly proof), corridors (whether wide and not less than 8fts.), water supply (whether regular, both hot/cold available, adequate sinks or washing basins, elbow operated taps in the working area), and emergency facilities (whether emergency lighting in place, fire sprinklers and smoke/thermal detectors functional, fire exit routes

clearly identifiable, well illuminated and earmarked with bold red arrows) (NPAAC, 2013; NSW, 2012).

Impromptu assessment of work practices were also conducted during peak working hours, like Fridays and Saturday mornings, using the checklist. The MAs were interviewed mostly on Saturday afternoons and late afternoons when they were less busy. In addition, the Senior Hospital Officers were interviewed about their responsibilities for the morgue in the implementation of the OHS Policy Guide of MoH. Moreover, the checklist was used to observe the availability and state of safety features, the general work stations, use of PPEs, and adherence to the universal precautions at the mortuaries. The remarks column on the checklist was used to record details of all key observations. The interviews lasted between 30 and 45 minutes while the observations lasted between 30 and 50 minutes and took place within July 2020, after IRB approval had been procured.

Data Processing and Analysis

The lived experiences of MAs in Sekondi-Takoradi Metropolis about the OHS Policy Guide of MoH and their safety practices were explored. Phenomenological Analysis (PA) approach was used in analysing all data. Manual transcriptions were done for each audio recording. Again, all names mentioned in the interviews were anonymised using pseudonyms to ensure confidentiality.

Research objective one: To explore the knowledge of mortuary attendants in Sekondi-Takoradi Metropolis in the OHS Policy Guide of MoH

Research objective one measured the level of knowledge of MAs in Sekondi-Takoradi Metropolis about the OHS Policy Guide of the MoH, which is

supposed to inform the operations of the attendants. Firstly, multiple reading and notes making were undertaken. At this stage, each transcript was read a number of times while audio recordings were played severally. This step enabled me to immerse myself in the data (Birks, Chapman, & Francis, 2008). Following this process, initial summaries and observations were written at the left margins of each transcript. Secondly, data verification and member checking were done to deal with repetitive and irrelevant responses (Pietkiewicz & Smith, 2012). These steps were done by contacting participants to verify the transcripts and to throw more lights on the meanings derived from the data. Thirdly, I transformed the notes into emergent themes. Additionally, I sought relationships among themes and then followed up to group these themes into categories (Creswell, 2013). In building relationships among themes, some themes were dropped because they did not fit into the emerging construction. At the end, two themes emerged; (i) awareness and knowledge of personnel and collective worker responsibilities, and (ii) the responsibilities of management towards workers.

Research objective two: To determine the health and safety challenges associated with mortuary work, among mortuary attendants in Sekondi-Takoradi Metropolis

Research objective two explored the common health and safety concerns associated with mortuary work in Sekondi-Takoradi Metropolis. Following the Phenomenological Analysis steps of Creswell (2013), and Pietkiewicz and Smith (2012), a number of themes were noted at the right margin of the transcripts. Likewise, six themes finally emerged; (i) exposure to chemical and biological agents, (ii) ergonomic conditions (physical strain), (iii) extreme temperature

variations, (iv) workplace violence and psychological conditions, (v) noise, and (vi) irregular working time arrangements.

Research objective three: To examine the safety measures provided for mortuary attendants by hospital managers in Sekondi-Takoradi Metropolis

Research objective three examined the safety measures provided to MAs at Sekondi-Takoradi Metropolis, and whether there exist any differences between public and private mortuary facilities in the metropolis. Again, following the Phenomenological Analysis steps of Creswell (2013), and Pietkiewicz and Smith (2012), a number of themes were noted at the right margin of the transcripts. Likewise, 10 themes finally emerged; (i) provision of training, (ii) PPEs, (iii) medical screening, (iv) monitoring and supervision, (v) first aid facilities, (vi) space and general layout of mortuary environment, (vii) hygiene facilities, (viii) electrical wires and fittings, (ix) fire safety facilities, (x) cold room facilities in hospital wards.

Research objective four: To determine the safety practices among mortuary Attendants in Sekondi-Takoradi Metropolis

Research objective four explored the level of safety practices among MAs in Sekondi-Takoradi Metropolis as required by the OHS Policy Guide of the MoH, which is supposed to inform the operations of the attendants at the morgue. Similarly, the Phenomenological Analysis steps of Creswell (2013), and Pietkiewicz and Smith (2012) were used in organising the data. A number of themes were noted at the right margin of the transcripts. Also, four themes finally emerged; (i) hand hygiene, (ii) personal hygiene, (iii) use of PPEs, and (iv) working posture.

CHAPTER FOUR

RESULT AND DISCUSSION

The purpose of this study was to explore how implementation of the Occupational Health and Safety Policy Guideline of MoH is influencing the work practices of Mortuary Attendants (MAs) in the Sekondi-Takoradi Metropolis (STM). The results and discussions are presented in this chapter.

Table 1: Demographic Characteristics

Variable		Frequency	Percentage
Gender	Male	14	87.5%
	Female	2	12.5%
Age	32 – 45	11	68.8%
	46 – 59	5	31.2%
Level of education	Primary	3	18.7%
	JHS	3	18.7%
	Middle School	6	37.6%
	SHS	3	18.7%
	Technical/Vocational School	1	6.3%
Work experience	≤ 11months	2	12.5%
	1-5yrs	7	43.8%
	6-10yrs	2	12.5%
	11-15yrs	3	18.7%
	16-20yrs	2	12.5%

Source: Field interview (2020)

Table 2: Summary of Themes Emerging from the Findings

Objective		Themes
One	Explore the Knowledge of Mortuary Attendants in Sekondi-Takoradi Metropolis in the OHS Policy Guide of MoH	(i) Awareness and knowledge of personnel and collective worker responsibilities, and (ii) the responsibilities of management towards workers.
Two	Determine the Health and Safety Challenges Associated with Mortuary Work, among Mortuary Attendants in Sekondi-Takoradi Metropolis	(i) Exposure to chemical and biological agents, (ii) ergonomic conditions (physical strain), (iii) extreme temperature variations, (iv) workplace violence and psychological conditions, (v) noise, and (vi) irregular working time arrangements.
Three	Examine the Safety Measures	(i) Provision of training, (ii) PPEs, (iii)

	Provided for Mortuary Attendants by Hospital Managers in Sekondi-Takoradi Metropolis	medical screening, (iv) monitoring and supervision, (v) first aid facilities, (vi) space and general layout of mortuary environment, (vii) hygiene facilities, (viii) electrical wires and fittings, (ix) fire safety facilities, (x) cold room facilities in hospital wards.
Four	Determine the Safety Practices among Mortuary Attendants in Sekondi-Takoradi Metropolis	(i) Hand hygiene, (ii) personal hygiene, (iii) use of PPEs, and (iv) working posture.

Source: Field interview (2020)
Table 2 continued

Research Objective One: To Explore the Knowledge of Mortuary Attendants in Sekondi-Takoradi Metropolis in the OHS Policy Guide of MoH

The aim of this analysis is to explore the knowledge of MAs in Sekondi-Takoradi Methodology about the OHS guide of the MoH which is supposed to inform the operations of the attendants. Sixteen (16) MAs from all functional mortuary facilities and three (3) senior hospital officers were interviewed. Using thematic content analysis, two themes emerged; (i) awareness and knowledge of personnel and collective worker responsibilities, and the (ii) responsibilities of management towards workers.

Theme one: Awareness and knowledge about responsibilities of MAs

Lower awareness 2 and knowledge 0 about the OHS Policy Guide of MoH among MAs in STM was established. Two MAs who said they were aware about the existence of the policy got to know of it during in-service trainings organised in their facility. In an attempt to mention the responsibilities of MAs (employees) as enshrined in the policy guide, a 43-yr old male MA (WRHMA2) said:

"We are not expected to drink alcohol while on duty; we must not be late to work; we must not be lazy at work; and we must not fight at work." (Over 15 yrs work experience).

Additionally, none of the two MAs who were aware of the policy guide saw or own a copy of the policy guide.

Theme two: Knowledge about responsibilities of management

Knowledge about the responsibilities of hospital management (employers) under the policy guide among MAs in STM was low. None of the MAs could correctly mention the role of their superiors in promoting safe and healthy work environment, work practices, and procedures in order to minimize work-related injuries and illnesses for the attendants. A 43-yr old male MA (WRHMA2) made an effort to mention the responsibilities of hospital managers as follows:

"They must pay us our salary; provide us with our working tools and materials; fight for us, that is solve our problems like our risk allowances must be part of our salary and not paid by the hospital." (Over 15 yrs work experience).

Some senior hospital officers were also interviewed about the issue of education and training of the attendants. A hospital manager (WRHHoA) admitted there were major issues with OHS standards at the morgue but identified some major factors, in his view, contributing to the poor state of health and safety of mortuaries in Ghana. This includes:

(i) knowledge deficit of MAs, due to low levels of formal education,

(ii) *lack of professional training institutions and a regulatory body for MAs, he believes, make it difficult to design an effective training programme that fit their peculiar needs.* (Over 10 yrs work experience).

The findings of this study unveiled two major themes regarding awareness and knowledge of MAs about the OHS Policy Guide of MoH and how that was influencing their general safety practices at work. Level of formal education and training (pre-deployment training on specific job functions and post-deployment/routine training) were suggested as prerequisites for participants' awareness and knowledge about collective worker responsibilities and responsibilities of health managers towards workers under the OHS policy guide. Mortuary attendants in Ghana are found to have very low levels of formal education and also lack the basic professional training required to function effectively at the morgue (Lashibi funeral home plans training for mortuary attendants, 2019). Recruitment of MAs is done without any standard academic or professional qualifications which turn to reflect their knowledge and appreciation of safety policies and protocols as observed in this study as well.

A study among MAs in Ibadan revealed low levels of formal education among participants (Adamu & Lawani, 2018). This outcome could be explained as Mwangi (2019) reported that health managers in Kenya pay little or no attention to the educational or professional qualifications of MAs during recruitment. Little wonder, hence, that participants in the current study showed such low levels of awareness and knowledge about a policy that provides for their safety at work. Consistent with these findings, another study in Kenya reported

unsatisfactory levels of awareness and knowledge among MAs which influenced their safety practices (Nyaberi, 2014). Health and safety managers are accordingly charged to pay attention to the level of education of MAs in developing their health and safety training needs (Health and Safety Executive, 2018). However, a study from Nigeria found high (96%) levels of awareness about hazards and safety among MAs (Douglas & Peterside, 2016). It must however be understood that higher levels of education alone does not guarantee adequate knowledge about health and safety among workers, but also Pre- and Post-deployment trainings (Stein et al., 2003).

The findings suggest that gaps in pre and post-deployment training contributed to the low levels of awareness and knowledge among MAs in STM about the OHS Policy Guide. Contrary to provisions of the OHS Policy Guide of MoH, health managers have no clear plan for training MAs, before and after recruitment. However, effective pre and post-deployment training were found to contribute to enhancing the knowledge of workers in the donning and doffing of safety apparels and general adherence to the universal precautions (Loibner, Hagauer, Schwantzer, Berghold, & Zatloukal, 2019). In investigating perceptions of health workers on workplace safety and incidence of injury, Aljabri et al. (2020) found that orientation during recruitment contributed to increased knowledge about healthcare hazards. In contrast to the current finding, a previous study measuring awareness and knowledge about Ghana's patients' charter among health staff reported significantly high levels of awareness and knowledge

(Dumahasi, 2016), which might be a result of high levels of formal education attainment among the previous participants.

It is safe to deduce that level of formal education alone is not enough to guarantee adequate knowledge among MAs; pre-deployment and post-deployment trainings are also relevant. However, the high level of lack of awareness and knowledge among MAs about the OHS Policy Guide of MoH could be leading the attendants into exposing themselves and other clients to risk associated with mortuary work. In another case, because they are not aware and possess very low knowledge of the responsibilities of their management towards their health and safety, demanding such from the management becomes non-existence. This is likely to lead to minimal protection and high level of exposure to mortuary hazards among the attendants.

Research Objective Two: To Determine the Health and Safety Challenges Associated with Mortuary Work, among Mortuary Attendants in Sekondi-Takoradi Metropolis

The aim of this analysis is to identify the common health and safety concerns associated with mortuary work in STM. Sixteen (16) MAs of all functional mortuary facilities were interviewed. Using thematic content analysis, six themes emerged; (i) exposure to chemical and biological agents, (ii) ergonomic conditions (physical strain), (iii) extreme temperature variations, (iv) workplace violence and psychological conditions, (v) noise, and (vi) irregular working time arrangements.

Theme one: Exposure to chemical and biological agents

Chemical and biological agents were found to be common exposures in mortuary facilities in STM. Findings showed that majority, 14, of MAs regularly come into contact with formaldehyde, detergents, and other solvents in the course of work. This exposure is mostly through inhalation and direct skin contact. Incidence of body fluids from cadaver, formaldehyde and other fixatives splashing into the faces of MAs was high. Chemicals are routinely handled at the morgue without the use of adequate PPEs. A 42-yr old male MA (THMA1) shared his experience:

> "*I have been exposed to formaldehyde and other chemicals severally, I've even lost count. Even just last week, I suffered a heavy splash into my face and actually into my eyes when a tube of the embalming machine disconnected from a vein of a body I was working on. As for the goggle, you can't see well when you wear it."* (Over 3 yrs work experience).

Another 33-yr old male MA (ECMA1) narrated:

> "*Two years ago, when we were still using formaldehyde, the experience was terrible. The vapour from the formalin creates difficulty in breathing and produces a 'pepper-like' sharp sensation on the eyes which normally results in tears. You just couldn't avoid it as a MA. Splashes of formalin and body fluids on us? Oh, once you do this work, you will experience it. Sometimes the body is already going bad before they bring it but you have to work on it. You asked why we don't use the goggle and nose masks? Ok, as for Formalin, you are better off not using the nose mask because you*

can't breathe well when you have it on. You see, no matter the space and ventilation in the room, like in our case, Formalin doesn't care about that. Ask anybody who has worked with Formalin in the Morgue before and he will confirm this experience to you. But since our boss (Respondent ECMD) introduced these new chemicals ('Dodge Plasdo-25 Humectant Arterial' and 'Dodge Standard Arterial') everything changed. These new chemicals smell like toffee and don't give any discomfort when used. In fact, you may not even notice it when you approach the morgue unlike the Formalin that could be felt at a distance." (Over 3 yrs work experience).

Theme two: Exposure to ergonomic conditions (physical strain)

Ergonomic conditions (physical strain) were also found to be common exposures affecting majority, 14, of MAs in STM. Poorly designed workstations with inadequate space, strenuous work postures during lifting of dead bodies, and other repetitive movements while managing dead bodies, resulting in regular waist, back, neck and arm pain were common complaints among MAs. A number of MAs had experienced dead bodies falling on them while attempting to pull the dead bodies out of the refrigerator. A 44-yr old Female MA (ECMA2) shared her experience:

"I have experienced dead bodies falling on me many times; it's a common occurrence. I'm sure we are not the only people that experience this because even at my previous work place, it happens. The thing is the body has become frozen and caked so as you try to pull it out of the freezer then it slides off and before you know it, you are down with the body. But there

was no incident of fracture, but only bruises. At other times too, the body may not fall on you or hit you but the force will throw you down. I experience bodily pains all the time, especially after days when we discharged more bodies." (Over 8 yrs work experience).

Another 32-yr old male MA (THMA2) explained:

"Once I was pulling a body from the cabinet and my arm rubbed against the sharp edges of the cabinet and that resulted in bruises. You can see the scars on my arm. The space in the morgue is so small that you can't even use the ladder. Another problem is you have to stand on your feet for a long time when working on the body during embalming." (5 yrs work experience).

Theme three: Exposure to extreme temperature variation

Findings from this study also showed that exposure to extreme temperature variations is experienced by majority, 14, of MAs in STM. These MAs move in and out of the cold rooms to either deposit or remove dead bodies, often without the appropriate protective apparels and thus leaving them exposed. A 33-yr old male MA (ECMA1) shared his experience:

"*This is something we experience regularly. I feel a strange sensation in my whole body, and sometimes with headaches, whenever I come out from the cold room, especially on days that we discharge more bodies. As for the hand, we always experience numbness even if you remove only one body from the refrigerator. I know this may have some effect on my health but there is nothing I can do."* (Over 3 yrs of work experience).

While some MAs acknowledged the potential health effects of this exposure, others do not seem to see the danger. One 36-yr old male MA (ECMA3) explained:

> "*As for the numbness in the hand, I experience it all the time but I don't think it can do anything to me because it's just like the way we use our domestic fridges."* (Over 4 yrs work experience).

Theme four: Exposure to workplace violence and psychological conditions

The result further established that exposure to workplace violence and psychological conditions were experienced by all, 16, MAs in STM. This is usually in the form of verbal attacks and stigmatisation. Relatives who are unhappy with certain procedures at the morgue verbally abuse MAs. Some common reasons for attack on MAs by the public included release of bodies to factions or rivalry groups in the family of the deceased, release of wrong bodies to families, or when the body goes bad. Incidence of stigmatisation and social isolation, especially by nurses, are common experiences of MAs. No security person is specifically assigned to any morgue in STM and with some MAs doubling as security at the morgue. A 54-yr old male MA (THMA3) recounted:

> *"We suffer stigmatisation all the time, especially from the nurses. Some of them think we are less human than them and unclean to be in the same environment with them. I felt very terrible when a senior nurse asked me if I also have a female partner and whether I am able to have sex with her. I felt really violated by this rude comment and views about me; but what*

can you do? The only time some of them know we're relevant is only when they have a relative at the morgue." (14 yrs work experience).

Another 34-yr old male MA (WRHMA1) admitted:

"Yes, stigmatisation against us is there but I think it is human nature. Not everyone would like you; you may find people who may like you and others who may not want to even see you at all." (13 yrs work experience).

Theme five: Exposure to noise

Exposure to noise was also found to be experienced by all, 16, the MAs in STM. This usually occurs on Fridays, in the form of wailing, shouting, aggressive dancing and drumming, and honking of car horns by relatives who have come to pick their bodies. The atmosphere at the morgues was often drowned in loud noise, making it difficult for the MAs to concentrate and complete the procedures for releasing the bodies. A 43-yr old male MA (THMA4) lamented:

"*Look at the location of our morgue and the wards around. So, at times the noise can be so loud that the nurses do come and complain bitterly that the patients on admission are being disturbed. When it happens like that then we call the leader to control the people otherwise the body would not be released. Sometimes the people would be many that they spill over to the space in front of the administration and wards around. Mostly, it is the youth that make noise during these periods."* (3 yrs work experience).

Some MAs found this exposure normal and could not be separated from death as that was the most common way bereaved families expressed their loss. A 32-yr old male MA (THMA2) said:

> *"For me I think the noise is normal; because death and noise are inseparable in our society. Especially when the person dies a painful death at a young age and the family thinks that he was killed. You can only control it small but you can't stop the family from mourning their dead. The only thing is that, sometimes is too much, especially when they drink alcohol."* (5 yrs work experience).

Theme six: Exposure to irregular working time arrangements

The findings further showed that irregular working time arrangements were also common exposures experienced by all, 16, MAs in STM. All MAs in the metropolis work for 12hrs daily and 15 of them have not gone on annual leave since recruitment. Nine of them have spent between one month to five years on the job while 7 have spent six years and above.

Mortuary attendants in Ghana are found to be frequently exposed to chemicals and biological agents (formaldehyde, fixatives, detergents, verminous /infectious body fluids and other blood borne elements) during work which are mostly through inhalation and direct contact with skin (Kaledzi, 2020). A study among MAs in Nairobi revealed that 71.9% of MAs were frequently exposed to high levels of chemicals and other agents in the morgue (Sirengo, 2014). Consistent with the current finding, another study in Ndola, Zambia reported that all MAs were frequently exposed to formaldehyde and fluids from dead bodies

(Litana & Kapambwe, 2017). This outcome could be explained as Kaledzi (2020) reported that health managers in Ghana do not provide MAs with adequate protection against exposures in the morgue. Formaldehyde, the main preservative used in the morgue, was classified a 'Group I' compound and carcinogenic in humans (IARC, 2006). According to ILO (2003a), cancer is the main cause of work-related fatalities which, unfortunately, is detected long after the worker had gone on retirement. Therefore, there would be the need for the provision of PPEs for workers' protection. However, Gershon et al. (2007) reported that inadequate supply of PPEs, poor attitude to safety by MAs, low level of education among MAs, and lack of training for MAs together contribute to the high incidence of exposure to formaldehyde and blood borne elements in the morgue.

Mortuary attendants in Ghana are also found to be frequently exposed to ergonomic conditions (physical strain) (How mortuary men are recruited in Ghana?, 2017), as the findings of the current study also revealed. Poorly designed workstations with inadequate space, strenuous work postures during lifting of dead bodies, and other repetitive movements while managing dead bodies result in regular waist, back, neck, and arm strain and pain among MAs. A number of the MAs had experienced dead bodies falling on them while attempting to pull the bodies out of the refrigerators. Kaledzi (2020) reported that mortuaries in Ghana are increasingly congested with dead bodies, just like prisons, and thus exposing MAs to physical strain. Similarly, Litana and Kapambwe (2017) found that 90.9% of MAs were regularly exposed to physical strain resulting in arm, neck, and back pain.

The findings further showed that majority of MAs in STM frequently experienced extreme temperature variations. These MAs move in and out of the cold rooms to either deposit or remove dead bodies, often without the appropriate protective apparels and thus leaving them exposed. According to Kannan (2012), exposure to frequent transition between hot and cold environments could result in eye infections, muscular spasms and respiratory infections. Exposure to temperature variations in the morgue thus leaves MAs at risk of severe asthma attacks, flu, runny noses, sinusitis, severe pains, sore throat, muscular pain, pharyngitis, cold, and muscular aches.

Health workers in Ghana are reported to be experiencing increasing stigmatisation in the wake of the Covid-19 outbreak in Ghana. For example, transport drivers are refusing to pick health workers, food vendors are refusing to sell food to them, and landlords are ejecting them from their rooms, due to the fear of contracting Covid-19 from such workers (Kojo, 2020). Findings of the current study further revealed that all MAs in STM experienced workplace violence and psychological conditions. This confirms a previous study by Douglas and Peterside (2016) which reported that all MAs frequently experienced work-related psychological stress, stigmatisation, and depression. It was also found that interactions with bereaved relatives are common source of psychological hazards to MAs. To that, Sirengo (2014) revealed that MAs regularly suffer psychological stress as they attempt to console stressed and depressed bereaved families on the death of dear ones. Additionally, Wege et al.

(2008) observed that work conditions such as noise, heat, and shift work add up to increasing incidence of stress.

The findings further showed that all MAs in STM experienced noise at work. Consistent with the current study, Sirengo (2014) reported in a study assessing the occupational health hazards among MAs in Nairobi that noise was frequently experienced by the workers. Litana and Kapambwe (2017) also reported that MAs in Ndola experienced hearing problems due to frequent exposure to extreme noise during work.

Mortuary attendants in Ghana are found to work beyond eight hours, daily, and consistently denied annual leave (Mortuary workers to strike over unfavourable working conditions, 2018). The current findings also revealed that all MAs in STM experienced irregular working time arrangements, i.e. they work for 12hrs daily and almost all of them have not gone on annual leave since recruitment. These may adversely affect their health condition especially at long-term. Dahlgren et al. (2006) reported that extended working hours increases negative health outcomes such as lower cortisol secretion, increased blood pressure and heart rate due to insufficient rest. Similarly, Bjorvatn (2007) reported that employees with irregular work schedule and night shifts stand the risk of digestive disorders, disturbed biological rhythm, and eventually physiological disturbances. Further, Dembe et al. (2005) reported that employees stand a high probability of hazard injury for working for very long hours without adequate time for recuperation.

Research Objective Three: To Examine the Safety Measures Provided for Mortuary Attendants by Hospital Managers in Sekondi-Takoradi Metropolis

The aim of this analysis is to find out the safety measures provided to MAs at Sekondi-Takoradi Metropolis and whether there exist any differences between public and private mortuary facilities in the metropolis. By the aid of thematic content analysis, ten themes emerged: (i) provision of training, (ii) PPEs, (iii) medical screening, (iv) monitoring and supervision, (v) first aid facilities, (vi) space and general layout of mortuary environment, (vii) hygiene facilities, (viii) electrical wires and fittings, (ix) fire safety facilities, and (x) cold room facilities in hospital wards.

Theme One: Provision of training

No mortuary facility in STM has either a training schedule or a health and safety plan for the morgue and its attendants. Majority, 14, of the MAs in STM were recruited and deployed to the morgue without pre-deployment training (orientation) on their jobs. However, a good number, 12, of MAs participated in workshops in IPC, usually organised during periods of peer review of hospitals in the metropolis. Notwithstanding the high participation in IPC workshops, MAs do not adhere to the universal precautions which describe the gaps in the provision of training for MAs because the aim is not necessarily for health and safety but to meet peer review requirements. A senior hospital officer (WRHTC) observed:

> *"The training unit always emphasises on adherence to the universal precautions which, as you may be well aware, is important in infection prevention and control, and for that matter OHS. The unit has a training schedule for all staff which covers IPC and OHS, but there is no specific*

training schedule targeted at MAs alone. As for the mortuary, the unit is aware of everything there. My colleague and I pay regular visits to the facility, especially during periods of peer review. The in-charge of the morgue comes to this office and we talk about the way the place is. They (MAs) are always part of our training programmes even though they don't always show-up. We don't matter oooo, hmmmm. My brother, we don't even have the resources for effective training. Even the sink you see in this office, we had to buy it ourselves after several requests." (Over 10 yrs work experience).

Another senior hospital officer (WRHP) lamented:

"...I'm not going to endanger my health by operating from such a morgue where the basic health and safety requirements are not in place. My office at the Mortuary is still under renovation. My plan was to organise a special training programme for all MAs as soon as possible, but the place is still not ready. I have always drawn the attention of management to the possibility of an outbreak of an infection traceable to the morgue. The Covid-19 has clearly underscored that point." (Over 10 yrs work experience).

Mortuary attendants use a number of tools and equipment during the process of embalming, but results revealed that MAs in STM were not trained in how to handle, and decontaminate these tools and equipment after use.

A 34-yr old male MA (WRHMA1) explained:

"No one handed over even one mortuary equipment to me when I assumed duty, so we had to arrange for our own tools we use during embalming. They (management) don't think about us ooo. We had to arrange for many of the things ourselves. I'm waiting for the pathologist to finally start operating from here (mortuary) then we can submit a full list of tools required at the morgue to them (management) to buy for us. By then, I'm sure they (management) can't say no to our requests any longer." (13 yrs work experience).

The result, however, indicates that some differences in the provision of pre-deployment training exist between public and private mortuary facilities in STM. Mortuary attendants in the private morgue were provided some form of pre-deployment training in IPC and in the use of chemicals. This training was usually provided by a member of management. Management of public mortuary facilities, however, had no provision for pre-deployment training for MAs. Senior MAs are usually the ones that introduce the new recruits to the job in public facilities. Nonetheless, the findings of the study showed that senior MAs do not follow the appropriate safety protocols and could not provide responsible mentorship to the new recruits. A 33-yr old male MA (ECMA1) noted:

"Truth is only one; we don't always observe the safety protocols. There were occasions when some of my senior colleagues walked around the mortuary environment on barefoot and also handle dead bodies with bare hand and when you tell them it is not good; they would tell you they have been on this job before I joined. They tell me nothing has happened to

them all these years and they know the job better than me. Even though I'm now the one in-charge here, they don't listen to me when I caution them against poor safety practices." (Over 3 yrs work experience).

Theme two: Personal Protective Equipments

Some 10 of MAs indicated that management of health facilities in STM provides PPEs to the workers. However, upon further observation, it was found that no MA in STM was provided with the full complement of PPEs, required by IPC protocols. This includes respirators (N95 or equivalent), gown, heavy duty/utility and disposal gloves, goggles, boots, leather aprons, head gears. Explaining the situation, one management member (THHoA) noted:

"...I visit there (the morgue) almost every week to see how they (MAs) are working and sometimes I interact with them so as to get to know their challenges. We may not have provided them with everything they needed but given our resource limitations, at least we make sure that their logistical needs are always met." (Over 10 yrs work experience).

Further checks with MAs showed that provision of PPEs was neither regular nor adequate. Confirming this observation, a senior hospital officer (WRHEWN) reported:

"...Well, sometimes I don't blame them (MAs) because maybe they don't have all the PPEs because even in our case as nurses, we don't have all the PPEs. Just imagine that in this period of Covid-19, look at the type of nose mask we are using; this one would only trap saliva and not prevent Covid. We sometimes work without gloves." (Over 5 yrs work experience).

Nonetheless, supply of PPEs to MAs in STM was found to be comparatively more adequate and regular at private facilities than the public ones. It was observed that whereas management of the private facility had a business attitude to issues regarding the morgue, same cannot be said for management of public facilities. Management of public facilities concede that the morgue was a major source of revenue but appeared confounded by competing needs of other departments within the hospital. Investment in the morgue at public facilities was more about machines and less about the security, safety, and welfare of MAs. Describing the situation at public facilities, one senior hospital officer (WRHEWN) noted again:

> *"See, they (MAs) mostly come for dead cases without the appropriate PPEs. Sometimes we had to give them our examination gloves to use. The best dressed MA I have seen since my work here is one with utility gloves and apron. You would hardly see them with more than two PPEs on; either they come with gloves and nose mask only or apron and gloves only. What can you do? Sometimes I pity them because they don't have all the PPEs."* (Over 5 yrs work experience).

Theme three: Medical screening

Apart from occasional testing and vaccinations against hepatitis 'B', especially, there was no provision for pre-recruitment and routine annual medical screening for MAs in STM. Even the occasional testing and vaccinations against hepatitis 'B' was occasioned by the annual peer review exercises among hospitals in STM. A management member (THHoA) explained:

"We organise medical screening for all staff annually, but we haven't considered what you are asking for, that is medical screening targeted at only MAs. It's a very good suggestion which I will take up with management. Our biggest challenge is delays in reimbursement from NHIA for services provided and without money there is little we can do. But we would look into the issues you've (researcher) reported." (Over 10 yrs work experience).

There seem to be no differences found between public and private mortuary facilities as regards the provision medical screening for MAs in STM.

Theme four: Monitoring and supervision

Only a few, 4, health managers in STM with oversight responsibilities for mortuaries and MAs, regularly visit the morgue. This was echoed by one management member (WRHHSA):

"I do visit the mortuary to see if things are going on well but I have not been able to enter the internal environment. You see, the way the place is with all the smell, I couldn't enter to assess the environment. But I know the ongoing renovation works at the morgue will resolve most of the things you have observed. But my boss (head of administration) visits the morgue more frequently, sometimes twice or more in a week, so I'm sure he knows all the issues regarding the place." (2 yrs work experience).

Another management member (THHoA) reported:

"I visit there (the morgue) almost every week to see how they are working and sometimes I interact with them so as to get to know their challenges

but I hadn't paid attention to some of the issues you (researcher) are raising. We may not have provided them with everything they needed but, at least given the resource limitations, we make sure that their logistical needs are always met." (Over 10 yrs work experience).

Nevertheless, it was found that management of the private mortuary facilities in STM provided regularly monitor and supervise safety practices of MAs, while at the public facilities, supervision and monitoring was both weak and irregular. Most senior hospital officers in public facilities with oversight for the morgue visit the morgue but had no clear plans for effective monitoring and supervision. One senior hospital officer (THHoA) observed:

"Back to the MAs, I think one reason for their poor attitude to safety is their low level of education. You can even train them well but their ability to grasp the concepts may be difficult for them. I think what we can do is rather intensify monitoring and inspection and also do more on-sight corrections. That is the only way forward I think." (Over 10 yrs work experience).

Theme five: First aid facilities

Only one mortuary facility in STM provided first aid facility at the morgue. No MA in STM was trained to provide first aid when required during work. Some of the MAs were really surprised that all working environment, including the morgue, must have first aid facilities. In their view, regular supply of their routine logistical needs could not even be guaranteed and not to mention first aid kits. A 42-yr old male MA (THMA1) explained:

"Eih! First aid? As for this, it would be difficult ooooo. I don't think our bosses (management) would be prepared to provide this for us. Even when we sustain injury at work and report for treatment, the attitude of the nurses towards us is always bad. The nurses don't accord us the treatment deserving a staff of this hospital; how to even touch us is a problem. No one treats our issues with seriousness. We have complained at staff durbar that the way nurses, especially treat us at the hospital was not good, but they just laughed and nothing was done about it." (Over 3 yrs work experience).

Another 35-yr old male MA (WRHMA3) observed:

"*We don't have anything ooooo. Even nose masks are not adequate for all of us and you are asking about first aid kit? I told you that they (management) don't care about us." I know they would say that but we are working at the hospital and if we suffer any injury, we should report at the OPD for treatment. But if we can do something first before we go to the OPD, I think it would help. Should something serious happen to any of us here and you call them (nurses), I know they would not respond promptly. Should the person die before they come? As for mortuary work, our problem is big."* (14 yrs work experience).

However, it was found that the private morgue had a first aid kit in place and regularly checked by the Medical Director of the facility.

Theme six: Space and general layout of mortuary environment

The internal and external environments of public mortuary facilities in STM are not conducive for work. The work stations are small and congested, poorly lighted, have no air conditions, poorly ventilated, floors and walls are cracked, paints are peeling off the walls, doors are old and need replacement, there were cobwebs on the ceilings and walls, ceilings in some parts were off, and very old, poorly arranged furniture. The whole environment looks unkempt and most unattractive. A 34-yr old male MA (WRHMA1) lamented:

> "*You can see for yourself the way this place looks like, with no light in this office. We had to buy our own ceiling fan and bulbs for the embalming room. Our bosses (management) do not care about us and even when you request for things, they don't provide them. Sometimes, people come to take their bodies away to private morgues, especially the big men (rich men) because this place is not nice. Our biggest problem is that the place (mortuary) is too small so you can't even work well. We have only one sink in the whole place (morgue) because there is no space.*" (13 yrs work experience).

The situation was however different at the private mortuary with very spacious internal and external environments. The working station was well designed with new, well-arranged and adequate furniture, painting was smooth and intact, floors and walls are smooth and with no stains, ceilings were intact, clean and bright, there are adequate windows, there are ACs to regulate temperature and improve ventilation, and illumination was adequate. The external environment was tilled and interspersed with beautifully trimmed and 'boxed'

hedges and grasses, flowers, and ornamental trees in good patterns, the whole environment looks very attractive, relaxing, and therapeutic and with walls around the whole area. A 33-yr old male MA (ECMA1) said:

> "*I am very happy working here because of the nice environment. My friends and family members who visited me here were really surprised at the environment. They said the place looks more like a hotel and not a mortuary. A lot of big people (rich men) bring their bodies here because of how beautiful and neat the environment is. This place has enough space to accommodate 25 cars. Even the way everywhere is tiled and with all these flowers planted around make the place look very attractive. Most of the autopsy cases are brought here because the Doctors like our environment.*" (Over 3 yrs work experience).

Theme seven: Hygiene facilities

Public mortuary facilities in STM do not have appropriate hygiene facilities that support adherence to the universal precautions. Water flow in the embalming room is irregular, sinks for handwashing are old, non-functional, and woefully inadequate, no bathroom facilities provided, no changing rooms, no toilet facilities, no dustbins to ensure proper waste segregation practice, and supply of soap was inadequate. Mortuary attendants bath outside in the open. A 35-yr old male MA (WRHMA3) cried:

> "*I don't bath after work before I go home, yes that is true. But where would I take my bath? There is nowhere in this morgue to you can bath after work. I hope the ongoing renovation work would take care of this so*

that we can bath after work before we go home. Even though some of my colleagues bath outside, I can't do that. Why should I bath in the open?" (14 yrs work experience).

However, the private mortuary has adequate and appropriate hygiene facilities that support adherence to the universal precautions. Water flow in all sections of the mortuary is regular, sinks for handwashing are neat, functional, and adequate, adequate bathroom facilities provided, there is changing room, toilet facilities are adequate with well-kept pot and cistern, dustbins are adequate to ensure proper waste segregation practice, and soap supply was regular. A 36-yr old male MA (ECMA3) said:

"*I have been very happy since I started working here. When I compare the conditions here to where I worked previously, this place is far, far, better. Everything you would expect to see in a good mortuary is here, and even more. Some of my friends working at the other morgues told me this place is better*." (Over 4 yrs work experience).

Theme eight: Electrical wires and fittings

Public mortuary facilities in STM do not have adequate protection against electrical hazards. There were electrical wires hanging loosely on walls and with faulty electrical fittings observed at the public mortuary facilities. A 34-yr old male MA (WRHMA1) noted:

"*We have electricians at the Estate Department of the hospital but they have refused to come and fix these electrical faults. You would chase them and chase them but they wouldn't come. So, we have one guy who comes*

to help us here. He's good in these things. He's the one that sometimes fix some of the electrical problems for us. There was no fault here that you would call them (artisans) and they would come and solve for us." (13 yrs work experience).

However, the private morgue had adequate structures in place to provide protection against electrical hazards. All electrical wires and fittings are intact and may pose no danger to MAs. A 33-yr old male MA (ECMA1) explained:

"*My boss (Medical Director) hired one electrician in town who visits this place regularly to assess the wires and sockets. If we detect any fault and we call him, he comes promptly and doesn't delay at all.*" (Over 3 yrs work experience).

Theme nine: Fire safety facilities

Public mortuary facilities in STM do not have adequate provision for dealing with fire outbreaks in the morgues. There was one fire extinguisher each, at the public facilities, the only provision for managing fire at the morgue. A 43-yr old male MA (WRHMA2) said:

"*I see the fire extinguisher but I don't know how to use it. So, should there be fire at this morgue now, I can't use the fire extinguisher but maybe water is what I would use. I can also fetch sand around to extinguish the fire.*" (Over 15 yrs work experience).

However, the private morgue had adequate facilities such as fire alarm devices, smoke detectors, sand buckets, and fire extinguishers in place for

effective fire management. However, some of the MAs do not know how to operate the fire extinguishers. A 33-yr old male MA (ECMA1) observed:

> "*As for the fire extinguisher, I don't know how to use it but rather the sand bucket. We have been taught how the smoke detector works and what to do when there is fire, but as for the extinguisher, I don't know about it, even though they are many here. I think there are four of them.*" (Over 3 yrs work experience).

Theme ten: Cold room facilities in hospital wards

Result further showed that none of the hospitals have cold room facilities attached to their wards for the performance of care after death (last offices). Speaking to the concerns about the poor state of safety of mortuary facilities in Ghana, one management member (WRHHoA) observed:

> *"You see, Ghana Health Service itself has no clear plan for them (MAs), because these people (MAs) are locally recruited without any basic professional requirements. So, their behaviour is the same across all health facilities nationwide."* (Over 10 yrs work experience).

The findings of this study unveiled ten major themes regarding the level of commitment of health managers to the health and safety needs of MAs in STM, as enshrined in the OHS Policy Guide of MoH. These include provision of training, PPEs, medical screening, monitoring and supervision, first aid facilities, space and general layout of mortuary environment, availability of hygiene facilities, electrical wires and fittings, fire safety facilities, and availability of cold room facilities in hospital wards. The public mortuaries are found to be congested,

unattractive, and have very weak safety measures in place for the promotion and protection of health and well-being of MAs in STM (Kaledzi, 2020).

Even though a good number of MAs participated in in-service training on IPC, usually organized during periods of peer review of the hospital, MAs do not adhere to the universal precautions. Stein et al. (2003) found that lack of adequate orientation resulted in low levels of knowledge accompanied by frequent episodes of poor compliance with universal precautions among health workers. However, effective pre and post-deployment training were found to contribute to enhancing the knowledge of workers in the donning and doffing of safety apparels and general adherence to the universal precautions (Loibner et al., 2019). Aljabri et al. (2020) also found that orientation during recruitment contributed to increased knowledge about healthcare hazards. Contrary to findings of the current study, Morgan (2004) found that adherence to safety regulations and practices were not influenced by the observed lack of training in IPC. The Scottish Executive (2004) reported that decontamination of used mortuary tools must be undertaken by qualified trained and equipped member of staff with adequate PPEs on. Contrary to this, findings from the current study showed that MAs were not trained in how to decontaminate mortuary tools. Mwangi (2019) also reported that MAs in Kenya are hired and deployed without training and job description, which contributes to their lack of compliance to safety standards.

Lashibi funeral home plans training for mortuary attendants (2019) reported that health managers of public mortuaries in Ghana had no clear plan for training and improving the performance of MAs. Mortuary attendants are reported

to lack the knowledge and skills required in complying with safety protocols and guidelines. A study among MAs in Port Harcourt, Nigeria, revealed that health managers of private mortuaries had a better and more result-oriented approach to providing orientation to new recruits than in the public facilities where orientation is largely left in the hands of senior MAs. Therefore, MAs in the public facilities lack the relevant skills and competences in observing the safety protocols and improving their safety practices (Douglas & Peterside, 2016). Another study among MAs in South West Nigeria showed that MAs in public morgues were not adequately trained in their specific jobs, and adherence to the universal precautions was therefore poor (Ogunnowo et al., 2010). Findings of the current study showed that MAs in private morgues in STM were provided with a comparatively better orientation on their specific jobs than their colleagues at public morgues. It was found that orientation for MAs at private morgues was done by the Medical Director himself whereas at the public morgues, the senior MAs take responsibility for training new employees. The existing practice for orientating MAs in public facilities may be counter-productive, as new MAs may also learn and inherit "bad" safety practices from their senior colleagues. It was found that senior MAs at all facilities, over time, turn to ignore the basic safety protocols at the morgue.

Mortuary attendants in this study risk contracting Covid-19 and other infectious diseases from dead bodies because of lack of adequate supply of PPEs by their health managers (Kaledzi, 2020). The current findings revealed that provision of PPEs to MAs in STM was regular to many of the attendants.

However, it was found that no MA in STM was provided with the full complement of PPEs, as required by the IPC protocols. This is not too different from other places, as Ogunnowo et al. (2010) in South West Nigeria found that MAs were not supplied with PPEs at all. Similarly, Adamu and Lawani (2018) in Ibadan Metropolis, Nigeria, revealed that MAs had to buy their own protective gears because the morgue is often neglected and considered a dumping ground for recalcitrant staff. Meanwhile, ILO (2020) called for adequate supply of PPEs to all health workers in the wake of the Covid-19 outbreak, but it was found that supply of PPEs to MAs in STM did not improve: rather, it became worse during the Covid-19 outbreak in Ghana, as the situation demands use of more PPEs.

Findings further showed that apart from occasional testing and vaccinations against hepatitis 'B', there was no provision for pre-recruitment and routine annual medical screening for MAs in STM. Litana and Kapambwe (2017) and Meenakshi et al. (2015) have both reported that MAs are provided with vaccination against diseases. However, lack of a comprehensive medical screening that covers the physical, social, and mental aspects of health created a major gap in safety for MAs, and thus leaves them at risk of mortuary related hazards (Litana & Kapambwe). The medical screenings are important for determining exposures and reported health conditions for redress. However, Douglas and Peterside (2016) reported that MAs in Port Harcourt, Nigeria, indicated that no action was taken by management after exposures were reported.

Lashibi funeral home plans training for mortuary attendants (2019) reported that health managers in Ghana do not pay enough attention to the safety

needs of MAs and hardly visit the morgue. Findings of the current study showed that most health managers in STM, with oversight responsibility for MAs, do not visit the morgue regularly to monitor and supervise their activities. Bakhshi (2001) found that there was lack of effective monitoring and supervision at the morgue in Birmingham. Additionally, Douglas and Peterside (2016) in Port Harcourt revealed that even though many MAs had in some point reported cases of hazards encountered in the course of their duty, health managers failed to act.

Findings of the current study again revealed that whereas management of the private morgue in STM undertook regular and effective monitoring and supervision of activities of MAs, activities of MAs in public morgues were poorly supervised and monitored. Most senior hospital officers in public facilities with oversight for the morgue hardly visit there. Monitoring and supervision is thus left in the hands of mortuary in-charges, who themselves were not competent enough to provide effective mentorship. Moreover, the Health and Safety Executive (2018) charged health managers to leverage on monitoring and supervision in identifying competent MAs who may serve as health and safety focal persons for the morgue. Training alone is not enough in determining competence. Adamu and Lawani (2018) reported that monitoring and supervision at public morgues was poor and the attendants could do anything in the morgue without restriction. Therefore, adherence to the universal precautions was absent, while cooking and eating in the mortuary, even during working hours, was a common practice in public facilities.

The findings further showed that mortuary facilities in STM had no first aid kits in place. The State of Queensland (2020) reported that one important requirement for all working environments, especially one with such high levels of exposures as mortuary, is first aid kit. Also, ILO (2020) reported that workers suffer from work-related accidents and injuries at work all frequently and employers are enjoined to provide adequate protective facilities, including first aid kits, to mitigate serious consequences or reverse unpleasant results. Moreover, MAs have been identified to frequently experience accidents and injuries at work and because of that healthcare managers need to implement comprehensive safety policies to address such unpleasant occurrences (Litana & Kapambwe, 2017). However, healthcare managers are said to pay little or no attention to incidence of injuries and accidents among MAs (Douglas & Peterside, 2016). First aid facilities in the morgue will therefore provide MAs with immediate incident management tolls for reducing pain and preventing complications from accidents and injuries.

However, findings of the current study showed that apart from the private morgue which had standard first aid kits in place, no public facility in STM did. It is however instructive to note that no mortuary facility in STM trained its attendants to be able to provide skilled service should the need arise.

A study among MAs in Kenya found that public mortuaries were small, obsolete and lacked the basic facilities that would support adherence to the universal precautions (Okoth-Okelloh et al., 2013). Ogunnowo et al. (2010) reported that public morgues were congested, had cracks in walls and floors, and

basic housekeeping and decontamination procedures were ignored. Findings of the current study showed that the general layout of private morgues in STM provided adequate space and ambiance for ease of movement around the working environment as compared to public morgues where workstations were congested and poorly designed, thus increasing the risk of accidents during work. Some of the public morgues could hold only one sink in the whole morgue due to lack of space. Nyaberi et al. (2014) also found that public morgues had limited space with increasing incidence of physical strain among MAs. Additionally, Wege et al. (2008) reported that there is an association between workstation set-up and stress among workers and accordingly charged employers to invest in improving upon workstations. Thus, the participants in this study may be experiencing high levels of work stress that could compromise their health at the long-run.

Nyaberi et al. (2014) reported that only a small proportion of public mortuaries had running water and other hygiene facilities in place. The situation was adversely affecting adherence to the universal precautions by MAs. Findings of the current study also showed that private morgues in STM had in place adequate structures and facilities for effective personal and hand hygiene as compared to public morgues with no functional sinks. Some of the public morgues sourced water from taps outside the mortuary building to the embalming area, using water hose. The situation at the public facilities is likely to create a sub-culture of poor hand and personal hygiene among MAs as the temptation to continue with such unsafe practices, even after adequate facilities are later provided, will be very high. Berhe (2005) charged employers to pay attention to

the design of working stations by making adequate provision for hygiene facilities.

Furthermore, Douglas and Peterside (2016), revealed that electrical wires at public mortuaries hang loosely on walls posing a threat to MAs, and attendants are experiencing electrical shocks during work. Similarly, Ogunnowo et al. (2010) reported that public morgues had faulty electrical fittings and wires which make the working environment unsafe. Findings of the current study found that public morgues had electrical wires hanging loosely on walls compared with the private morgue where all electrical wires and fittings were intact and posed no danger to MAs. Sirengo (2014) also reported the prevalence of electrical hazards at public morgues in Nairobi with a number of MAs experiencing electric shocks and burns at work.

The findings further showed that the private morgue had adequate facilities such as fire alarm devices, smoke detectors, and fire extinguishers in place for effective fire management as opposed to the public facilities with only one fire extinguisher each, in place. It was however found that no MA was adequately trained in the use of the fire extinguishers. Thus, the MAs may be helpless when there is an outbreak of fire at the morgue.

The result further revealed that both public and private health facilities in STM have no cold room facilities attached to their patient wards for the performance of care after death (last offices). The cold rooms are special rooms reserved for the provision of care after death (last offices). They are designed with all the basic facilities required to guarantee safety of staff and integrity of the dead

body. It is a temporary holding site for the dead body before being released to the morgue or funeral home. They provide adequate privacy and an atmosphere free from interruptions during this special care (Worcestershire, 2015).

Given that nurses responsible for providing care after death are well trained in this procedure, the health and safety concerns of MAs, especially about infectious bodies, are significantly allayed when care after death is properly carried out. The absence of cold room facilities on the wards therefore compromises the health and safety standards required during care after death. This leaves MAs at high risk of infection from bodies transferred to them with poorly conducted care after death (Halborg, 2016).

The findings affirmed that the managers of health facilities in STM did not provide enough structures towards improving safety working environment for MAs. The responsibilities placed on health facility managers by the OHS Policy Guide of MoH, in ensuring safe working environments for all workers is yet to be achieved. Thus, MAs remained exposed to hazards in the morgue. Even though the private morgue differs in many positive ways from the public ones, the attendants turn to ignore the safety protocols during work, an attitude that needs management's attention.

Research Objective Four: To Determine the Safety Practices among Mortuary Attendants in Sekondi-Takoradi Metropolis

The aim of this analysis is to establish the safety practices among MAs in STM as required by the OHS Policy Guide of the MoH, which is supposed to inform the operations of the attendants. Using thematic content analysis, four

themes emerged; hand hygiene, personal hygiene, use of PPEs, and working posture.

Theme one: Hand hygiene

As part of the universal precautions, hand hygiene is known to significantly help reduce the chain of transmission of infection and adherence to this is even more important in the morgue. Regardless of this, MAs in STM do not wash their hands regularly during work. The standard handwashing technique which is found to be effective in crushing infection is not applied and some do not even use soap. A 43-yr old male MA (THMA4) remarked:

> "*We try our best to always wash our hands but the issue is that sometimes the water doesn't flow. I may say that it is the Covid that made them (management) gave us this veronica buckets which you see there. But our main problem is that, water doesn't flow in the morgue because of the ongoing renovation. So, we use water hose to connect water from the pipe outside and that is how we have been managing for a long time now. We complained but they (management) don't mind us.*" (3 yrs work experience).
>
> Another 54-yr old male MA (THMA3) observed:
>
> "*I think we all know that handwashing is very important. We knew this when we were even young, our parents told us to wash our hands always. Ok, but over here, we have only one sink in the whole morgue, and the space in there is so small that sometimes I mostly come to wash my hands outside, from that standing pipe there. Sometimes too, we run out of soap.*

They brought us these hand sanitisers when this Covid thing started." (14 yrs work experience).

An in-charge of one of the mortuary facilities was seen eating with his bare hands in the morgue without first washing his hands.

Theme two: Personal hygiene

Bathing under running water and with soap after working on a dead body is a standard procedure in the morgue; however, MAs in STM do not observe this. Most, 2, of mortuary facilities in STM do not have facilities for bathing and changing over. The attendants work on dead bodies a whole day, sometimes in their own home dresses and do not bath before returning home. One senior hospital officer (WRHHRM) observed:

"*I always noticed a strong smell on them (MAs) whenever they visited my office and it takes hours for the smell to die down, after they leave. I think their situation is bad and requires urgent action. Given the nature of their work, we have a duty to provide them with the basic facilities needed to protect them. They are also human beings, you know. And just imagine that they handle dead bodies and go home like that. Hmmmm. That whole mortuary environment is not pleasant and which is why other staff hardly go there. At least, there must be a place to bath after work before they go home. I imagine how people would react, with this strong smell, when they (MAs) board commercial vehicles home.*" (Over 6 yrs work experience).

A 34-yr old male MA (WRHMA1) also explained:

"*Everything depends on our bosses (management). They have to provide us with the things we need to work with before we can also use them. We usually bath outside, on the grasses over there.*" (13 yrs work experience).

Theme three: Working posture

Applying the right posture during work provides protection for workers from injury. However, MAs in STM do not assume the right posture when processing dead bodies either for discharge or preservation. Dead bodies and other materials in the morgue are lifted, carried, pushed, rolled by MAs and these are done without the right working postures. Mortuary attendants complained that they frequently experienced back, neck, waist, and general body fatigue, usually on Fridays, when most families come for their bodies. A 32-yr old male MA (THMA2) noted:

"*Hmmm. This one is difficult because, the work requires manpower and you do a lot of lifting, carrying, turning, and pushing at work. You can't do this work if you are not very healthy*." (5 yrs work experience).

Theme four: Use of personal protective equipment

An important requirement in the application of the universal precautions is the use of appropriate PPEs. However, MAs in STM do not use PPEs during work; they routinely handle chemicals and process dead bodies without wearing the right PPEs. Describing the attitude of MAs to safety practices, one management member (ECMD) observed:

"The attitude of MAs to the universal precautions in general and PPE use in particular is very bad but appears to be the same across the country.

Given my deep knowledge in health and safety, I make sure that my MAs are regularly trained and provided with all the basic protective tools to guarantee their safety at work and improve performance. Whenever I come around or they knew I was coming, they wear all the required PPEs but as soon as I leave, they do their own things. I come here sometimes unannounced and see them (MAs) working without the appropriate PPEs on. It's a challenge in the industry that requires serious introspection with the view to finding a sustainable solution. You can provide all the training, but if they don't adhere to safety protocols, what have you achieved? You see, you can't be here all the time so you would expect that they will see the need to wear these things." (Over 10 yrs work experience).

Another management member (WRHHoA) recounted:

"Sometimes I am appalled at the behaviour of these MAs. I go to the morgue a bit regularly and see these attendants working on bodies without adequate protection. On one such visit recently, during this period of COVID-19, I noticed all the relatives that were around to receive bodies wore nose masks but the MAs weren't wearing nose masks. I think their level of education is a factor and sometimes they believe they are invincible and so cannot be harmed by anything." (Over 10 yrs work experience).

On arrival at one of the wards during my fieldwork, one senior hospital officer (WRHEWIC) was heard in a loud voice saying:

''*I'm going to report them (MAs) to the Medical Director*''. (8 yrs work experience).

The senior hospital officer, obviously frustrated over the refusal of MAs to pick up a dead case from the ward to the morgue, had to shout. For nearly 2 hours, the dead case laid at the main entrance of the ward, and in the full glare of patients' relatives. This senior hospital officer (WRHEWIC) later explained:

> *"Procedure for releasing dead cases to the morgue is simple. Once we have a case like that and the Doctor confirms it, we go ahead to do our last offices and inform the morgue on phone about it. Normally, it should not take more than 20 min for the MAs to pick-up the case from the ward. As part of the last offices, the diagnosis is clearly posted on the chest of the body and all necessary documentations done in the books of the ward. As far as my experience with the MAs at this hospital is concerned, they mostly appear here in only hand gloves (mostly examination gloves) without even aprons and nose masks. In fact, you would hardly see them in a full complement of PPEs when coming for a dead case. There is nothing you would say that would convince them to observe the universal precautions. Sometimes we had to 'fight' with them to do the right thing. Let me tell you; they sometimes add two dead cases together on one trolley with the excuse that they don't want to come twice. We had to 'fight' them all the time over this but they always do it. Just this morning around 1000 hrs, before your (researcher) arrival, they were here to pick two dead cases and as usual they wanted to add the two bodies together on one*

trolley and we stopped them. Because of that, they sent one away and refused to come for the second one, so it's been lying here for over 2 hours." (8 yrs work experience).

Another senior hospital officer (WRHEWN) observed:

"*My biggest problem is with the way they (MAs) behave. Look, they would just not listen to anything you tell them. I think they believe they are in their own world and we cannot tell them what to do. They (MAs) say that we are small girls (nurses) and so we couldn't teach them their work. Because of our insistence on not combining bodies on one stretcher, sometimes they come for bodies here without our knowledge, especially when they noticed we were busy attending to patients on the ward and may not see them."* (Over 5 yrs work experience).

At this point, the senior hospital officer pointed at a dead case lying on a stretcher at the entrance of the ward. This was the same body referred to earlier by a senior hospital officer, which the MAs had refused to pick up. The body was covered with a bedsheet but the legs were visible and with only a screen separating it from patients being nursed at the same place. To offer me the opportunity to witness adherence to safety protocols by MAs when picking dead cases from the wards, the senior hospital officer (WRHEWN) requested I wait as she called them (MAs).

"*So, you wait and take a look at their appearance. I'm calling them again and will tell them that the Medical Director was around and you will see that they will rush in here.*" (Over 5 yrs work experience).

After 25 minutes, two MAs showed up with a stretcher to pick the body. One was in his home dress with examination gloves and boots on, while the other was in his normal home dress and sandals, with only examination gloves on. The senior hospital officer (WRHEWN) explained:

> *"You see the one in boots, he was working on a body at the morgue when I got there so he came out the same way and straight to this place to pick the body. So, he was working on the body like this in his personal dress at the morgue. No nose mask, no apron, no head gear, it's just horrible. Well, sometimes I don't blame them because maybe they don't have all the PPEs because even in our case, we don't have all the PPEs. Just imagine that in this period of Covid-19, look at the type of nose mask we are using.We sometimes work without gloves."* (Over 5 yrs work experience).

It is a very common practice among MAs in STM to work in their home dresses, sometimes even without wellington boots and nose mask. Thus, sub-culture of handling dead cases without regard for the universal precautions exists among MAs in STM. It was observed that management of health facilities in STM appear to find it difficult in enforcing the safety protocols on the MAs. One senior hospital officer (THHoA) stated:

> *"Dealing with them (MAs) is not easy at all. Even if any of them was having a health condition, they would not say because of the fear of being moved away. I think that after they have worked at the place for some time, they begin to take things for granted. They just don't care about their own safety any longer."* (Over 10 yrs work experience).

Even though some MAs seem to understand the dangers in ignoring the safety protocols during work, it was difficult to peer-correct each other. A 33-yr old male MA (ECMA1) explained:

> *"Truth is only one; we don't always observe the safety protocols. There were occasions when some of my senior colleagues walked around the mortuary environment barefooted, handle dead bodies with bare hand, and when you tell them it is not good; they would tell you they have been doing this job before I joined. They tell me nothing has happened to them all these years and they know the job better than me. Even though I'm the one in charge of the morgue, they think I don't know much about the work and could therefore not advise them."* (Over 3 yrs work experience).

The findings of this study unveiled four major themes regarding the level of safety practices among MAs in STM as required by the OHS Policy Guide of MoH. Hand hygiene, personal hygiene working posture, and use of PPEs were suggested as prerequisites for participants' safety practices under the OHS Policy Guide. Safety practices among MAs in Ghana were found to be very poor, largely due to inadequate supply of PPEs by health mangers (Kaledzi, 2020). Mortuary attendants are forced to work in very congested morgues without adequate protection from diseases such as Covid-19 (Kaledzi).

Hand hygiene practices among MAs were very bad, as there were facilities in place to promote same. These attendants handle dead bodies with chemicals but do not wash their hands regularly after the procedures. Similarly, Adamu and Lawani (2018) reported that adherence to the universal precautions by MAs was

poor at the morgue. A study about perceived occupational risk of infection among mortuary attendants in Nyanza Province, Kenya found that only a small proportion of mortuaries had running water for handwashing (Nyaberi, 2014). In fact, some mortuary facilities had no sinks at all, as water is sourced from taps outside the mortuary building to the embalming area using water hose. According to Berhe (2005), adequate supply of water is so essential in ensuring adherence to infection prevention and control protocols at the morgue.

Findings of this study showed that MAs in STM do not bath after working on dead bodies before going home. Mortuary facilities have no bathrooms and a few attendants who may wish to bath do so outside. Thus, personal and hand hygiene practices are also poor. For instance, Douglas and Peterside (2016) found that MAs do not apply the universal precautions during work. Therefore, mortuaries must be designed to make provision for enough hand and personal hygiene facilities because MAs are exposed to many hazards within the mortuary environment (Berhe, 2005).

The current findings also showed that MAs do not practice the right working postures when carrying out activities in the morgue. This may lead to many musculoskeletal conditions. Litana and Kapambwe (2017) reported that MAs in Zambia frequently experienced physical strain resulting in arm, neck, and back pain. Mortuary attendants do not apply the right work posture when lifting, carrying, and turning dead bodies and other materials in the morgue. Similarly, a study by Meel (2001) in the former Republic of Transekei reported that participants suffered physical strain that led to neck, back and arm pain as a result

of poor working postures. A study by Oregon OSHA (2014) observed that placing bodies in cold storage, either on lower or higher shelves, can present ergonomic issues and potential for overexertion due to the limited space and awkward postures needed to move the bodies. According to Douglas and Peterside (2016), some contributory factors that led to poor work posture among MAs include inappropriate bench height, static, awkward or sustained postures, and lifting heavy weights, especially dead bodies.

Personal protective equipment use was found to be poor among MAs in Ghana, largely due to none availability (Kaledzi, 2020). Agbobli (2020) also reported that inadequate PPEs was seriously affecting adherence to the universal precautions among MAs in Ghana, and becoming dangerous to undertake burial of victims of Covid-19 under the circumstance. The finding of the current study revealed that MAs in STM do not use PPEs at work. Similarly, Lashibi funeral home plans training for mortuary attendants (2019) revealed that health managers in Ghana do not provide MAs with PPEs adequate to sustain a culture of compliance among attendants who carry out duties including embalming. Embalming presents the greatest risk of exposure to infectious micro-organisms at the morgue because it involves direct contact with the body, exposure to blood and other body fluids and the use of sharp instruments (HPSC, 2013). However, adoption of standard precautions through the use of appropriate PPEs would offer a good protection and prevent the spread of infection from the deceased individual (HPSC). Further confirming these findings, Adamu and Lawani (2018) found that PPE use among participants is poor, especially those at public morgues. These

MAs pick dead bodies from the wards, embalm bodies, place and remove bodies from freezers, move in and out of the cold rooms, and also fetch and use formalin and other chemicals in the morgue without the appropriate PPEs on (Nyaberi et al., 2014).

From this finding, some barriers affecting adherence to the universal precautions among MAs emerged; inadequate knowledge about donning and doffing of PPEs, poor monitoring and supervision by management, inadequate supply of PPEs, low level of education, heavy work load, environmental factors (temperature), lack of key hygiene facilities (i.e. changing room, washroom, and sinks), and poorly designed work stations. Given the findings of this study, it can be assumed that as MAs work under poor conditions for a long time, a certain sub-culture of adherence to universal precautions is nurtured and becomes a new normal for the attendants. The temptation, therefore, to continue in such unsafe practices even after adequate logistics and facilities are later provided will be very high.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to: explore how implementation of the Occupational Health and Safety Policy Guideline of MoH is influencing the work practices of Mortuary Attendants in the Sekondi-Takoradi Metropolis. This chapter presents summary, main findings, conclusions, and recommendations.

Summary

Occupational safety and health is generally a science of anticipation, recognition, evaluation, and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment (ILO, 2016). Occupational health and safety is vital for social protection of employees against negative aspects of work, work accidents, and occupational diseases. It is only by implementing OHS measures that the lives of workers, their families and the larger communities can be protected to ensure work continuity and economic survival (ILO, 2020). Thus, some 600,000 lives that are lost annually through work related accidents could be saved through a culture of safety practices and appropriate information. Developing countries, especially, must in addition to global standards of safety, develop strategies unique to their circumstances to urgently protect the health and well-being of their employees (ILO). Workplace settings vary widely in size, sector, design, location, work processes, workplace culture, and resources (United States Department of Health and Human Services, Centers for Disease Control and Prevention, 2020).

Furthermore, workers themselves differ in terms of age, gender, training, education, cultural background, health practices, and access to preventive health care.

Ghana, over the years, has been plagued with numerous workplace accidents in both formal and informal sectors of the economy (Ansah, 2017). In 2018, Ghana recorded 36 cases of occupational accidents of which 13.9% were fatal and 86.1% non-fatal. It must be understood that most work-related accidents in Ghana, as is the case in most developing countries, remain largely unreported (Ministry of Employment and Labour Relations, 2019) and such accidents occur in many sectors including industries, commerce, education, and health. Healthcare workers have been identified to be particularly at risk of occupational hazards (ILO, 2020). But even within the healthcare setting, MAs have been found to be seriously exposed to many hazards at the morgue. While training was found to be vital in improving the safety practices of employees, it does not automatically make them competent and able to do their job safely. Therefore, effective monitoring and supervision are necessary in confirming competence and ensuring compliance on safety practices among employees for health and well-being (Health and Safety Executive, 2018).

This study was underpinned by four key objectives: to measure the level of knowledge of mortuary attendants in Sekondi-Takoradi Metropolis in the OHS Policy Guide of MoH; determine the health and safety challenges, associated with mortuary work, among mortuary attendants in Sekondi-Takoradi Metropolis; examine the safety measures provided for mortuary attendants by hospital

managers in Sekondi-Takoradi Metropolis; and determine the level of safety practices amongst mortuary attendants in Sekondi-Takoradi Metropolis.

A descriptive cross-sectional study with qualitative methods was used for the study. A researcher generated interview guide (BIG) and an adapted mortuary assessment checklist were used to collect data. The 37-item interview guide comprised five sections. Section I solicited participants' background information such as gender, age, educational level, and the number of years working in the morgue. Section II measured the level of awareness about existence of the OHS policy guide while III measured the level of knowledge about the content of the OHS Policy Guide. Section IV measured the health and safety working conditions, and V measured the responsibility of management towards the safety of MAs. The checklist comprised two parts; I measured essential safety features of a morgue and other safety requirements while part II measured protective equipment and workplace practices.

Frequency and percentage analysis were calculated to answer all the objectives. Responses of respondents were reported verbatim and organised under themes based on the research objectives. Frequency and percentage analysis were calculated to answer the objectives. A sample of (n=37) respondents, comprising all (n=16) MAs from all functional mortuary facilities in STM, and (n=21) Senior Hospital Officers as key informants on safety practices (EC, 2020; TH, 2020; WRH, 2020).

Key Findings

The following findings were formulated based on the results of the study:

1. Mortuary attendants in Sekondi-Takoradi Metropolis reported generally low awareness and knowledge about the OHS Policy Guide of MoH, probably because the attendants have low levels of academic backgrounds. Majority are also males.
2. The main health and safety challenges associated with mortuary work in Sekondi-Takoradi Metropolis include: exposure to chemical and biological agents, ergonomic conditions (physical strain), extreme temperature variations, workplace violence and psychological conditions, noise, and irregular working time arrangements.
3. The safety measures provided to MAs in Sekondi-Takoradi Metropolis by their health managers were found to be inadequate to guarantee the promotion and protection of health and well-being of the attendants.
4. Provision of pre-deployment training for MAs in Sekondi-Takoradi Metropolis on their jobs was inadequate.
5. Though a good number of MAs in Sekondi-Takoradi Metropolis participated in IPC workshops, their attitude to safety protocols was very poor. And that, the participation in the workshops was not for health and safety reasons but for the purposes of health felicity peer review.
6. Supply of PPEs to mortuaries in Sekondi-Takoradi Metropolis was irregular and inadequate, though many of the attendants work for 12 hrs daily, and have not gone on annual leave since recruitment.

7. Apart from occasional testing and vaccinations against hepatitis 'B', there was no provision for pre-recruitment and routine annual medical screening for MAs in Sekondi-Takoradi Metropolis.
8. Monitoring and supervision of mortuary facilities in Sekondi-Takoradi Metropolis by health managers was inadequate.
9. Hospitals in Sekondi-Takoradi Metropolis do not have cold room facilities to provide "care for the dead/ last offices".
10. MAs in Sekondi-Takoradi Metropolis were not trained in decontamination of mortuary working equipment/ tools.
11. Management of private morgues in Sekondi-Takoradi Metropolis had better measures in place for the safety of their MAs compared with public morgues. These differences exist in training, supply of PPEs, space and general layout of mortuary environment, hygiene facilities, electrical wires and fittings, fire safety facilities, monitoring and supervision, medical screening, and cold room facilities in hospital wards.

Conclusions

The following conclusions are drawn based on the findings;

1. Pre-deployment and post-deployment trainings are also relevant. Therefore, the high level of low awareness and knowledge among MAs about the OHS Policy Guide of MoH could be leading the attendants to exposing themselves and other clients to risk associated with mortuary work.

2. Mortuary attendants in Sekondi-Takoradi Metropolis are faced with many health and safety hazards which may adversely affect their health condition, especially at long-term. Exposure to chemical and biological agents, ergonomic conditions (physical strain), extreme temperature variations, and irregular working time arrangements remain the major health and safety challenges of MAs.
3. Some barriers affecting adherence to the universal precautions among MAs that emerged include inadequate supply of PPEs, inadequate knowledge about donning and doffing of PPEs, poor monitoring and supervision by management, heavy work load, environmental factors (temperature), lack of key hygiene facilities (i.e. changing room, washroom, and sinks), and poorly designed work stations. Thus, as MAs work under poor conditions for a long time, a certain sub-culture of adherence to universal precautions is nurtured and becomes a new normal for the attendants. Therefore, the temptation to continue in such unsafe practices even in the face of adequate logistics and facilities is likely to be very high.
4. Managers of health facilities in Sekondi-Takoradi Metropolis have not provided enough structures towards improving safety working environment for MAs. The responsibilities placed on health facility managers by the OHS Policy Guide of MoH in ensuring safe working environments for all workers is yet to be achieved. Even though the private morgue differs in many positive ways from the public ones, the

attendants turn to ignore the safety protocols during work, an attitude that needs management's attention.

Recommendations

Based on the conclusion of the study, the following recommendations were drawn:

The health directorate of Sekondi-Takoradi Metropolis is encouraged to establish institutions for the training of MAs and set a minimum academic and professional requirement for recruiting them.

Health managers in Sekondi-Takoradi Metropolis are much entreated to increase the provision of PPEs to MAs.

Management of Western Regional Hospital and Takoradi Hospital need to intensify monitoring and supervision of mortuary facilities and enforce adherence to the safety protocols among MAs.

Health managers in Sekondi-Takoradi Metropolis are entreated to implement pre and post recruitment medical screening for MAs.

Management of Western Regional Hospital, Takoradi Hospital, and Effman's Clinic should also review the current 12 hours daily working schedule to eight hours to reduce possible exposure to physical and psychological hazards associated with long working hours.

Suggestions for Further Studies

1. A study is needed to explore the safety practices or behaviours holistically among different cadre of hospital staff in the Sekondi-Takoradi Metropolis.

2. A study is also needed to investigate the health status of both active and retired MAs in the Sekondi-Takoradi Metropolis.
3. A research into the prevalence of various accidents or incidences occurring among MAs at the morgue in the whole of Western Region is also needed.

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APPENDICES

APPENDIX A

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES

FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION

DEPARTMENT OF HEALTH, PHYSICAL EDUCATION AND RECREATION

Interview Guide

Dear Respondent,

My name is Godwin Dumahasi, an MPhil candidate at the Department of HPER, UCC. I am conducting a research a study on the topic **"Work Practices of Mortuary Attendants in Sekondi-Takoradi Metropolis: The Role of Health and Safety Guideline of the Ministry of Health, Ghana."** The research is a requirement for the award of Master of Philosophy degree in Health Education. Your responses to the questions below are very important to the outcome of the study, which is purely for academic use. This may take about 30 minutes of your time. Your responses will be treated with the utmost confidentiality. Your honest and complete response is highly appreciated. You can withdraw from the study at any stage if you do not feel like continuing, even after you have consented to participate. You are assured that this study will pose no harm to you and your work place and all information provided would be used for academic purposes only.

If you agree to take part in this research, please sign in the space provided below.

Signature……..
Date……..

For any further information please contact my supervisor Dr. Edward W. Ansah 0247703379 or myself (Godwin) on 0242766087. Thank you in advance for your cooperation.

The interview guide is organized under **five (5) sections**:

Section I – Background information of Mortuary Attendants,

Section II – Awareness about existence of OHS Policy Guideline,

Section III – Knowledge about the content of the OHS Policy Guideline,

Section IV – Health and safety working conditions,

Section V – Responsibility of management for the safety of Mortuary Attendants.

SECTION I: BACKGROUND INFORMATION OF MORTUARY ATTENDANTS

Please respond as applicable:

1. Gender: Male [ ] Female [ ]

2. Age:……..

3. Level of formal education: Primary [ ] JHS [ ] SHS [ ]
Technical/Vocational [ ] Tertiary [ ]

4. Work experience (years):…….

SECTION II: AWARENESS ABOUT EXISTENCE OF OHS POLICY

5. Have you heard about the Occupational Health and Safety Policy for the health sector before?

6. If yes, how did you get to know about it?

7. Have you seen the policy before (soft/hard copy)?

8. If yes, do you please have a copy (soft/hard copy)?

SECTION III: KNOWLEDGE ABOUT THE CONTENT OF THE OHS POLICY

9. Do you please know any of the responsibilities of workers as captured in the policy?

10. If yes, could you please mention some?

11. Do you please know any of the responsibilities of employers/ management as captured in the policy?

12. If yes, could you please mention some?

SECTION IV: HEATH AND SAFETY WORKING CONDITIONS

13. Were you given orientation on your specific duties during recruitment?

14. Did you attend any workshop/ training in infection prevention and control since your employment?

15. If yes, how long since your recruitment?

16. Has your unit received any new equipment since your recruitment?

17. If yes, have you been trained on its use?

18. Are you restricted to any specific duties at the morgue?

19. How many hours do you work in a day?

20. Do you go on break?

21. Do you have a place designated for taking lunch?

22. Have you gone on annual leave since your recruitment?

23. Have you had medical screening since your recruitment?

24. Do you have a representative for OHS in your unit?

25. If no, whom do you report to in case of an exposure?

SECTION V: RESPONSIBILITY OF MANAGEMENT FOR THE SAFETY OF MORTUARY ATTENDANTS

26. Do you have a copy of the MoH's OHS policy?

27. If yes, could you please mention some of your key responsibilities provided for by the policy?

28. Do you have an OHS plan for the morgue?

29. If yes, do you involve mortuary staff in the planning?

30. How regularly do you visit the morgue?

31. Do you have a training schedule for mortuary attendants?

32. Do you provide medical screening for mortuary attendants at the time of recruitment?

33. How regularly do you screen mortuary attendants for possible exposures?

34. Do you have an OHS focal person for the morgue?

35. Do you involve the mortuary staff when procuring items for them?

36. Do you receive complaints from mortuary staff about the inadequacy or inappropriateness of PPEs and detergents?

37. Do you have cold rooms attached to your patient wards?

Thank you for your time and for participating in this study.

OBSERVATION CHECKLISTS

OBSERVATION CHECKLIST I – FOR ASSESSING WORKING ENVIRONMENT AND OTHER SAFETY REQUIREMENTS			
SOME ESSENTIAL SAFETY FEATURES IN THE MORGUE			
Srl	**Feature**	**Description**	**Observations/ Remarks**
1	Floor	Hard and durable	
		Moisture resistant and easily cleaned	
		Floor ducts and trenches absent	
		Junctions between walls and floors well covered/ sealed	
2	Walls	Thick, durable and permanent	
		Fitted with pale blue colour tiles up to the ceiling	
3	Doors	Wide sliding and fly proof	
4	Corridors	Wide (not less than 8 ft.)	
5	Water supply	Regular (hot and cold water)	
		Adequate sinks	
		All taps in the working area are elbow operated	
6	Emergency facilities	Emergency lighting in place	
		Fire sprinklers and smoke/thermal detectors functional	
		Fire exit routes clearly identifiable, well illuminated and earmarked with bold red arrows	

OTHER SAFETY REQUIREMENTS					
Srl	**Item**		**Available**		**Observations/Remarks**
			Yes	**No**	
1	Events register				
2	PPEs register				
3	Air conditioners				
4	Fire extinguishers				
5	First aid kit				
6	Electrical wires/ fittings intact				
7	Waste disposal containers	Black			
		Brown			
		Yellow			
8	Lumination				
9	Detergents				
10	Soap and hand sanitizers				
11	Rest room				
12	Bathroom				

OBSERVATION CHECKLIST II – FOR ASSESSING THE USE OF PERSONAL PROTECTIVE EQUIPMENT AND WORK PRACTICES			
Srl	**Feature**	**Description**	**Observations/ Remarks**
1	Gloves	Double gloving is practiced	
		Cut-proof gloves available	
		General purpose utility gloves used	
2	Gowns	Impervious outer clothing/ aprons	
		Total body suits (stretcher suits)	
3	Goggles	Glasses/ protective goggles	
4	Mask	Full-face fluid-repellent or respirators	
5	Footwear/ boots	Impermeable footwear having non-slip soles	
6	Caps/ Helmet	Designed to cover hair completely available	

APPENDIX B

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878309/ 0244207814
E-MAIL: irb@ucc.edu.gh
OUR REF: UCC/IRB/A/2016/730
YOUR REF:
OMB NO: 0990-0279
IORG #: IORG0009096

C/O Directorate of Research, Innovation and Consultancy

3RD JULY, 2020

Mr. Godwin Dumahasi
Department of Health, Physical Education and Recreation
University of Cape Coast

Dear Mr. Dumahasi,

ETHICAL CLEARANCE – ID (UCCIRB/CES/2020/31)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted **Provisional Approval** for the implementation of your research protocol **Work Practices of Mortuary Attendants in Sekondi-Takoradi Metropolis: Evaluating the Health and Safety Guideline of Ministry of Health (MoH).** This approval is valid from 3rd July, 2020 to 2nd July, 2021. You may apply for a renewal subject to submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

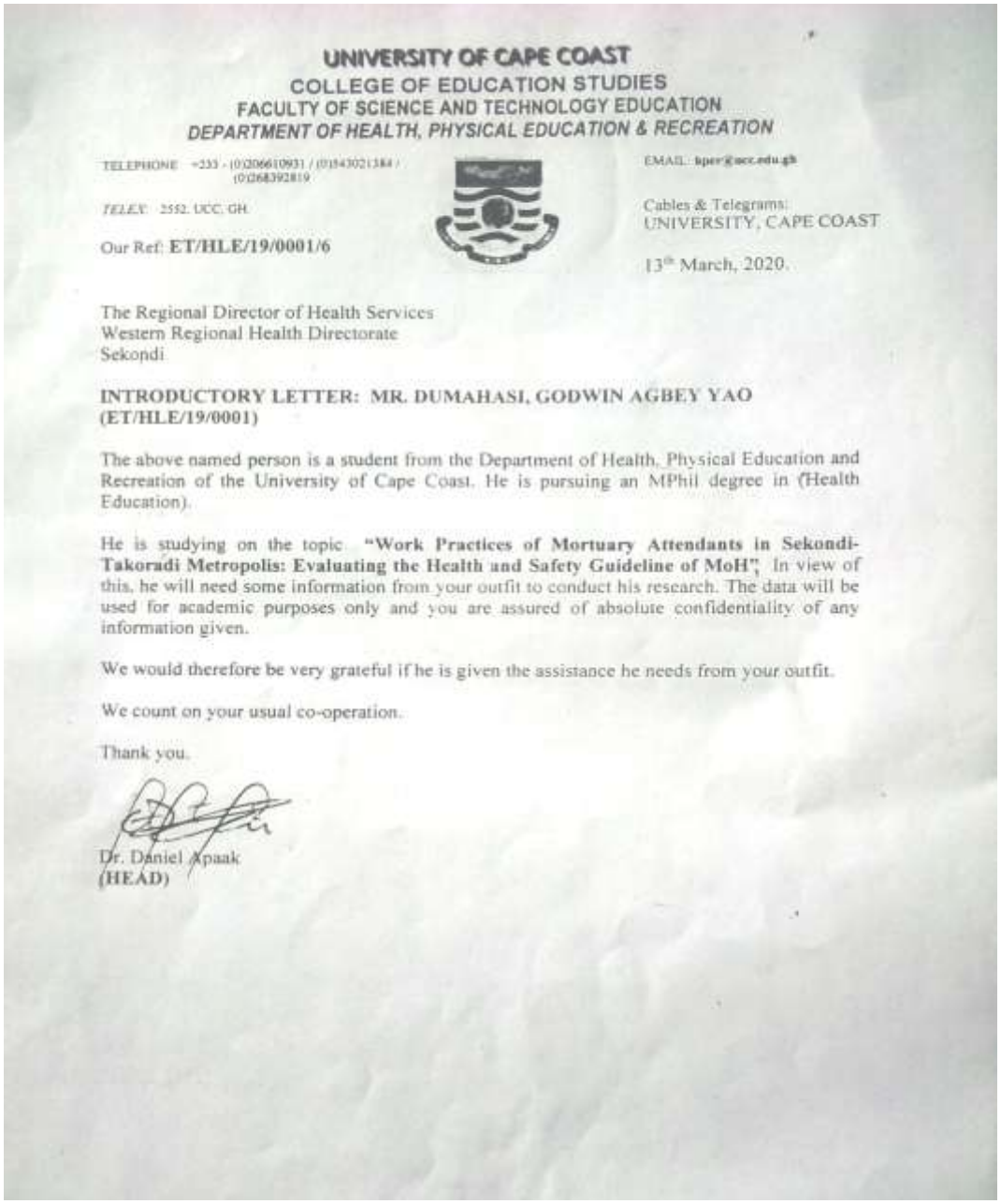
Yours faithfully,

Samuel Asiedu Owusu, PhD
UCCIRB Administrator

ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST

APPENDIX C

INTRODUCTORY LETTERS



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TELEX 2552, UCC, GH.

Cables & Telegrams:
UNIVERSITY, CAPE COAST

Our Ref: **ET/HLE/19/0001/6**

13th March, 2020.

The Regional Director of Health Services
Western Regional Health Directorate
Sekondi

INTRODUCTORY LETTER: MR. DUMAHASI, GODWIN AGBEY YAO (ET/HLE/19/0001)

The above named person is a student from the Department of Health, Physical Education and Recreation of the University of Cape Coast. He is pursuing an MPhil degree in (Health Education).

He is studying on the topic **"Work Practices of Mortuary Attendants in Sekondi-Takoradi Metropolis: Evaluating the Health and Safety Guideline of MoH"**. In view of this, he will need some information from your outfit to conduct his research. The data will be used for academic purposes only and you are assured of absolute confidentiality of any information given.

We would therefore be very grateful if he is given the assistance he needs from your outfit.

We count on your usual co-operation.

Thank you.

Dr. Daniel Apaak
(HEAD)

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Our Ref: **ET/HLE/19/0001/7**

13th March, 2020.

The Metropolitan Director of Health Services
Sekondi Takoradi Metropolitan Health Directorate
Sekondi

INTRODUCTORY LETTER: MR. DUMAHASI, GODWIN AGBEY YAO (ET/HLE/19/0001)

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Thank you.

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(HEAD)

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Our Ref: **ET/HLE/19/0001/3**

9th March, 2020.

The Head of Administration
Western Regional Hospital
Sekondi

INTRODUCTORY LETTER: MR. DUMAHASI, GODWIN AGBEY YAO (ET/HLE/19/0001)

The above named person is a student from the Department of Health, Physical Education and Recreation of the University of Cape Coast. He is pursuing an MPhil degree in (Health Education).

He is studying on the topic"**Work Practices of Mortuary Attendants in Sekondi-Takoradi Metropolis: Evaluating the Health and Safety Guideline of MoH".** The data will be used for academic purposes only and you are assured of absolute confidentiality of any information given.

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Thank you.

Dr. Daniel Apaak
(HEAD)

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Our Ref: **ET/HLE/19/0001/4**

9th March, 2020.

The Head of Administration
Takoradi Hospital
Takoradi

INTRODUCTORY LETTER: MR. DUMAHASI, GODWIN AGBEY YAO (ET/HLE/19/0001)

The above named person is a student from the Department of Health, Physical Education and Recreation of the University of Cape Coast. He is pursuing an MPhil degree in (Health Education).

He is studying on the topic**"Work Practices of Mortuary Attendants in Sekondi-Takoradi Metropolis: Evaluating the Health and Safety Guideline of MoH".** The data will be used for academic purposes only and you are assured of absolute confidentiality of any information given.

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(HEAD)

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Our Ref: **ET/HLE/19/0001/5**

9th March, 2020.

The Medical Director
Effman's Clinic
Apremdo-Takoradi

INTRODUCTORY LETTER: MR. DUMAHASI, GODWIN AGBEY YAO (ET/HLE/19/0001)

The above named person is a student from the Department of Health, Physical Education and Recreation of the University of Cape Coast. He is pursuing an MPhil degree in (Health Education).

He is studying on the topic" **Work Practices of Mortuary Attendants in Sekondi-Takoradi Metropolis: Evaluating the Health and Safety Guideline of MoH".** The data will be used for academic purposes only and you are assured of absolute confidentiality of any information given.

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Thank you.

Dr. Daniel Apaak
(HEAD)