

**UNIVERSITY OF EDUCATION, WINNEBA**

**ASSESSMENT OF HEALTH AND SAFETY STATUS OF PUBLIC SENIOR  
HIGH SCHOOL TEACHERS IN EASTERN REGION, GHANA**



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## DECLARATION

### STUDENT'S DECLARATION

I, Richard Akutey, declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

**SIGNATURE:** .....

**DATE:** .....

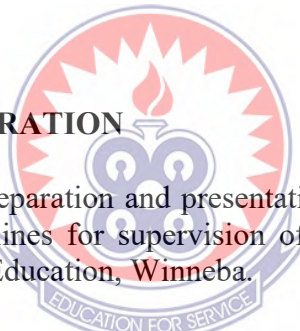
### SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis/dissertation/project as laid down by the University of Education, Winneba.

**DR. RICHARDSON ADDAI-MUNUNKUM (SUPERVISOR)**

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## **DEDICATION**

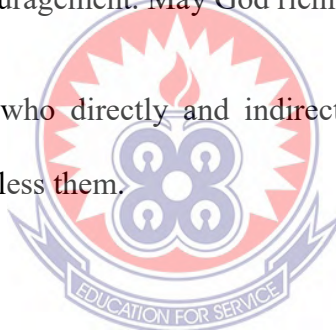
To my father, Mr. Stephen N. Akutey.



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## ABSTRACT

Every profession has its own occupational health problems due to the kind of job performed. High job demands (E.g. discipline problems, teaching preparation, etc.) associated with teaching profession makes it a stressful occupation with a lot of occupational health challenges. And since the introduction of a flagship programme; the Free SHS in 2017 by the government of Ghana, students' enrolment has jumped from 36% (2016) to 62.6 % (2019) with inadequate teachers being one of the major factors facing it. This has increased and intensified already existing job demands and occupational health problems among second cycle school teachers. Therefore, this study sought to assess the health and safety status of public S.H.S. teachers in the Eastern Region of Ghana. A quantitative field survey was employed and data were collected using an online questionnaire. The data were analyzed using central tendency, standard deviation, frequencies and percentages. The study found that, public S.H.S. teachers have increasing level of NCDs (hypertension, diabetes, and other heart or heart-related condition), poor health condition and female teachers experiencing poorer health condition with higher NCDs as compared to male teachers. This showed that the health conditions of public S.H.S. teachers were worsening, hence serious health interventions like health promotion workshops and programme, and regular medical checkups were recommended.



## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the Study

A healthy workforce is vital for sustainable social and economic development on global, national, and local levels. About 45% of the world's population and 58% of the population over 15 years of age belong to the global workforce (ILO, 2017). The global proportion of the population (ages 15+) that was economically active in 2017 is estimated at 62% (ILO, 2017), people who work to sustain the economic and material basis of the society. However, a large fraction of the worker population is adversely affected by conditions associated with their workplaces (WHO, 2018). Therefore, occupational health and the well-being of working people are crucial prerequisites for productivity and overall socioeconomic and sustainable development of each nation and the globe (Kaynak, Toklu, Elci, & Toklu, 2016).

Occupational hazards and risks are mostly underreported due to inadequate research (Samantra, Datta, & Mahapatra, 2017). These hazards and risks are highly connected to the work of employees and have the potential of causing serious damage to employees. These, however, reflects on the economic and social as well as the health and safety of these employees (Samantra, Datta, & Mahapatra, 2017). The effect of these on the health and safety of employees lead to work-related diseases and accidents (Galizzi, & Tempesti, 2015). The number of people who die every year from work-related diseases and accidents are over two million and about 100 million occupational injuries occurs worldwide (Haagsma et al., 2015). Also, WHO (2018) stated that respiratory infections have been associated with several occupational exposures in adults. According to International Labour Organization (ILO), 160 million people from the world's workforce suffer from work-related diseases

including musculoskeletal diseases and mental health problems (ILO, 2016). Furthermore, it has been noted that 270 million fatal and non-fatal work-related accidents resulted in over 350, 000 casualties, whilst further two million deaths are attributable to occupational hazards annually. The statistics, four percent of the world's annual Gross Domestic Profit (GDP) is lost as a result of occupational hazards (Haagsma et al., 2015). Therefore, employers face a lot of challenges such as loss of skilled staff, absenteeism, migration, early retirements, and high insurance premiums due to exposure from occupational accidents and diseases (ILO, 2016; Galizzi, & Tempesti, 2015).

Every profession has its own occupational health problems due to the kind of work perform. Teaching is a stressful occupation (Desrumaux et al., 2015), with a lot of occupational health challenges including physical and psychosocial hazards as result of its high job demands (Skaalvik & Skaalvik, 2018). Prior research showed that teachers are more vulnerable to work-related stress, psychological distress, and burnout than many other occupational groups (Skaalvik & Skaalvik, 2016; 2015). Thus, teachers may experience wide range of stressors including discipline problems, teaching preparation, conflicts with colleagues, value conflicts, pupil misbehavior, and role ambiguity (Skaalvik & Skaalvik, 2015). Bakker and Demerouti (2017) also indicated that perceived imbalance between efforts and rewards, time pressures (overload), lack of human and technical resources, and administrative demands are part of job-specific hazards encountered by teachers.

High job demands associated with the teaching profession make teachers suffer various forms of injuries. The number of injuries related to the health of teachers has increased tremendously, and these have affected their physical and

psychological health thereby compromising their working capacity (Zhang et al., 2015). Evidence (Zhang et al., 2015) indicated a higher incidence of medium and high physiological and psychological stress were significantly higher among teachers. The study also showed that the intensity of occupational stress among teachers comes from teaching for long hours per week, verbal and physical abuse (by colleagues, students, parents as well as superiors), adversely affecting their cardiovascular, respiratory, and mental conditions (Zhang et al., 2015). Moreover, the high job demand among teachers could result in voice disorders, musculoskeletal disorders, and contact dermatitis (Pino-Juste & Portella-Pino, 2017). For instance, teachers form about 16% of all occupations who constantly make use of their voices at work (Alva, Machado, Bhojwani, & Sreedharan, 2017), such as teaching a class, projecting their voice especially when class is large, giving verbal instructions when trying to control a background noise especially when the class is large, and in a poorly acoustic classroom (Moy et al., 2015). The long-term vocal overload as result of teaching activities lead to voice disorder, hence the vocal health of teachers is highly in danger. In addition, a wide variety of health problems among teachers can be associated with low level of social support (Skaalvik & Skaalvik, 2015). For example, loneliness can affect the well-being of workers resulting in conditions such as depression, psychosomatic response, high blood pressure, diminished immunity, cardiovascular disease, and cognitive decline (Skaalvik & Skaalvik, 2015).

Musculoskeletal problem is a neglected occupational health problem among the teaching profession (Yadav, & Bansal, 2018). Musculoskeletal problems include inflammatory and degenerative conditions affecting the muscles, joints, tendons, ligaments, nerves, bones, and the localized blood circulation system (Ng, Voo, & Maakip, 2019). Yadav and Bansal (2018) posit that musculoskeletal problems come

from back pains, neck pains and shoulders pains, and manifest as a result of the job demands such as prolonged sitting when marking assignments and examination papers, poor working postures and working long hours in a standing position (Skaalvik & Skaalvik, 2015). In addition, a presentation done by Pino-Juste and Portella-Pino (2017) at ECER Conference on teacher's occupational health revealed that, hearing loss and contact dermatitis are the top occupational diseases among teachers in the United States. This is because teachers mostly use chalks, which contain nickel.

## 1.2 Statement of the Problem

Schools are workplaces and the maintenance of safe work environment is important (Desrumaux et al., 2015). All schools plan for and document their policies, strategies, and actions on safety at school and school-related excursions. The office of every teacher is the classroom and although school teachers are one of the most numerous professional groups in Ghana, they have not traditionally been a focus of study by researchers in Ghana. Meanwhile, classroom teaching contributes to a range of occupational health issues related to general health as well as ergonomics (Pino-Juste & Portella-Pino, 2017).

Since 2017 the government of Ghana introduced a flagship programme; the Free Senior High School (FSHS) (Daily Graphic, 2017), which has led to an incremental jump in the enrollment of students in the senior high school level (Daily Graphic, 2018). Accordingly, the gross senior high education enrolment ratio in Ghana was 62.6 percent, up from 36 percent in 2016 (Ghana Business News, 2019). Consequentially, the job demands for teachers and other school workers has increased in the second cycle schools in Ghana. The replica effect of this resulted in over

burdening of Ghana educational system thereby compelling the Ghana Education Service (GES) to run a shift system popularly known as Double Track System (Gold and Green shift system) (Mensah, 2019). Evidence by Asamadu (2019) on “challenges and prospects of the Ghana free senior high school policy: the case study of S.H.S. in Denkyemba District” revealed that although the policy has come as a means to ensure increase in enrolment in public Senior High Schools (S.H.S.), the implementation of this policy is hindered by several factors with inadequate teachers being one of the major factors especially in the Eastern Region of Ghana. These have intensified the already existing three main types of occupational health problems suffered by S.H.S. teachers including voice disorders due to long-term vocal overload from verbal instructions, projecting the voice, and raising the voice to compensate for poor acoustic conditions, musculoskeletal disorders, and contact dermatitis (Pino-Juste & Portella-Pino, 2017).

Furthermore, this increase in high job demands does not only complicate the already existing occupational health problems among S.H.S. teachers, but also leads to chronic stress hence results in job burnout (Desrumaux et al., 2015). A lot of researches have shown that chronic stress or job burnout as result of high-stakes job demands can undermine teacher wellness and occupational health and safety (Yaribeygi et al., 2017). For instance, the Systematic Reviews and Meta-Analyses of several prospective and high-quality studies by Salvagioni, Melanda, Mesas, Gonzalez, Gabani, and de Andrade (2017) on job burnout revealed that high job demand leads to chronic stress at work. This chronic stress at work, however, replicates itself in a syndrome known as job burnout which has several consequences to workers’ well-being and health. The evidence from this study revealed that job burnout was a significant predictor of the following physical, psychological and

occupational consequences (Salvagioni et al., 2017): The physical consequences were hypercholesterolemia, type 2 diabetes, coronary heart disease, hospitalization due to cardiovascular disorder, musculoskeletal pain, changes in pain experiences, prolonged fatigue, headaches, gastrointestinal issues, respiratory problems, severe injuries and mortality below the age of 45 years (De Beer, Pienaar, & Rothmann, 2016; Yaribeygi et al., 2017); The psychological effects were insomnia, depressive symptoms, use of psychotropic and antidepressant medications, hospitalization for mental disorders and psychological ill-health symptoms (De Beer, Pienaar, & Rothmann, 2016; Yaribeygi et al., 2017); and Job dissatisfaction, absenteeism, new disability pension, job demands, job resources and presenteeism were identified as professional outcomes (De Beer, Pienaar, & Rothmann, 2016; Yaribeygi et al., 2017). From the above it can be deduced that the health condition of teachers is at stake. Hence, there is the need to assess health and safety status of teachers driven by empirical research evidences.

### **1.3 Purpose of the Study**

This study assesses the health and safety status of public S.H.S. teachers in the Eastern Region of Ghana.

### **1.4 Objectives of the Study**

The study sought to achieve the following:

1. Assess the health condition of the public S.H.S. teachers in terms of Non-communicable diseases like hypertension, diabetes, and heart-related diseases.
2. Assess the overall health status of public S.H.S. teachers in the Eastern Region-Ghana.
3. Identify the statistical difference in gender in terms of health condition.

### **1.5 Research Questions**

The following research questions guided the study:

1. What is the health condition of the public S.H.S. teacher in terms of Non-communicable diseases like hypertension, diabetes, and heart-related diseases?
2. What is the overall health status of public S.H.S. teachers in the Eastern Region-Ghana?
3. What is the statistical difference in gender in terms of health condition?

### **1.6 Significance of the Study**

The findings of this study can assist employers GES, workers (teachers), workers' unions (Ghana National Association of Teachers (GNAT), National Association of Graduate Teachers (NAGRAT), and Concern Collation of Teachers (CCT)) and their representatives, practitioners, and policy makers in the development of policy to improve the health condition of teachers. This may improve both the health condition of teachers and productivity. Furthermore, the findings of this study would serve as a reference material for teachers in Ghana, particularly in Eastern Region about the health condition of the teacher in terms of Non-communicable diseases like hypertension, diabetes, and heart-related diseases, overall health status of teachers, and the sex (gender) which has poorer health condition. This in effect will help to improve both the health condition of teachers and productivity, and to catalyze new and promote more effective teaching practices in Ghana educational system. Ultimately, the findings of this study would produce psychometric data base on teachers. The instrument that would be used, would be useful for researchers in the field of OHS. This would further help to develop public health interventions that can be deployed in the study region, Ghana, Africa, and the whole worldwide to increase



education about occupational health and safety challenges among teachers and ways to prevent future morbidity and mortality.

### **1.7 Delimitation**

This study is capable of fixing the limit using a descriptive survey to assess the health conditions of teachers. Only one instrument (questionnaire) was used for the collection of data. Since the impact of FSHS policy is felt on only Senior High Schools (S.H.S) teachers, the population of the teachers would include only teachers working in S.H.S. Moreover, only teachers working one year or above and are present at their workplaces (schools) during the data collection would take part in the study.

### **1.8 Definition of Terms**

**Burnout:** an emotional exhaustion, cynicism and reduced professional accomplishment (Travers, 2017).

**Job demands:** the physical, psychological, social or organizational aspect of the job that requires sustained physical and / or psychological effort or skills (Skaalvik & Skaalvik, 2015).

**Occupational hazard:** it is anything that could cause harmful adverse effects (Spurlock, 2017).

**Occupational safety and health (OSH):** it is a multidisciplinary healthcare field concerned with the safety, health, and welfare of people at work, enabling an individual to undertake their occupation in the way that causes least harm to their health, thereby preventing harm from any incidental hazards, arising in the workplace (WHO, 2019).

**Physical health:** the condition of your body, taking into consideration everything from the absence of disease to fitness level (De Simone, Cicotto, & Lampis, 2016).

**Risk:** the probability of occurrences of a hazardous event or exposure and the severity of injury or ill health that can be caused by event or exposure (Samantra, Datta, & Mahapatra, 2017).

### **1.9 Organization of the Study**

This study is organized under five chapters; one, two, three, four, and five. The Chapter One covers the introduction, background to the study, statement of the problem, purpose of the study, research questions, and significance of the study, delimitation, and definition of terms. Chapter Two is devoted to the review of related literature that relates to the topic under investigation. This takes a critical look at the concept of occupational health, workplace health promotion (WHP) and its Trends, and conceptualization of safety and health. This chapter also reviews literature on International Labour Organization (ILO's) standard on safety and health, occupational hazard and its types, prevalence of occupational health and safety problems among employees, and prevalence of occupational health and safety problems among teachers. The plan for this research is provided in Chapter Three. It will focus on the research design, population, sampling procedure, and instrument for data collection, reliability and validity of the instrument, method of data collection, and data processing and analysis. Chapter Four presents the results and discussion of findings. Lastly, chapter Five deals with summary, the main findings, conclusions, and recommendations.

## CHAPTER TWO

### LITERATURE REVIEW

The purpose of this study is to assess the health and safety status of public S.H.S. teachers in the Eastern Region of Ghana. This chapter presents a review of related literature that guides the study. The review of related literature is organized under the following headings:

1. Concept of Occupational Health
2. Workplace Health Promotion (WHP) and its Trends
3. Conceptualization of Safety and Health
4. International Labour Organization (ILO's) Standard on Safety and Health
5. Occupational Hazard and its Types
6. Prevalence of Occupational Health and Safety Problems among Employees
7. Prevalence of Occupational Health and Safety Challenges among Teachers.

#### **2.0 Concept of occupational health and safety**

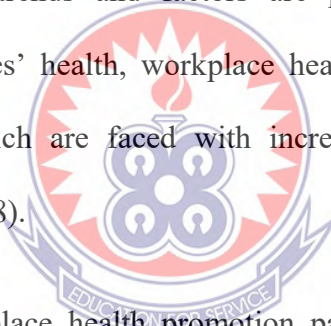
Occupational health and safety (OHS) must have a strong focus on primary prevention of hazards (Ostiguy et al., 2010). The accepted approach to "OHS" is that accidents and diseases result from the hazards and dangers already built in the system (WHO, 2019). For instance, at a workplace where there is no clear promotion and maintenance of the highest degree of the physical, mental, (spiritual) and social well-being of workers, the safety, health, and welfare of the employees at work are not guaranteed. Hence, unsafe working conditions, (e.g. an unguarded machine) are easier to spot than a dust problem, dangerous noise levels, inadequate lighting, etc. The aim of occupational health is to prevent work-related illness and injury by: encouraging safe working practices; ergonomics (studying how you work and how you could work better); monitoring the health of the workforce; supporting the management of

sickness absence. An occupational health service might also: work with the employer to implement policies and ensure health and safety compliance; conduct pre-employment health assessments; support health promotion and education programmes; provide advice and counselling to employees around non-health-related problems; provide the employer with advice and guidance around making reasonable adjustments to the working conditions (WHO, 2019). The provision occupational health service to workers depends on the size of the organisation. It can be provided by a nurse with occupational health training and a part-time doctor, or through a range of specialists, including: physiotherapists; hygienists; psychologists; ergonomic experts; occupational therapists; specialist occupational health nurses and doctors. Occupational health is usually provided at an employee's place of work, but if the employer does not have a dedicated service, an employee may need to travel to attend appointments with external providers. In view of that, the main objective of occupational health and safety (OHS) is to promote and prevent accidents caused by the unsafe worker behaviour and/or work environment. According to Ostiguy et al. (2010), OHS is supposed to provide the following: 1) To protect the workers, and 2) to create a safe working environment that eliminates or significantly reduces identifiable inherent hazards. This means a safe working environment must be created enabling individuals to undertake their occupation in a way that causes least harm to their health, thereby preventing harm from any incidental hazards, arising in the workplace.

## **2.1 Workplace Health Promotion (WHP) and its Trends**

The World Health Organization has recently recognized workplace as a priority setting for health promotion in this 21st century (WHO, 2005). In view of that, developed countries have continued to expand Workplace health promotion

programs and activities. For instance, United States has an estimated of 155 million employees who work full-time and spend at least 30% of their day on the job, hence drafted and implemented policies on public health programs and activities at workplaces and also ensure that employers provide health insurance and have a significant financial stake for their employees in encouraging a healthier and more productive workforce (Bureau of Labor Statistics, 2012). Since workplaces continue to change in response to the number of interrelated trends and factors in every organization, workplace health promotion is very important. Some of these changes can be felt in advances in information technology, fundamental changes in the way in which work is structured and organized, and globalization of business markets and economies. since these trends and factors are potentially significant and have implications on employees' health, workplace health promotion can help in many advanced economies which are faced with increasingly older and more diverse workforces (Engbers, 2008).



Classically, workplace health promotion pay attention to the following: a) making positive lifestyle changes/choices and b) improving personal health behaviors (Engbers, 2008). Due to the emerging trends within workplace health promotion, it is very necessary to broaden the scope of injury or accident prevention at workplaces, hence the inclusion of job design and organizational characteristics in program planning (Way & MacNeil, 2006). Whiles Organizational characteristics look at the features that involves the motivation of employees to work harder and perform better without detrimental health effects, which include the social and interpersonal aspects of the workplace (Way & MacNeil, 2006), Job design also points to the particular combination of demands and resources that emphasize employees' individual perceptions of their immediate work tasks, such as workload and autonomy (ten

Brummelhuis et al., 2011). Most of the developed countries in northern and western Europe have included these factors into their workplace health promotion programs and activities and made them so prominent (Sparks, Faragher, & Cooper, 2001).

The health and well-being of employees is also affected by two major factors: work factors and non-work factors. The impacts and contributions of these factors are interrelated such that it is virtually very difficult to separate them out. These factors are geared towards job design and organizational factors which affect worker health and productivity (Sorensen & Barbeau, 2004). In recognition of how important these factors are, the National Institute for Occupational Safety and Health (NIOSH), which is part of the U.S. Centers for Disease Control and Prevention (CDC), have introduced and integrated these factors into their health protection and health promotion programs and activities (Sorensen & Barbeau, 2004). Based on this initiative done by the National Institute for Occupational Safety and Health, a Healthy Workplaces model was drafted and developed by the World Health Organization (WHO) which is in line with what the NIOSH did (WHO, 2010).

In every country, the large percentages of the adult population are workers hence the introduction and maintenance of health promotion programs at workplace settings is very important. Workplace harbors a concentrated group of employees who share a common purpose and culture, hence aligning health promotion programs and activities with the organization's mission will increase the company's profitability and help achieve other organizational goals (Della et al., 2010). In order to promote this program at workplace settings, organizations can depend on their organizational policies and social norms to guide and encourage certain behaviors whiles

discouraging others through the introduction of financial or other incentives (McGillivray, 2002).

Recently, workplaces have been characterized with a lot of changes which involves the combination of new organizational products and processes, globalized economies, and new technologies (Schabracq & Cooper, 2000). According to Schabracq and Cooper (2000), these unprecedented changes and increasing stakes at workplaces have put employees under high pressure compelling them to compete, learn new skills, and adapt in order to meet the continuously increasing demands of their work. The impact of these paradigm shift in the nature of organizations is that, working environments become highly stressful which form the bases for many risk factors. These risk factors, however, are the cause of many physical and psychological problems such as burnout, anxiety, fatigue, musculoskeletal disorders, depression, work family conflict, increased risks of heart disease, substance misuse, gastrointestinal problems, absence, accidents and many other problems (Schabracq & Cooper, 2000). Every progressive organization depends on well productive and committed workforces who perform any assignment that they have been assigned to (Wilson, 2008). Dunnagan, Peterson, and Haynes (2001) stated that when demands at workplaces become extremely high, productivity and commitment are at risk. If this attracts no attention, the organization may suffer the consequences, due to the development of maladaptive stress reactions that compromise employees' health (Dunnagan, Peterson, & Haynes, 2001). The effect of these consequences can come in a form of lowered performance, decreased productivity, quality, and profit, increased sick leave, and employees incur greater health care costs (Wilson, 2008). These consequences can also be attributed to the traditional trends, where no attention have been paid to job designs or organizational factors which seriously brought a lot of

health implications on employees (DeJoy & Wilson, 2003). According to Noblet and Lamontagne (2006), risk-factors and health care costs are reduced when workplace health promotion programs are introduced to help the employees improve their health and personal well-being. In effect, it leads to the reduction of work-related stress, improvement of job satisfaction and enhancement of workers' health (Noblet & Lamontagne, 2006).

## **2.2 Conceptualization of Safety and Health**

Health and safety at work place have been explained, defined, viewed and conceptualized by various scholars and institutions. According to the definition proposed by the World Health Organization (WHO), Healthy Workplace can be explained and centered on the physical work environment (the realm of traditional occupational health and safety, dealing with physical, chemical, biological and ergonomic hazards). The scope includes health practice factors (lifestyle); psychosocial factors (work organization and workplace culture); and a link to the community; all of which can have a profound effect on employee health" (WHO, 2018). A workplace where everyone works together to achieve an agreed vision for the health and well-being of workers and the surrounding community is termed as a safety workplace. It involves the process whereby all the members of the workforce are equipped with physical, psychological, social and organizational conditions that protect and promote health and safety. It, furthermore, gives the opportunity for managers and workers to have maximum control over their own health and to improve it. As a result of this, managers and workers become more energetic, positive and contented (WHO Regional Office for the Western Pacific, 2001). According Lowe (2004), a workplace must be free of recognized hazards, with health-promoting and sustaining policies, programmes, and practices. It must also provide employees



with ready access to effective programmes and services that protect their health, safety, and well-being. For occupational health to be improved in a particular working environment, a healthy workplace must go hand-in-hand with a healthy organization (Ostiguy et al., 2010).

Throwing more lights on healthy workplace and a healthy organization, Lowe (2004) indicated that a healthy workplace can be viewed as the physical and mental well-being of employees. A healthy organization in the other hand has to deal with the embedded employee health and well-being into how the organization operates and goes about achieving its strategic goals (Lowe, 2004). In the view of Grawitch et al (2009), a healthy workplace depends on the messenger. According to Onuegbu (2010), a healthy workplace must be a place which will not adversely affect physical, mental and social well-being of the worker, whereas a safe work place is the place where harm, damage, or loss to the workers and visitors are unlikely. A safe and healthy workplace must guarantee that a worker returns home at least the way he left his home in terms of his physical, mental and social conditions. This means that the factory or platform where he works must be held liable if he has been attacked by gun men or whether there is a fault with an equipment or failure of an equipment which leads to a loss/injury or whether it was due to the carelessness of his employer or even a co-worker or whether the clinic at the worksite lacked the necessary drugs, or inadequate availability of equipment or doctors or other health personnel (Onuegbu, 2010). It is high time trade unions and other worker associations view Occupational Health and Safety as an important issue and must be given a prominent attention or position in collective agreements and conditions of services. A healthy and safe environment remains the most valuable assets among workers, communities and countries (Ostiguy et al., 2010). It is therefore empirical to emphasize that, a healthy

worker is an asset to the employer; hence the provision of a healthy and safe environment must be a collective and a key goal that should be pursued by the trade unions, other worker associations and the employers (Jackson & Suomi, 2004).

### **2.3 International Labour Organizations' (ILO's) Standard on Safety and Health**

According to International Labour Organizations' (ILO's) Standard on Safety and Health, the prevention of accidents and injury to health which is on the rise in the course of work can be reduced drastically to the minimum level (ILO, 2016). The standard stated categorically that occupational safety and health and the working environment must take cognizance of the following, as stipulated in article five(a) design, testing, choice, substitution, installation, arrangement, use and maintenance of the material elements of work (workplaces, working environment, tools, machinery and equipment, chemical, physical and biological substances and agents, work processes); (b) relationships between the material elements of work and the persons who carry out or supervise the work, and adaptation of machinery, equipment, working time, organization of work and work processes to the physical and mental capacities of the workers; (c) training, including necessary further training, qualifications and motivations of persons involved, in one capacity or another, in the achievement of adequate levels of safety and health; ILO provides for clear-cut definition of the respective functions and responsibilities in respect of occupational safety and health and the working environment of public authorities, employers, workers and others, taking account both of the complementary character of such responsibilities and of national conditions and practice. In addition to the above, ILO in article seven recommends that occupational safety and health and the working environment should be reviewed at appropriate intervals, either over-all or in respect of particular areas, with a view to identifying major problems, evolving effective

methods for dealing with them and priorities of action, and evaluating results. It is therefore empirical for all states to take action in respect to the implementation of the standard for safe work within the framework of each member state's legislation. In the course of emphasizing this, Article 8; requires a concerted effort with the representative organizations of employers and workers concerned, to take bold steps as may be necessary to give effect to issues of safety and health in the organization. The enforcement of laws and regulations concerning occupational safety and health and the working environment shall be secured by an adequate and appropriate system of inspection, the enforcement system shall provide for adequate penalties for violations of the laws and regulations (ILO, 2016).

Also, Article 11: a, b, c, provide a platform to clarify any issue of determination by professional, where the nature and degree of hazards so require, of conditions governing the design, procedures to be defined by the competent authorities; the determination of work processes and of substances and agents (ILO, 2016). This help to emphasize exposure to a forbidden hazard, limited or made subject to authorisation or control by the competent authority or authorities, taking into consideration of health hazards due to the simultaneous exposure to several substances or agents. It has also been clearly stated in the convention that all states must ensure that the annual publication of information on measures taken in pursuance of the policy referred to in Article 4 of this Convention and on occupational accidents, occupational diseases and other injuries to health which arise in the course of or in connection with work; (f) the introduction or extension of systems, taking into account national conditions and possibilities, to examine chemical, physical and biological agents in respect of the risk to the health of workers. In addition to the above, article 14 provides the measures towards promoting appropriate national

conditions and practice, the inclusion of questions of occupational safety and health and the working environment at all levels of education and training, including higher technical, medical and professional education, in a manner meeting the training needs of all workers, which calls for the creation of a central body. Since safe work involves the collaboration of the employers, management and the workers, the convention places more emphasis on the employer whereby there should be effective policies and programs to guide the implementation of safe health. Article 16 (1) also states that employers shall be required to ensure that, so far as is reasonably practicable, the workplaces, machinery, equipment and processes under their control are safe and without risk to health. This means that employers must ensure that, so far as it is reasonably practicable, the chemical, physical and biological substances and agents under their control are without risk to health when the appropriate measures of protection are taken (ILO, 2016).

To add to the above, the employers are expected to provide, where necessary, adequate protective clothing and protective equipment to prevent, so far as it is reasonably practicable, risk of accidents or of adverse effects on health (ILO, 2016). Employers are also expected to provide, where necessary, for measures to deal with emergencies and accidents, including adequate first-aid arrangements. There must also be arrangements at the level of the undertaking under which: (a) workers, in the course of performing their work, co-operate in the fulfillment by their employer of the obligations placed upon him; (b) representatives of workers in the undertaking co-operate with the employer in the field of occupational safety and health; (c) representatives of workers in an undertaking are given adequate information on measures taken by the employer to secure occupational safety and health and may consult their representative organisations about such information provided they do not

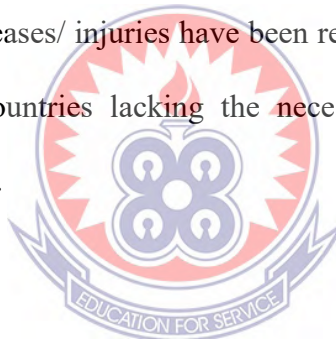
disclose commercial secrets; (d) workers and their representatives in the undertaking are given appropriate training in occupational safety and health; (e) workers or their representatives and, as the case may be, their representative organisations in an undertaking, in accordance with national law and practice, are enabled to enquire into, and are consulted by the employer on, all aspects of occupational safety and health associated with their work; for this purpose technical advisers may, by mutual agreement, be brought in from outside the undertaking; (f) a worker reports forthwith to his immediate supervisor any situation which he has reasonable justification to believe presents an imminent and serious danger to his life or health; until the employer has taken remedial action, if necessary, the employer cannot require workers to return to a work situation where there is continuing imminent and serious danger to life or health (ILO, 2016).

#### **2.4 Occupational Hazard and its Types**

Hazards and risks are highly connected to the work of employees and have the potential of causing serious damage to employees and properties (Ana & Sridhar, 2009). The effect of these damages, however, reflects on the economic and social as well as the health and safety of these employees (Clarke, 2010; Lanciano & Zammuner, 2014). These effects can be on structural buildings, machinery or equipment, or individuals. With respect to mankind, the effect of occupational hazard on the health and safety on these employees sometimes becomes critical which leads to work-related diseases and accidents. According to Kanten (2012), the number of people who die every year with respect to work-related diseases and accidents is over two million and 100 million occupational injuries world widely (Chau et al., 2008). Also WHO (2018) stated that, though the highest disease burden from lower respiratory infections is found in children, respiratory infections have been associated

with several occupational exposures in adults. Workplaces may contain many hazards, e.g., unguarded machinery, slippery floors and inadequate fire safety measures. Occupational hazard as a term signifies both long-term and short-term risks associated with the workplace environment and is a field of study within occupational safety and health and public health. Short term risks may include physical injury, while long-term risks may be increased risk of developing cancer or heart disease (Kanten, 2012).

Occupational hazards can encompass many types of hazards, including chemical hazard, biological hazards (biohazards), physical hazards, psychosocial hazards, and ergonomic hazards (Spurlock, 2017). Although occupational hazards are mostly underreported due to inadequate research, it has been revealed that a lot of cases of occupational diseases/ injuries have been recorded in sub-Saharan Africa and Asia with developing countries lacking the necessary expertise and resources to manage it (Kanten, 2012).



### **Chemical hazards**

Chemical hazards are a subtype of occupational hazards that involve dangerous chemicals. Exposure to chemicals in the workplace can cause acute or long-term detrimental health effects. Everyday workers are faced with dusts, fumes, vapours, gases, noise, extreme heat, etc. There is evidence that showed that workplace exposure to chemical hazards such as silica dust, engine exhausts or welding fumes, among others are associated with increased prevalence of heart disease. Other workplace hazards have been shown to increase risk of pulmonary heart disease, stroke, and high blood pressure. There are many classifications of hazardous chemicals, including neurotoxins, immune agents, dermatologic agents, carcinogens,

reproductive toxins, systemic toxins, asthmagens, pneumoconiotic agents, and sensitizers (Ramos et al., 2018).

### **Biological hazards or Biohazards**

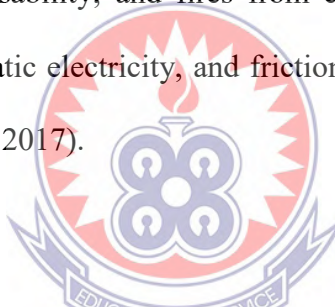
A biological hazard, or biohazard, is a biological substance that pose a threat to the health of living organisms primarily humans. This could include a sample of a microorganism, virus, or toxin (from a biological source) that can affect human health. Biological hazards include pathogenic micro-organisms, viruses, toxins (from biological sources), spores, fungi and bio-active substances. Biological hazards can also be considered to include biological vectors or transmitters of disease. Biological agents, including microorganisms and toxin produced by living organisms, can cause health problems in workers. Influenza is an example of a biohazard which affects a broad population of workers. Those who work outdoors encounter numerous biological hazards, including bites and stings from insect, spider, and scorpions. Contact dermatitis from exposure to urushiol from poisonous toxicodendron plants, Lyme disease, West Nile virus and coccidioidomycosis. Worldwide, it is estimated that around 320 000 workers die each year from communicable diseases caused by work-related exposures to biological hazards (Spurlock, 2017). A biohazard could also be a substance harmful to other animals. The term and its associated symbol are generally used as a warning, so that those potentially exposed to the substances will know to take precautions. The biohazard symbol was developed in 1966 by Charles Baldwin, an environmental-health engineer working for the Dow Chemical Company on the containment products. It is used in the labeling of biological materials that carry a significant health risk, including viral samples and used hypodermic needles (Spurlock, 2017).

## Physical hazard

A physical hazard is defined as a factor within the environment that can harm the body without necessarily touching it. Vibration and noise are examples of physical hazards. Physical hazards include but aren't limited to electricity, slips, trips, falls, radiation, pressure, noise, heights, vibration, heat, cold, extremes of temperature, poor lighting affecting vision, poor ventilation, faulty electrical wiring and other faults with the risk of electric shocks, explosions from pressurized containers and fire amongst many others. These hazards if not adequately controlled predispose staff to a deterioration of vision, radiation-induced malignancies, noise-induced hearing loss and injuries. For instance: Noise coming from noisy machines leads to hearing loss, stress and annoyance; Hand or arm vibration from Operation of vibrating hand held equipment leads to white finger, hand-arm vibration syndrome (HAVS); Hot environments when working near furnaces or summer outdoor work leads to heat stroke, heat syncope (fainting); whole body vibration when working on a vibrating platform, driving farm tractors or other heavy vehicles, especially on rough terrain leads to back disorders, wide range of health conditions; Cold environments when working outdoors in cold weather or working in cold storage leads to hypothermia, frostbite, and trench foot; Hyperbaric (high pressure) environments when diving leads to "Bends" or decompression sickness, joint pain, breathing or ear disorders; Hypobaric (low pressure) environments when working near x-ray machines, handling radioactive materials, Uranium mining, working in nuclear energy power plants, and working in nuclear research laboratories leads to radiation sickness within hours or days after exposure to very high radiation levels and cancer after several years of low-level exposure (Spurlock, 2017).



Non-ionizing radiation when exposed to electromagnetic waves, lights and lasers does not produce ions in the body chemicals, reach by causing heat and other effects; Ultraviolet from sunlight, arc welding, blacklight lamps, and germicidal lamps leads to skin cancer, eye damage, and retinal damage; Light and Lasers from lasers and welding can lead to retinal damage; Microwave and radio-frequency from microwave ovens, radio and TV transmission, radar, antenna, and cell phones can lead to heating of the body and central nervous system (CNS) effects; Power frequency electromagnetic field (ELF) when working near electric power transmission or distribution lines can lead to indications of leukemia in children; Slips, trips and falls from slippery and cluttered floors and working surfaces can lead bodily injury, broken bones, and permanent disability; and fires from chemical reactions, heat, ignition, electrical short circuit, static electricity, and friction can lead to burns and inhalation of toxic fumes (Spurlock, 2017).



### **Psychosocial hazards**

Psychosocial hazards are occupational hazards that affect someone's social life or psychological health. Psychosocial hazards in the workplace include occupational burnout and occupational stress, which can lead to burnout. Psychosocial hazard is therefore termed as work stressor. A psychosocial hazard or work stressor can also be explained as any hazard that affects the mental well-being or mental health of the worker by overwhelming individual coping mechanisms and impacting the worker's ability to work in a healthy and safe manner or any occupational hazard that affects the psychological and physical well-being of workers, including their ability to participate in a work environment among other people. Psychosocial hazards are related to the way work is designed, organized and managed, as well as the economic and social contexts of work. They are associated with psychiatric, psychological

and/or physical injury or illness, such as occupational burnout, anxiety disorders, depression (mood), hypertension, and cardiovascular disease. A psychosocial hazard is a workplace violence and can be linked to the organization of work as well as psychosocial risks, and are recognized internationally as major challenges to occupational health and safety as well as productivity. Exposure to psychosocial hazards in the workplace do not only produces psychological and physiological damage to individual employees, but also produces further repercussions within society. For instance, reducing productivity in local or state economies, corroding familial or interpersonal relationships, and producing negative behavioral outcomes come as a result of exposure to psychosocial hazards at the workplaces (Ng & Jeffery, 2003). It has been supported by strong evidence from several research studies that, there has been a link between the psychosocial work environment and consequences on employees' physical health. Increasing evidence indicated that four main physiological systems are affected: hypertension and heart disease, wound-healing, musculoskeletal disorders, gastro-intestinal disorders, and impaired immunocompetence (Middeldorp, Cath & Boomsma, 2006).

Additional disorders generally recognized as stress-induced include: bronchitis, coronary heart disease, mental illness, thyroid disorders, skin diseases, certain types of rheumatoid arthritis, obesity, tuberculosis, headaches and migraine, peptic ulcers and ulcerative colitis and diabetes (Ng & Jeffery, 2003). According to a survey conducted by Middeldorp, Cath, and Boomsma (2006), the most important psychosocial hazards or work stressors are: job strain, effort-reward imbalance, lack of supervisor and co-worker support, long working hours, work intensification, lean production and outsourcing, emotional labor, work-life balance, job insecurity, and precarious work. Psychosocial hazards include but aren't limited to stress, violence

and other workplace stressors. Risks to psychological health at work may arise from organizational or personal factors, with the major factors being poor design of work and jobs, poor communication and interpersonal relationships, bullying, occupational violence and fatigue. Workplace violence and harassment, working alone, change, technological change, technological change, fatigue and hours of work are examples of work organizational factors, while personal factors include substance abuse, depression, anxiety, other mental illness, age-related factors and work-life conflict (Middeldorp, Cath & Boomsma, 2006; Ng & Jeffery, 2003).

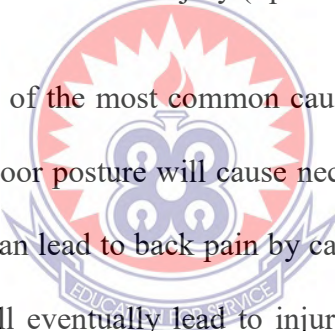
### **Ergonomic hazards**

Ergonomics is the study of how a workplace, the equipment used there and the work environment itself can best be designed for comfort, efficiency, safety and productivity. The levels of comfort and productivity at workplaces can be often improved with relatively simple changes. Although ergonomics is a broad field, the main areas of concern for workplaces and employees will often relate to: workstations (sitting and standing) and desks, equipment layout and operation, computer systems, noise, lighting, thermal comfort, and maintenance tasks performed on plant items. Ergonomic issues can be associated with a wide range of concerns including the physical design of workstations, workspaces or the working environment, all tools, equipment, machinery workers use to do their jobs, the physical processes workers perform, vehicles, computer programs and plant. It can also involve cognitive processes such as those involved with workload, decision making, skilled performance and stress. Any occupational hazard that comes as result of ergonomics is termed as ergonomic hazard (Spurlock, 2017).

An ergonomic hazard is, therefore, any interaction with the working environment that causes the user discomfort or strain or a physical factor within the environment that harms the musculoskeletal system. It can also be explained as any physical condition that may pose risk of injury to the musculoskeletal system, such as the muscles or ligaments of the lower back, tendons or nerves of the hands or wrists, or bones surrounding the knees, resulting in a musculoskeletal disorder (MSD). There are three primary types of ergonomic hazards: objects, environments, and systems that result in poor posture or unnatural, uncomfortable, or awkward movements. Ergonomic hazards include themes such as poor body positioning, awkward postures, static postures, large forces, repetitive motion, short intervals between activity, manual handling, workplace or job or task design, and uncomfortable workstation height. The risk of MSD is often magnified when multiple factors are present or when whole-body or hand or arm vibration, poor lighting, or poorly designed tools, equipment, or workstations produce additional negative interactions with the worker or user. Ergonomic hazards occur in both occupational and non-occupational settings such as in workshops, building sites, offices, home, school, or public spaces and facilities (Spurlock, 2017).

Ergonomic practices address the intersection between people and the working environment. The goal is to design and arrange space, objects, and systems so that the user experiences the safest, most natural, and most efficient movement and body position possible. While no employer wants their workers to be uncomfortable, it's important to understand that ergonomics isn't just about comfort; it's directly linked to safety and injury prevention. Poor ergonomics contributes to muscle strain, muscle imbalances, and fatigue. Many muscle strains result from performing the same motion over and over again. These become repetitive stress injuries, which are some of the

most common workplace injuries. Ergonomics alone won't eliminate this type of injury (even if one does a movement correctly, if one does it too often, one is bound to get tired or overuse one's muscles and connective tissue). However, proper ergonomics will significantly reduce fatigue and strain. Several common work activities pose repetitive stress ergonomic hazards. Examples include typing and mousing, which can result in carpal tunnel syndrome. Other work-related actions that cause repetitive stress injuries include: Overhead work, auto mechanical work, driving, stocking shelves, massaging clients, and butchering. Poorly designed or maintained tools and equipment may require workers to perform awkward movements or to contort their body in order to perform a task. Repeated day after day, this causes excessive fatigue and may result in an injury (Spurlock, 2017).



Fatigue is another of the most common causes of workplace injuries. A desk setup that contributes to poor posture will cause neck and back strain and stress. The stress from poor posture can lead to back pain by causing problems with the muscles, discs, and joints. This will eventually lead to injury. These examples highlight that many issues associated with poor ergonomics develop over time. Considering that employees spend upwards of one-third of their lives at work. Safe, injury-free, comfortable employees are happy employees. Happy employees are more productive, more efficient, and have fewer absences. It is therefore empirical for employers to carefully look around their environment, identify examples of ergonomic hazards in the workplace in order to prevent the issues associated with them and keep their employees happy and healthy. Proper ergonomics in the workplace is critical to long-term well-being and injury prevention (Spurlock, 2017).

## **2.5 Prevalence of Occupational Health and Safety Problems among Employees**

The health and safety of every employee is affected by their work since they spend most of their time at their workplaces (Morken, & Johansen, 2013). According to World Health Organization/World Economic Forum (2008), more than 60% of workers daily time is spent at their workplaces (Tan et al., 2014). The occupational risks and hazards associated to the work and work environment affect workers' health and safety resulting in health and safety problems (Hamalainen, Takala, & Saarela, 2006). Hamalainen, Takala, and Saarela (2006) noted that these ill health conditions can be in a form of injuries, diseases, temporary or permanent disabilities and can even lead to death. Some of these ill health occurs as a result of occupational accidents which affect workers' health and safety and even aggravate a pre-existing health and safety conditions (Hamalainen, Takala, & Saarela, 2006). The consequential effect of these can sometime be fatal leading to high rates of absenteeism and presenteeism or even transfer to another job, with some being near misses' cases (Galizzi, & Tempesti, 2015). Furthermore, the biggest effect of these occupational accidents, injuries and ill health is high cost which affects the worker, their families and the employer thereby compromising workplace health promotion as well as workers' well-being (Gahan et al., 2014; Dollard et al., 2012a; Pathak, 2008). In order to reduce turnover rates, injuries, accidents, illness, near misses, compensation claims and deaths at workplaces, some researchers suggested the following: encouragement of supervisor and co-worker support at workplace (Okoye, & Aderibigbe, 2014); provision of appropriate safety PPE and devices, safety training, and enforcement of activities (Dollard et al., 2014; Kanten, 2013); and formulation and implementation of policies through effective management support system and

worksite health and safety committee for workplace health and safety (Bond, Tuckey, & Dollard, 2010) to boost workers morale, productivity and financial returns.

### **Prevalence of Occupational Health and Safety Challenges among Teachers**

Every profession has its own occupational health problems due to the kind of work perform. Teaching as a profession has its own peculiar and serious problems that stakeholders try to not to pay attention to. Teachers faced a lot of occupational health challenges at their workplaces. Some of these challenges come as a result of their contact with biological, chemical, physical, and psychosocial hazards when performing their duties (Samantra, Datta, & Mahapatra, 2017). Teaching is a stressful occupation (Desrumaux et al., 2015), with occupational health challenges such as physical and psychosocial hazards as result of its high job demands (Skaalvik & Skaalvik, 2018). Prior research showed that teachers are more vulnerable to work-related stress, psychological distress, and burnout than many other occupational groups (Skaalvik & Skaalvik, 2016; 2015). This is because teachers experience wide range of stressors including discipline problems, teaching preparation, conflicts with colleagues, value conflicts, pupil misbehavior, and role ambiguity (Skaalvik & Skaalvik, 2015). Bakker and Demerouti (2017) also indicated that perceived imbalance between efforts and rewards, time pressures (overload), lack of human and technical resources, and administrative demands are part of job-specific hazards encountered by teachers.

High job demands associated with the teaching profession make teachers suffer various forms of injuries. The number of injuries related to the health of teachers has increased tremendously, and these have affected their physical and psychological health thereby compromising their working capacity (Zhang et al.,

2015). Evidence (Zhang et al., 2015) indicated a higher incidence of medium and high physiological and psychological stress were significantly higher among teachers. The study also showed that the intensity of occupational stress among teachers comes from teaching for long hours per week, verbal and physical abuse (by colleagues, students, parents as well as superiors), a situation which adversely affect their cardiovascular, respiratory, and mental conditions (Zhang et al., 2015). Moreover, the high job demand among teachers could result in voice disorders, musculoskeletal disorders, and contact dermatitis (Pino-Juste & Portella-Pino, 2017). In addition, a wide variety of health problems among teachers can be a cause of low level of social support (Skaalvik & Skaalvik, 2015). For example, loneliness can affect the well-being of workers resulting in conditions such as depression, psychosomatic response, high blood pressure, diminished immunity, cardiovascular disease, and cognitive decline (Skaalvik & Skaalvik, 2015).

One of the most common occupational health complications observed among teachers is psychological disorders (Garrido, 2005). Some of these psychological disorders experienced among teachers include stress, depression, mental exhaustion and Burnout syndrome (Philips, Sem, & McNamee, 2008). According to a study conducted on secondary school teachers by Zhang et al. (2015), the incidence rates of medium and high physiological stress and psychological stress were significantly higher among teachers. The study also showed that the intensity of occupational stress among teachers change over time with cardiovascular, respiratory, and mental diseases. The study therefore noted that the incidence of abnormal psychological stress among teachers was a risk factor for all chronic, respiratory, and mental diseases. Occupational stress is therefore a serious concern among teachers, in that it increases the risks of certain diseases and has a time-dependent effect on the risk of



respiratory diseases (Zhang et al., 2015). Also, another study conducted by Dos Santos and Marques (2013) revealed that teachers teach long working hours per week thereby increasing the stress levels and hypertension among them.

Several studies have been conducted on occupational stress experienced by teachers (Yazhuan, Qing, & Yagui, 2010; Grenoud, Brodard, & Reicherts, 2009), and all these studies showed that teaching is a stressful occupation (Desrumaux et al., 2015). Comparing occupational stress across diverse set of occupations revealed that teachers are the most stressed in relation to psychosocial and physical well-being but with the lowest job satisfaction (Johnson et al., 2005). Other studies conducted by teacher trade unions (ETUCE, 2007) and European Agency for Safety at Work (2008) showed that workload, lack of support by management, increased number of students and their serious indiscipline as the major origin of stress for teachers. In addition, as result of increasing number of students, teachers seriously suffer from stress due to increasing number of assignments and a more hectic workday (Skaalvik & Skaalvik, 2010). Combing classroom teaching and paper work with other workloads such as more frequent meetings, frequent changes and participation in a number of school developmental projects, as well as more frequent communication with parents, make teachers to have no time for rest and recovery (Skaalvik & Skaalvik, 2010). Furthermore, some key antecedents have also been identified by researchers among teachers and these include administrative problems, students' behavior, changes in educational system, poor working environment, and time pressure (Pas, Bradshaw, & Hershfeldt, 2012). Other studies have also pointed to the fact that workload, work environment condition, senior management support, changes in educational systems and ambiguous roles played teachers leads to stress suffered by teachers (Williams & Gersch, 2004).

Mental health is another major problem faced by teachers and can be associated to occupational stress. Occupational stress affects both the physical and mental health of teachers. This can be confirmed by research works done by Hakanen et al. (2006) and Williams and Gersch (2004), which revealed that high levels of turnover, health problems, low job satisfaction and performance among teachers come as result of stress. Other studies also showed that heavy workload, ambiguous and conflicting roles, and adverse environmental conditions in the teaching profession leads to psychosomatic symptoms and other health problems among teachers (Manetti et al., 2007; Yang et al., 2009). Psychosomatic disorder is most common among teachers than other occupational groups due to the nature of their work. Some of psychosomatic disorders are exhaustion, fatigue, and headaches (Scheuch, Haufe, & Seibt, 2015). Further analysis by Scheuch, Haufe, and Seibt, (2015) revealed that psychosomatic complaints are predominantly higher among teachers, thus making them unfit or ill for the work. For instance, teachers are more likely to suffer from the following: sleep disorders, forgetfulness, pain, and irritability (Scheuch, Haufe, & Seibt, 2015). This may increase the morbidity figures since a lot of teachers are more likely to suffer from psychological health problems than the general population. In addition to the above, another study conducted by Sun, Wu, and Wang (2011) revealed that, mental health is a prominent risk factor for occupational stress among teachers.

Psychological stress is predominantly higher in teachers and this happens as result of verbal and physical abuse by colleagues, students, parents as well as superiors (Kovess-Masféty, Rios-Seidel, & Sevilla-Dedieu, 2007). Hence, the fear of verbal and physical abuse by colleagues, students, parents and superiors affect the mental health of teachers. This has been confirmed by a study conducted by Akturan

et al. (2015). The detailed analysis of this research work revealed that, teachers experience abnormal psychological stress when performing their duties. This however exposes them and increases their risk of contracting respiratory, chronic, cardiovascular and mental diseases over time (Akturan et al., 2015). In addition to the above, hypertension and depression are one of the common diseases faced by teachers. Per the study done by Akturan et al. (2015), the results revealed that most teachers suffer from hypertension and depression. The study conducted by Akturan et al. (2015) was in line with a previous study conducted by Dos Santos & Marques (2013). According the study done by Dos Santos & Marques (2013), about 20.3% of teachers reported a condition of arterial hypertension. Also, the report on a study conducted among university teachers in China by Sun, Wu, & Wang (2011), the result revealed that one of the major and prominent risk factors for occupational stress among teachers is mental health.

An emotional exhaustion, cynicism and reduced professional accomplishment are symptoms of burnout (Maslach, Schaufeli, & Leiter, 2001). Burnout is a psychological disorder experienced among teachers (Philips, Sem, & McNamee, 2008; Cruz & Lemos, 2005; Garrido, 2005), and can be an extreme case of chronic and prolonged stress, which occurs as result of unrewarding and unchallenging work (Gorgens-Ekermans & Brand, 2012). An investigation has shown that teachers experience burnout everyday when performing their duties (SINA, 2005). Factors such as heavy workload, pressure and criticism from parents, conflict and ambiguous roles, time pressures, complicated school relationships as well as high demands in the teaching environment can be linked to teacher burnout, due to lower job resources and high job demands (Bakker & Demerouti, 2007). Also, self-efficacy, personal characteristics and EI which are all personal resources of teachers are associated to

teachers' burnout (Kokkinos, 2007; Skaalvik & Skaalvik, 2007; Chan, 2006). Furthermore, according to Yang et al. (2009) and Johnson et al. (2012), teacher burnout however has significant effect on teachers' job satisfaction, effectiveness, motivation, personal development as well as students' academic achievement (Thakur, 2012; Jalongo & Heider, 2006; Montgomery & Rupp, 2005). In addition, a lot of researches have shown that chronic stress or job burnout as result of high-stakes job demands can undermine teacher wellness and occupational health and safety (Yaribeygi et al., 2017). For instance, the systematic reviews and meta-analyses of several prospective studies by Salvagioni, Melanda, Mesas, Gonzalez, Gabani, and de Andrade (2017) on job burnout revealed that high job demand leads to chronic stress at work. This chronic stress at work, however, replicates itself in job burnout which has several consequences to workers' well-being and health including physical, psychological, and occupational consequences (Salvagioni et al., 2017): The physical consequences include hypercholesterolemia, type 2 diabetes, coronary heart disease, hospitalization due to cardiovascular disorder, musculoskeletal pain, changes in pain experiences, prolonged fatigue, headaches, gastrointestinal issues, respiratory problems, severe injuries, and mortality below the age of 45 years (De Beer, Pienaar, & Rothmann, 2016; Yaribeygi et al., 2017). The psychological effects include insomnia, depressive symptoms, use of psychotropic and antidepressant medications, hospitalization for mental disorders and psychological ill-health symptoms (De Beer, Pienaar, & Rothmann, 2016; Yaribeygi et al., 2017); and job dissatisfaction, absenteeism, new disability pension, job demands, job resources, and presenteeism (De Beer, Pienaar, & Rothmann, 2016; Yaribeygi et al., 2017).

Teaching is a unique profession that demands the use of voice, hence teachers form part of occupational voice users (Alva, Machado, Bhojwani, & Sreedharan, 2017). It is highly significant that, teachers form about 16% of all occupational voice users (Alva, Machado, Bhojwani, & Sreedharan, 2017). In order for teachers to perform their core responsibilities, they tend to depend on a high level of voice endurance and quality. Teachers try to use their voice in the following ways: teaching a class, projecting their voices especially when class is large, giving verbal instructions when trying to control a background noise especially when the class is large, and also when there is a poor acoustic condition in the classroom teachers try to raise their voice (Moy et al., 2015; Van Haute et al., 2012). The long-term vocal overload as result of the above activities performed by teachers lead to voice disorder, hence the vocal health of teachers is highly in danger and this is termed as occupational vocal load. According to Vilkmann (2004), high vocal loading leads to vocal injuries. For instance, acute laryngeal injury is an example of vocal injury and it comes as result of vocal overload leading to submucosal hemorrhages (Vilkmann, 2004). According to Sala et al. (2002), a teacher at work spend an average of 40% of his or her time in talking or speaking to students. Furthermore, per the study conducted by Van Haute et al. (2012) a total of 51.2% of teachers suffer from voice disorder due to the following reasons: temperature changes in the classroom, the number of pupils per classroom, and noise level inside the classroom. Also, the detailed of the result revealed that high voice disorder among teachers make them prone and susceptible to psychological distress, aphonia, edema, polyps, and nodules (Van Haute et al., 2012). The personal and professional life of teachers is highly affected by voice disorder which has great financial implication on the society (Van Haute et al., 2012).

Teaching is a profession that involves the use of a lot of energy which is associated with high potential of acute and chronic injuries (Lemoyne et al., 2007). This profession is accompanied by so many activities both inside and outside the classroom. Teachers suffer from musculoskeletal problems in the act of performing their duties in both inside and outside the classroom. Musculoskeletal problem is a neglected occupational health problem among the teaching profession (Yadav, & Bansal, 2018; Erick & Smith, 2015). Musculoskeletal problem can be explained as a wide range of inflammatory and degenerative conditions affecting the muscles, joints, tendons, ligaments, nerves, bones and the localized blood circulation system, that may be caused by or aggravated by work tasks and by the effects of the immediate environment in which work is carried out (Punnett & Wegman, 2004). Musculoskeletal problem is now becoming an important issue in the teaching profession and has emerged as a workplace hazard (Erick & Smith, 2015). Some of the work-related factors that lead to musculoskeletal problems are back pains, neck pains and shoulders pains and teachers are more prone to suffer from them (Yadav, & Bansal, 2018). These factors, however, come as a result of the school level, prolonged sitting when marking assignments and examination papers, poor working postures and working long hours in a standing position. Other studies also showed that psychosocial factors among teachers are highly related to Musculoskeletal problem (Erick & Smith, 2015). Some of these psychosocial factors are low social support, high workloads or demands, monotonous work, low job control, high perceived stress levels, and low job satisfaction (Erick & Smith, 2015). A study conducted by Tavafian et al. (2007) revealed that the occupation of an individual is seriously affected when one suffers from low back pain problems. The detailed analysis of this research showed that, when one suffers from low back pain problems the person is

likely to develop major physical, social and mental disruptions (Tavafian et al., 2007). According to Clairborne et al. (2002), the impact of Social, Physical and Psychosocial can clearly be observed through decreased participation in social activities, loss of physical function and deteriorated general health, and insomnia, irritability, anxiety and depression respectively. This study has confirmed other studies done by Tsuboi et al. (2002), Ariens et al. (2001) and Chiu et al. (2006) which revealed that musculoskeletal problems and psychosocial variables are highly related. With respect to a study conducted by Maguire and O'Connell (2007), out of all ill health retirement in the population musculoskeletal problems among school teachers alone contributed 10%. In addition to the above, another study carried out by Vaghela & Parekh (2018) revealed that there is an alarming prevalence of 71.95% of musculoskeletal pain in shoulder, knee, and back among school teachers.

Other unfavorable working condition such as dry air, dust mostly from chalk, and temperature changes irritate the mucosa and hence negatively affect the voice of teachers (Verdolini & Ramig, 2001). In a presentation done by Pino-Juste & Portella-Pino (2017) at ECER 2017 Conference on Teacher's Occupational Health revealed that contact dermatitis is the most common occupational disease among school teachers. According to their presentation, this data was obtained from the National Occupational Research Agenda of the National Institute for Occupational Safety and Health (NIOSH). They ranked contact dermatitis second to hearing loss to be the most common occupational disease among school teachers in the United States. This fact was made known due to the use of nickel in the manufacture of chalk and nickel is one of the common agents that cause occupational contact dermatitis. Hence the largely use of chalk by school teachers leads an occupational disease called occupational contact dermatitis among them (Pino-Juste & Portella-Pino, 2017).

## CHAPTER THREE

### RESEARCH METHODS

The purpose of this study is to assess the health and safety status of public S.H.S. teachers in the Eastern Region of Ghana. This chapter discusses the research design, population, sample and sampling procedure, instrument for the data collection, validation and reliability of the instrument, data collection procedure and data processing and analysis.

#### 3.1 Research Design

A quantitative field survey was employed for this study. A survey research design is an effective descriptive research method use for the collection of data from the “representative” sample of the target population. It involves procedures in which an investigator administers a survey to a sample or to the entire population. Thus, survey researchers collect quantitative, numbered data using questionnaires (e.g. printed questionnaires, or online) or interviews (e.g. one-on-one interviews), and statistically analyze the data to describe the trends about responses to the questions and to test the research questions or hypotheses (Mathiyazhagan, & Nandan, 2010). Surveys are very useful in describing a large population with accurate representative sample. In terms of flexibility, surveys allow for many variables and questions to be asked on a topic at a time (Mathiyazhagan, & Nandan, 2010). It is a social scientific research with much focus on the people and vital facts about them, and their beliefs, opinions, attitudes, motivations and behavior (Babbie, 2007). Based on that, I focus on describing the perceptions of the teachers on their occupational health and safety status using quantitative survey.



### 3.2 Study Area



**Figure 1: The Eastern Region Map**

The Eastern Region is located in Eastern part Ghana and is one of the 16 administrative regions, bordered to the East by Volta Region, to the North by Ashanti Region, to the west by Ashanti and Central Regions and to the south by Greater Accra Region. It is located in the south-eastern part of Ghana and lies between latitude 6.05S and 6.30N and longitude 0008E and 0.20W (GES Eastern Regional Director's Report, 2020).

The region consists of thirty-three (33) sub-administrative districts of which seven (7) are newly created. Eastern Region is made up of twelve (12) Municipalities and twenty-One (21) Districts. There are also ten (10) Educational Units headed by Regional Managers. There are eighty-nine (89) public senior high schools in Eastern Region with about 5,833 teaching staff (GES Eastern Regional Director's Report, 2020).

### 3.3 Population

There are 35,645 teachers teaching in Eastern (GES Eastern Regional Director's Report, 2020). These teachers are in kindergartens (KGs), primary schools, junior high schools (J. S. Hs), and S. H. Ss. The teachers are mostly formal skilled workers with diploma in basic education (DBE), first (bachelor) degree, and master's degree (MPhil, MSc, or MED) from varying socio-economic and cultural backgrounds. The ranks of these teachers range from the level of Assistant Principal Superintendents, Principal Superintendents, Assistant Director IIs, Assistant Director Is, to Deputy Directors. They may include headmasters and headmistresses and their assistants, house masters and house mistresses, form masters and mistresses, teachers and others on different several roles. The core mandate of these teachers is to provide relevant education to all students in Eastern Region at all levels, to enable them acquire skills that will assist students to develop their potentials to be productive to facilitate poverty reduction, and to promote socio-economic growth and national development.



### 3.4 Sample and Sampling Procedure

The sample size for the study was 380 comprising 198 males and 182 females. It was done by purposively selecting all the 5,833 teaching staffs in public senior high schools in Eastern region (GES Eastern Regional Director's Report, 2020). This was due to the introduction of a flagship programme known as the Free Senior High School (FSHS) (Daily Graphic, 2017), which has led to an incremental jump in the enrollment of students in the senior high level (Daily Graphic, 2018). Hence, an increase in the job demands of second cycle teachers.

Purposive sampling is a valid nonrandom method. Non-probability methods such as purposive sampling are not free from bias, since participants are chosen out of convenience or from recommendations of knowledgeable people (Tongco, 2007). However, it is evidential that purposive sampling provides valid data when a sample is representative (Bernard 2002). For instance, when a sample is measured correctly such that all (census) the population is used, it becomes valid over the realm it represents, thus providing both very high external and internal validity (Tongco, 2007). Although, the interpretation of results in non-probability methods (like purposive sampling) is limited to the population under study, it contributes more to internal validity than external validity (Bernard 2002), which is very significant for a study like this. It is important to note that, the inherent bias of purposive sampling contributes to its efficiency and remains robust even when tested against other methods like random probability sampling (Bernard 2002). Furthermore, purposive sampling is a practical and efficient tool when used properly, and can be just as effective as, and even more efficient than other methods like random sampling (Tongco, 2007; Bernard 2002).

### **3.5 Instrument for Data Collection**

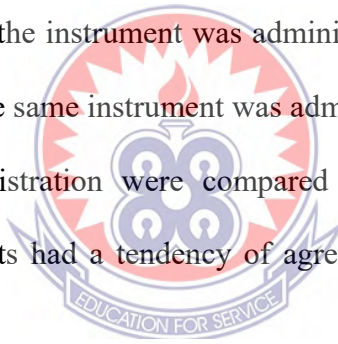
The survey instrument for collecting data for this study is questionnaire. Sampled questionnaires and observation were prepared by the researcher and based on objectives which the researcher sought to achieve. The questionnaires were administered by the researcher within the time frame. The questionnaire was structured to have both open and closed ended questions.

### **3.6 Validity of research instrument**

According to Draugalis et al. (2008), validity is to establish whether the instrument is measuring what is supposed to measure. After preparation, the instrument was subjected to colleagues to establish its content validity. After which the instrument was pretested to check how the respondents reacted to the issues in the instrument. It was verified that, the questionnaires after the pretesting gave all the necessary information needed for the research, thereby no alteration was made to the questionnaires.

### **3.7 Reliability of research instrument**

To test for reliability of the items in questionnaire, the researcher used the test-retest technique. That is, the instrument was administered to some participants. After a period of two weeks, the same instrument was administered to the same participants. Results from the administration were compared with the results of the second administration. The results had a tendency of agreement, hence the instrument was taken to be reliable.



### **3.8 Data Collection Procedures**

The data collection proceeded immediately after the research protocol had been approved by my supervisor, ethical clearance gained from the University of Education, and the necessary permissions sought to conduct this academic research study on teachers. Also, informed consent form was made available to the participants, to be informed of the voluntary nature of the study and that no monetary gain was attached. They were further assured of anonymity and confidentiality of the study and on no occasion was a space provided for them to fill in their names. Participants were also informed that this study was purely for academic exercise. Furthermore, there

was going to be pool data analysis where no individual participant be singled out. Teachers willing to partake in the study were made to duly tick a space created for the informed consent form before attempting the questionnaire.

The data collection took place from the first week of November, 2021 through to the end of December, 2021. Permission was sought from the headmasters/headmistresses and the administrators of the various teacher social media platforms (such as WhatsApp and Telegram) to circulate my designed electronic questionnaire in a form of a link (URL) onto these platforms. The teachers were given a day to click on the link provided, fill and submit after completion of the questionnaire. After that, this questionnaire was reposted on these platforms every four days for one month to serve as a constant reminder. The response rate for the collection was 6.5%.

### **3.9 Data Analysis Procedure**

The data collected were subjected to statistical analysis such as measure of central tendency (mean, median, mode), frequency counts, percentage spread, and standard deviation. The main statistical method which is used to answer research questions were Analysis of Variance (ANOVA), correlation coefficient ( $r$ ). The analysis was done using SPSS version 26 software.

## CHAPTER FOUR

### ANALYSIS OF DATA AND RESULTS

This chapter deals with analysis of data collected. The analysis covers the health condition of the teachers in terms of non-communicable diseases like hypertension, diabetes, and heart-related diseases; the overall health status of teachers; and the statistical difference in gender in terms of health condition as stated in the research questions in chapter one.

#### 4.1 Results

*Table 1 Demographic characteristic of respondents.*

Variables		Frequency	Percent
Age	21-30 Years	109	28.7
	31-40 Years	187	49.2
	41-50 Years	73	19.1
	51-60 Years	11	3.0
Gender	Male	198	52.2
	Female	182	47.8
	I don't want to answer	0	0
Highest educational level	First (Bachelor) Degree	247	65.0
	Master's Degree (MPhil, MSc, or MED)	133	35.0
Rank	Principal Superintendent	247	65.0
	Assistant Director II	99	26.1
	Assistant Director I	27	7.1
	Deputy Director	7	1.8
Average monthly salary (Gross)	GH ¢ 2,000 – 2,500	207	54.5
	GH ¢ 2,501 – 3,000	120	31.6
	GH ¢ 3,001 – 3,500	34	8.9
	GH ¢ 3,501 – 4,000	19	5.0
Marital status	Single, or never married	149	39.2
	Married and living with spouse	116	30.5
	Married but not living with spouse	104	27.4
	Divorced	11	2.9

<b>Years of teaching experience</b>			
	1 – 10 Years	251	66.1
	11 – 20 Years	94	24.7
	21 – 30 Years	33	8.7
	31 Years Above	2	0.5
<b>Participant's subject area</b>			
	Elective Subject only	151	39.7
	Core Subject only	141	37.1
	Both	88	23.2
<b>Total number of teaching period per week</b>			
	1 – 10 Periods	27	7.1
	11 – 20 Periods	109	28.7
	21 – 30 Periods	223	58.7
	31 – 40 Periods	18	4.7
	41 Periods Above	3	0.8
<b>Average number of students handle</b>			
	1 - 20 Students	4	1.1
	21 - 40 Students	37	9.7
	41 - 60 Students	194	51.1
	61 - 80 Students	140	36.8
	81 Students Above	5	1.3
<b>Average number of hours spent on additional responsibilities</b>			
	1 – 5 Hours	252	66.3
	6 – 10 Hours	114	30.0
	11 – 15 Hours	13	3.4
	16 – 20 Hours	1	0.3
<b>Average number of hours spent for sleeping</b>			
	1 – 5 Hours	116	30.5
	6 – 10 Hours	263	69.2
	11 Hours Above	1	0.3

**Source: Field survey 2021**

A total of 380 participants took part in the study over a two-month period from 1<sup>st</sup> November to 31<sup>st</sup> December, 2021. They were made of 52% males and 48% females. The youngest and oldest participants interviewed were 24years and 55years respectively. The median, mean and standard deviation ages were 35 years, 35 years, and 7 years respectively. The level of education of the participants showed that majority have first (bachelor's) degree (65%), followed by master's degree (MPhil, MSc, or MED) (35%). Most of the participants attained a rank of Principal

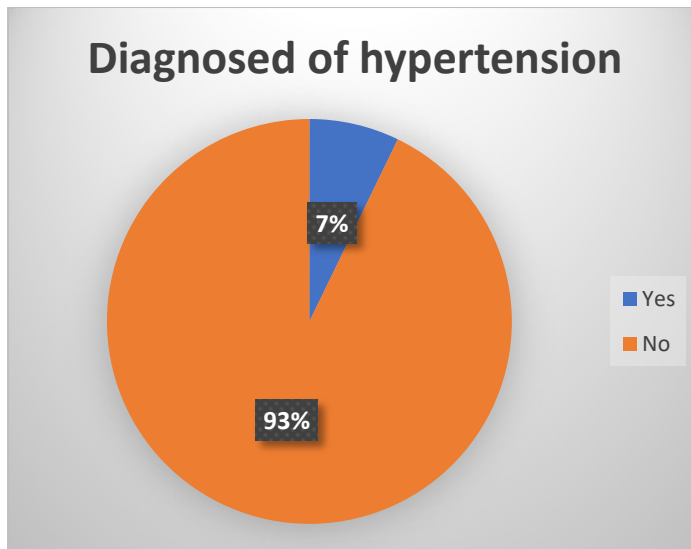
Superintendent (65%), with few attaining the rank of Assistant Director II (26%), Assistant Director I (7%), and Deputy Director (2%). Also the median, mean and standard deviation of the average monthly salary (gross) of the participants were GH C 2,500, GH C 2,630 and GH C 370 respectively. Most of the participants were Single, or never married (39%), followed by Married and living with spouse (31%), Married but not living with spouse (27%) and Divorced (3%). The median, mean and standard deviation of years of teaching experience of the participants were 7years, 9years, and 7years respectively. Majority of the participants have their subject area to be Elective Subject only (40%), followed by Core Subject only (37%), and Both (23%). The median, mean and standard deviation of the total number of teaching periods per week the participants teach were 24 periods, 23 periods, and 7 periods respectively. Also, 58 students, 55 students, and 11 students were the median, mean and standard deviation of the average number of students the participants handle respectively. Furthermore, with respect to the average number of hours spent on additional responsibilities by the participants, the median, mean and standard deviation were 4 hours, 5 hours, and 3 hours respectively. Lastly, 6 hours, 6 hours, and 1 hour were the median, mean and standard deviation of the average number of hours spent for sleeping respectively.

## **ANALYSIS AND INTERPRETATION**

### **4.2 Research Question 1**

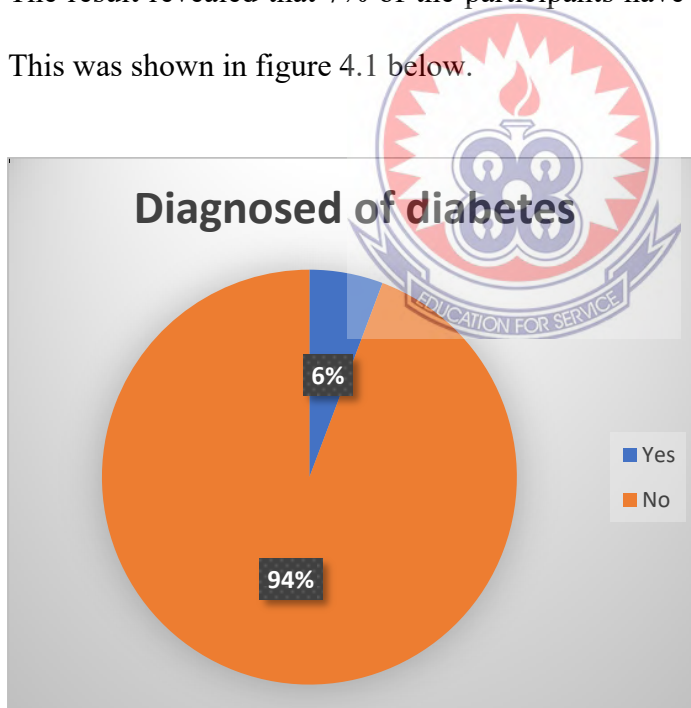
What is the health condition of the teacher in terms of Non-communicable diseases like hypertension, diabetes, and heart-related diseases in the Eastern Region of Ghana?





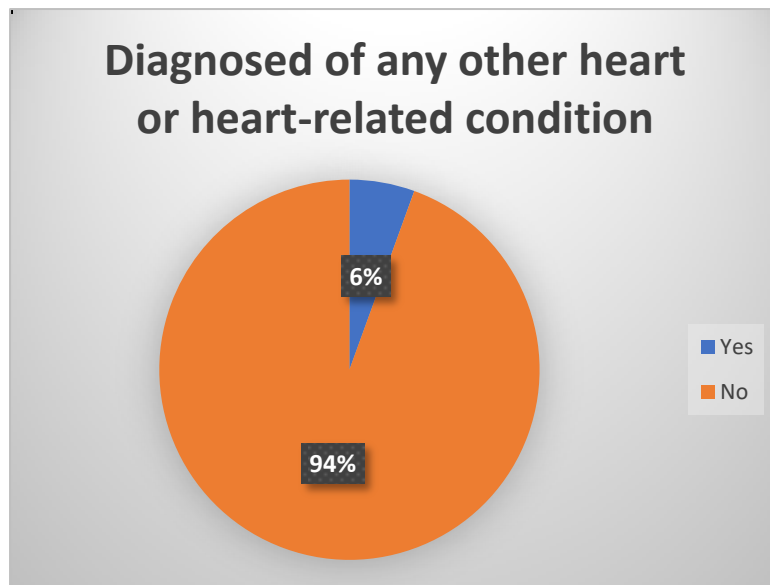
**Figure 4.1 A pie chart showing the participants diagnosed of hypertension**

The result in figure 4.1 showed the participants diagnosed with hypertension. The result revealed that 7% of the participants have been diagnosed of hypertension. This was shown in figure 4.1 below.



**Figure 4.2 A pie chart showing the participants diagnosed of diabetes.**

In addition, figure 4.2 showed the participants diagnosed with diabetes. The result revealed that 6% of the participants have been diagnosed of hypertension.



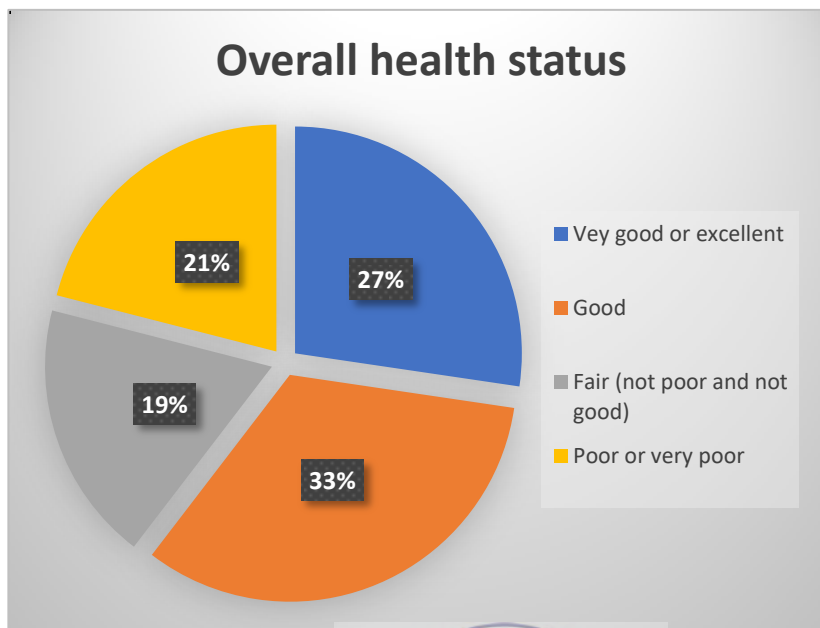
**Figure 4.3 A pie chart showing the participants diagnosed of any other heart or heart-related condition.**

Furthermore, figure 4.3 showed the participants diagnosed with any other heart or heart-related condition. The result revealed that about 6% of the participants have been diagnosed of other heart or heart-related condition.

Previous research works have revealed that, epidemiological transition with increasing prevalence of chronic non-communicable diseases (NCDs) is already underway in sub-Saharan Africa (Bosu, 2012; Maher et al, 2011; Pereira et al, 2009; Agyemang et al, 2005) including Ghana (Bosu, 2012; Agyemang et al, 2005). This was confirmed when the participants' condition of health in terms of NCDs like hypertension, diabetes, and any other heart or heart-related condition have been tested. The result showed that about 7%, 6%, and 6% of the participants have been diagnosed of hypertension (figure 4.1), diabetes (figure 4.2) and other heart or heart-related condition (figure 4.3) respectively.

### 4.3 Research Question 2

What is the overall health status of teachers in the Eastern Region of Ghana?



**Figure 4.4 A pie chart showing the overall health status of participants.**

With regards to the overall health status of the participants, the result showed that 21% have poor or very poor health status, 19% having fair (not poor and not good), with 33% and 27% having good and very or excellent health status respectively. The overall health status of the participants has been shown in figure 4.4.

Teaching is a stressful occupation (Desrumaux et al., 2015), with a lot of occupational health challenges including physical and psychosocial hazards as result of its high job demands which negatively affect the health of teachers (Skaalvik & Skaalvik, 2018). Prior research showed that teachers are more vulnerable to work-related stress, psychological distress, and burnout than many other occupational groups (Skaalvik & Skaalvik, 2016; 2015). High job demands associated with the teaching profession make teachers suffer various forms of injuries. The number of injuries related to the health of teachers has increased tremendously, and these have affected their physical and psychological health, which make their health poorer

thereby compromising their working capacity (Zhang et al., 2015). The study showed that health condition worsening among teachers comes from teaching for long hours per week, verbal and physical abuse (by colleagues, students, parents as well as superiors), adversely affecting their cardiovascular, respiratory, and mental conditions (Zhang et al., 2015). This was also confirmed when the participants' health status was asked by the researcher. This study revealed that 21% have poor or very poor health status, 19% having fair (not poor and not good), with 33% and 27% having good and very or excellent health status respectively (figure 4.4).

#### 4.4 Research Question 3

Which gender has poorer health condition?

*Table 2: Comparison between male and female in terms of diagnosis of hypertension, diabetes, other heart or heart related condition and overall health*

	Male	Female
Diagnosed of hypertension	12 (44.4%)	15 (55.6%)
Diagnosed of diabetes	8 (34.8%)	15 (65.2%)
Diagnosed with any other heart or heart-related condition.	8 (33.3%)	16 (66.7%)
Overall health status (Poorer or very poor)	92 (42.6%)	124 (57.4%)

More than half (55.6%) of the participants who have been diagnosed of hypertension are females. Similarly, 65.2% and 66.7% are also females who have been diagnosed of diabetes and other heart or heart-related conditions. Lastly, 57.4% of the participants with overall health status being poorer or very poor are females (Table 4.2).

Some researchers also investigated the gender difference in terms of health condition or status. For instance, Ala-Mursula et al. (2002) investigated into gender difference of health condition and reported that, female teachers experience more psychological distress which affects their health as compared to male teachers. Another researcher, Lidwall and Olsson-Bohlin, (2016), also reported that teachers are among those professionals who have the highest prevalence of psychiatric diagnoses. This study further revealed that female teachers reported higher levels of depressive symptoms compared to male teachers (Lidwall & Olsson-Bohlin, 2016). The above studies support the premise that women generally receive more psychiatric diagnoses such as depression, anxiety, and adjustment disorders which affect their health compared men (Stengård, Mellner, Toivanen, & Nyberg, 2022). This assertion has further been confirmed by this study, which revealed that more than half (55.6%) of the participants who have been diagnosed of hypertension are females. Similarly, 65.2% and 66.7% are also females who have been diagnosed of diabetes and other heart or heart-related conditions. Lastly, 57.4% of the participants with overall health status being poorer or very poor are females (Table 4.2).

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 5.0 Overview

Every profession (E.g. teaching) has its own occupational health problems due to the kind of job performed. High job demands (E.g. discipline problems, teaching preparation, etc.) associated with teaching profession makes it a stressful occupation with a lot of occupational health challenges. And since the introduction of a flagship program; the Free SHS in 2017 by the government of Ghana, students' enrolment has jumped from 36% (2016) to 62.6 % (2019) with inadequate teachers being one of the major factors facing it. This has increased and intensified already existing job demands and occupational health problems among second cycle school teachers. Therefore, this study sought to assess the health and safety status of public S.H.S. teachers in the Eastern Region of Ghana. A quantitative field survey was employed and data was collected using an online questionnaire. The data was analyzed using central tendency, standard deviation, frequencies and percentages. This chapter contained the key findings, conclusion, recommendations and suggestions for further studies.

#### 5.1 key findings

1. The study findings showed that about 7%, 6%, and 6% of the participants have been diagnosed of hypertension, diabetes, and other heart or heart-related condition respectively. This showed that the level of NCDs among teachers in public S.H.S. is increasing.
2. The study also revealed that 21% of the participants have poor or very poor health condition. This showed that the health condition of public S.H.S. teachers is worsening; hence serious attention must be paid to it.

3. Furthermore, the study showed that female teachers experience poorer health condition with higher NCDs as compared to male teachers.

## **5.2 Conclusion**

1. Based on the findings it is evident that the level of NCDs among teachers is increasing.
2. The health condition of public S.H.S. teachers are worsening; hence serious attention must be paid to it.
3. Female teachers experience poorer health condition with higher NCDs as compared to male teachers.

## **5.3 Recommendation**

1. The researcher recommends that the government together with GES must devise appropriate means to improve the health conditions of teachers.
2. The educational planners, practitioners and policy makers should develop policies that will improve the health condition of teachers.
3. The workers' unions (Ghana National Association of Teachers (GNAT), National Association of Graduate Teachers (NAGRAT), and Concern Collation of Teachers (CCT)) and their representatives must focus on developing health promotion programs, especially programs on NCDs, at schools that will improve the health condition of their members.
4. There must be health promotion programs that should be organize yearly for teachers to improve their health.
5. Teachers should be advised on the importance of check-ups, and the need to go for regular check-ups at least ones or twice in a year.

6. Health promotion workshops should be organized regularly by GES for teachers at least ones or twice every year, for teachers to come for free medical screening.

#### **5.4 Suggestion for Further Studies**

I will like to suggest to my subsequent researchers in this area that they should try to find out how many times teachers go for check-up in a year, the effect of the personal lifestyle of teacher on their health, and the reason why female teachers have poorer health compared male teachers.





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## APPENDIX A

UNIVERSITY OF EDUCATION, WINNEBA  
FACULTY OF EDUCATIONAL STUDIES  
DEPARTMENT OF EDUCATIONAL FOUNDATIONS  
QUESTIONNAIRE FOR TEACHERS

**Dear Teachers,**

I am Richard Akutey, a Postgraduate Diploma in Education student at the Department of Educational Foundations, UEW. I am contacting you to participate in this academic research study: **“Assessment of Health and Safety Status of Public Senior High School Teachers in Eastern Region, Ghana”**. This research seeks to assesses the health and safety status of public S.H.S. teachers in the Eastern Region of Ghana. Your participation in this study requires that you complete a 16-item survey. This may take between 3 and 5 minutes of your time. You were selected among a poll of participants and your responses will be analysed as a group. Your participation in this study is completely voluntary and you are free to even stop answering the items should you find it necessary. Apart from your time, you are assured this study poses no harm to you, your school or institution. By taking part in this study, you are helping to find credible ways of protecting the health and safety of yourself and other teachers in the institution. No information that will identify you is required. If you fully understand your duties and agree to take part in this research, please tick a space created below.

[ ]

For any information contact my supervisor **Mr. Stephen Kwakye Apau (0542072667)**.

You may also contact me (**Richard**) on **0243480098**

Thank you for your participation.

**SECTION A: Please mark [√] the box corresponding to your choice concerning each statement below.**

1. Gender: a. Male [ ] b. Female [ ], Others [ ] ,

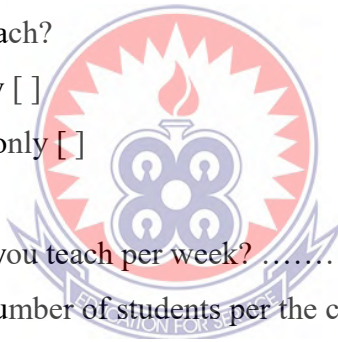
I don't want to answer [ ]

2. How old are you?.....

3. Indicate your highest educational level

a. First (Bachelor) Degree [ ]

- b. Master's Degree (MPhil, MSc, or MED) [ ]
  - c. PhD [ ]
4. Indicate your rank
- a. Principal Superintendent [ ]
  - b. Assistant Director II [ ]
  - c. Assistant Director I [ ]
  - d. Deputy Director [ ]
5. What is your average monthly salary (Gross) range?.....
6. What is your marital status?
- a. Single, or never married [ ]
  - b. Married and living with spouse [ ]
  - c. Married but not living with spouse [ ]
  - d. Divorced [ ]
7. For how long have you been working as a professional teacher? .....
8. What subject do you teach?
- a. Core Subject only [ ]
  - b. Elective Subject only [ ]
  - c. Both [ ]
9. How many periods do you teach per week? .....
10. What is the average number of students per the classes you teach? .....
11. What is the average number of hours spend on additional responsibilities?.....
12. On the average, how many hours do you sleep per day? ..... Hours



**SECTION B: Please mark [√] the box that best corresponds to your choice concerning each statement below.**

13. Have you been diagnosed of Hypertension? Yes [ ] No [ ]

14. Have you been diagnosed of diabetes? Yes [ ] No [ ]

15. Have you been diagnosed of any other heart or heart-related condition? Yes [ ]  
No [ ]

16. Overall, how would you rate your health during the past 4 weeks?

a. Excellent [ ]. b. Very Good [ ]. c. Good [ ]. d. Fair [ ]. e. Poor [ ]. f. Very Poor

