

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
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ASSESSMENT OF SAFETY CLIMATE AT LA GENERAL HOSPITAL



BY

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DECLARATION

I, Fafa Nunana Ameko declare that except for other people's investigations duly acknowledged, this work is the result of my original research, and that this dissertation, either in whole or part has not been presented elsewhere for another degree.

.....
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(STUDENT) **DATE**

.....
DR. ELIZABETH O. OLORUNTOBA
(ACADEMIC SUPERVISOR) **DATE**



DEDICATION

This work is dedicated to the ever-loving memory of my dad: Wilson Kwaku Ameko.



ACKNOWLEDGEMENT

I thank the Almighty God for His faithfulness, grace and mercies, which were abundant to carry on.

I am very grateful to my supervisor, Dr. Elizabeth O. Oloruntoba under whose supervision this work became a success. Mum! Well done.

This work would not be complete without the encouragement of the head of Department of Biological, Environmental and Occupational Health Sciences, Prof. Julius Fobil, Prof. Adongo, Papa Arko, Dr. Emmanuel Asampong and all faculty members of the Department of BEOHS.

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To my little ones Elikplim, Enam and Sedem, how would I have coped without your beaming smiles and chats during tough times.

To my course mates in the 'Biliful' class, you guys are awesome and phenomenal!

To all aspects of your life, I say Good Morning!



ABSTRACT

Background: Safety climate is essential in the healthcare sector. To enhance safety climate, it is prudent to create and maintain a positive safety environment or climate in order to protect both patients and staff. Safety climate is a predictive measure of safety; it studies the workers' perceptions of safety at the workplace. This study therefore assessed the safety climate at La General Hospital.

Methods: This descriptive cross-sectional study was conducted among 194 workers of La General Hospital in Accra, Ghana. The Nordic Occupational Safety Climate Questionnaire was adopted in addition to questions on background characteristics. Stratified and convenience sampling procedures were used. Results were analyzed with SPSS (Version 21) and presented in frequency, percentage, mean, standard deviation, chi-square, and multiple logistic regression.

Results: The results indicated that the ability of management to handle safety issues was not adequate. Perception of staff towards safety was positive but frequency of safety training was not encouraging. All socio-demographic characteristics examined, had significant relationships with safety climate; Sex ($p=0.003$), age ($p<0.001$), level of education ($p<0.001$), job title ($p<0.001$), duration of working at the hospital ($p<0.001$), membership of hospital management ($p<0.001$), and receipt of refresher course in safety ($p<0.001$). Despite the fact that staff had a positive perception of safety climate, management lacked the ability to handle safety issues adequately.

Conclusion: The study underscores the need for management of the hospital, to create a health and safety committee in the hospital to oversee the health and safety needs of the facility. Management also needs to organize and integrate safety training during induction of new staff. Moreover, staff opinion needs to be sought on ways to improve safety.

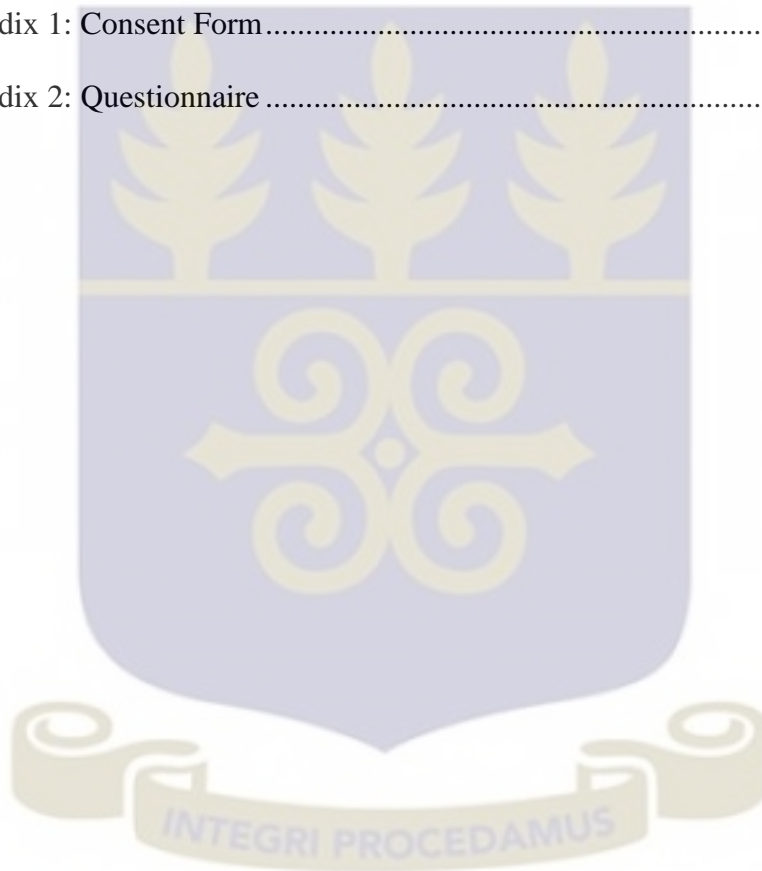
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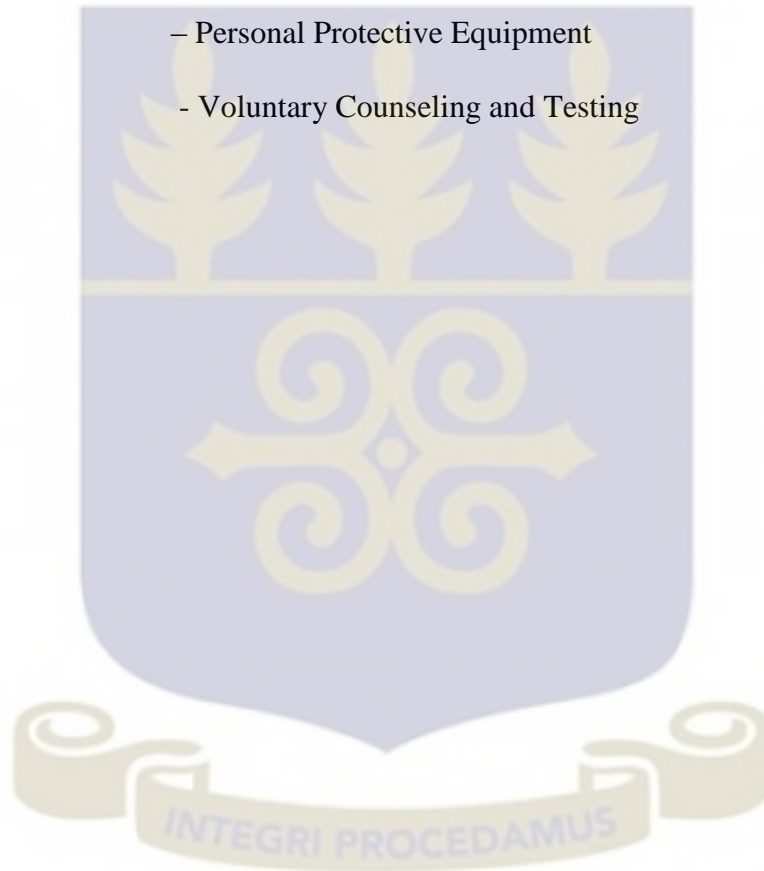
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LIST OF ABBREVIATIONS

CHS	– Communication Health and Safety
ERR	– Exercise of their Rights and Responsibilities
GNA	– Ghana News Agency
INSAG	– International Nuclear Safety Advisory Group
LGH	- La General Hospital
OPD	– Out Patient Department
PPE	– Personal Protective Equipment
VCT	- Voluntary Counseling and Testing



CHAPTER ONE

INTRODUCTION

1.1 Background

Safety at the workplace is essential for providing a safe working environment in which employees can work with minimal risk to their health (Occupational Safety and Health Administration, 2013). When it comes to institutions delivering immediate service to the public, they must do so in a safe environment without causing damage or loss to clients and staff (Habibi, 2007). Consequently, it is prudent to pay attention to safety in the health care facilities in order to protect both patients and staff. Health care facilities with strong safety climates put safety first and incorporate it into the daily running of the hospital and the routines of professionals both individually and teams that work within it. (Singer et al., 2009).

Safety climate refers to perceptions shared by workers concerning the overall importance accorded safety in their institutions as compared to other priorities like work speed, meeting deadlines and target (Kath, Marks & Ranney, 2010; Zohar, 2003; Griffin & Neals, 2000). It represents the overall mental framework that workers have about how safety is treated during the day-to-day activities in their organization. (Wills, Watson & Biggs, 2004). However, Edmondson (1999) noted that safety climate capacitates healthcare employees and also gives them psychological safety to help prevent, solve and learn from the problems that occur during delivery of care. Ultimately, safety climate in a hospital is determined by the internalized values and beliefs of hospital personnel, which is evident themselves in their behaviors. Behavioural change of workers depends greatly on their daily routine and experiences at work. (Wills et al., 2004).

Safety climate is a leading indicator in the measurement of safety, which enables possible hazards to be identified and addressed before they become evident as accidents. These are different from ‘lagging’ indicators of safety such as accidents as they suggest insight into the state of safety without the need for pensive analyses of negative safety outcomes.

Mostly, safety climate is used interchangeably with safety culture. Safety culture is defined as the ‘product of individual and group values, attitudes, perceptions and patterns of behaviour that determine a team or organization’s commitment to safety management’ (International Nuclear Safety Advisory Group, 1991). Another well-known and practical definition is ‘the way things are done around here (Vinodkumar & Bhasi, 2009). It is accepted widely that every institution has a culture. The term ‘safety climate’ refers to the measurable components of safety culture. Safety climate describes a ‘snapshot’ of culture at a given time (Flin, Mearns, O’Connor & Bryden 2006; Sexton et al., 2006).

A study by Camm and Girard-Dwyer (2005); Seo, Torabi, Blair and Ellis (2004) revealed that workers in industries, suffer from both financial and employees costs due to work-related injuries and diseases. This is closely related to the fact that they have high internal hazards. (Seo et al., 2004). Most often, the injuries are due to conditions in the physical work environment and others to the human component of the work system.

According to Zohar (2008), safety related behaviour of workers is prototypical to be in consistency with the climate they perceive. Due to this fact, the importance of

maintaining a positive climate for safety arises from the ability of hospitals to increase the value function of safe work behaviours. This will make complying with safety standards and undertaking of safety initiatives more rewarding and interesting for workers.

1.2 Statement of the Problem

Healthcare workers are particularly at risk of occupational injury and illness due to abundance of risk factors such as needle stick injuries, back injuries, violence and stress. Further concerns include diversity in operations and equipment, rate of emergencies, degree of uncertainties, susceptibility of patients and the dependence on employees to follow safety procedures and precautions. Unlike other industries where safety is often moderated by automatic safety controls within machinery or technology, health care professionals do not have this comfort (Reason, 2004).

A report by the La General Hospital (LGH) Voluntary, Counseling and Testing unit (2015) showed that there was inconsistent supply of sharp boxes for used sharps which resulted in 6 out of 394 workers in the facility suffering from sharp injuries between January to June 2015. According to the Workers Compensation Board of Nova Scotia (2008), due to the high-risk environment, healthcare workers often acquire work-related injuries from sharps and musculoskeletal injuries during execution of their job. The most common cause of time-loss injuries is sprains and strains. In addition to physiological costs, healthcare workers also experience psychological costs due to their work environment. These are important factors in predicting and understanding safety practices, including safety climate, within the health care system.

Unsafe practices in the healthcare setting have been noted to account for a number of occupational safety incidents. For instance, Zohar and Luria (2003) identified that about 40% of work accidents result from workers' failure to use protective equipment which can lead to them being exposed to infectious materials such as body fluids and infectious agents. Implicitly, this suggests that if healthcare workers can be influenced to engage in safer rather than at-risk work behaviours, then a possible decrease in the rate of work-related injuries and diseases shall be achieved.

1.3 Justification of the Study

The key to maintaining a positive safety climate is having a tool that is able to indicate the state of the current safety climate at any point in time, identify aspects of the safety management system that need to be improved and further monitor the effectiveness of interventions put in place (Clarke, 2006; Wills et al, 2004; Seo, 2004). Therefore, creating and maintaining a positive climate for safety is highly prudent.

The La General Hospital is one of the public hospitals in the Accra metropolis, which is accessible and highly patronized by a lot of people due to its location. Recently, it was one of the hospitals, which received the cholera patients during the October 2014 outbreak.

The hospital converted its Out Patient Department (OPD) into a cholera unit as high number of cholera cases overwhelmed the hospital. It was also noted that some of the cholera cases came as first point of call cases, while others were referrals from other hospitals (Ghana News Agency, 2014). According to GNA, a number of patients were lying on benches, others in beds with drips on them as dozens of doctors flood the OPD to attend to them. The Daily Graphic in October 2014 also reported "Trolleys

carry patients to second floor at La General Hospital” due to dysfunctional lift system for about twenty years.

It is widely accepted that unsafe behaviour is intrinsically linked to workplace accidents. Management, risk perception, procedures and safety rules influence attitude of healthcare workers towards safety. Variety of studies including Zohar, (2008) have been conducted in the developed countries to assess safety climate in the hospital setting using newly developed models or using an already tested model with the view of improving its adequacy.

A number of such safety climate measures have been developed and tested in other industries (Cooper & Philips, 2004). In spite of the crucial nature of procedures within the healthcare setting, safety climate has not been highlighted and therefore not thoroughly studied.

Very few studies or publications exist on the vital issues of safety climate assessment in Ghana as observed during search of several medical databases.

Also, most studies have been carried out in industries found in the Western and Eastern countries of the world including Australia, China, India, USA and UK. There is a paucity of similar investigations in Africa and for that matter Ghana and La General Hospital.

This study seeks to assess the safety climate at La General Hospital towards identifying future directions for developing and maintaining a stronger safety climate for the Ghanaian health sector.

1.4 Study Objectives

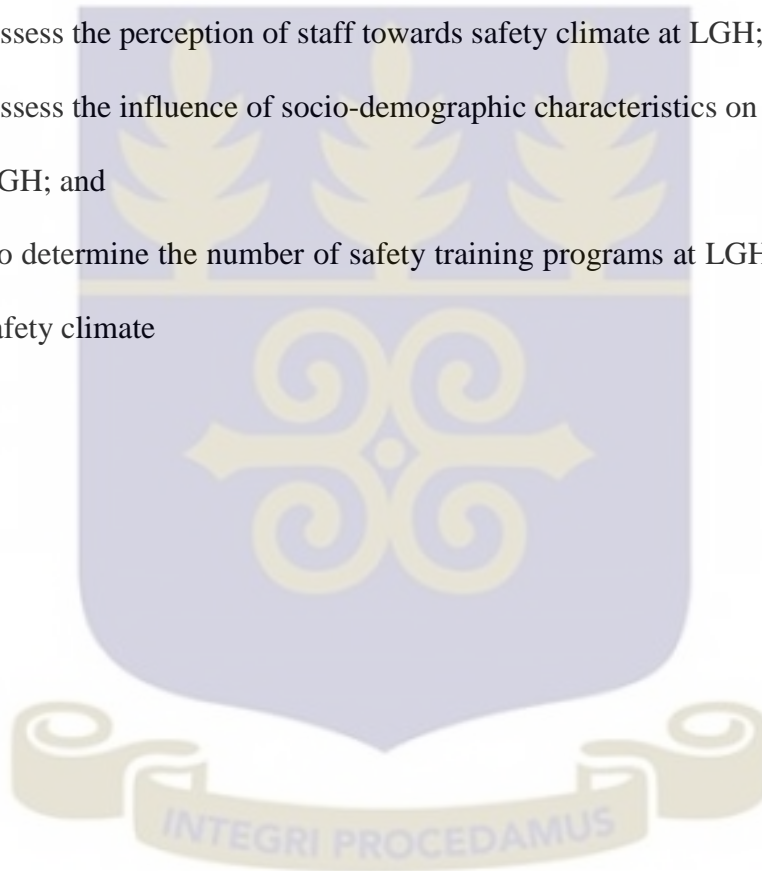
1.4.1 General Objective

The study generally sought to assess safety climate at the La General Hospital.

1.4.2 Specific Objectives

Specifically, the study sought to;

1. Assess handling of safety issues by management of LGH;
2. Assess the perception of staff towards safety climate at LGH;
3. Assess the influence of socio-demographic characteristics on safety climate at LGH; and
4. To determine the number of safety training programs at LGH and its effect on safety climate



1.5 Conceptual Framework

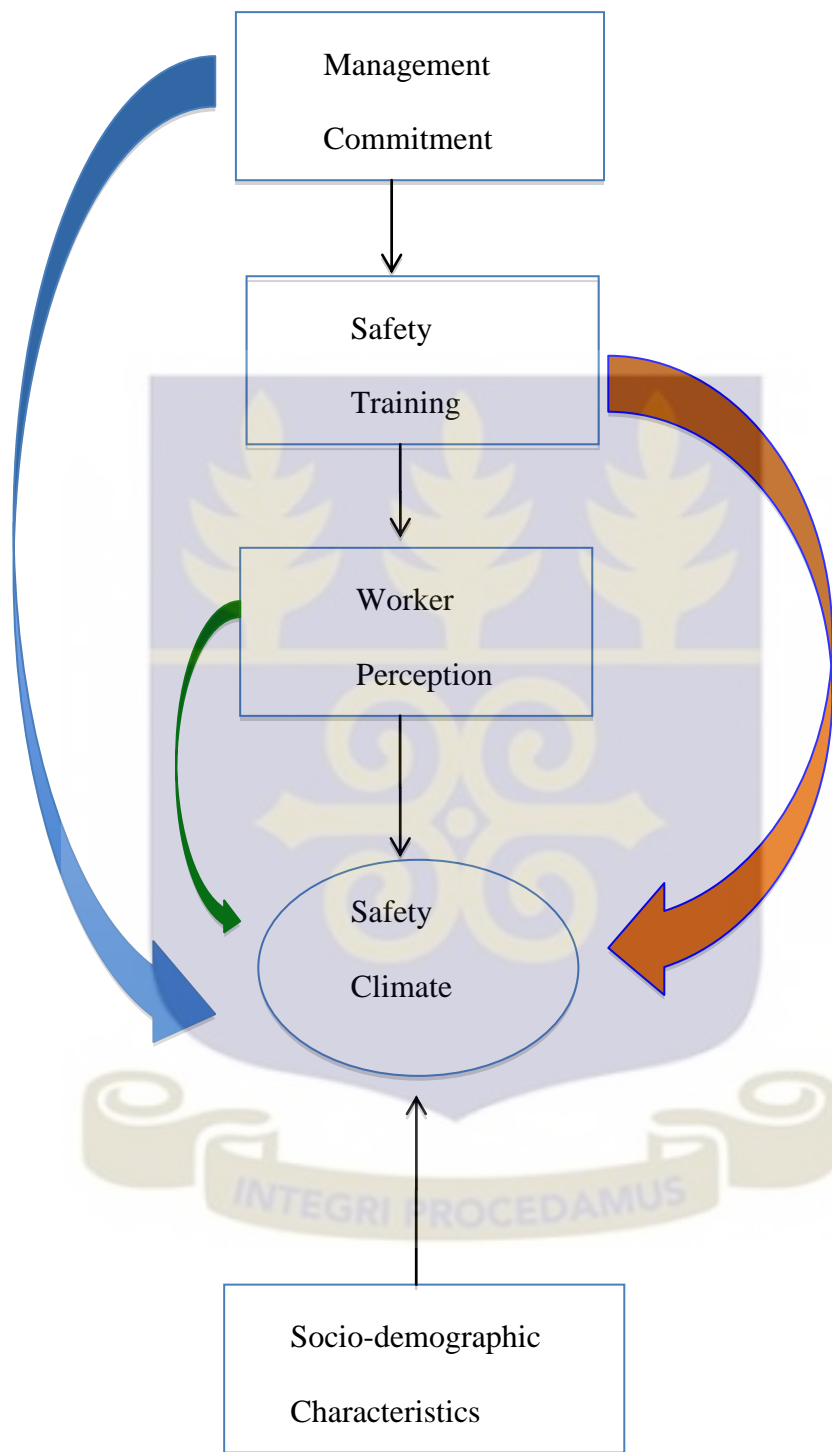


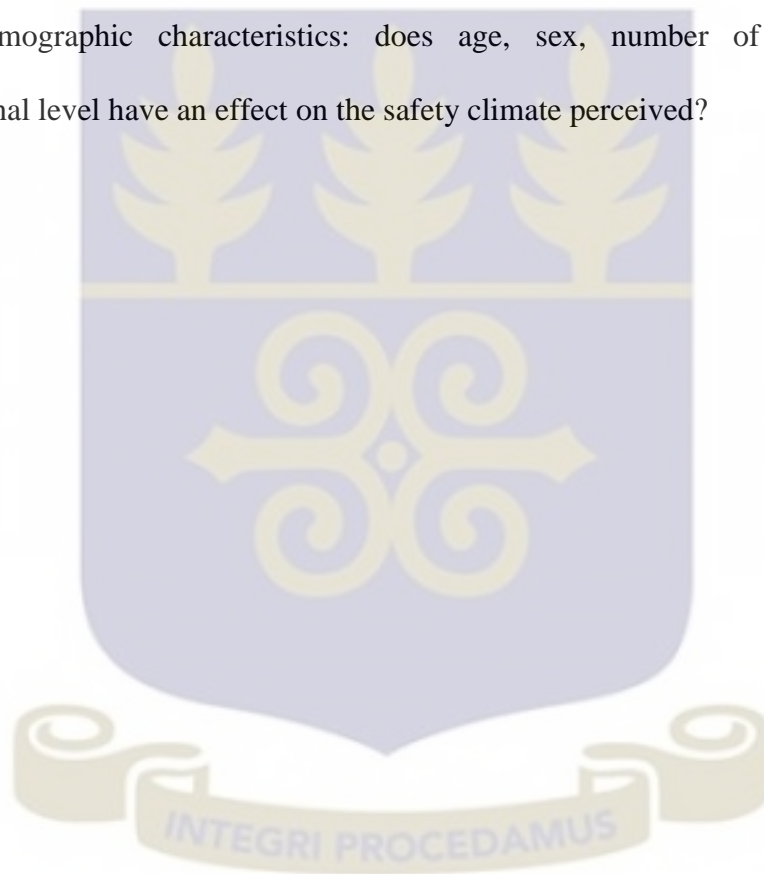
Figure 1: Conceptual Framework for safety climate at the workplace

Management commitment: how does the management of LGH handle issues in relation to safety.

Safety Training: do staff have adequate training in safety to equip them with the necessary knowledge and maintain a positive safety climate perception about safety?

Perception of workers: how do the workers perceive the level of importance accorded safety in the hospital. Perception forms one of the key products that define safety climate (de Wet et al, 2010).

Socio-demographic characteristics: does age, sex, number of years working, educational level have an effect on the safety climate perceived?



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Safety climate is a psychological phenomenon and a subset of safety culture, which describes employees' general perception about how to manage safety in a work environment in a certain period. The study of safety climate is an important index in health and safety in relation to the work environment and implementation, and corrective actions from it has considerable effect on increasing employees' work efficiency and successful control on injuries in working environment.

2.2 Safety Climate

Safety climate defined by Zohar (1980), is an aspect of organizational climate focusing on occupational safety. It is explained as the employees' shared perceptions of the safety policies, procedures and practices in their organization. These key safety elements according to Zohar (2003) may be present in two forms; a) the formally declared types which are often in the form of explicit statements or written documents and b) the enacted types which are those actually enforced on the shop floor during the day to day activities of a company. Safety climate is a predictive measure of safety (Clarke, 2006) compared to conventional safety measures (work related injuries, safety incidents), which are reactive.

Workers get to know these enacted policies and practices by observing the ways in which other people in the workplace act in relation to safety. This includes how supervisors react to unsafe practices, the commitment of management to safety, the rate at which worn-out protective equipment is replaced and the state of safety

inspection (Vinodkumar & Bhasi, 2009). Perceiving such attributes informs workers about the overall importance accorded safety in their workplace as compared to other priorities like work speed (Neal & Griffin, 2000). It cues them regarding the extent to which safe behaviours are supported, rewarded and hence expected; thereby helping workers to determine most likely consequences of their own behaviours concerning safety. Safety climate reflects the core values of the hospital, as demonstrated through actions of leaders at the executive and unit level. To improve a unit's safety climate depends on management support in terms of funding and time. An organizational intervention to address safety as a core value requires active and enthusiastic support from hospital leaders.

2.3 Safety Climate Assessment

Safety climate assessment within an industry gives a snap shot of the state of safety at a given point in time in relation to the viewpoint of the entire workforce. The results serve as a warning signal pointing out the need for improvement or a change in the way safety is operationalized and managed for practitioners in the organization Adutwum (2010).

Most often for safety climate to be assessed, it is by way of a questionnaire survey on which workers are asked to indicate their level of agreement for various items, which describe how safety is been handled in their workplace. Zohar (1980) was the first to develop a 49-item questionnaire, administered to a pilot sample of 120 Israeli workers. After factor analysis was conducted of the resulting data, eight dimensions of safety climate were arrived at. These dimensions were labeled: importance of safety training programs, management attitudes toward safety, effects of safe conduct

on promotion, level of risk at work place, effects of required work pace on safety, status of safety officer, effects of safe conduct on social status and status of safety committee.

2.4 Safety Climate and Management Commitment

The behaviour and attitude of management in relation to safety as well to work output, is one of the main themes necessary to be measured. Generally, it is measured by the satisfaction of respondents' with supervision or the behaviour and attitude of management when it comes to the way safety is treated at the workplace Flin, (2000).

In a study conducted by Zohar (2002), management commitment to safety was found to affect significantly the way subordinates perceive safety. Mearns et al., (2001) stated that employees' perceptions of managements' commitment to safety was positively correlated to satisfaction with safety actions.

In all organizations, subordinates look up to managers as their role models as well as safety coordinators. The importance of management or supervisor in safety management was identified as:

The supervisor at the workplace or the organization is mainly the key person in industrial accident prevention. His application of the art of supervision to the control of worker performance is the factor of greatest influence in successful accident prevention Flin (2000).

Surprisingly, the role of management in safety climate determination recurs frequently, although the actual understanding of the various activities and processes relating to management behaviours, their perception by the workforce and any resulting impact on workforce behaviours are rather less well established. In a

study conducted by Cox and Cheyne (2000), it was identified that management commitment as an ultimate factor in their predictive model of safety behaviours, as well stating significant support to the primacy of this factor. A study by Dedobbeleer and Beland (1991) found evidence for only two core factors in a review of safety climate surveys, one of which they called management commitment.

While senior managers certainly set the rules and regulations of an organization, establish priorities and allocate resources, there is little evidence as to how this is practical.

A survey on safety issues with 200 managers in charge of Britain's offshore oil installations revealed that they are so overburdened with administration and safety initiatives that they have inadequate time to maintain visibility and involvement at the worksites, behaviours that they believe to be critical for workplace safety (O'Dea, O'Connor, Quinn & Buttre, 2010).

2.5 Safety Climate and Worker Perception

Perception forms one of the key components that define safety climate (de Wet et al, 2012). Safety climate assesses workers perceptions of procedures and behaviours in their workstations thus indicating the priority afforded to safety relative to other organizational goals (Neal & Griffin, 2004; Zohar, 2003). For a positive and strong safety climate to be built, perceptions of all primary care staff groups may therefore have to be aligned first (NHS, 2010). In line with this, a study obviously revealed, health workers perceive the patient as the most important candidate during safety discussions at the hospital (Blegen, Pepper & Rosse, 2005). A study by Neal et al. (2000) reported a positive and significant relationship between perceptions of overall safety climate and workers motivation.

A positive climate perception was also found to be associated with self-reported participation in safety activities like voluntarily carrying out tasks to improve safety. Similarly, Cox and Cheyne (2000) reported a positive relationship between climate perceptions and employee safety involvement.

Furthermore, perception of safety climate and its related factors may reduce accident rates in work environments Baeka, Kangc, Singhb and Bae (2011). In a study by Glendon and Evans (2007), they also found a significant association for safety climate having an effect on the perception of workers' job safety.

Safety in health care differs in some aspects from safety in other organizations like the manufacturing and aviation industries. In industry, workers safety climate perceptions were associated with safety outcomes such as workforce injuries (Clarke, 2006) and to safety processes such as workers' behaviours (Cooper & Philips 2004). Significant differences in safety climate perceptions of health worker were reported based on their years of experience, job title and safety training acquired (de Wet et al., 2010). Furthermore, general practitioners highly perceived a positive safety climate in the hospital than other respondents (de Wet et al., 2010).

2.6 Safety Climate and Socio-demographic factors

Demographic characteristics have been described as personal characteristics such as age, gender, marital status, education level, work experience and other personal information. These demographic factors have been identified to influence safety

climate and subsequently influence individual safety behavior (Choudhry, Fang & Lingard, 2009).

In a study conducted by Siu, Philips and Leung (2003), which investigated age difference in safety attitudes and safety performance, they revealed that older workers showed more positive attitudes toward safety. Similarly, Vinodkumar and Basi (2009) also reported a significant relationship between age and safety climate.

Fang, Chen and Louisa (2006) used a logistic regression model to determine the relationship between safety climate and personal characteristics. The eight personal characteristics that were found to be statistically significant were; age, marital status, the presence of dependent family members, education level, safety knowledge, drinking habits, direct or indirect employer, and breaking safety procedures or not. The following variables; gender, work experience, whether injured or not and smoking habits were found to have no influence on perceptions of safety climate Fang et al., (2006).

In a study conducted by Choudhry et al. (2009), it was revealed that workers with educational levels below primary had less perception of safety climate. Also elderly workers who were married with more family members perceived a positive safety climate than the young single ones who had no family member to support. With regards to educational qualifications, workers with lower educational levels had less perception of safety climate. It was also identified that subcontractors had a less positive climate than the permanent workers of the organization.

Safety climate was an important predictor of adherence to safe work practices, explaining far more variance than demographic or other individual factors (Hahn & Murphy, 2008). However, empirical justification for using personal demographics as a validation technique is required if safety climate research is to progress (Cooper & Phillips, 2004).

2.7 Safety Training and Safety Climate

Safety training has a strategic role on the management system of occupational health and safety at work. It is an important component, both directly through its effect on workers' competency to perform their work functions, but also indirectly through influencing perceptions about management's commitment to safe and reliable work systems is training (O'Dea et al., 2010).

A study by Cooper et al. (2004) concluded that the perception of workers' on the importance of safety training was the key safety climate factor predicting actual safety behavior. The results show that training does not always help to reduce the number of unsafe behaviours, but a moderation effect of safety climate seems to deflect the relation between training and performance. Particularly, in work-groups with high safety climate a positive effect of the training was always found.

In a study conducted by Glendon et al. (2007) they concluded that safety training has an effect on safety climate factors as a unique feature of organizational climate. It was found that after safety training, some safety climate factors like management commitment and safety communications were improved after safety training (Kiani, Samavtyan, Poorabdiyan & Jafari, 2012).

However literature on this topic by Robson, Clarke, Cullen, Bielecky, Severin, Bigelow, Irvin, Culyer & Mahood (2007) found inconclusive findings on the effectiveness of safety training and interventions to improve safety performance of employees.



CHAPTER THREE

METHODOLOGY

3.1 Overview

This chapter presents the general approach and the specific techniques adopted to address the research objectives. It addresses into detail, the study design, the study location and population, methods and techniques used in participant selection as well as data collection. The chapter also elaborates on measures put in place to ensure the quality of data collected, the analysis and interpretation of data.

3.2 Type of study

It is necessary to deliver healthcare to clients in a safe environment to help improve on their health rather than worsening it and as well to prevent health caregivers from the position of giving care to receiving it. To gather information on this area and develop a database, a cross-sectional study design was employed.

3.3 Study Site and Location

The study was carried out at the La General hospital in the La Dadekotopon District in the Greater Accra region. The La Dadekotopon Municipality starts from the West of the Fisheries Department fence wall and moves northwards to the Okodan Street and continues along the Okodan Street to the Clottey Stream. From there, it turns left along the Ring Road passing through Danquah Circle to Ako Adjei Interchange. It then turns right on the Liberation Avenue Road through the 37 Military Hospital roundabout to Tetteh Quarshie Interchange and turns right again along the Tema Motorway to hit the boundary line of Papaye Fast Foods through to the Kpeshie

Lagoon to the sea and then runs along the Coast to the starting point. The La Dadekotopon Municipality has a population of 217,473.

The study site, which is La General Hospital, was established in the year 1963 and accredited to a District Hospital status in the year 2004. It occupies a unique status within the framework of Health Care Delivery in the country. The hospital serves the population of La, Osu, Teshie, Nungua and its surrounding environs. It is the only government Health Institution overseeing the work of both Private and Quasi government Hospitals in the La Dadekotopon Municipality.

It has a total of three hundred and seventy six (376) staff. Some of the services provided at the hospital include general medicine, surgery, obstetrics and gynaecology, maternal health and family planning. The facility is also a baby friendly hospital. Furthermore, it is the leading institution providing Vasectomy Service in the Municipality (LGH, 2014).

3.4 Study Variables

The dependent variable assessed was safety climate.

The independent variables were:

Management commitment to safety- the level of management commitment in handling safety was assessed using the Likert scale.

Worker perception- the perception of workers with regards to safety issues was also assessed using the Likert scale.

Socio-demographic characteristics of the workers- factors such as age, sex, level of education, job title, number of years in service.

Safety Training- this was to determine the number of safety training organized for staff. Hence workers were asked to indicate the number of safety trainings attended since they started working.

3.5 Study population

The study population was made up of all permanent members of staff at LGH. The entire population of the hospital is 376 comprising a total number of 325 permanent staff and 51 casual staff.

3.5.1 Inclusion criteria

A staff member who has worked permanently for a year and above in the facility was qualified to be part of the study.

3.5.2 Exclusion criteria

All casual workers, students on clinical practice, rotation, house officers and national service personnel were excluded from the survey.

3.6 Sampling

3.6.1 Sample size estimation

Yamane 1967 estimated the sample size of the study, using a mathematical formula;

$$n = \frac{N}{1 + N(\epsilon^2)}$$

Where;

n = the sample size

N = the total population = 325

$e = \text{the precision} = 0.05$

$$n = 325 / 1 + 325(0.05)^2 = 179$$

Therefore the sample size for the study was 179 participants.

3.6.2 Sampling method

Stratified sampling method was used to divide the entire population into two strata, which were the medical staff and non-medical staff. Proportional allocation based on the population, was then employed to ensure equal participation from each stratum (Table 1). Convenience sampling was further employed in the questionnaire administration to select the participants who partook in the study.

Table 1: Proportional Allocation of Categories of Workers

Category	Population	Sample size
Medical staff	264	145
Non-medical staff	61	34
Total	325	179

Ten percent (%) of the sample size (19) was added to the calculated figure (176) to cater for non-response (Glenn, 2013). Hence the total number of participants summed up to 194.

3.7 Data Collection Tool

The study method employed was a survey. The tool used in collecting data for this study was a structured questionnaire adapted from the Nordic Safety Climate Questionnaire (NOSACQ-50) by NOSACQ-50 Developers (2010).

The Nordic Occupational Safety Climate Questionnaire (NOSACQ-50) is a diagnostic and intervention tool, which can be used to evaluate the status and progress of safety climate in an organization. It is also a benchmarking tool. All the items in the questionnaire were answered in the same way using a Likert scale. Staff responded on a four (4) point scale to all items ranging from 1 (strongly disagree) to 4 (strongly agree).

According to Oppong-Addoh (2013), Likert scale questions are recommended for studies aimed at assessing people's attitudes and perceptions of a variety of social and organizational events. A Nordic research network of occupational safety researchers developed the questionnaire with support from the Nordic Council of Ministers (NOSACQ-50 Developers, 2010). It is based on organizational theory, safety climate theory, psychological theory, previous research, results acquired through studies and the continuous development process of the questionnaire (NOSACQ-50, 2010).

NOSACQ-50 consist of seven safety climate dimensions and additional background questions. In table 2 below, each one of the seven dimensions consist of 6-9 items, altogether 50 items, hence the name NOSACQ-50. The Nordic Occupational Safety Climate Questionnaire (NOSACQ-50) is used to evaluate safety climate. The questionnaire contains 50 items using a four-point Likert scale. The items are distributed across seven scales dealing with: Perceptions of management and worker

commitment and priority to safety, safety empowerment from management, safety justice, safety communication and trust in safety systems.



Table 2: Dimensions used in NOSACQ-50 and examples

Dimension	Aspects	Example of item
1.Management safety priority and ability (9 items)	Workers' perceptions of how management: - prioritize safety - actively promote safety and react to unsafe behaviour - show competence in handling safety - communicate safety issues	Item 1: Management encourages employees here to work in accordance with safety rules - even when the work schedule is tight
2.Management safety empowerment (7 items)	Workers' perception of how management: -encourages staff participation in safety decisions	Item 12: Management encourages employees here to participate in decisions which affect their safety
3.Management safety justice (6 items)	Workers' perceptions of how management: - treat workers involved in accidents fairly	Item 20: Management looks for causes, not guilty persons, when an accident occurs
4.Workers' safety commitment (6 items)	Workers' perceptions of how they: - show commitment to safety - actively promote safety - care for each other's' safety	Item 23: We who work here try hard together to achieve a high level of safety
5. Workers' safety priority and risk non-acceptance (7 items)	Workers' perceptions of how they: - prioritize safety before production - do not accept risk-taking or hazardous conditions	Item 33: We who work here never accept risk-taking even if the work schedule is tight
6. Peer safety communication learning and trust in safety ability ((8 items))	Workers' perceptions of how they: - discuss safety issues whenever such emerge - learn from experience - help each other to work safely - treat safety suggestions from each other - trust each others' ability to ensure safety	Safety Item 38: We who work here have great trust in each others' ability to ensure safety

Table 2 Continued

7. Workers' trust in efficiency of safety systems (7 items)	Workers' perceptions of how they: - consider formal safety systems effective, e.g. safety representatives and safety rounds - experience benefit from early planning - experience benefit from safety training -experience benefit from clear safety goals and objectives	Item 46: We who work here consider that safety training is good for preventing accidents
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Source: The table was adopted from Bergh, 2011

3.8 Data Collection Procedure

The research team comprised the principal investigator and a research assistant. For most of the units, the unit manager was asked to help identify permanent staff on duty. Due to their busy schedules, the questionnaires were administered to them and retrieved it on their next shift. The procedure was explained to the participants in English. The informed consent to be signed was explained to them. Some participants took the questionnaires home, self-administer them and brought them on their next shifts. Data was collected for three weeks.

3.9 Quality Control

To control the quality of the data certain measures were instituted to ensure validity and accuracy of results. A research assistant was trained on how to collect data. The assistant was supervised to see if the questions were been asked correctly. However because all the participants were literate, understanding the questions were relatively easy. The NOSACQ-50 questionnaire for safety climate assessment was used. Pre testing was done at Mamprobi Polyclinic to ensure that the content of the questions was well understood.

Data was collected from permanent workers in the hospital who had been in continuous employment for a minimum of one year.

3.10 Data Processing and Analysis

3.10.1 Processing and Entry

At the end of each day, the data collected through the background questions and the NOSACQ-50 were audited. A unique ID in terms of codes was assigned to each participant and was entered along with the actual data using Epi info 7. Analysis of missing data was done as well as data cleaning. The dataset was rechecked and exported to SPSS for analysis.

3.10.2 Statistical Analysis

Data was exported from Epi info 7 into SPSS version 21, for analysis. The Mean and Standard deviation were calculated for the levels of agreement for each individual question. Only answered items were used in the calculations. A mean score was calculated for each dimension and for the whole population. The score in NOSACQ-50 ranges from 1-4, where 1 is the lowest score and 4 is the highest score. The total mean for the population was calculated for each of the 7 dimensions and this is referred to as 'mean of the mean'. A mean score over 2.5 is generally considered as a positive result since this is the mean value of the highest and lowest score. Summary tables were constructed showing frequency and percentages of socio-demographic factors. Graphical representation of data was done using bar and pie charts.

To test for association between background characteristics (Independent variable) and safety climate (Dependent variable), a chi square test was conducted with ≤ 0.05 error

margin and 95% level of significance. A cross tabulation analysis was conducted between receiving refresher courses in safety, and duration of working at the hospital. A simple logistic regression analysis was conducted to examine the association between job title as the independent variable, and safety climate as the dependent variable.

3.11 Delimitation of the study

The study was delimited to staff of La General Hospital, Accra. Participants of the study included permanent staff members who had worked in the hospital for a year and over. The NOSACQ-50 questionnaire was used for data collection focusing on management, workers attitude.

3.12 Limitations of the study

The study was conducted at the only one hospital in the La Dadekotopon Municipality. This could affect the generalization of the results. There was inadequate literature on safety climate in the healthcare. Some respondents self-administered the questionnaires and others had it being administered to them by the research assistant. This is likely to affect the uniformity of the data collection.

3.13 Ethical Consideration/Issues

Ethical consideration was sought from Ghana Health Service Ethical Review Committee for before embarking on the study. Permission was sought from the management of La General hospital for the study to be carried out in the facility.

Informed consent was obtained from staff who voluntarily participated in the study. The objectives and benefits of the study were explained to them. All participants gave written consent before the questionnaire was administered.

Confidentiality was maintained and the identity and any information of the participants were not disclosed.

To ensure confidentiality and privacy, participants' identity and data were coded. This reduced any possibility of tracing information gathered from participants. Anonymity was maintained throughout the study and all information gathered was treated as highly confidential. Moreover, participants' confidentiality and privacy was duly respected during questionnaire administration.

All participants were assured that the information collected would be handled with strict confidentiality; it will not be shared with third parties not directly involved in the research. All data gathered, were used solely for academic purposes. Data collected was only accessed directly by those involved in the research. All data were stored under lock and key.

It was explained to the participants that there were no anticipatable risks that may arise from participating in this research. The study will contribute greatly towards improvement and maintenance of a positive safety climate in the health sector, thus further improve patient care. Although there were no known risks related with the research work, participants were made to understand that participation was voluntary and they could withdraw anytime they chose to.

3.14 Pretesting of Questionnaire

Pre-testing of the questionnaire was done at Mamprobi polyclinic, which enabled rectification of errors in the questionnaire and also ensured that the questions were clear, the respondents understood the questions as intended.



CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter presents results on the findings of the study in relation to the research objectives and socio-demographic characteristics of the respondents.

4.1 Background characteristics of respondents

Socio-demographic characteristics surveyed were sex, age, level of education, job title, duration of working at the hospital, membership of hospital management, receipt of refresher courses, and number of refresher courses received. Presented in table 3; sex, 118 (60.8%) of the respondents were females; while 76 (39.2%) were males. About 84 (43.3%) were in their twenties, while 63 (32.5%) were also in their thirties. About 47 (24.2%) were in their forties. Majority of the respondents representing 102 (52.6%) had diploma level of education, while 1 (0.5%) had only primary education. Respondents who said they attained a degree, also constituted 71 (36.6%). With regards to job title, 154 (79.4%) were medical staff, while 40 (20.6%) were non-medical staff. About 80 (41.2%) said they had worked at the hospital for at least 10 years, while 78 (40.2%) had worked for 7 to 9 years at the hospital. Respondents who said they had worked at the hospital for 1 to 3 years prior to the study, constituted 11 (5.7%).

Table 3: Socio-demographic characteristics of respondents

Background characteristic	Frequency	Percentage (%)
Sex		
Male	76	39.2
Female	118	60.8
Age		
20-29	84	43.3
30-39	63	32.5
40-49	47	24.2
Level of education		
Primary	1	0.5
Middle/JHS	3	1.5
Secondary/Vocational	17	8.8
Diploma	102	52.6
Degree	71	36.6
Job title		
Medical	154	79.4
Non-medical	40	20.6
Duration of working at the hospital		
1-3 years	11	5.7
4-6 years	25	12.9
7-9 years	78	40.2
10 and above	80	41.2
TOTAL	194	100.0

4.2 Membership of Hospital Management

Respondents were asked to indicate if they were part of the hospital's management committee. From Figure 2 below, only 6 (3%) said they belonged to the hospital's management committee, whereas 188 (97%) said they were not part of the hospital's management committee.

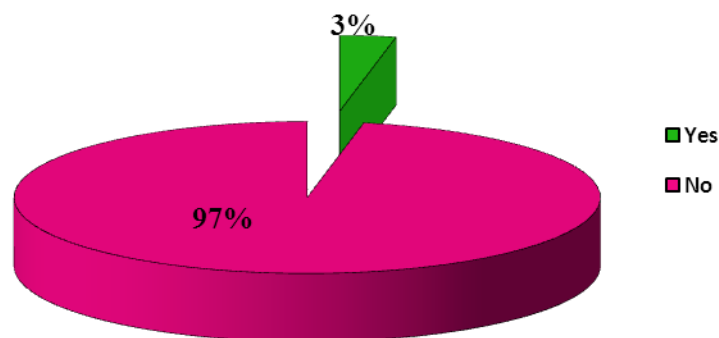


Figure 2: Membership of hospital management

4.3 Receipt of safety training and duration of work

From Table 4 below, 151 (77.8%) of the respondents said they had never received any refresher courses on safety. Respondents who said they received the refresher courses, however constituted 43 (22.2%). 64 (33%) of respondents, who said they had worked at the hospital for more than 10 years, said they received no refresher course. About 19 (9.8%) of the 25 (12.9%) who said they had worked at the hospital for 4-6 years, also said they had received no refresher course over the entire duration of working at the hospital.

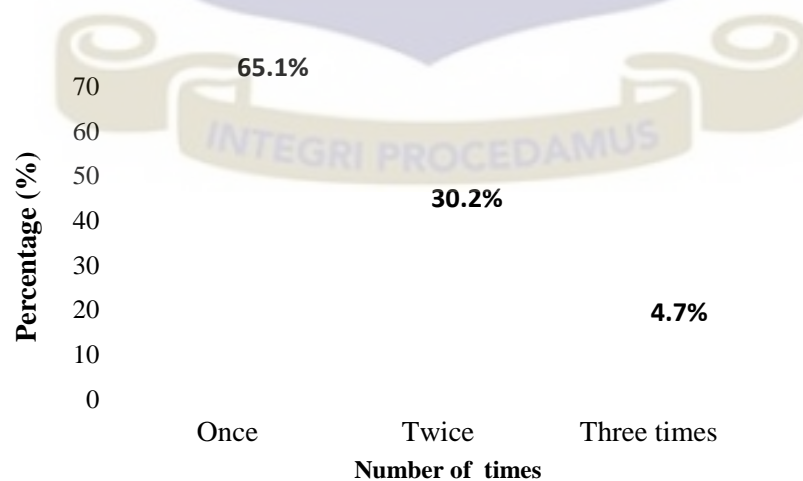


Table 4: Cross-tabulation between duration of working at the hospital and receipt of refresher course in safety

Duration of working at the hospital (years)	Ever had a refresher course		Total N(%)
	Yes N(%)	No N(%)	
1-3	5(2.6)	6(3.1)	11(5.7)
4-6	6(3.1)	19(9.8)	25(12.9)
7-9	16(8.2)	62(32)	78(40.2)
10 and above	16(8.2)	64(33)	80(41.2)
Total	43(22.2)	151(77.8)	194(100)

4.4 Receipt of safety training

Respondents who said they had ever received refresher course, were asked to indicate the number of times they received such courses. From Figure 3 below, 65.1% (28) said once, followed by those who received twice (30.2%) summing up 13. However, those who said they received refresher courses on safety for three times constituted only 4.7% (2).

**Figure 3: Number of times of receiving refresher course on safety**

4.5 Handling of safety issues by management

In order to examine the handling of safety issues by management at the hospital, respondents were asked to indicate their levels of agreement to some 22 statements/items. The total mean score of all the items was 2.48.

The results from Table 5 below, indicate that out of the 22 statements, the responses to majority (13) of the statements indicated that overall, management did not adequately handle safety issues at the hospital, while responses to nine of the statements indicated otherwise.

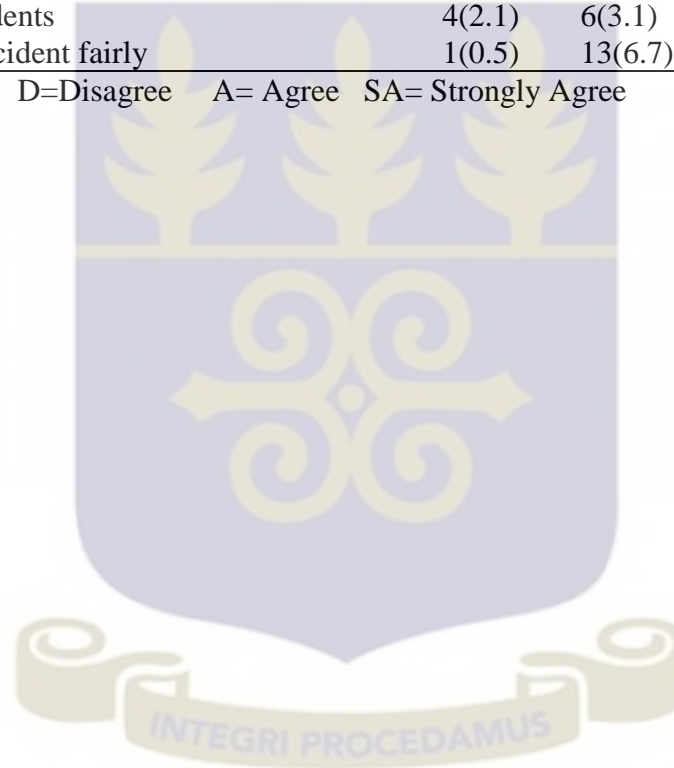


Table 5: Handling of safety issues by management

Statements	Level of agreement				Mean	St. Deviation (±)
	SD N(%)	D N(%)	A N(%)	SA N(%)		
Management encourages employees here to work in accordance with safety rules even when the work schedule is tight	32(16.5)	93(47.9)	59(30.4)	10(5.2)	2.24	0.79
Management ensures that everyone receives the necessary information on safety	13(6.7)	43(22.2)	108(55.6)	30(15.5)	2.80	0.78
Management looks the other way when someone is careless with safety	35(18)	95(49)	55(28.4)	9(4.6)	2.20	0.78
Management places safety before production	28(14.5)	63(32.5)	87(44.8)	16(8.2)	2.47	0.84
Management accepts employees taking risks when the work schedule is tight	18(9.3)	69(35.5)	89(45.9)	18(9.3)	2.55	0.79
We who work here have confidence in the management's ability to deal with Safety	45(23.2)	97(50)	45(23.2)	7(3.6)	2.07	0.78
Management ensures that safety problems discovered during safety rounds/evalua rounds/evaluations are corrected immediately	31(16)	105(54.1)	51(26.3)	7(3.6)	2.18	0.73
When a risk is detected, management ignores it without action	22(11.3)	94(48.5)	70(36.1)	8(4.1)	2.33	0.73
Management lacks the ability to deal with safety properly	6(3.1)	48(24.7)	108(55.7)	32(16.5)	2.86	0.72
Management strives to design safety routines that are meaningful and actually Work	24(12.4)	94(48.5)	58(29.9)	18(9.2)	2.36	0.82
Management makes sure that everyone can influence safety in their work Environment	42(21.6)	100(51.5)	47(24.3)	5(2.6)	2.08	0.75
Management encourages employees here to participate in decisions which affect their safety	13(6.7)	65(33.5)	95(49)	21(10.8)	2.64	0.76
Table 5 Continued						
Management never considers employees' suggestions regarding safety	28(14.4)	71(36.6)	77(39.7)	18(9.3)	2.44	0.85
Management strives for everybody at the workplace to have high competence concerning safety and risks	13(6.7)	76(39.2)	85(43.8)	20(10.3)	2.58	0.77
Management never asks employees for their opinions before making decisions regarding safety	12(6.2)	57(29.4)	113(58.2)	12(6.2)	2.64	0.69

Management involves employees in decisions regarding safety	29(14.9)	117(60.3)	39(20.2)	9(4.6)	2.14	0.72
Management collects accurate information in accident investigations	35(18)	69(35.6)	86(44.3)	4(2.1)	2.30	0.76
Fear of sanctions (negative consequences) from management discourages employees here from reporting near-miss/ accident	14(7.2)	57(29.4)	106(54.6)	17(8.8)	2.65	0.74
Management listens carefully to all who have been involved in an accident	45(23.2)	122(62.9)	18(9.3)	9(4.6)	1.95	0.71
Management looks for causes, not guilty persons, when an accident occurs	15(7.7)	49(25.3)	114(58.8)	16(8.2)	2.68	0.74
Management always blames employees for accidents	4(2.1)	6(3.1)	141(72.6)	43(22.2)	3.15	0.56
Management treats employees involved in an accident fairly	1(0.5)	13(6.7)	131(67.5)	49(25.3)	3.18	0.56

Note: SD= Strongly Disagree D=Disagree A= Agree SA= Strongly Agree



4.6 Perception of employees towards safety

In order to examine the perception of respondents towards safety at the La General Hospital, they were asked to indicate their agreement to 25 statements, which sought to examine their perception. The mean score for all the items was 2.54 (Table 6).

The results from Table 6 below show that out of the 25 items, the responses to eight statements indicated negative perception of respondents towards safety climate. Responses to the remaining 17 items however indicated positive attitude towards safety climate. It therefore means that the general attitude of the respondents towards safety climate was positive.

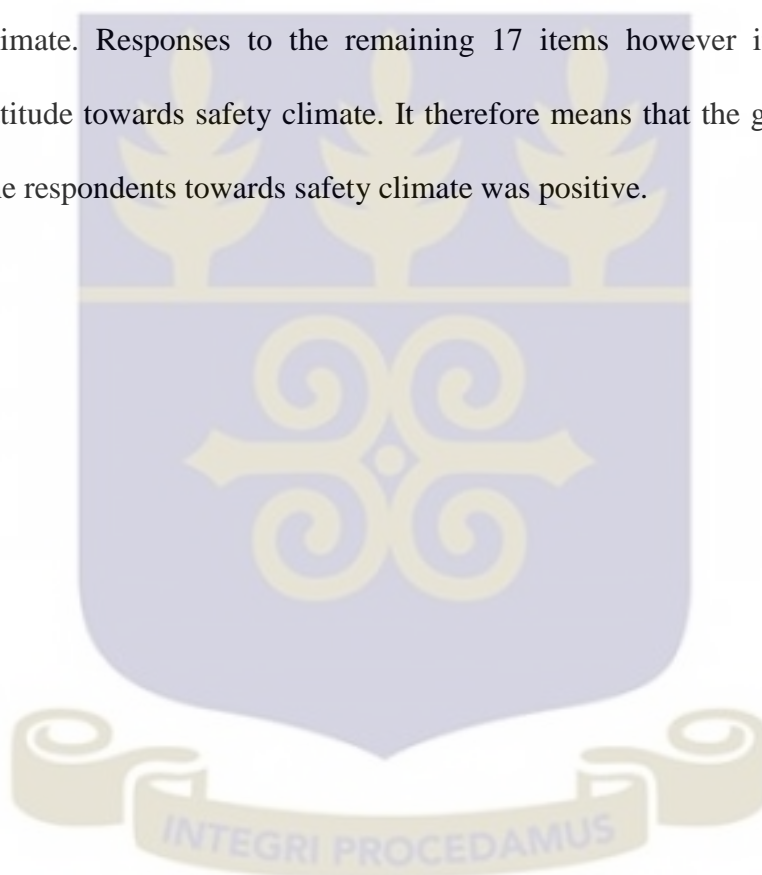


Table 6: Perception of employees towards safety

Statements	Level of agreement				Mean	St. Devia tion (±)
	SD N(%)	D N(%)	A N(%)	SA N(%)		
We who work here try hard together to achieve a high level of safety	65(33.5)	94(48.5)	22(11.3)	13(6.7)	1.91	0.84
We who work here take joint responsibility to ensure that the workplace is always kept tidy	44(22.7)	120(61.9)	30(15.8)	-	1.93	0.62
We who work here do not care about each other's safety	4(2.1)	5(2.6)	138(71.1)	47(24.2)	3.18	0.57
We who work here avoid tackling risks that are discovered	59(30.4)	106(54.6)	27(13.9)	2(1)	1.86	0.68
We who work here help each other to work safely	48(24.8)	80(41.2)	57(29.4)	9(4.6)	2.14	0.84
We who work here take no responsibility for each other's' safety	28(14.4)	87(44.8)	69(35.6)	10(5.2)	2.31	0.78
We who work here regard risks as unavoidable	58(29.9)	105(54.2)	28(14.4)	3(1.5)	1.88	0.70
We who work here consider minor accidents as normal part of our daily work	55(28.4)	105(54.1)	33(17.0)	1(0.5)	1.90	0.68
We who work here accept dangerous behaviour as long as there are no accidents	26(13.4)	93(47.9)	61(31.4)	14(7.3)	2.32	0.80
We who work here break safety rules in order to complete work on time	26(13.4)	61(31.4)	90(46.4)	17(8.8)	2.51	0.84
We who work here never accept risk taking even if the work schedule is tight	18(9.3)	79(40.3)	82(42.7)	15(7.7)	2.48	0.77
We who work here consider that our work is unsuitable for cowards	1(0.5)	17(8.8)	134(69.1)	42(21.6)	3.12	0.56
We who work here accept risk-taking at work	5(2.6)	15(7.7)	131(67.5)	43(22.2)	3.09	0.63
We who work here try to find a solution if someone points out a safety problem	2(1.0)	24(12.4)	133(68.6)	35(18)	3.04	0.59
We who work here have great trust in each other's ability to ensure safety	2(1)	21(10.8)	122(62.9)	49(25.3)	3.12	0.62
We who work here learn from our experiences to prevent accidents	15(7.7)	57(29.5)	87(44.8)	35(18)	2.73	0.85
We who work here take one another's opinions and suggestions concerning safety seriously	1(0.5)	17(8.8)	136(70.1)	40(20.6)	3.11	0.55
We who work here seldom talk about safety	4(2)	21(10.8)	133(68.6)	36(18.6)	3.04	0.61
We who work here always discuss safety issues when such issues come up	8(4.1)	14(7.2)	117(60.3)	55(28.4)	3.13	0.71
We who work here can talk freely and openly about safety	64(33)	93(47.9)	27(13.9)	10(5.2)	1.91	0.82
We who work here consider that a good safety representative plays an important	1(0.5)	5(2.6)	124(63.9)	64(33)	3.29	0.54

Table 6 continued

role in preventing accidents

We who work here consider that safety rounds/evaluations have no effect on Safety	94(48.5)	93(47.9)	4(2.1)	3(1.5)	1.57	0.62
We who work here consider safety training to be good for preventing accidents	10(5.2)	16(8.2)	120(61.9)	48(24.7)	3.06	0.73
We who work here consider early planning for safety as meaningless	93(47.9)	96(49.5)	4(2.1)	1(0.5)	1.55	0.57
We who work here consider that safety rounds/evaluations help find serious hazards	3(1.5)	1(0.5)	105(54.2)	85(43.8)	3.40	0.59

Note: SD= Strongly Disagree D=Disagree A= Agree SA= Strongly Agree



4.7 Influence of socio-demographic characteristics on safety climate at La general hospital

Table 7 shows a chi-square test conducted to test the association between socio-demographic characteristics and safety climate. The statement “we who work here feel safe when working together” used as safety climate and was recoded as “Agree” and “Disagree” (dichotomous). For the relationship between two variables to be considered as significant, a p-value generated should be ≤ 0.05 ; error margin, with a significance level of 95%. From Table 7, all the socio-demographic characteristics were positively associated with safety climate; Sex ($p=0.003$), age ($p<0.001$), level of education ($p<0.001$), job title ($p<0.001$), duration of working at the hospital ($p<0.001$), membership of hospital management ($p<0.001$), and receipt of refresher course in safety ($p<0.001$).

Table 7: Chi-square test of association between background characteristics and safety climate

Background characteristic	Chi-square (χ^2)	P-value
Sex	9.093	0.003*
Age	10.649	0.000*
Level of education	182.186	0.000*
Job title	66.990	0.000*
Duration of working at the hospital	78.784	0.000*
Membership of hospital management	170.742	0.000*
Receipt of refresher course in safety	60.124	0.000*

* Significant at 0.05

4.8 Influence of socio-demographic characteristics on safety climate

A multiple logistic regression test was conducted to determine the influence of socio-demographic characteristics, as the independent variable, on safety climate as the dependent variable (Table 8). The dependent variable was measured on a dichotomous scale of “Agree” (coded as 1) and “Disagree” (coded as 0). The total model was significant ($p < 0.007$) and accounted for 23 percent of the total variance. Results of the Hosmer–Lemeshow test performed ($p = 0.724$) indicated the goodness of fit of the model.

From Table 8, females were 1.3 times more likely than males, to perceive their working climate as safe. Respondents in their 20s, were more likely to feel safe when working, than those in their 30s (OR=0.389, C.I = 0.158-0.962) and 40s (OR=0.395, C.I = 0.147-1.063). There was however a significant relationship between safety climate and age; 30-39 years ($p = 0.041$). Regarding level of education, Table 8 indicates that the perception of a safe working climate, increases with level of education. Thus, respondents with Middle/JHS, Secondary/Vocational, Diploma, and degree levels of education, were 1.088, 1.136, 1.266 and 2.832 times, more likely to feel safe when working. From Table 8, non-medical staff of the La General Hospital, were more likely to perceive a safer working climate than medical staff (OR=0.426, C.I= 0.176-1.031). Also, a significant association was found between job title and safety climate (medical); $p = 0.050$.

Table 8 shows that while those who had worked at the hospital for 4 to 6 years, were five times more likely to perceive safety working climate, those who had worked at the hospital for 7 to 9 years as well as those who had worked for 10 years and above, were 1.4 times and 1.2 times more likely to feel safe when working, than those who had worked at the hospital for 1 to 3 years. Respondents who said they had never had a

refresher course on safety, were 1.4 times more likely to feel safe when working, compared with those who had ever had a refresher course on safety. Similarly, those who were not members of the hospital administration were more likely to perceive a safe working climate, compared with those who were members of the hospital's administration.



Table 8: Multiple logistic regression model for the influence of socio-demographic characteristics on safety climate

Scio-demographic characteristics	OR	95% CI	P-value
Sex			
Male	Ref.		
Female	1.273	0.557-2.908	0.567
Age			
20-29	Ref.		
30-39	0.389	0.158-0.962	0.041*
40-49	0.395	0.147-1.063	0.066
Level of education			
Primary	Ref.		
Middle/JHS	1.088	0.456-2.597	0.850
Secondary/Vocational	1.136	0.272-3.989	0.631
Diploma	1.266	0.327-4.899	0.732
Degree	2.832	0.247-3.550	0.499
Job title			
Non-medical	Ref.		
Medical	0.426	0.176-1.031	0.050*
Duration of working at the hospital			
1-3 years	Ref.		
4-6 years	4.789	1.043-21.990	0.044*
7-9 years	1.386	0.457-4.209	0.564
10 and above	1.164	0.497-2.726	0.727
Ever had a refresher course			
Yes	Ref.		
No	1.432	0.044-4.198	0.469
Membership of hospital management			
Yes	Ref.		
No	1.441	0.168-1.152	0.495

Source: Field work, 2015 * Significant at 0.05

Note: OR = Odds ratio; 95% CI= 95% Confidence Interval; Ref= reference category.

CHAPTER FIVE

DISCUSSION

5.0 Overview

This chapter presents the discussions based on the main findings and studies conducted by previous researchers.

5.1 Socio-demographic characteristics

Socio-demographic characteristics surveyed were sex, age, level of education, job title, duration of working at the hospital, membership of hospital management, receipt of refresher courses, and number of refresher courses received. The study found that most of the participants were females in their 20s and 30s. Majority of the respondents had diploma level of education. A significant percentage also had university degree. Regarding job title, most of the participants were medical staff while the rest were non-medical staff. Most of the respondents had also worked at the La General Hospital for at least nine years. Majority however noted that they had never received any refresher course on safety since they resumed working at the hospital. Most of them were also not part of the hospital's management. Those who said they had received refresher courses in safety however indicated that they received such training only once. Findings from this study are consistent with findings in a study conducted by Choudhry et al. (2009) who reported that demographic factors such as age, sex and level of experience influence safety climate and consequently influence individual safety behaviour.

Findings of this study in relation to sex, are consistent with findings of the 2010 population and housing census of Ghana. According to the census, females formed majority of Ghana's population with 51.2 percent, while males constitute 48.8 percent.

The findings of the present study in relation to level of education however contradict findings of the 2010 population and housing census. Level of education in the census, was measured using heads of households. For heads (male and female) who had had some formal education, those who attended Middle/JSS/JHS constituted the highest proportion; 39.1 percent for males and 33.2 percent for females in 2010 (GSS, 2013).

5.2 Handling of safety issues by management

According to OSHA (2013) safety at the workplace is essential for providing a safe working environment in which employees can work with minimal risk to their health. Institutions delivering immediate service to the public must therefore do so in a safe environment without causing damage or loss to clients and staff. It is also prudent to pay attention to safety in the health care facilities in order to protect both patients and staff (Habibi, 2007).

The total mean score of all 22 items that were used to examine the handling of safety issues by the hospital's management was 2.48. Out of the 22 statements, the responses to majority (13) of the statements indicated that overall, management did not adequately handle safety issues at the hospital, while responses to nine of the statements indicated otherwise. This is in contrast to arguments by Edmondson (1999) that a positive safety climate empowers employees and also endows them with psychological safety to help prevent, solve and learn from the problems that occur during delivery of care, and therefore prudent for management to handle safety issues with the deserved attention.

These 13 statements which indicated poor handling of safety issues by management of the hospital however included; "management encourages employees here to work in accordance with safety rules even when the work schedule is tight"; "management accepts employees taking risks when the work schedule is tight"; "we who work here

have confidence in the management's ability to deal with safety”; “management ensures that safety problems discovered during safety rounds/evaluations are corrected immediately”; “management lacks the ability to deal with safety properly”; and “management strives to design safety routines that are meaningful and actually work”. Others included; “management makes sure that everyone can influence safety in their work environment”; “management never ask employees for their opinions before making decisions regarding safety”; “management involves employees in decisions regarding safety”; “management collects accurate information in accident investigations”; “fear of sanctions (negative consequences) from management discourages employees here from reporting near-miss/ accident”; “management listens carefully to all who have been involved in an accident”; “management always blames employees for accidents”.

5.3 Perception of employees towards safety

In a study conducted by Cooper and Phillips (2004), they demonstrated that the perception of workers’ on the significance of safety training were the most important safety climate factor predicting actual safety behavior. Twenty-five statements were therefore used to examine the perception of respondents towards safety climate. Out of this number, the responses of the participants, to 17 items, indicated positive attitude towards safety climate. The results therefore emphasize the importance of perception in maintaining a safe working climate, as argued by Cooper and Phillips (2004). In their study de Wet et al. (2012) indicated that perception forms one of the key products that define safety climate.

The statements which indicated overall positive attitude of respondents towards safety climate, included; “we who work here avoid tackling risks that are discovered”; “we

who work here take no responsibility for each other's' safety"; "we who work here regard risks as unavoidable"; "we who work here consider minor accidents as normal part of our daily work"; "we who work here accept dangerous behaviour as long as there are no accidents"; "we who work here never accept risk taking even if the work schedule is tight"; "we who work here try to find a solution if someone points out a safety problem"; "we who work here have great trust in each other's ability to ensure safety"; and "we who work here learn from our experiences to prevent accidents".

Others included; "we who work here take one another's opinions and suggestions concerning safety seriously"; "we who work here always discuss safety issues when such issues come up"; "we who work here can talk freely and openly about safety"; "we who work here consider that a good safety representative plays an important role in preventing accidents"; "we who work here consider that safety rounds/evaluations have no effect on safety"; "we who work here consider safety training to be good for preventing accidents"; "we who work here consider early planning for safety as meaningless"; and "we who work here consider that safety rounds/evaluations help find serious hazards. The implication therefore is that the general attitude of the participants towards safety climate was positive.

5.4 Influence of socio-demographic characteristics on safety climate

Dedobbeleer and Beland (1998) suggested that socio-demographic factors influence work climate and may play a significant role in risk-taking behaviour at the work place. A chi-square test was therefore conducted between safety climate and socio-demographic characteristics. The test indicated that all the socio-demographic characteristics had significant associations with safety climate; Sex ($p=0.003$), age ($p<0.001$), level of education ($p<0.001$), job title ($p<0.001$), duration of working at the

hospital ($p < 0.001$), membership of hospital management ($p < 0.001$). The results therefore confirm findings of a study conducted by Glendon and Litherland (2001), which found significant relationships between socio-demographic characteristics such as age and sex, and safety climate. A multiple logistic regression analysis performed to assess the influence of socio-demographic characteristics; age ($p = 0.041$) and duration of work ($p = 0.044$) were found significant.

5.5 Number of safety training and its effect on safety climate

A study by Cooper et al. (2004) concluded that the perception of workers' on the importance of safety training was the key safety climate factor predicting actual safety behavior. A chi square test conducted showed that receipt of refresher course in safety ($p = 0.000$) was statistically significant. It was evident in the study that out of 194 respondents, only 43 received refresher courses in safety and 151 has never accepted. The results therefore confirmed findings of a study conducted by Adutwum (2010), which found significant relationship between safety climate and safety training.

5.6 Job title and safety climate

Vinodkumar (2009) in his study reported a significant relationship between job category and safety climate factors including management commitments. A chi square test showed an association between job title and safety climate ($p < 0.001$). Furthermore, a logistic regression was performed to assess the influence of job title on safety climate and it was also significant at ($p = 0.050$).

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusions

The study sought to assess safety climate at the La General Hospital. Safety climate has enormous potential to improve a facility's health and safety performance and reduce workplace injury rates. This study is of public health importance because when there is a positive perception of safety in the hospital, healthy working becomes a priority to all staff. A positive safety climate also ensures that staff are not injured or made ill by the work they do as well as making sure the patients' condition are not complicated by visiting the facility. They are also less likely to contract and spread illnesses.

With regards to this study, it was clearly evident that the ability of management to handle safety issues in the hospital was not adequate, thus the need for a great improvement. It was also identified in the study that perception of staff towards safety was positive but the frequency of safety training was not encouraging. The study also revealed that socio-demographic factors such as age, sex, level of education, duration of working in the hospital had a significant influence on safety climate.

6.2 Recommendations

The following recommendations are being made to improve and maintain a positive safety climate:

Hospital Management

There is the need for the management to create a health and safety committee in the hospital to oversee the health and safety needs of the facility.

The committee should conduct safety rounds periodically to identify hazards as well as near misses and manage them effectively to avoid accidents.

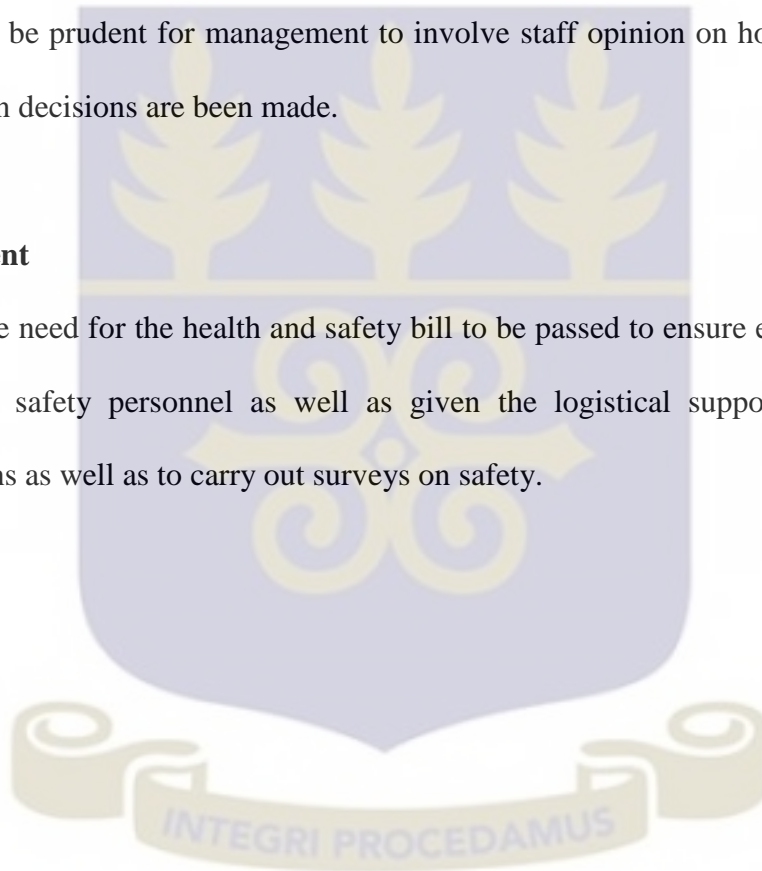
It will also be prudent on the part of management to organize and integrate safety training during the induction of new staff.

It is also very keen for management to improve upon the number of safety training organized and ensure all staff receive training annually. Assessment of workers to ensure that they have knowledge and understanding which in turn, influences their safety perception. Those who partake in each session should also brief their colleagues on proceedings.

It will also be prudent for management to involve staff opinion on how to improve on safety when decisions are been made.

Government

There is the need for the health and safety bill to be passed to ensure each facility has a health and safety personnel as well as given the logistical support to embark on supervisions as well as to carry out surveys on safety.



REFERENCES

- Adutwum, K., (2010) Safety Climate in a Ghanaian Industry: Its Measurement and Relative Influence on Employee Safety-Oriented Behaviour: Norwegian University of science and Technology.
- Baeka, J., Kangc, S., Singhb, K.P., &Bae, S., (2011) Safety climate perceptions and attitudes of supervisors in the Korean Industry: *19th International Congress on Modelling and Simulation, Perth, Australia.*
- Barling, J., Loughlin, C., & Kelloway, E. K. (2002). Development and test of a model linking safety-specific transformational leadership and occupational safety. *Journal of Applied Psychology*, 87, 488-496.
- Bass, B. M., & Avolio, B. J. E. (1997). The full range of leadership development: Manual for the multi-factor leadership questionnaire. New York: Binghampton.
- Bergh, M. (2011.) Safety climate. An evaluation of the safety climate at AkzoNobel site Stenungsund. Master of Science thesis.
- Behn, L. D. et al. (1999). *Follow-up assessment of the federal aviation administration's logistic center safety climate*
- Blegen, M. A., Pepper, G. A., & Rosse, J. (2005). *Safety climate on hospital units: A new measure: In Advances in patient safety: From research to implementation.* Rockville, DM: Agency for Healthcare Research and Quality.
- Camm, T., & Girard-Dwyer, J. (2005) Economic consequences of mining injuries,” *Mining Engineering* 57 (9), 89-92
- Choudhry, M.R., Fang, D.P., & Lingard, H. (2009). Measuring safety climate of a construction company, *Journal of construction Engineering and Management*, 135(9), 890-899.
- Clarke, S. (2006). The relationship between safety climate and safety performance: A meta- analytic review. *Journal of Occupational Health Psychology*, 11(4), 315–327.
- Clarke, S., & Flitcroft, C. (2008). Effects of transformational leadership on perceived safety climate: A longitudinal study. *Journal of Occupational Health and Safety*, 24(3), 237-247.
- Conchie, S.M., & Donald I.J. (2006). The role of distrust in offshore safety performance *.Risk Analysis*, 26(5), 1151-9.
- Conchie, S.M., & Donald I.J., (2009). The moderating role of safety specific trust in the relation between safety specific transformational leadership and safety citizenship behaviour. *Journal of Occupational Health Psychology*, 14(2), 137-147.
- Cooper, M.D., & Phillips, R.A. (2004). Exploratory analysis of the safety climate and safety Behaviour relationship. *Journal of Safety Research*, 35, 497-512
- Cox, S. J., & Cheyne, A. J. T. (2000). Assessing safety culture in offshore environments. *Safety Science*, 34, 111-129

- Coyle, I. R., Sleeman, S. D., & Adams, N. (1995). Safety climate. *Journal of Safety Research*, 26, 247-254
- De Wet, C., Johnson, P., Mash, R., McConnachie, A, & Bowie, P. (2010). Measuring perceptions of safety climate in primary care; A cross sectional study. *Journal of Evaluation and Clinical Practice*, 18(1), 135-142.
- Dedobbeleer, N., & Béland, F. (1991). A safety climate measure for construction sites. *Journal of Safety Research*, 22, 97-103.
- Edmondson, A. C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44(2), 350–83.
- Fang, D.P., Chen Y., & Louisa W. (2006). Safety climate in construction industry: A case study in Hong Kong, *Journal of Construction Engineering and Management*, 132(6), 573-584.
- Findley, M., Smith, S., Gorski J., & O’Neil, M. (2007). Safety climate differences among job positions in a nuclear decommissioning and demolition industry: Employees’ self- reported safety attitudes and perceptions, *Safety Science*, 45: 875–889.
- Flin, R., Mearns, K., O’Connor, R., & Bryden, R. (2000). Measuring safety climate: Identifying the common features. *Safety Science* 34, 177–192
- Gadd, S. (2002). *Safety culture: A review of the literature*. Broad Lane, Sheffield: Health and Safety Laboratory.
- Ghana Statistical Survey (2013) Ghana housing and population census: GHA-GSS-PHC-2010-v1.0
- Glendon A.I. & Evans, B. (2007). Safety climate in Australian railways: *People and rail systems: human Factors at the heart of the railway*. Ash gate, Hampshire, UK; pp. 409–417.
- Glendon, A.I, & Litherland, D.K. (2001). “Safety climate Factors, Group Differences and Safety Behaviour in Road Construction”, *Safety Science*, 39:157-188.
- Glenn, D. I. (2013). *Determining sample size*. University of Florida: Gainesville
- Government of Alberta (2009). *Overview of best practices in occupational health and safety in the healthcare industry*. Retrieved from www.worksafely.org. On 20/10/2014
- Griffin, M. A., & Neal, A. (2000) Perceptions of safety at work: A framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, 5, 347– 35.
- Habibi, E., Soleymani, B., Nateghei, R., Lotfirosbehani, M., & Yarmohammadian, M.H. (2007). Risk Management in radiology units of Isfahan University of Medical Sciences Hospitals. *Health Information Management Journal*, 4(1), 133-141.
- Hahn, S.E., & Murphy, L.R. (2008). A short scale for measuring safety climate, *Journal of Safety Science*, 46(7), 1047-1066
- Health Information Unit (2014). La General Hospital, Accra.

- Hofmann, D. A. & Stetzer, A. (1995). High reliability process industries: Individual, micro, and macro organizational influences on safety performance. *Journal of Safety Research*, 26, 131-149.
- Hofmann, D. A., & Stetzer, A. (1998). The role of safety climate and communication in accident interpretation: Implications for learning from negative events. *The Academy of Management Journal*, 41(6), 644-657.
- Inness, M., Turner, N., Barling, J., & Stride, C. B. (2010). Transformational leadership and employee safety performance: A within-person, between-jobs design. *Journal of Occupational Health Psychology*, 15(3), 279-290.
- International Nuclear Safety Advisory Group (1991). Safety Culture: 75-INSAG-4:1 - 44.
- Kath, L.M., Marks, K. M., & Ranney, J. (2010). Safety climate dimensions, leader-member exchange, and organizational support as predictors of upward safety communication in a sample of rail industry workers. *Safety Science*, 48(5), 643-650.
- Kiani, F., Samavtyan, H., Poorabdiyan, S., & Jafari, E. (2012). How safety trainings decrease perceived job stress: the effects of improvement in employees' attitude toward safety issues. *Journal of Psychology & Business*, 6 (1), 46
- National Health Scheme (NHS) (2010). An introduction to safety climate education in Scotland. Edinburgh: Author.
- Neal, A., & Griffin, M. A. (2004). Safety climate and safety at work. Retrieved from <http://psycnet.apa.org/index.cfm?fa=main.doiLanding&uid=2003-88217-002>
- Neal, A., & Griffin, M. A., (2000). Safety Climate and Safety Behaviour. *Australian Journal of Management*, 27 (1), 167-75
- NOSACQ-50 (Nordic occupational safety climate questionnaire), (2012). The National Research Centre for the Working Environment, Denmark, accessed 19.11.2014
- O'Dea, A., O'Connor, P., Quinn, K., & Buttre, S. L. (2010). *A review of the safety climate literature as it relates to naval aviation*.
- Oppong-Addoh, M., (2013). Factors influencing adherence to safety protocols Ghanaian industries. Retrieved from <http://ugspace.ug.edu.gh> on 07/07/2015
- Reason, J. (2004). Beyond the organizational accident: The need for “error wisdom” on the frontline. *Quality and Safety in Healthcare*, 13, 28-33.
- Robson, L. S., Clarke, J. A., Cullen, K., Bielecky, A., Severin, C., Bigelow, P. L., & Mahood, Q. (2007). The effectiveness of occupational health and safety management system interventions: a systematic review. *Safety Science*, 45, 329-353.
- Seo, D.C., Torabi, M. R., Blair, E. H., & Ellis, N. T. (2004). A cross-validation of safety climate scale using confirmatory factor analytic approach. *Journal of Safety Research*, 35(4), 427- 445.
- Sexton, J.B., Helmreich, R.L., Neilands, T.B., Rowan, K., Vella, K., Boyden, J., Roberts, P.R., & Thomas, E.J. (2006). The Safety Attitudes

Questionnaire: psychometric properties, benchmarking data, and emerging research. *BMC Health Serv Res.* Apr 3(6), 44

- Singer, S., Lin, S., Falwell, A., Gaba, D., & Baker, L., (2009). Relationship of safety climate and safety performance in hospitals. *Health Safety Research*, 44(2), 399-421.
- Siu, O., Phillips, D. R., & Leung, T. (2003). Age differences in safety attitudes and safety performance in Hong Kong construction workers, *Journal of Safety Research*, 34(2), 199–205.
- Tharaldsen, J. E., Olsen, E., & Rundmo, T. (2008) A longitudinal study of the safety climate on the Norwegian continental shelf. *Safety Science*, 46, 427-439.
- Vinodkumar M.N., & Bhasi, M. (2009) Safety climate factors and its relationship with accidents and personal attributes in the chemical industry. *Safety Science*, 47, 659–667
- Wills, A., Watson, B., & Biggs, H. C. (2004). The relative influence of fleet safety climate on work-related driver safety. In: Australasian Road Safety Research, Policing and Education Conference, 14-16 November 2004, Perth, Western Australia.
- Workers Compensation Board of Nova Scotia (WCBNS) (2008). Annual report 2008. Retrieved 15th November, 2014 from http://www.wcb.ns.ca/app/docrepository/5/About/Review/Reports/WCB_AR_08_web.pdf
- www.osha.gov/workers/index.html retrieved on the 18th of June, 2015
- Yamane, T. (1967). *Statistics: An Introductory Analysis*, 2nd Ed., New York: Harper and Row.
- Zohar, D. (1980). Safety Climate in Industrial Organizations: Theoretical and Applied Implications. *Journal of Applied Psychology*, 65(1), 96-102.
- Zohar, D. (2002). Modifying supervisory practices to improve subunit safety: A leadership-based intervention model. *Journal of Applied Psychology*, 87, 156-163.
- Zohar, D. (2003). Safety climate: Conceptual and measurement issues. In J. C. Quick & L. E. Tetrick (Eds.), *Handbook of occupational health psychology*. (pp. 123–142). Washington, DC: American Psychological Association.
- Zohar, D. (2008) Safety climate and beyond: A multi-level multi-climate framework. *Safety Science*, 46, 376-387.
- Zohar, D., & Luria, G. (2003). The use of supervisory practices as leverage to improve safety behaviour: A cross-level intervention model, *Journal of Safety Research*, 34, 567-577.

APPENDICES

Appendix 1: Consent Form

Title: “ASSESSMENT OF SAFETY CLIMATE AT LA GENERAL HOSPITAL”

Principal investigator: Fafa Nunana Ameko

Address: Department of Biological, Environmental and Occupational Health,
School of Public Health, University of Ghana, Legon.

General information about the research:

The aim of this survey is to get your view on safety at the hospital using the Nordic Occupational Safety Climate Questionnaire (NOSACQ-50).

The study is purely academic research, which forms part of the researcher’s work for the award of a Master of Science Degree in Occupational Hygiene.

Possible risk and discomfort:

There are no risks associated with participating in this study. The procedures involved in this study are non-invasive and will not cause any discomfort to the participants.

Description of level of research burden:

Study participants would be asked to fill a questionnaire. It is estimated that filling of the questionnaire will take a maximum of 20 minutes per participant.

Possible benefits

The information given will guide the hospital and government on how to make safety a priority.

Confidentiality

All data collected will be kept under lock and key. The study materials (questionnaire, and consent forms) will not be labeled with names of study subjects but rather unique identification numbers.

Person responsible and phone number

The person responsible for the data storage will be Fafa Nunana Ameko, a student of School of Public Health, University of Ghana, Legon. Mobile phone number: 0243982210

Voluntary Participation

Though participation is voluntary the higher participation rate the more accurate the results and that declining to enter the study will have no negative consequences.

Contacts for additional information

For further information with regards to the study, contact the administrator of the Ghana Health Service Ethical Review Committee, Madam Hannah Frimpong on telephone numbers 0243235225 or 0507041223.

Volunteer agreement

The above document describing the benefits, risks and the procedures for the research entitled “ASSESSMENT OF SAFETY CLIMATE AT LA GENERAL HOSPITAL” has been read /and explained to me. I have been given the opportunity to ask questions and all the questions that I have asked about the research have been answered to my satisfaction.

I agree to participate as a volunteer.

Date.....

Signature or thumbprint of volunteer.....

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual. All questions were answered and the volunteer has agreed to take part in the research.

.....

Date

Signature of witness

.....

Date

Signature of Interviewer

PLEASE NOTE:

Be sure to answer all questions – even though some questions may appear very similar.

Thank You.



	supervisors at this workplace handle safety issues.	
10	Management encourages employees here to work in accordance with safety rules even when the work schedule is tight Strongly disagree Disagree Agree Strongly agree	____
11	Management ensures that everyone receives the necessary information on safety Strongly disagree Disagree Agree Strongly agree	____
12	Management looks the other way when someone is careless with safety Strongly disagree Disagree Agree Strongly agree	____
13	Management places safety before Production Strongly disagree Disagree Agree Strongly agree	____
14	Management accepts employees here taking risks when the work schedule is tight Strongly disagree Disagree Agree Strongly agree	____
15	We who work here have confidence in the management's ability to deal with safety Strongly disagree Disagree Agree Strongly agree	____
16	Management ensures that safety problems discovered during safety rounds/evaluations are	____

	<p>corrected immediately</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	
17	<p>When a risk is detected, management ignores it without action</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
18	<p>Management lacks the ability to deal with safety properly</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
19	<p>Management strives to design safety routines that are meaningful and actually work</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
20	<p>Management makes sure that everyone can influence safety in their work environment</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
21	<p>Management encourages employees here to participate in decisions which affect their safety</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
22	<p>Management never considers employees' suggestions regarding safety</p> <p>Strongly disagree</p> <p>Disagree</p>	____

	Agree Strongly agree	
23	Management strives for everybody at the workplace to have high competence concerning safety and risks Strongly disagree Disagree Agree Strongly agree	____
24	Management never asks employees for their opinions before making decisions regarding safety Strongly disagree Disagree Agree Strongly agree	____
25	Management involves employees in decisions regarding safety Strongly disagree Disagree Agree Strongly agree	____
26	Management collects accurate information in accident investigations Strongly disagree Disagree Agree Strongly agree	____
27	Fear of sanctions (negative consequences) from management discourages employees here from reporting near-miss/ accident Strongly disagree Disagree Agree Strongly agree	____
28	Management listens carefully to all who have been involved in an accident Strongly disagree Disagree Agree Strongly agree	____
29	Management looks for causes, not guilty	____

	<p>persons, when an accident occurs</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	
30	<p>Management always blames employees for accidents</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
31	<p>Management treats employees involved in an accident fairly</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
SECTION C	<p>In this section, please describe how you perceive that employees at this workplace deal with safety</p>	
32	<p>We who work here try hard together to achieve a high level of safety</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
33	<p>We who work here take joint responsibility to ensure that the workplace is always kept tidy</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
34	<p>We who work here do not care about each other's safety</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
35	<p>We who work here avoid tackling risks that are discovered</p> <p>Strongly disagree</p> <p>Disagree</p>	____

	Agree Strongly agree	
36	We who work here help each other to work safely Strongly disagree Disagree Agree Strongly agree	____
37	We who work here take no responsibility for each other's' safety Strongly disagree Disagree Agree Strongly agree	____
38	We who work here regard risks as Unavoidable Strongly disagree Disagree Agree Strongly agree	____
39	We who work here consider minor accidents to be a normal part of our daily work Strongly disagree Disagree Agree Strongly agree	____
40	We who work here accept dangerous behaviour as long as there are no accidents Strongly disagree Disagree Agree Strongly agree	____
41	We who work here break safety rules in order to complete work on time Strongly disagree Disagree Agree Strongly agree	____
42	We who work here never accept risk taking even if the work schedule is tight	____

	<p>Strongly disagree Disagree Agree Strongly agree</p>	
43	<p>We who work here consider that our work is unsuitable for cowards</p> <p>Strongly disagree Disagree Agree Strongly agree</p>	____
44	<p>We who work here accept risk-taking at Work</p> <p>Strongly disagree Disagree Agree Strongly agree</p>	____
45	<p>We who work here try to find a solution if someone points out a safety problem</p> <p>Strongly disagree Disagree Agree Strongly agree</p>	____
46	<p>We who work here feel safe when working together</p> <p>Strongly disagree Disagree Agree Strongly agree</p>	____
47	<p>We who work here have great trust in each others' ability to ensure safety</p> <p>Strongly disagree Disagree Agree Strongly agree</p>	____
48	<p>We who work here learn from our experiences to prevent accidents</p> <p>Strongly disagree Disagree Agree Strongly agree</p>	____
49	<p>We who work here take one anothers' opinions</p>	____

	<p>and suggestions concerning safety seriously</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	
50	<p>We who work here seldom talk about</p> <p>Safety</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
51	<p>We who work here always discuss safety</p> <p>issues when such issues come up</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
52	<p>We who work here can talk freely and</p> <p>openly about safety</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
53	<p>We who work here consider that a good</p> <p>safety representative plays an important</p> <p>role in preventing accidents</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
54	<p>We who work here consider that safety</p> <p>rounds/evaluations have no effect on safety</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p> <p>Strongly agree</p>	____
55	<p>We who work here consider safety</p> <p>training to be good for preventing</p> <p>accidents</p> <p>Strongly disagree</p> <p>Disagree</p> <p>Agree</p>	____

	Strongly agree	
56	We who work here consider early planning for safety as meaningless Strongly disagree Disagree Agree Strongly agree	____
57	We who work here consider that safety rounds/evaluations help find serious hazards Strongly disagree Disagree Agree Strongly agree	____
58	We who work here consider safety training to be meaningless Strongly disagree Disagree Agree Strongly agree	____
59	We who work here consider it important to have clear-cut goals for safety Strongly disagree Disagree Agree Strongly agree	____

Thank you for your cooperation.

