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DEPARTMENT OF NURSING

DIPLOMA PROGRAMMES

WORK-RELATED INJURIES AMONG HEALTH WORKERS IN THE HOLY FAMILY HOSPITAL, BEREKUM

SUBMITTED BY:

PIGNYOG FLAVIA	**-**	**5444321**
KYEREMAA GRACE	**-**	**5352221**
QUARTEY DORIS AHENKORAH	**-**	**5449921**

[HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE, BEREKUM]

AFFILIATED TO KNUST, KUMASI

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2022

DECLARATION

We hereby declare that this submission is our own work towards the Diploma in General Nursing and that, to the best of our knowledge, it contains no material previously published by another person nor material which has been accepted for the award of diploma of the University, except where due acknowledgement has been made in the text.

PIGNYOG FLAVIA	.....	02/03/2023
5444321	SIGNATURE	DATE
KYEREMAA GRACE	.....	02/03/2023
5352221	SIGNATURE	DATE
QUARTEY DORIS AHENKORAH	.....	02/03/2023
5449921	SIGNATURE	DATE
CERTIFIED BY:		
MS. ERNESTINA MENSAH	.....	02/03/23
(SUPERVISOR)	SIGNATURE	DATE
MONICA NKRUMAH	.....	.....
(PRINCIPAL)	SIGNATURE	DATE

ABSTRACT

The study determined male involvement in maternal health care in Holy Family Hospital, Berekum. A cross sectional observational design was used to collect in-depth information for the study. The sample population was obtained using convenience sampling technique. A total of 50 respondents were sampled for the study. The data for the study was collected by administering the questionnaire to the participants. The study found that majority (96%) of the respondents agreed that maternal health is the health of women during pregnancy, childbirth and postnatal period. Majority (98%) of the respondents were in favor of the statement ‘‘ANC or PNC is where women seek help regarding their maternal health’. It came out clearly that 94% of the respondents were of the opinion that severe abdominal pain is as danger sign in pregnancy. Majority (82%) of the respondents mentioned that male involvement in maternal health care increases the self-esteem of the female partners. The study recommended that Maternal Health Care centers should encourage good attitudes towards male involvement in MHC services. Waiting time at the various ANC/PNC centers should be reduced to increase male partners involvement in ANC/PNC.

The study concluded that respondents had adequate understanding regarding the meaning of maternal health care. The overall knowledge regarding obstetric danger signs was good. The leading benefits of male involvement in maternal health care were decreasing childbearing complications, raising self-esteem of female partners and postpartum utilization of maternal services.

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ABBREVIATION

GHS	Ghana Health Service
ILO	International Labour Organization
MOH	Ministry of Health
NHIS	National Health Insurance Scheme
SPSS	Statistical Package of Social Science
USA	United States of America
WHO	World Health Organization

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CHAPTER ONE

INTRODUCTION

1.0 Background to the study

Accidental work related injuries to health care workers continue to have a significant problem in healthcare systems owing to the associated risk of acquiring infections such as hepatitis B, hepatitis C and human immunodeficiency viruses (World Health Organization, 2012). Health is a positive concept that includes social and personal resources as well as physical capabilities (Karwowski & Marras, 2018). A joint definition of occupational health endorsed by the International Labour Organization (ILO) and World Health Organization (WHO) states that: *"*Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations and the adaptation of work to man and of each man to his job*"* (World Health Organization, 2018). This definition of occupational health shows that, it has gradually developed from a mono-disciplinary risk-oriented activity to a multidisciplinary and comprehensive approach that considers the individual's physical, mental and social well-being, general health and personal development (WHO, 2018).

Work related injuries at the workplace have a huge impact, emerging as a growing problem in our modern societies ((Yelin & Felts, 2018). They represent the second largest cause of short-term or temporary work disability after the common cold (Yelin, et al., 2020). Work-related injuries are responsible for morbidity in many working populations and are known as an important occupational problem with increasing compensation and health costs, reduced productivity, and lower quality of life. (Karwowski & Marras, 2018).

Work related injuries are also reported to cause lost work time or absenteeism, increase work restriction, transfer to another job, (Aptel, et al., 2018) or disability than any other group of

diseases (Kilbom, 2021) with a considerable economic toll on the individual, the organization and the society as a whole (Aptel, et al., 2018). Findings of scientific research have identified physical, psychosocial/organizational and individual occupational "risk factors" for the development of work related injuries (Winkel & Mathiassen, 2021).

Moreover, work related injuries are the most expensive form of work disability. It was estimated that the cost of work related injuries was approximately 215 billion dollars in 2015 in the United States; 26 billion Canadian dollars in 2016cin Canada, and 38 billion Euros in 2018 in Germany (Waddell, 2019) India has been battling with conventional public health problems such as communicable diseases, malnutrition, high rate of population growth, and inadequate medical care, apart from the occupational health problems (National Council of Research, America, 2021) Musculoskeletal Disorder (MSD) is one of the major occupational health problems in India and estimates have shown that MSD contributes to about 40% of all costs toward the treatment of work-related injuries (Smith, et al., 2020).

Health care profession is known to be at high risk for work related injuries (Smith, et al., 2020). Health care professionals are reported to be vulnerable to sustaining work related injuries during the course of their routine work (Aptel, et al., 2018). It is estimated that almost one-third of all cases of sick leave among health care workers are related to work related injuries (Alexopoulos, et al., 2018).

Work is a central part of many people's lives and it is generally recognized that individuals should have a safe and healthy working environment (Kemmlert, 2019). Work-related injuries and reduced working capacity of workers may cause economic loss up to 10-20% of the Gross National Product of a country (WHO, 2018). Globally, work-related injuries and deaths account for an estimated loss of 4% of the Gross Domestic Product (Marras, 2018).

The World Health Report (2016), defined health workers as people whose job is to protect and improve the health of their communities. Together these health workers, in all their diversity, make up the global health workforce. Healthcare is one of the major sectors of many economies, employing a large number of workers. Work-related issues relating to the personal safety and protection of workers is therefore a very important environmental health concern for hospitals (Kilbom, 2021).

In Ghana, just like many other developing countries the healthcare services play a vital role to achieve socio-economic development goals, by providing quality healthcare to all, providing employment and contributing significantly to the Gross Domestic Product (GDP) of the country (Ghana Health Service, 2018). In specific terms, the healthcare services in Ghana are a significant instrument for achieving the health related guidelines of the Millennium Development Goals (MDGs) and The Ghana Poverty Reduction Strategy II (GPRS II) agenda. In spite of this strategic importance of the Ghanaian healthcare services, the industry is fraught with numerous work-related injuries (GHS Report, 2018).

Health Care Workers (HCWs) are exposed to a great variety of injuries or hazards at the workplace. These hazards could be broadly grouped into the following categories: biological, chemical, physical, ergonomic factors, organizational problems and psychosocial hazards (Kilbom, 2021). Although some risks and hazards are common to the whole sector, others are more specific to certain categories of health care workers or to certain work practices of the industry.

1.1 Problem Statement

By conservative estimates, workers suffer 270 million occupational injuries and 160 million occupational diseases each year (ALHazim et al., 2022). This is perhaps just the tip of the

iceberg, as data for estimating nonfatal illness and injury are not available in most developing countries (Aluko et al., 2019).

Public hospitals are listed as one of the top ten that have the highest accident rates compared to other public service sectors. Exposure to low levels of safety practices and job tasks that interfere with ability to comply with safety practices significantly increases the likelihood of having a work-related injury (Aluko et al., 2019). Job satisfaction has an effect on turnover and absenteeism and it is influenced by good physical working conditions, organizational and management support and safety at work (Bello et al., 2021). At a time when the health care system in Ghana is overburdened from increasing patient numbers and inadequate healthcare staff, the further shortage caused by absenteeism and injury is a testament to the need for healthcare administrators to act on improving the work environment for health workers in general (Bonsu et al., 2020).

In order to address these shortfalls listed above, there is the need for a research to identify the current sources of work-related injuries and stress that negatively influence the health, well-being and quality of work life for health workers in the public hospitals, from which recommendations can be made to create practice environments that promote the health and well-being of the current and future healthcare workforce as it is vital to the future of the healthcare system (Bello et al., 2021).

Ghana has no national policy on occupational health services. The findings of the research will serve as a guide for strategies to be developed in the future establishment of policies aimed at protecting the rights and the safety of health workers.

From 2017 -2019 it was recorded that about 250 health workers were involve in work related injuries at their various wards at the hospital (Cui, 2021). Therefore, there is a need to study

more on the prevalence of work-related injuries among health workers in the Holy Family Hospital, Berekum

1.2 General Objective

The main purpose of the study is to find out the causes of work related injuries among health workers at Bono Holy Family Hospital, Berekum

1.3 Specific Objectives

1. To assess the prevalence of work related injuries among staffs at the Holy Family Hospital, Berekum
2. To identify the types of work related injuries are found at the Holy Family Hospital, Berekum
3. To determine the risk factors of work related injuries among staffs at the Holy Family Hospital, Berekum

1.4 Definition of terms

Work-related injury: Any form of disorder that happens to the health worker at the health facility

Prevalence: The rate at which work related injuries occur

Physical injury: They include ionizing radiation, noise, heat and cold, vibration, electric and magnetic fields.

Biological hazards: Injuries cause by microorganisms e.g. hepatitis, HV etc.

Chemical injury: Injuries caused by disinfectants, drugs, detergents and dressing lotions

Ergonomic hazards: The choice of mechanical equipment that assist people to perform work or task easily.

Psychosocial hazards: Factors that affect general well-being, physical health, and stress-related outcomes.

Socio-demographics: Respondents particulars e.g. age, sex, marital status etc.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Occupational safety and health (OSH) is generally defined as the science of the 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 (World Health Organization, 2018).

2.1. Prevalence of work related injuries

The World Health Report 2018 defined health workers as people whose job is to protect and improve the health of their communities. Together these health workers, in all their diversity, make up the global health workforce. A conservative estimate of the size of the health workforce globally is just over 59 million workers. These workers are in health enterprises whose primary role is to improve health (such as health programmes operated by government or nongovernmental organizations) plus additional health workers in non-health organizations (such as nurses staffing a company or school clinic) (WHO, 2018).

Health service providers constitute about two thirds of the global health workforce, while the remaining third is composed of health management and support workers. Health and medical services are now a major employer in all countries (Amare et al., 2021). The large numbers of health workers in the world make up an important part of the total labour force. In general, the relative importance of the health workforce is higher in richer countries than in poorer ones and can account for up to 13% of the total workforce (Kemmlert, 2019). Health care is a labour-intensive industry, and it covers a highly diversified range of activities. Although some risks and hazards are common to the whole sector, others are more specific to certain

categories of Health Care Workers (HCWs) or to certain work practices of the industry (Yelin & Felts, 2018). Work is a central part of many people's lives and it is generally recognized that individuals should have a safe and healthy working environment (WHO, 2018).

Work-related injuries and reduced working capacity of workers may cause economic loss up to 10-20% of the Gross National Product of a country (WHO, 2018). Globally, work-related injuries and deaths account for an estimated loss of 4% of the Gross Domestic Product (Denge & Rakhudu, 2022).

Moreover, work related injuries are the most expensive form of work disability. It was estimated that the cost of work related injuries was approximately 215 billion dollars in 2015 in the United States; 26 billion Canadian dollars in 1998 in Canada, and 38 billion Euros in 2012 in Germany (Waddell, 2019) India has been battling with conventional public health problems such as communicable diseases, malnutrition, high rate of population growth, and inadequate medical care, apart from the occupational health problems (National Council of Research, America, 2021) MSD is one of the major occupational health problems in India and estimates have shown that MSD contributes to about 40% of all costs toward the treatment of work-related injuries (Smith, Wei, Ishitake, & Wang, 2020).

2.2 Risk factors of work related injuries among health care workers

Health care workers are at risk of developing work related injuries or diseases if not adequately protected from exposure to occupational hazards. They have been identified as a neglected group with regard to the monitoring of their occupational health status, and research has shown that the health of health care workers do not get the attention it deserves (Ogbonnaya, 2019). Many reasons have been cited for this, and these are indicated below. One of the biggest misconceptions is that as health care providers, health care workers understand the risks associated with exposure at work and can thus protect themselves. This

has, however, been shown to be incorrect. Health care training generally does not include an understanding of health related injuries, and thus health care workers are often unsure of their own risks. Unpublished research conducted by Michell (2018) showed that in hospitals where 19 identified hazards were present, professional nurses were only able to identify 3.9%. This is in line with international research findings. More significantly, three chemicals which enter the body via the respiratory tract, i.e. ethylene oxide, gluteraldehyde and waste anaesthetic gases were identified by 1.9%, 11.8% and 44.5%, respectively. Clearly an inability to identify respiratory concerns places health care workers at risk.

The reasons why health care workers are a high-risk group are as follows:

1. Health care workers are presumed safe from harm due to their knowledge of health;
2. Health care settings are presumed safe places to work;
3. Lack of awareness and co-ordination of occupational health services in health care settings;
4. Health care workers seek corridor consultations leading to misdiagnosis of work related injuries;
5. Hospitals focus on curative services rather than preventive, as in occupational health;
6. Management has focused attention on providing a safe environment for the patient and not the worker.

2.2.1 Other work related injuries studies done in health care workers

WHO made a special risk analysis of hepatitis B and C, and HIV infections among health care workers caused by contaminated sharps, such as syringe needles, scalpels, and broken glass (WHO, 2012). This analysis illustrates the general problem of high risks existing in the small worker population having exposure. WHO found that, among the 35 million health workers worldwide, there were 3 million percutaneous exposures to blood-borne pathogens in

2000. This finding is equivalent to between 0.1 and 4.7 sharps injuries per year per health worker. WHO concluded that of all the hepatitis B and C cases present in HCWs, about 40 percent was caused by sharps injuries, with wide regional variation. WHO also found that between 1 and 12 percent of HIV infections in health care workers was caused by sharps injuries.

The comparative risk assessment by region and type of infection indicates where special emphasis is needed. Clearly, solutions exist to these problems, as shown by the countries that have engaged in serious prevention efforts. Proper needle handling and waste management, substitutions for sharps, hepatitis B virus immunization, post exposure prophylaxis, training, and legislative measures have been successful. Beyond the personal and workplace consequences, the potentially devastating societal impact of loss of this critical worker group can be anticipated if prevention measures are not ensured in developing countries, where the proportion of health care workers in the population is already small (Obono et al., 2019).

2.2.2 Overview of the state of occupational health issues in Ghana

Employers in Ghana are required by the Ghana Labour Act 2003, Act 651 to ensure their employees are not exposed to conditions that would lead them to work-related injuries or illnesses. Employees are also required to exhibit their duty of care in ensuring that they work as per the employers‟ standard operating procedures which must incorporate Safety and Health requirements.

The Nation has different agencies under different jurisdictions which monitor different industries for workplace and employee safety, however, there is no national body, policy nor process that governs occupational health management in Ghana. Numerous injuries, illnesses, property damages and process losses take place at different workplaces but due to under reporting or misclassification due to lack or thorough standards, or unfamiliarity with the

existing guidelines, people are not normally in the known of such events as well as their actual or potential consequences and effective corrective actions required (Rosenstock et al., 2016).

Lack of comprehensive occupational health policy, poor infrastructure and funding, insufficient number of qualified occupational health and safety practitioners, and the general lack of adequate information are among the main drawbacks to the provision of effective enforcement and inspection services in most African countries (Muchiri, 2003). The Republic of Ghana epitomizes the above assertion in its entirety. In spite of the numerous investments that the country attracts with its accompanying occupational health related issues, Ghana as a nation still has no national policy on occupational health. A draft occupational services policy jointly developed by the Ministries of Manpower Youth & Employment, Health and Lands, Forestry & Mines as far back as the year 2000 is yet to be adopted.

2.2.3 Current occupational health Legislation in Ghana

Though the recently promulgated labour Act 2003, Act 651 has a section which covers OHS (i.e., Section 15), the very tenets on which the section is built (i.e., ILO Conventions 155 and 161) have not been ratified by the government as yet. Two main statutes have informed the execution of OHS in Ghana. These are the Factories, Offices and Shops Act 1970, Act 328 and the Workmen's Compensation Law 2013, PNDC Law 187. Missing in the coverage of industries under the Act is the vast majority of industries, and organizations. Provisions in the Act are also very limited in scope providing inadequately for preventive strategies (like risk assessments, medical surveillance and control of hazards) and standards against which services will be measured. Apart from the Radiation Protection Convention, 1960 (No. 115) ratified in 1961, there are no regulations and rules for certain classes of hazardous work

situations. This makes it more difficult for employers to comply with laws and further add to the discretionary powers of inspectors.

The Workmen's Compensation Law 2013 provides for the payment of cash compensation by an employer to an employee in the event of injury resulting from accident on the job and in the event of death, payable to dependents through the courts. Compensations as prescribed by the Workmen's Compensation Law bear no relation to the level of risk to which workers are exposed. In fact, the prosecution and court processes associated with compensation cases are laborious and time consuming for the meager amounts prescribed by the laws.

2.2.4 Legislations and Policies of occupational health Available to the Ghanaian health sector

Other statutes that have bearing on occupational health in Ghana include the Environmental Protection Agency Act 490, 1994, the Ghana Health Service and Teaching Hospitals Act 526, 1999, Ghana Aids Commission Act 613, 2012 and the Labour Act 651, 2003.

Health care workers are covered by the ILO instruments on occupational safety and health. The ILO Occupational Safety and Health Convention (No. 155) and Recommendation (No. 164), 1981 provide for the adoption of a national safety and health policy and describe the actions needed at the national and enterprise levels to promote occupational health and to improve working environment.

2.3 Types of work related injuries among health workers

Health and safety hazards in the health sector have been documented, and are known and experienced by some of the workers. They include: lifting and maneuvering patients from

awkward postures contributing to lower back and upper limb disorders; exposure to infectious airborne diseases such as TB and Common Cold; sharps injuries and the risk of exposure to blood borne pathogens including hepatitis B and HIV; violence and abuse in the workplace resulting in physical injuries and psychological trauma; latex in rubber Personal Protective Equipment (PPE) and medical equipment contributing to allergies and occupational asthma; long patient queues; shortages of beds, equipment and medicines; staff shortages and budget cuts contributing to stress and burnout; exposure to radiation by radiographers; exposure to hazardous chemicals; and ergonomic hazards (Henwood, 2010).

Health care workers are exposed to a great variety of hazards at the workplace. According Dr. Shengli Niu in the African Newsletter on Occupational Health Survey, 2010, these hazards could be broadly grouped into the following categories: biological, chemical, physical, ergonomic and psychosocial hazards.

2.3.1 Biological Hazards

Health care workers are often in direct contact with patients, including patients with infectious diseases. Tuberculosis (T.B), hepatitis, rubella, HIV/AIDS, and Cytomegalovirus (CMV) are just a few examples of the threats faced by health workers in their daily work. The incidence rates for TB are now rising in many developing countries and even in several industrialized countries due to the spread of HIV/AIDS and a slackening of immunization programmes. The appearance of multi-drug resistant TB poses a new threat to health care workers.

Hepatitis B is usually transmitted through the blood and enters a susceptible individual through a break in the skin - often via an accidental needle stick. It could be a specific risk to people working in laboratories, renal-dialysis units, blood-transfusion centres, drug-addiction clinics, dental surgeries and STD clinics. Contacting patients with rubella virus infection

could have serious consequences for pregnant health care workers, and infected staff also pose a threat to patients, particularly when working in obstetric, gynaecological and paediatric services. Most HIV-positive health workers have acquired their HIV infection outside the workplace, by sexual transmission from an HIV-positive partner/spouse. The risk of transmission of HIV from the patient is small, if the staffs observe standard infection control procedures (Marras, 2018).

Needle stick injuries are the most common injuries in the health care sector. Nursing staff, particularly nursing students are at the highest risk from needle-stick incidents. The prevention of transmission of HIV through a needle-stick injury is very important, particularly in high HIV prevalence areas. The risk of contracting an infection from the patients is high in developing countries where the hygienic conditions in hospitals may be problematic and where infectious diseases are rampant (Niu, 2012).

2.3.2 Chemical Hazards

Health care workers are exposed to a large variety of chemical agents which are being used in hospitals and other health facilities. These agents include anaesthetic agents, disinfectants, chemical sterilizing agents, drugs and cytostatic or laboratory reagents. Some of these substances are irritating to the skin and respiratory tract and can cause allergy. Some others, such as ethylene oxide, formaldehyde, hexachlorophene, are known mutagens, teratogens and human carcinogens. Among the occupational allergic agents, latex, acrylic and epoxy chemicals in orthopaedics and dentistry, laboratory chemicals such as formaldehyde, chromium, cobalt and organic solvents can cause irritant dermatitis. Substances such as animal protein and antibiotics – particularly the penicillin group – are well-recognized allergic agents which may cause not only asthma but also dermatitis and conjunctivitis. It is important to know that once an allergy has developed, it is extremely difficult to keep the

exposure levels low enough to prevent exacerbation of the disorder. Thus it is very important to prevent or minimize exposures in the first place (Niu, 2012)

2.3.3 Physical Hazards

Physical hazards injuries to health care workers are ubiquitous in hospitals and clinics. They include ionizing radiation, noise, heat and cold, vibration, electric and magnetic fields. In addition, consideration needs to be given to the ergonomic aspects of health care work. Ionizing radiation poses a threat to health care workers working not only in radiological and radiotherapy departments, but also in laboratories, dental facilities and electro-microscopy units, as well as in nursing wards and operation rooms.

Radiation is used in medical care for both diagnostic and therapeutic purposes. Work involving the preparation and assay of radiopharmaceuticals and intervention radiology tends to be associated with the highest occupational exposure in the medical use of radiation. Doses to the hands can rise to an annual limit of 500 mls. Therefore, it is important that radiation protection measures are strictly followed, and the staff are adequately shielded from radiation sources so that the doses to the whole body and extremities can be reduced to as low a level as can be reasonably achieved (Henwood, 2010).

Noise and vibration are not major problems in health care establishments except in dental and orthopedical surgery. High-speed dental turbines and surgical drills can cause noises at the level of 80–90 dB (A) which could damage the hearing of the operators if maintained for a prolonged period.

Extreme ambient temperatures are usually not major concerns for the health care workers. But in some developing countries, as well as for some categories of health staff performing certain procedures, extreme temperatures could be a health threat. People who are exposed to heat and cold include operating theatre staff, boiler-room workers, laboratory technicians, as

well as service and maintenance personnel. Poor building design and maintenance can cause indoor air quality problems. Particular attention to the ventilation of the building is needed to prevent the “sick building syndrome”. This is also particularly important in specific areas, such as laboratories and operating theatres where there is a specific need to suppress, minimize or control hazardous gases, dusts, fumes, etc. (Niu, 2010).

2.3.4 Ergonomic/Mechanical Factors

The choice of mechanical equipment and assisting devices affects the way in which people perform handling tasks. Nowadays numerous mechanical equipment which is designed to help in patient handling or make the task itself less physically demanding is available. The mechanical equipment at hospital environment – such as, lifters, bath or hygiene chair and vehicle lifts – help to reduce manual transfers and assists patients in their daily life. Assisting devices such as handling slings, lifting sheets, sliding boards, stretchers, lifting belts, lifting frames, turntables, trapeze/monkey rings, and grab bars can be used to reduce the risks associated with handling patients (Kivimaki, et al., 2016).

Clothing should allow the health care workers to move freely. Tight coveralls may create friction between the skin and the cloth, and furthermore may require additional muscle effort and lead to an increased risk of a muscle strain. A testing trial of clothing, as it will be finally used, is therefore recommended. Appropriate staff footwear should also be used, e.g. low heels and non-slip soles with a good grip for wet areas give a firm base while handling loads. Shoes should provide good foot support, be comfortable for the entire day and provide a good base for manual handling activities. Waterproof aprons should be available in wet areas as well (Kivimaki, et al., 2016).

Musculoskeletal injuries of the health care workers are often associated with patient handling. The lifting of patients is a major problem for nurses. Back injury is the most common and

most costly type of injury faced by health care workers. Nurses are at greatest risk of musculoskeletal injuries. The reason for the great number of musculoskeletal injuries is the great amount of lifting that health care workers, nurses in particular, are required to do, and this is not always physically possible. In the health care setting, patients are more difficult to lift since they are not stable and can be very uncooperative. Injuries due to awkward work postures, such as the prolonged standing, bending or kneeling can prevail among dentists, otologists, surgeons and especially micro surgeons, obstetricians, gynecologists and other health care workers, such as operating room staff, cleaners and hospital laundry workers (Henwood, 2010). The availability of mechanical lifts and other devices for moving patients, for instance, from their beds to wheelchairs, and ergonomically designed work stations have greatly improved the comfort of the working postures in many medical practices and procedures. These lifts and devices are commonly found in industrialized countries rather than developing countries. Nevertheless, unpredictable demands and high workload, as well as economic constraints, limit the introduction of these techniques to the workplaces in the health care sector (Niu, 2011).

2.3.5 Psychosocial hazards

Aspects of work organization affect general well-being, physical health, and stress-related outcomes. There is a number of important emerging scientific and health issues related to work organization practices.

2.3.5.1 Stress

Job stress is also a common complaint among the health care workers. The main causes include heavy workload, conflicting or uncertain job responsibilities, and job insecurity. A significant proportion of the health care workforce consists of women, who still, for the most part, manage the home and care for children in addition to their outside work. Dealing with

the very sick and dying persons can be a real problem for trainees and new health care workers. Long working hours, night work and rotating shift work are a normal pattern of the health care services. High levels of responsibilities are part of the life of many hospital workers (Henwood, 2010).

Junior doctors and nurses are more likely to face these situations as stressful. Although normal levels of stress will not cause a disability, it is possible that prolonged exposure to a high level of stress may result in substantial adverse long-term health effects. Such health effects can be anxiety, aggressiveness, apathy, boredom, irritability, depression, exhaustion, or behavioural effects, such as accident proneness, smoking, drug-taking, alcohol abuse, excess eating or restlessness (Niu, 2010).

2.3.5.2 Workplace Violence

Violence is a significant problem in both hospital and community based health care environments and (Cooper and Swanson, 2012). Studies indicate that as many as one-third of workers report they experienced some sort of psychological aggression, emotional harassment, or abuse while on the job during the past year. Workplace psychological aggression can be costly in terms of individual outcomes, such as increased psychological stress, reduced satisfaction, and poorer physical health, and in terms of organizational outcomes such as turnover, counterproductive work behaviors, and decreased productivity. Violence in health care workers at work is common among workers who are in contact with people in distress. Frustration and anger arising out of illness and pain, problems of ageing, psychiatric disorders, alcohol and substance abuse can affect people's behaviour and make them verbally and physically aggressive. Health care workers are at special risk of workplace violence. Health service staff working in emergency care units and in psychiatric hospitals

are at high risk of violence. Female health care workers are particularly vulnerable to violence at work (Niu, 2010).

2.4 Socio-demographic characteristics and being a victim of work related injuries

Individual factors can influence the incidence and process of work related injuries at the health facilities and can apply to both the health worker and the patient due to individual factors, it refers to:

1. Socio-demographic variables: such as, age, gender, educational level, marital status and tribe.
2. Personality characteristics, traits and styles.
3. Specific behaviors; and specific characteristics of the individual's affiliation with their workplace such as, level of experience and level of training (Vittorio Di Martino et al., 2013).

Individual characteristics, such as age, gender and occupational experience, as risk factors of workplace injuries for example, being of a young age, female, a nurse, and lacking work experience have been associated with increased vulnerability to workplace injuries in the healthcare sector (Soares et al., 2021). Younger persons are at greater risk of being a victim to injuries than older colleagues. This is revealed in a study conducted by (Schablon et al 2012) in Germany. However, this finding contradict other studies conducted by (Hegney et al., 2010; Zampieron et al., 2010). These studies indicated no correlation between age and experience of work related injuries. The role of gender as a risk factor of being a victim of injuries are documented in several studies. Whilst some studies put women at a higher risk than their male counterparts in experienced workplace injuries (Kwok et al., 2016; Zampieron et al., 2010), others established no significant difference in terms of women and men who are at greater risk of experiencing injuries (Lundström et al., 2007; Schablon et al., 2012).

However, some studies put males at higher risk than their female counterparts in terms of risk of experiencing injuries (Estryn-Behar et al., 2008).

Nurses in the public sector are also estimated to be more at risk of experiencing injuries at the workplace (Hegney et al., 2010). The effects of injuries against nurses and other health care workers can be immediate, short, medium and long term (Bushman BJ et al, 2016). Also, the effect could be classified as physical which may heal quickly or cause a physical disability or psychological or emotional which comparatively takes longer to heal (Rippon, 2000; Wells and Bowers, 2012). The extent of this can be variable depending on the personality involved.

CHAPTER THREE

METHODOLOGY

3.1 The Study Area

The study was conducted at Holy Family Hospital, Berekum. Located at Berekum in the Bono East Region of Ghana. Holy Family Hospital (HFH), Berekum is a Catholic Diocesan Hospital which serves as the Municipal Hospital. It is part of the Sunyani Diocesan Health Service (DHS) and the Diocesan Health Service Board (DHSB) serves as the Governing Board. It was established in 1948 by the Medical Mission Sisters (MMS) and became a Diocesan Hospital in 1978. HFH, since 1969 has been networked with the Ministry of Health (MoH), a private hospital and community-based facilities and personnel and it is coordinated by the Municipal Health Management Team (MHMT).

Berekum HOFAHO has a Nursing Training College and Midwifery Training School attached to the Hospital. The School of Nursing and the Midwifery Training School started in 1955 and 1964 respectively. These two schools were the only professional training programmes for nurses in the Brong Ahafo Region until 2004 when the Government established one in Sunyani. HOFAHO also trains subsidiary staff: EN Anesthetics, Theatre Technicians, Laboratory Assistants, Ward Assistants and Dispensary Assistants for local use and other Institutions.

The vision of the hospital is to provide high quality health care in the most effective/efficient and innovative manner, specific to the needs of the communities we serve and at all times acknowledging the dignity of the patient. These services will be carried out in a manner complimentary to yet integral to the National Health Sector activities of Ghana.

the Mission of the Hospital is to continue Christ's Healing Ministry in bringing healing to the greatest number of people in the provision of total quality patient care through healers with good ethical and moral standards; who are conscientious as well as professionally competent, motivated and united in their common respect for fundamental human values.

The goal is to provide and sustain good quality health care for the poor, neglected and marginalized in society. The hospital will seek to empower the people it serves to take ownership of their own individual and collective health needs.

3.2 The Study Design

A descriptive cross-sectional study design was employed for the study. This is a descriptive study in which outcome and exposure statuses are measured simultaneously in a given population (Palange et al, 2013). This study design does not require follow-up, less costly and quicker than other designs. This therefore makes it appropriate for this study since the time frame for completion is too short couple with inadequate financial resources available to the researchers.

3.3 Study Population

The study population will include both males and females health workers who have worked in the hospital for more than a year, and have consented to take part in the study. All health workers who have worked in hospital for a period of one year were included. All health workers who have not worked for more than a year in the hospital were excluded

3.4 Sampling Size and Sampling Technique

The aim of sampling is to get a sample that is as representative as possible of the target population**.** A sample size of 50 respondents was used for the study.

Simple random sampling method will be employed to select the study population from the various departments within Holy Family Hospital, Berekum List of all health workers at the hospital will be obtained from the nurse managers' office, sorted by surnames and assigned sequential serial numbers.

3.5 Research instrument

Quantitative data will be collected using structured questionnaires administered to 128 health workers at the Regional hospital. A structured questionnaire was used as instrument for data collection. Most of the questions were framed to reflect the specific objectives of the study.

3.6 Data collection procedure

The data collected was first organized into groups using the tally systems after which total were worked out. Percentages were calculated for the various variables that were studied. The data was finally presented in frequency distribution tables.

3.7 Data analysis

The quantitative data will be analyzed using tables and charts drawn using Microsoft word and excel spreadsheet.

3.8 Ethical Consideration

Permission was sought from the Nursing Administration, Hospital PRO and the various ward In-charges where the study was conducted for approval of the research study. Respondents were also assured of the confidentiality of the information gathered and that it is purely for academic purposes. Participation in the study will be voluntary.

3.9 Limitation of the study

The limitations of this study was lack of financial constraints for the project compelled us as to contribute money to enable us carry out the research and this was not easy considering the budget for the project in terms of internet access, printing and photocopies of questionnaires among others which prompted us to choose a small sample size of 128, rendering this work too short for an extensive and comprehensive study.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.0 Introduction

This chapter deals with analysis of data collected from the field of study and the results obtained from the analysis. The study findings are presented in diagrams based on the demographic characteristics and specific objectives.

4.1 Demographic Data of Respondent

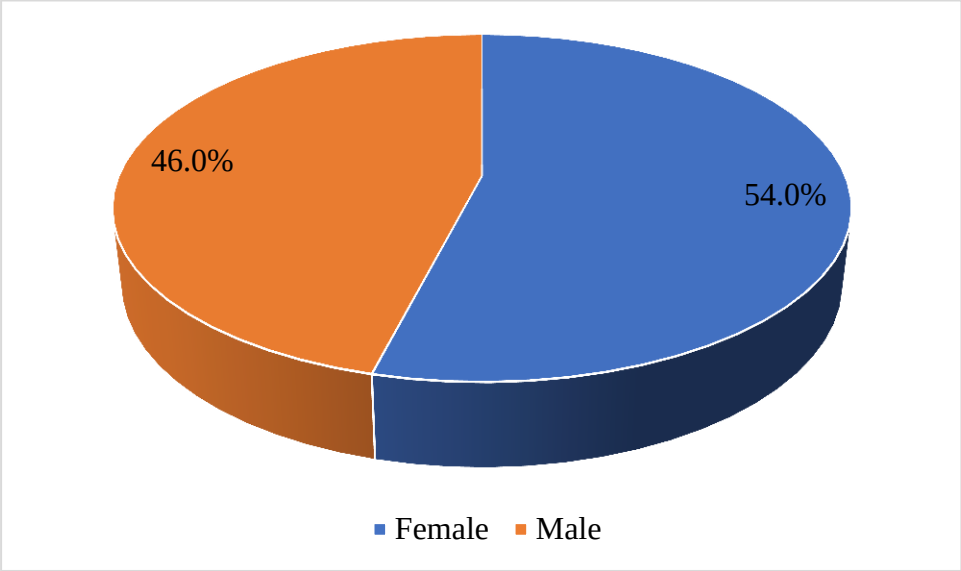

Figure 4. 1: Respondents gender

Majority of the respondents (54%) were females with 46% been males.

Table 4. 1: Respondents post qualification years

Variables	Frequency	Percent (%)
1-3 years	25	50
4-6 years	25	50
More than 6 years	0	0

Post qualification years for respondents were: 1 – 3 years (50%), 4 – 6 years (50%) and more than 6 years (0%)

Table 4. 2: Respondents number of years worked at hospital

Variables	Frequency	Percent (%)
1 year	17	34
2 years	10	20
3 years	7	14
4 years	5	10
5 years	8	16
6 years	3	6

Table 4.2 depicts that less than half of the respondents (34%) had worked at the hospital for ne (1) year, followed by two years (20%), five (5) years (16%), three (3) years (14%) and four (4) and six (6) years (10%).

Table 4. 3: Respondents age group

Variables	Frequency	Percent (%)
Under 25 years	30	60
25-34	12	24
35-44	18	36

Table 4.3 shows that more than half of the respondents (60%) were under 25 years followed by 35- 44 years (36%) and 25 – 34 years (24%).

Table 4. 4: Respondents profession

Variables	Frequency	Percent (%)
Nurse	12	24
Doctor	6	12
Lab tech	5	10
Ward assistance	3	6
Midwives	15	30
Ward coordinator	4	8

From table 4.4, most (30%) of the respondents were midwives followed by nurses (24%), doctors (12%), Lab technicians (10%), ward coordinators (8%) and ward assistance (6%).

Table 4. 5: Respondents marital status

Variables	Frequency	Percent (%)
Cohabiting	0	0
Married	27	54
Separated	0	0
Single	23	46

Table 4.5 shows that majority of the respondents (54%) were married, 46% were single as none of them were cohabiting or divorced.

4.2 Prevalence and Various Types of Work-Related Injuries

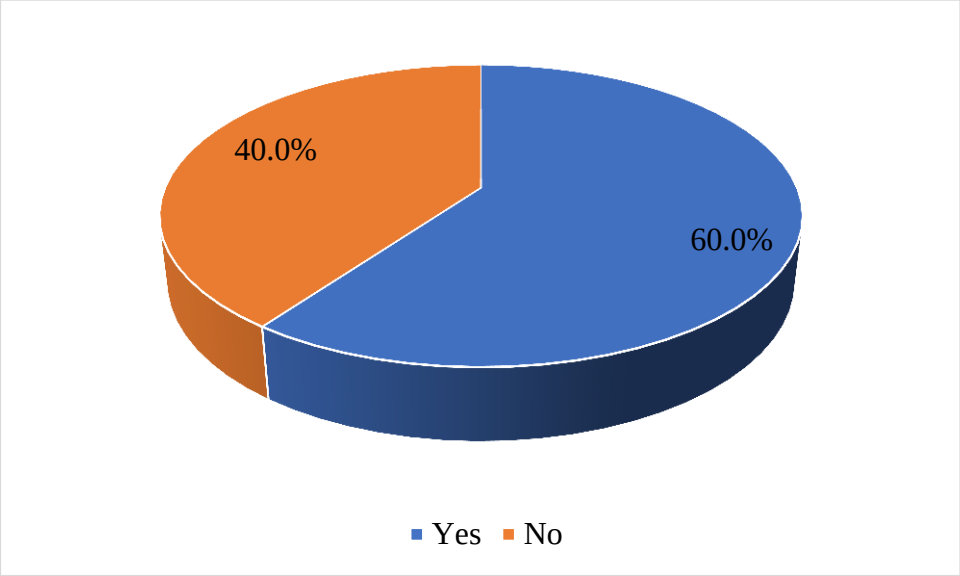

Figure 4. 2: Prevalence of Workplace Violence against nurses

Most (60%) of the respondents had experienced work-related injuries in the past twelve months.

4.3 Types of Work-Related Injuries

Figure 4. 3: Respondents on types of work-related injuries

Variable	Category	Yes		No	
		n	%	n	%
Physical Injuries	Sharps injuries	32	60	18	36
	Violence and abuse	5	10	45	90
	Falls (accidents)	15	30	35	70
	Excessive noise	28	52	22	44
	Excessive heat	15	30	35	70

Biological	Exposure to infectious diseases	25	50	25	50
	Exposure to blood borne pathogens	20	40	30	60
Chemical	Splash of corrosive chemical	20	40	30	60
	Allergy due to disinfectant	2	4	48	96
	Effects of anaesthetic agent	0	0	50	100
	Exposure to carcinogenic drugs	3	6	47	94
Ergonomic/mechanical	Backache	11	22	39	88
	Neck ache	19	38	31	62
	Traumatic amputation of limb	0	0	50	100
	Tight Personal Protective Clothing	25	50	25	50
	Strain or sprain	5	10	45	90
Psychosocial	Stress	40	80	10	20
	Conflicts	8	16	42	84
	Emotional harassment or abuse	20	40	30	60

Table 4.6 shows the various types of injuries sustained at the workplace, pertaining to physical injuries most (60%) indicated sharp injuries followed by excessive noise (52%), falls and excessive heat (30%) and violence and abuse (10%). Regarding biologically related hazards exactly half (50%) cited they have been exposed to infectious diseases like TB and Common Cold and less than half (40%) indicated exposure to blood borne pathogens like hepatitis B and HIV. For chemical related injuries, less than half (40%) of the respondents indicated splash of corrosive chemical followed by exposure to carcinogenic drugs (6%) and allergy due to disinfectant (4%). Exactly half (50%) of the respondents have experienced

ergonomic hazards such as tight personal protective clothing followed by neck ache (38%), backache (22%), and strain and sprain (10%). With respect to psychosocial stress, majority (80%) of the respondents indicated stress, few of them indicated conflicts (16%) and emotional harassment and abuse (40%).

4.4 Risk Factors of Injuries

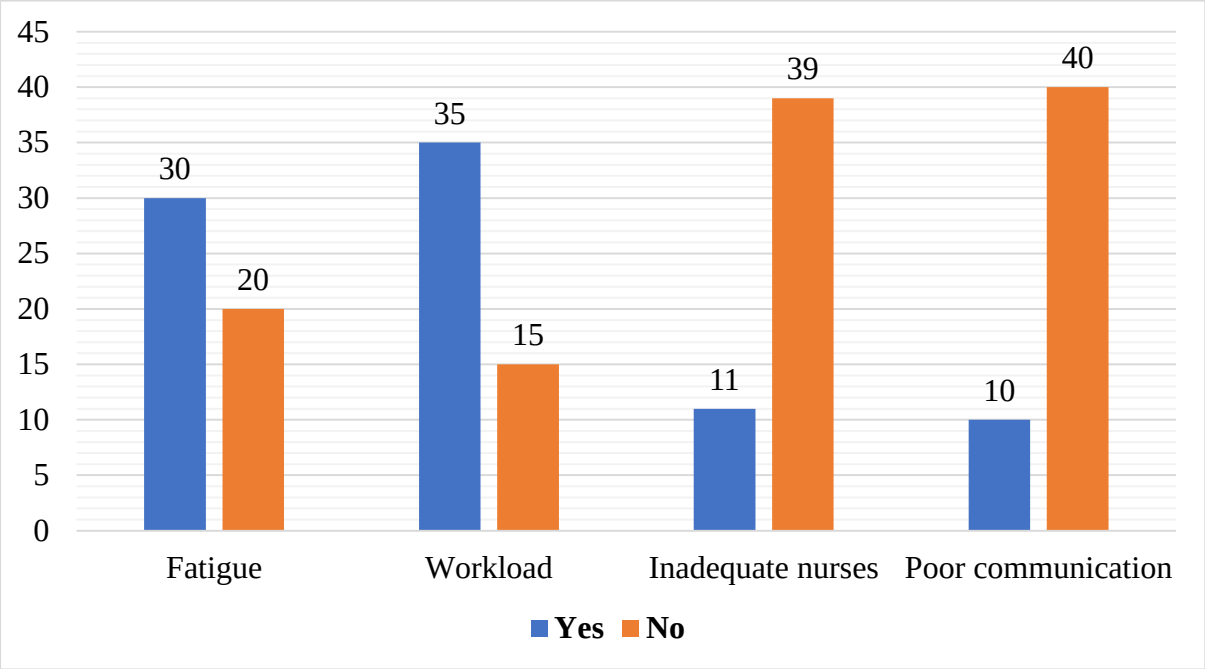

Figure 4. 4: Respondents on risk factors of injuries

From figure 4.3, Most (60%) of the respondents indicated fatigue as a risk factor for work-related injuries. Majority (70%) of the respondents pointed out workload as a risk factor for work-related injuries. Majority (78%) of the respondents cited that inadequate nurses as a risk factor for work-related injuries. Vast majority (80%) of the respondents reported poor communication among patients and nurses as a risk factor for work-related injuries.

CHAPTER FIVE

DISCUSSIONS, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter provides an in-depth look at the major findings that emerged out of the research study, comparison of the analyzed data with findings from other literatures, conclusion and recommendations.

5.1 Discussion

The discussions are based on the specific objectives of this study.

5.1.1 Prevalence and Various Types of Work-Related Injuries

The current study found that most (60%) of the respondents had experienced work-related injuries in the past twelve months. This indicated a high prevalence of work-related injuries among the healthcare workers of Holy Family Hospital, Berekum. Similarly, from 2017 - 2019 it was recorded that about 56% health workers were involve in work related injuries at their various wards at the hospital (Cui, 2021). Additionally, work related injuries at the workplace have a huge impact, emerging as a growing problem in our modern societies (Yelin & Felts, 2018). They represent the second largest cause of short-term or temporary work disability after the common cold (Yelin, et al., 2020).

In the current study less than half (40%) indicated exposure to blood borne pathogens like hepatitis B and HIV. This is in line with a report Marras (2018), as it was found that the risk of transmission of HIV from the patient is small, if the staffs observe standard infection control procedures. Health care workers are often in direct contact with patients, including patients with infectious diseases. Tuberculosis (T.B), hepatitis, rubella, HIV/AIDS, and

Cytomegalovirus (CMV) are just a few examples of the threats faced by health workers in their daily work.

For chemical related injuries, less than half (40%) of the respondents indicated splash of corrosive chemical followed by exposure to carcinogenic drugs (6%) and allergy due to disinfectant (4%). Similarly, Niu (2012) reported that healthcare workers are exposed to a large variety of chemical agents which are being used in hospitals and other health facilities. Additionally, it is important to know that once an allergy has developed, it is extremely difficult to keep the exposure levels low enough to prevent exacerbation of the disorder. Thus, it is very important to prevent or minimize exposures in the first place (Niu, 2012).

In the current study less than half of the respondents have experienced ergonomic hazards such as neck ache (38%) followed by backache (22%) and strain and sprain (10%). Kivimaki, et al. (2016) affirmed that musculoskeletal injuries of the health care workers are often associated with patient handling. The lifting of patients is a major problem for nurses. Back injury is the most common and most costly type of injury faced by health care workers. Nurses are at greatest risk of musculoskeletal injuries. They added that the reason for the great number of musculoskeletal injuries is the great amount of lifting that health care workers, nurses in particular, are required to do, and this is not always physically possible.

The present study found that exactly half (50%) of the respondents have experienced ergonomic hazards such as tight personal protective clothing. Equally, Kivimaki, et al. (2016) reported that tight coveralls may create friction between the skin and the cloth, and furthermore may require additional muscle effort and lead to an increased risk of a muscle strain. A testing trial of clothing, as it will be finally used, is therefore recommended.

With respect to psychosocial stress, majority (80%) of the respondents indicated stress, few of them indicated conflicts (16%) and emotional harassment and abuse (40%). Henwood

(2010) holds a similar assertion as it was reported that job stress is a common complaint among the health care workers. The main causes include heavy workload, conflicting or uncertain job responsibilities, and job insecurity. Junior doctors and nurses are more likely to face these situations as stressful.

5.1.2 Risk Factors of Injuries

The present study found that majority (70%) of the respondents pointed out workload as a risk factor for work-related injuries. Most (60%) of the respondents indicated fatigue as a risk factor for work-related injuries. Similarly, Niu (2011) reported that fatigue, unpredictable demands and high workload increases workplace injuries.

5.2 Conclusions

There was a high prevalence of work-related injuries among healthcare workers. The leading work-related injury were ergonomic related such as backache, neck ache, strain and sprain. Most respondents also reported on psychological related injury such as stress. Healthcare workers are frequently exposed to infectious diseases like TB and Common Cold. The leading risk factors for work-related injuries were workload and inadequate human resource.

5.5 Recommendations

1. Management of the hospitals must train healthcare workers on Occupational Health and Safety practices.
2. Nurse manager and ward in charges must also make sure that each shift is covered by enough nurses to prevent excessive fatigue among nurses and midwives.
3. Further studies must be undertaken on the effects of high nursing workload on patient care.

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QUESTIONNAIRE

TOPIC: WORK-RELATED INJURIES AMONG HEALTH WORKERS IN THE HOLY FAMILY HOSPITAL, BEREKUM

SECTION A: DEMOGRAPHIC INFORMATION

Please tick the boxes that apply to you.

1. Sex? Female [ ] Male [ ]

2. How long have you been qualified as a health worker?

1-3yrs [ ] 4-6yrs [ ] more than 6yrs [ ]

3. How many years have you worked in this hospital?

1yr [ ] 2yrs [ ] 3yrs [ ] 4yrs [ ] 5yrs [ ] 6yrs [ ]

4. Please indicate your age group:

Under 25 years [ ] 25-34 years [ ] 35-44 years [ ] 45+ years [ ]

5. What is your profession? Nurse [ ] Doctor [ ] Lab Tech. [ ] Ward Assistance [ ]

Others specify……..

6. Marital Status?

Single [ ] Cohabiting [ ] Married [ ] Separated [ ] Divorced [] Widowed [ ]

SECTION B: PREVALENCE AND VARIOUS TYPES OF WORK-RELATED INJURIES

For the next set of questions, we want to learn about your experience with injuries while at work, during the past 12 months of your experience

7. Have you experienced any kind of injury while at work?

a. Yes [ ] b. No [ ]

If yes state the kind of injury you experienced (**If No, terminate the interview**)

Physical Injuries	**Yes**	**No**
8. Sharps injuries	[ ]	**[ ]**
9. Violence and abuse	[ ]	[ ]
10. Falls (accidents)	[ ]	[ ]
11. Excessive noise	[ ]	[ ]
12. Excessive heat	[ ]	[ ]
Biological		
13. Exposure to infectious diseases like TB and Common Cold;	[ ]	[ ]
14. Exposure to blood borne pathogens like hepatitis B and HIV;	[ ]	[ ]
Chemical		
15. Splash of corrosive chemical	[ ]	[ ]
16. Allergy due to disinfectant	[ ]	[ ]
17. Effects of anaesthetic agent	[ ]	[ ]
18. Cancer as a result of exposure to carcinogenic drugs	[ ]	[ ]

Ergonomic/mechanical		
19. Backache	[ ]	[ ]
20. Neck ache	[ ]	[ ]
21. Traumatic amputation of limb	[ ]	[ ]
22. Tight Personal Protective Clothing (PPE)	[ ]	[ ]
23. Strain or sprain	[ ]	[ ]
Psychosocial		
24. Stress due to heavy workload and pressure from home	[ ]	[ ]
25. Conflicts	[ ]	[ ]
26. Emotional harassment or abuse	[ ]	[ ]

SECTION C: RISK FACTORS OF INJURIES

(Select where applicable)

27. Fatigue [ ]

28. Workload [ ]

29. Inadequate Nurses [ ]

30. Poor communication among patients and nurses [ ]

NATIONAL CATHOLIC HEALTH SERVICE (DIOCESE OF SUNYANI)
HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE
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Our Ref. HFNMTC/GC/011/102622

Your Ref. .....

October 26, 2022

Date .....

The Administrator
Holy Family Hospital
Berekum

Dear Administrator

PERMISSION TO CONDUCT RESEARCH

I wish to introduce to you the under-listed names of final-year students of the College:

1. **Pignyog Flavia**
2. **Kyeremaa Grace**
3. **Quartey Ahenkorah Doris**

As part of the pre-requisite for the award of Diploma in Midwifery, they are to conduct a research study, hence the data collection on **"Work related injuries among health workers at Holy Family Hospital, Berekum."**

I would be grateful if you could assist them with any material or help they may need to accomplish this task.

Thank you.

Yours faithfully

.....

Ernestina Mensah
Supervisor

For: Principal