IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

"IN DEPTH STUDY ON HEALTH AND SAFETY MEASURES: A STUDY OF SELECTED EMPLOYEES AND ADMITTED PATIENTS IN ST. PAUL`S HOSPITAL MILLENNIUM MEDICAL COLLEGE, ADDIS ABABA, ETHIOPIA"

Summer Internship Project report submitted in partial fulfillment of the requirements for the award of the degree of MBA-pharmaceuticals

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Submitted to: Faculty of Center for Management studies & Research

GANPAT UNIVERSITY
॥ विद्यया समाजोत्कर्षः ॥
CENTRE FOR MANAGEMENT STUDIES AND RESEARCH

COMPANY CERTIFICATE

DECLARATION BY CANDIDATE

I, undersigned, Wondale Befekadu Yetsedaw(Enroll N0: 18254361012), hereby declare that the work reported in the summer internship project report titled, **"IN DEPTH STUDY ON HEALTH AND SAFETY MEASURES: A STUDY OF SELECTED EMPLOYEES AND ADMITTED PATIENTS IN ST. PAUL`S HOSPITAL MILLENNIUM MEDICAL COLLEGE, ADDIS ABABA, ETHIOPIA"** is submitted in fulfillment of the partial requirements for the award of the degree of MBA-pharmaceuticals to center for management studies and research, Ganpat University. I hereby declare that this project report is based on my original work except for questions and citations which have been duly acknowledged. I also declare that this project report has not been previously or concurrently submitted to either in whole or in part, for any other qualification to Ganpat University or other institutions.

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PREFACE

Today we are at the doorstep of 21st Century; competition at the various levels is increasing day by day. New and new developments are taking place and these days in all fields all over India & Ethiopia to make the life of the people more comfortable a luxurious.

Those in order to survive in market on should practical as well as theoretical knowledge about all different fields existing market. In today's competitive world edges is more significant than theoretical knowledge. Today practical training and knowledge also plays an important role.

Degree education brings its students in direct contact with the real corporate world thorough industrial training. The Degrees programs provide its students with an in depth study of various managerial activities that are performed in any organization.

ACKNOWLEDGEMENTS

At the outset, I would like to articulate this project as small journey which was a remarkable learning experience for me. The successful completion of this project is only because of the extraordinary support, guidance, counseling and motivation from my respectable staff of the Center for Management Studies and Research, Ganpat University, and my organization. This journey was also could not be completed without support of my family and friends.

I express my deep gratitude to Mr. Daniel Kassahun Chernet (HR Executives) and Dereje Bayissa (Ass. Prof.) of SPHMMC, my training officers and mentors for this project. Thorough the support provided by him, I have imparted knowledge on the avenues which this project have opened and explored. His directions in making me think about unique conceptual and practical aspects of Health & Safety which has lifted this project at this stage of successful completion.

I extend my gratitude to St. Paul`s Hospital Millennium Medical College and My Manager and all my colleagues, friends for their encouragement, support, guidance and assistance for undergoing Hospitality industrial training and for preparing the project report.

ABSTRACTS

Background: Globally, work place safety does not occur without a challenge especially in resource constrained set up. In Ethiopia, patient safety culture is a relatively new focus, and little is known regarding the current status of patient safety in public hospitals. This is further worsened by poor hazard control system, lack of task management system and role ambiguity.

Aim: This study mainly tried to measure work place of health and safety about administrative staffs and admitted patients in St. Paul`s hospital Millennium Medical College, Addis Ababa, Ethiopia. The compliance to occupational health and safety measures among workers and patients from study site.

Methodology: This Study took for considering exploratory and conclusive based descriptive cross-sectional design involving quantitative data collection approaches. It was carried out among administrative staffs and admitted patients at St. Paul`s Hospital Millennium Medical College, Addis Ababa, between 1st May 2019 and 7th July 2019. From a study population of 318 administrative staffs and 180 admitted patients, about 70 participants were selected by simple random sampling lottery methods, structured non-discussed questionnaire. It is close ended directive questions. Data analysis involved descriptive and inferential statistics. Differences in the parameter of estimate were considered significantly different at $P<0.05$.

Results: Study findings showed that four factors were significantly associated with health and safety regulations to measure safety with $P<0.05$, these includes; factors associated with health and safety status of administrative staffs, factors associated with health and safety regulator of administrative staffs, factors associated with hospital accident incidence of administrative staffs, and factors associated with hospital environmental factors of patients.

Conclusion: Finally, Most of the workers were satisfied with the health and safety measures adopted in the hospital. This implies that the role of management in implementing health and safety in the organization is very effective. But there was reveals evidence of poor awareness of the administrative staff workers and admitted patients about health and safety in the workplace is inadequate. Also repeated accidents like fallen from height, Hepatitis, TB/MDR (multi drug resistance), and hospital acquired infection are occurred in the work place. Therefore suitable ideas were suggested to the health facility administrators to avoid those accidents and to improve the health and safety measures. If the hospital implements effective disciplinary procedures; it will help the hospital to go with their policies and also to maintain health and safety in the organization.

Keywords: *Health measures, safety measures, Health facility; Health policy, Employee safety, Patient safety.*

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ACRONYMS/ABBREVATIONS

EF: Environmental Factors

EFY: Especially for youth

EMF: Electromotive force

ENT: Eye, Neck and Tongue

EPA: Environmental Protection Authority

FDRE: Federal Democratic Republic of Ethiopia

FMOH: Federal Ministry of Health

GTP: Growth Transformation plan

HA: Hospital Accidents

IP: Inpatients

IS: Information Sharing

MOLSA: Ministry of Labour and Social Affairs

NHCA: National Hearing Conservation Association

NIOSH: National Institute for Occupational Safety and Health

OSH: Occupational Safety and Health

OSHA: Occupational Safety and Health Association

OSHWED: Occupational Safety, Health and working environment department

SPHMMC: Saint Paul`s Hospital Millennium Medical College

SPSS: Statistical package for social science

SR: Safety Regulatory

SS: Safety satisfaction

WHO: World Health Organization

CHAPTER 1

Introduction

INTRODUCTION

1.1 BACKGROUNDS

Ethiopia is one of the second largest population counties in Africa which is found in the Eastern part of the horn of Africa. The total population in Ethiopia was estimated at 105.0 million people in 2017, according to the latest national census. According to the latest WHO data published in 2018, the total life expectancy at birth in Ethiopia is 66.6: Male 64, female 67.3 and population density 110.1 per km^2 . In 2017, Child mortality rate for Ethiopia was reported to be 58.5 deaths per 1,000 live births.

The country has nine regional states and two city administrations. Addis Ababa is the Capital city of Ethiopia as well as one of the city administrations. In the country there are 144 regional hospitals placed in the major cities and towns. (Health indicators, FMOH: EFY 2001). Out of the total 144 hospitals, about 90 of them which are all government owned and 54 privately owned hospitals. As of 2014, Addis Ababa had 52 hospitals, 12 of them state run, and more than 40 private. There are four Hospitals under the FDRE Ministry of Health. St. Paul`s Hospital Millennium Medical College is of them and the second largest hospital which is found in Addis Ababa.

Ethiopia is moving fast towards industrialization and civil reform to advance productivity (GTP). It has had a regulation on Occupational Safety and Health (OSH) since the 1940's. The Ministry of Labour and Social Affairs (MOLSA) is the state organ that regulates workers' safety and health in work places, both private and state owned.

In light of the rapid growth of industrialization and urbanization in the country, it is important to know the existing situation and the gaps of OSH. The knowledge helps to maintain sustainable development that safeguards both the work force and the immediate environment.

The purpose of the current review is to describe the existing situation of OSH and identify knowledge gaps and challenges that may constrain the progress of OSH in the country, specially at St. Paul`s Hospital Millennium Medical College.

The information from this review is partners to develop relevant interventions and maintain a decent and safe work environment in St. Paul`s Hospital Millennium Medical College, Addis Ababa, Ethiopia.

Due to rapid industrialization, Hospitality industrial workers are exposed to several types of hazards and accidents. Every year many of workers are injured due to contamination (different sharpeners of hospitality instruments, patients attachment...etc), mechanical, chemical, electrical and radiation hazards and it leads to partial or total disablement. So in recent years, greater attention is given to health and safety due to pressure from government, trade unions, labour laws and awareness of employers.

The efficiency of workers depends to a great extends on the environment in which the work. Work environment consists of all the factors, which act and react on the body and mind of an employee and the clients. The primary aim is to create an environment, which ensures the greatest ease of work and removes all causes of worries.

Occupational health and safety is a discipline with a broad scope involving many specialized fields. In its broadest sense, it should aim at:

(a) The promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations.

(b) The prevention among workers of adverse effects on health caused by their working conditions.

(c) The protection of workers in their employment from risks resulting from factors adverse to health.

(d) The placing and maintenance of workers in an occupational environment adapted to physical and mental needs.

(e) The adaptation of work to humans.

Successful occupational health and safety practice requires the collaboration and participation of both employers and workers in health and safety programs, and involves the consideration of issues relating to occupational medicine, industrial hygiene, toxicology, education, engineering safety, ergonomics, psychology, etc.

Occupational health issues are often given less attention than occupational safety issues because the former are generally more difficult to confront. However, when health is addressed, so is safety, because a healthy workplace is by definition also a safe workplace.

The converse, though, may not be true - a so-called safe workplace is not necessarily also a healthy workplace. The important point is that issues of both health and safety must be addressed in every workplace. Work plays a central role in people's lives, since most workers spend at least eight hours a day in the workplace, whether it is on a plantation, in an office, factory, etc. Therefore, work environments should be safe and healthy. Unfortunately some employers assume little responsibility for the protection of workers' health and safety. In fact, some employers do not even know that they have the moral and often legal responsibility to protect workers.

Workplace safety greatly depend on the enforcement of occupational safety policy and inspection of workplace environment to ensure compliance with health and safety standard.

In *Ethiopia all hospitality health and safety Standard* has been prepared under the direction of the Technical Committee for *Medical Care* Practices *and* published by the *Ethiopian Standards* Agency (ESA). A *Health center* shall provide *services* in accordance with this *standard and* shall comply with the *requirements*.

Health and safety standard has been required Commode, weighting scales, Drip stands, medical equipment, bed sheet and linen, bed, patient washbowls, floors, switches sockets and data points, walls, ceilings, doors, all windows and frames, mirrors, notice boards, TV for entertainment, radiators for baby incubators, ventilation grilles/extractors/inlets/fans, odor, electrical items, lighting, room well ventilation, cleaning equipments, chairs, lockets, tables, waste and hand wash containers, water available all time for hand hygiene, hand hygiene alcohol rub dispensers, proper waste segregation, curtains blinds (including screens), water availability, repleshiments, hand washing sink, baths, toilet, privacy, acutual score, percentage attained, soap available on sink.

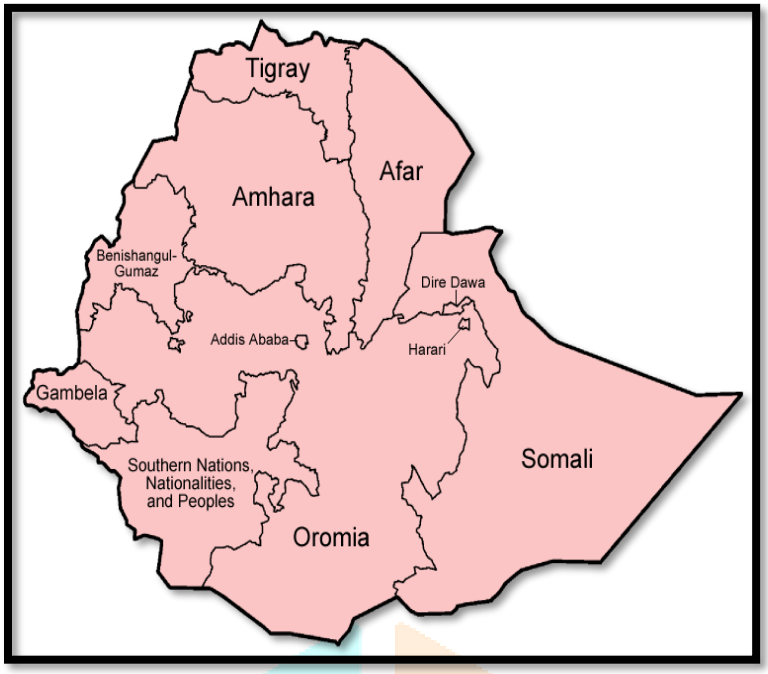
1.1.1 Demographics of Ethiopia

The current population of **Ethiopia** is **109,794,973** as of Saturday, May 18, 2019, based on the latest United Nations estimates. (Refer: CIA World Fact book).

- The total **land** area is 1,000,000 Km2 (386,102 sq. miles)
- The population density in Ethiopia is 110 per Km^2 (285 people per mi^2).
- **21.1 %** of the population is **urban** (23,220,976 people in 2019)
- Ethiopia population is equivalent to **1.43%** of the total world population.
- Ethiopia ranks number **12** in the list of countries (and dependencies) by population.

Source: UN World Population Prospects. Focus Area **Population Change**

Map of Ethiopia (figure 1.1)



Source: Central statistical Agency (CSA), Ethiopia and ICF International, Ethiopia demographic and health survey (EDHS) 2014 (Addis Ababa, Ethiopia).

1.1.2. Demographic Dividend in Ethiopia

A demographic dividend is the accelerated economic growth that may result from a rapid decline in a country's fertility and the subsequent change in the population age structure. With an increasing working-age population and decreasing dependent-age population due to sustained lower fertility.

Achieving the demographic dividend requires sufficient investment in human capital development to produce a workforce capable of maximizing the country's economic potential. The rapid reduction in fertility and child mortality has accelerated Ethiopia's path toward the demographic dividend. Because national averages often mask differences in health and education outcomes, a sub national perspective is important for equity considerations. Our analysis clearly shows that some Ethiopian regional states are not progressing sufficiently in terms of the main drivers of the demographic dividend and thus, require special and intensified attention. With increased attention to reduce health and education inequality between regional states and effective implementation of supporting policies.

1. Industrial accident prevention policies reduce falls:
   a) Enhance cooperation among sections in charge of health and safety.
   b) Improve industrial accident awareness through workplace management.
2. Health maintenance/enhancement policies implement preventive measures for lifestyle diseases, etc.
   a) Enhance measures to prevent disease and prevent disease from increasing in severity
   b) Promote collaboration health and raise health awareness.

3. Promote measures to improve mental health
   a) Implement measures for prevention
   b) Enhance workplace management
   c) Hold meetings of experts

1.2 Statement of the Problem

Ethiopia started the implementation of a five-year Growth and Transformation Plan (GTP) in 2010/2011 with the aim of becoming a middle-income country with a climate-resilient green economy by the year 2025. For the duration of the GTP, the health sector (expanation of health facility with quality control and workers safety) has been given top priority together with a few other sub-sectors such as the textile industry, and the meat and leather processing industry.

Now a day measurement of health and safety is necessary to be carried out in order to solve some problems that may arise out of the occupational health and safety before the widespread impacts are realized.

Occupational health and safety measurement is needed to ensure the workers safety objectives achievement and to know the hospital's capabilities to overcome the health and safety problem. . There is little or no study was conducted in the area of health and safety measurement in the study of selected employees and admitted patients of St. Paul`s hospital Millennium Medical College.

Unfortunately, despite decades of research using a variety of methods, the debate over the study of health and safety measurement remains unsettled, largely due to theoretical and methodological controversies. Besides, most researches done in the area of hospitality of health and safety measurement were under taken quantitative health and safety measurement of hospital services. This study mainly tried to measure workplaces of health and safety in St. Paul`s hospital Millennium Medical College.

1.3 Research Questions

The study has been initiated to seek answers for the following basic questions:

1. What are the factors of health and safety measurement in St. Paul`s hospital Millennium Medical College?
2. How do hospital accidents, Safety regulation, information sharing and environmental affect health and safety measurement?
3. What is the association between hospital accident, Safety regulation, information sharing, environmental factor and health and safety measurement?

1.4. Significance of the Study

Health and Safety measures are inevitable to any organization where workers are involved. It's an organization's responsibility to provide to its workers beyond the payment of wages for their services. The worker's health and safety on and off the job within the organization is a vital concern of the employer. The working environment in a hospital adversely affects the worker's health and safety because of the excessive heat or cold, noise, odors, fumes, dust and lack of sanitation and pure air etc., which leads to accident or injury or disablement or loss of life to the workers. Providing a health and safer environment is a pre-requisite for any productive effort. These must be held in check by providing regular health check-up, protective devices and compensatory benefits to the workers. This research deals with the study on the health and safety measures provided to the workers at St. Paul`s Hospital Millennium Medical College. The finding of this study will useful to the stakeholders including:

i. Academics/Researchers

Findings from this study will assist academicians in broadening of the prospectus with respect to this study hence providing a deeper understanding of the critical factors that affect occupational health and safety.

ii. Hospital services

The findings of this study was help hospital services, within an insight into the benefits of using different factors studied in this research to predict the factors that affect occupational health and safety of hospitals.

iii. Governmental Policy Makers

The government can use the findings of this study to assist in policy formulation and development for a framework for critical health and safety measures, work premises and other factors that affect the performance of health and safety measurements of hospitality industries. Moreover, the findings of this study will help the policy makers how to encourage establishing or expanding hospitality industries. It also enables them to know what kind(s) of policies should be framed and implemented.

1.5. Scope & coverage of the Study

This study was given an overview of the health and safety measures existing at St. Paul`s Hospital Millennium Medical College. Since health and safety are two important elements essential for improving the productivity of an organization, a study on the existing health and safety measures would help the organization to perform better. This study was highlight on the perception of the workers regarding health and safety. St. Paul`s Hospital Millennium Medical College. Can identify the areas

where it can be improved, so as to improve the performance of the workers. This study would also help to analyze the satisfaction level of the workers towards health and safety measures and suggest provisions to improve health and safety.

The study was delimited to assess occupational health and safety measurement from the perspectives of environmental factors, range of accidents and information sharing factors.

Geographically, the study was conducted in Addis Ababa, the capital city of Ethiopia, particularly in St. Paul's hospital millennium medical College. For the quantitative approach, samples were selected from 318 administrative staff employees and 180 admitted patients (IP) of St. Paul`s Hospital Millennium Medical College, Addis Ababa.

In terms of methodology, this study applied quantitative aspects of research from different directions. The participants and head of St. Paul's hospital millennium medical College are located Addis Ababa City which in turn limits the findings to be applicable to other hospitals located in other regional states exit in urban and rural parts of the country. Meanwhile, there is an indication that the findings of this study can be generalized to hospitals having similar structure, settings, management systems and facilities.

1.6 Organization of the Paper

This study is organized in such a way that chapter one presents introduction, chapter two presents company profile, chapter three presents the theoretical and empirical related literature to the study, while chapter four provides research methodology. Chapter five deals about research findings, analysis and interpretation, and the last chapter focused on conclusions and recommendations.

1.7 WHAT IS SAFETY?

Safety refers to the absence of accidents. Stated differently, safely refers to the protection of workers from the danger of accidents. Safety, in simple terms, means freedom from the occurrence or risk of injury or loss. Industrial safety or employee safety refers to the protection of workers from the danger of industrial accidents. An accident then is an unplanned and uncontrolled event in which an action or reaction of an object, a substance, a person, or a radiation results in personal injury (refer: latest WHO definition).

1.7.1 Components of safety

Organizations that have basic safety programs in place usually take one of two paths: either turn attention away from safety to other priorities, thinking safety performance is adequate, or turn attention to true safety excellence.

Unfortunately, many companies that seek excellence simply try to do better at the basics, but do not realize the thinking and programs that got the organization from bad to good in safety will not take it from good to excellent. The organizations with the most excellent safety performance have added four core components to their safety efforts/excellence.

1) Strategy – While basic safety programs are adequate in the beginning, a true safety strategy is necessary to achieve the next level of excellent performance. Strategies can align thinking and fit among programs. Alignment and fit are the basic building blocks of organizational excellence.

It takes every person and every program working in the same direction with the same end goals in mind to accomplish exceptional results. Who manages safety and how they do it must be strategically decided and reinforced. How safety is communicated and motivated must match the management style.

Compliance must become a minimum standard, not the ultimate goal. Accident prevention must be recognized as the outcome of excellence, not the primary target. Strategy is how to win, not just how "not to lose."

2) Assessment – Many of our clients initially have argued that assessment should precede strategy. However, we have found that a strategy based on an assessment tends to fill gaps rather than be a true strategy. Once a strategy is developed, an organizational assessment can identify the best opportunities to create alignment and fit with the strategy, rather than simply identifying perceived gaps between reality and some artificial ideal of perfection.

Assessment is difficult in organizations with trust issues. If employees are hesitant to point out issues for fear of the consequences, outside help may be necessary to truly assess the current status. Some organizations think they can overcome trust issues simply by using a perception survey that is filled out individually by each worker. While such surveys do provide a degree of anonymity, they don't allow for following up on the details of the issues that have been identified. This must be done in interviews or focus groups where the trust levels again become critical. Also, perception surveys only are one of several areas of assessment that are necessary to truly understand where an organization and its culture are in the progression toward safety excellence.

3) **Coaching** – Excellence is not simply the result of great leadership; it is the result of leading great people. People become great through coaching. For an organization to move from good to great, coaching must become a skill that's regular use is expected and reinforced at every level of leadership. Performance coaching should be an integral part of the organizational training curriculum and refresher/follow-up training should be held regularly. It should be in the job description of every leader

and a top item on their performance appraisal. It should be discussed in every leadership meeting and coaching best practices should be shared.

The continuous improvement of the performance of direct reports should be the primary goal of every leader and should become the standard by which their own performance is judged. Specific safety improvement targets should be selected in every work group and should be the focus of the coaching efforts. Every day, specific safety improvements should be visible and expected. This improvement should become the primary driver of safety, replacing the lagging indicators which should approach zero as the improvement efforts bear fruit.

4) Engagement – Aligning workers and coaching them is a good start toward getting them engaged in safety, but more is needed. Workers need opportunities to be involved in the work of safety in a meaningful way.

Well-designed and executed behavior-based safety (BBS) processes are one example of how this can be achieved. If workers are included in the design of the process, and learn through discovery which behaviors can have the greatest impact on accidental injuries, they develop a sense of ownership for this part of safety. If they can be involved in meaningful observations, then this interaction between workers becomes an extension of the safety coaching performed by leadership.

When this happens, all interactions between workers and leaders or workers and other workers are aligned, and the two programs are fit for purpose and they support the safety strategy. Organizations with good safety strategies readily can select the process with the best fit and avoid the less-than-effective safety programs.

Some or all of these four core components can and often do become a part of initial, basic safety efforts. If they already are in place, they should be used and not replaced. However, organizations with the most excellent safety performance tend to adopt all four of these and strive to make them work together with synergy and harmony. It is important not to wait until you have the perfect plan to get started. Excellence is a process that grows from sincere intent and effort and from having all the core components in place to enable success.

1.8 WHAT IS HEALTH?

Health is a state of complete physical, mental and social wellbeing and not merely the absence of diseases. It's a positive and dynamic concept which means something more than the absence of illness.

(1) **Physical Health:** The health of employees results in reduced productivity, high unsafe acts, and increased absenteeism. A healthy worker, on the other hand, produces results opposite to these. In other words, healthy employees are more productive, more safe conscious, and are more regular to work. The worker who is healthy is always cheerful, confident looking and is an invaluable asset to the organization.

(2) **Mental Health**: In recent years, mental health of employees, particularly that of executives, has engaged the attention of employers. Three reasons may be given for this development. First, mental breakdowns are common in modern days because of pressures and tensions. Second, mental disturbances of various types result in reduced productivity and lower profits for the organization. Third, mental illness takes its toll through alcoholism, high employee turnover, and poor human relationships. A mental health service is generally rendered in the following ways:

(i) Psychiatric counseling.
(ii) Co-operation and consultation with outside psychiatrists and specialists.
(iii) Education of company personnel in the manner and the importance of mental health.
(iv) Development& maintenance of an effective human relations program.

1.9 TYPES OF ACCIDENTS

Accidents are of different types which may be classified as major and minor ones, depending upon the severity of the injury. An accident which ends in a death, or which results in a prolonged disability to the injured is a major one. A scratch or a cut which does not seriously disable him/her is a minor accident, but an accident nevertheless. A mere incision or a deep scratch, say, on the leg or the shoulder, may or may not immediately disable the worker, but he or she may develop disability later. Again, a wound which may disable one worker may not disable another who receives a similar injury.

An accident may be internal or external. If a worker falls, or an object falls on him or her, it is possible he or she may show no external signs of injury, but he or she may have fractured a bone or strained a muscle or nerve- which is an internal injury. A worker may be disabled by an injury for hour, half a day, a day, a week, a month, or a few months. If he or she recovers from such a disability, his or her disability is temporary. If the injury is such that he or she will never recover fully, his or her disability is permanent.

1.10 NEED FOR SAFETY

(1) **Cost Saving:** Two types of costs are incurred by the management when an accident occurs. There are the direct costs, in the form of compensation payable to the dependents of the victim if the accident is fatal, and medical expenses incurred in treating the patient if the accident is non-fatal. The

management, however, is not liable to meet the direct costs if the victim is insured under the ESI scheme. When the victim is uninsured, compensation and medical expenses are the responsibility of the management. More serious than the direct costs are the indirect or hidden costs which the management cannot avoid. In fact, the indirect costs are three to four times higher than the direct costs. Hidden costs include loss on account of down-time of operators, slowed-up production rate of other workers, materials spoiled and labour for cleaning and damages to equipment.

(2) **Increased Productivity:** Safety plants are efficient plants. To a large extent, safety promotes productivity. Employees in safe plants can devote more time to improving the quality and quantity of their output and spend less time worrying about their safety and well-being.

(3) **Moral:** Safety is important on human grounds too. Managers must undertake accident prevention measures to minimize the pain and suffering the injured worker and his/her family is often exposed to as a result of the accident. An employee is a worker in the factory/industry and the bread-winner for his/her family. The happiness of his/her family depends upon the health and well-being of the worker.

(4) **Legal:** There are legal reasons too for undertaking safety measures. There are laws covering occupational health & safety, and penalties for non-compliance have become quite severe. The responsibility extends to the safety and health of the surrounding community, too. The supreme court held: An enterprise which is engaged in a hazardous or inherently dangerous industry which poses a potential threat to the health and safety of the persons working in the factory and industry in the surrounding areas, owes an absolute and non-delegable duty to the community to ensure that no harm results to anyone on account of the hazardous or inherently dangerous nature. This implies unlimited liability. The civil law establishes the extent of damages or compensation. In the criminal law, sentences are prescribed under the pollution control laws. There is no legal ceiling on the extent of liability.

1.11 HEALTH AND SAFETY AT WORK:

According to Cole (2002), employer has a common law duty to provide a safe place of work for his or her employees and is liable at common law for accidents encounter by his or her employees in the course of their employment. The duties (regarding health and safety) which employer owes his or her employees basically include the following: the provision of a safe place of employment. The provision of safe means of access to work. The provision of safe systems of working. The provision of adequate equipment, materials and clothing to enable employees to carry out their work safely. The provision of competent co-workers. A duty of care to ensure that employees are not subjected to any unreasonable risks in the workplace.

1.12 BUILDING AN EFFECTIVE HEALTH & SAFETY MANAGEMENT SYSTEM

The components of effective health and safety management system are briefly explained below:

(1) **Management Leadership & Organizational Commitment**: For this system to be effective, management must show leadership and commitment to the program. To achieve this, management should put the organization's expectation around health and safety into writing by developing a health and safety policy. Employees who forms part of the health and safety committee, should be involved in writing the policy, and to be signed by senior operating officer, to indicate the commitment of management.

(2) **Roles & Responsibilities**: Clearly defined and well communicated health and safety roles and responsibilities for all levels of the organizations will create an expectation of a standard level of performance and accountability among employees, contractors, and visitors. All levels must be aware of their individual roles and responsibilities under both state law and company standards.

(3) **Management Commitment**: For a health and safety management system to be effective, management at all levels, should demonstrate their support of the health and safety program. This may be demonstrated through management, participation in health and safety leadership training meetings, facility inspections incident investigations etc.

(4) **Employee Participation**: It is important for workers to be involved in the development of the system in order to create ownership as well as help a better fit with the culture of the organization.

(5) **Hazard Identification & Assessment Process**: Employers are required to assess a work site for existing and potential hazards before work begins. Hazard assessment data could be used to determine what worker–training needs to be done, and to build the content of employee orientations and job training hazard assessment data could be used as the basis for inspection checklists. In the case of incident investigation, hazard assessment and control data can be used to help determine if a system failure was the cause of an incident.

(6) **Determine Controls**: Address identified hazards by assigning methods of control to eliminate or reduce the hazard. The most effective controls can be determined based on legal requirements, manufacturers' specifications, company rules, industry best practices, and worker inputs.

(7) **Hazard Control**: Once the hazard assessments are completed, the next step in the development of health and safety management system is the implementation of control measures to eliminate or reduce the risk of harm to workers. In this case, employers should take all reasonable steps to eliminate or control identified hazards in order to make the workplace safer.

(8) **Enforcement of Controls:** To enforce control methods, develop a constructive enforcement policy, and communicate the consequences to employees and the steps that will be taken if noncompliance occurs.

(9) **Emergency Response Plan:** A serious emergency (Such as explosion, fire, or flood) could seriously affect the operation of a business and put the health, safety, and livelihood of many employees in jeopardy. The best health and safety management system cannot protect your company from all natural or unexpected disasters; however, having a good emergency response plan (ERP) in place can reduce the severity and risk of loss. Knowing what to do and who to contact can save lives and reduce costs if disaster should strike.

1.13 STATUTORY PROVISIONS OF HEALTH AND SAFETY IN ETHIOPIA

Ethiopia has had a regulation on Occupational Safety and Health (OSH) since the 1940's. The Ministry of Labor and Social Affairs (MOLSA) is the state organ that regulates workers' safety and health in work places, both private and state owned. MOLSA and its regional networks have an organizational structure lined to the periphery. Ethiopia is one among the many countries from around the world that have adopted ILO Convention No 155 of 1981 in 1991 which resulted in two major regulations: Labor Proclamation No. 377/ 2003 and Labor Proclamation No. 515/2007 on public civil servants. The national level policy on Occupational Safety and Health (OSH) has recently been developed and approved (July 2014) by the Central government.

1.13.1 The Provision of Occupational Health and Safety Services

The Ethiopian Labor Proclamation has a provision requires the employer to have an obligation to safeguard workers from accidents and injuries. The proclamation also requires that the employer provide regular health services including during worker injury and sickness.

Ethiopian Labor proclamation of 377/2003 is necessary to strengthen and define by law the powers and duties of the Government organ charged with the responsibility of inspecting, in accordance with the law, Labour administration, particularly Labour conditions, occupational safety, health and work environment. It is necessary to strengthen and define by law the powers and duties of the Government organ charged with the responsibility of inspecting, in accordance with the law, Labour administration, particularly Labour conditions, occupational safety, health and work environment. The work force in Ethiopia is generally administered under two laws: government employees governed by Federal Civil Servant Proclamation No.515/2006 and production related employees governed by MOLSA of the labor proclamation No.377/03.

The Ethiopian Labor proclamation of 377/ 2003 contains definitions and provisions on occupational accidents and occupational diseases (Article 97 and 98). Information on occupation-related diseases and injury or accident is not systematically recorded, evaluated, or monitored in the Ethiopian work setting. The Labor Proclamation has provisions for the need of work related injuries to be centrally collected, analyzed and systematically disseminated to the public.

Ethiopia took the initiatives to protect workers in the country by adopting OSH regulations as early as the 1920's. The Ethiopian Labor Standard Proclamation was made possible in 1964. This was updated in 2006 with the view to suiting the provisions of the Ethiopian constitution in reference to labor protection. The provisions indicated in the labor proclamation are very clear and explicit in their goals of meeting the needs of international conventions on occupational safety and health convention No.155/1981. The Ministry of Labor and Social Affairs of Ethiopia Act of 377/2003, provides inspection services and expert advices on OSH. Regular inspections are made based on priority hazards. The employer is obliged by law to implement the experts' 'advice upon receiving the inspectors' notification. Inspections, however, are not generally followed with exposure assessment in work places. Routine measurements of hazards such as industrial noise and dust are rarely done due to limited training, lack of skill in measurement and non-existent instrumentation at the factory level.

Federal Occupational Safety and Health Act of 1970 mandates that all nongovernment employers provide a safe and healthful workplace for their employees. It also provided for the creation of the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH). The act directs OSHA to develop and issue standards through a public rule-making process.

National Institute for Occupational Safety and Health is the federal agency responsible for conducting research on and making recommendations for the prevention of work-related disease and injuries. NIOSH and OSHA often work together toward the goal of protecting worker safety and health. In accordance with the Labour Proclamation, Source: 14(1e) & 92-93 of the Labour Proclamation No. 377/2003 (amended by Proc. No. 466/2005 & Proc. No. 494/2006) every employee has the right to enjoy suitable measures of protection and safety & hygiene at work as the employer is required to take all necessary measures to safeguard the health & safety of workers..

Employer must take appropriate measures to ensure that workers are properly instructed and notified about the risks and imminent danger related to their respective occupations and precautions necessary to avoid accidents and injury to health.

Measures should be taken to ensure that the processes of work are not a source or cause of physical, chemical, biological, ergonomically and psychological hazards to the health and safety of the workers.

Workers must also obey all health and safety instructions issued by the employer or by the competent authority and co-operate in the formulation of work rules to safeguard his health and safety, and to implement them. Labour Proclamation requires employers to provide protective equipment, appropriate work clothing and other materials to the workers in order to prevent the risk of accidents or detrimental effects on the health of workers. Source: 92(3) of the Labour Proclamation No. 377/2003 (amended by Proc. No. 466/2005 & Proc. No. 494/2006)

The Occupational Safety, Health and Working Environment Department (OSHWED) of the Ministry of Labour and Social Affairs (MoLSA) are responsible for labour inspection. The Labour Proclamation 377/2003, provides for the establishment of a Tripartite Labour Advisory Board for Studying and examining matters concerning employment service, working conditions, the safety and health of workers, labour laws in general and giving advisory opinion to the Minister. The labour inspectors are authorized by the Minister to carry out the responsibilities of follow-up and supervision of the inspection service.

The employer or his representatives must also facilitate the inspector and should not cause obstruction in the execution of his/her duties. Source: 177-182 of the Labour Proclamation No. 377/2003 (amended by Proc. No. 466/2005 & Proc. No. 494/2006) Constitution and labour law provide for freedom of association and allow workers and employers to join and form unions. This right is regulated by the labour Proclamation.

Trade union is a worker's organization that protects the rights and interests of the workers and represents them in collective bargaining and labour dispute. Union must ensure that laws, regulations, directives and statements are known to, be observed and implemented by members. Union members should participate actively during preparation and amendments of laws and regulations. Source: 42(1a) of the Constitution of the Federal Democratic Republic of Ethiopia 1995, § 603 of the Criminal Code Proclamation No.414/2004; §113- of the Labour Proclamation No. 377/2003 (amended by Proc. No. 466/2005 & Proc. No. 494/2006).

Federal Democratic Republic of Ethiopia Public Health Proclamation No.200/2000theactive participation of the society in the health sector has become necessary for the implementation of the country's health policy. It is believed that the attitudinal change of the society through primary health care approach can solve most of the health problems of the country.

The issuance of public health law is believed to be an important step for the promotion of the health of the society and for the creation of healthy environment for the future generation hereby enabling it assume its responsibility. In accordance with Article 55(1) of the Constitution of the Federal Democratic Republic of Ethiopia. Occupational Health devoted to the application of scientific, technological and managerial principles to protect and control workers' health by preventing or reducing risks that may occur within working areas of relating to occupation due to chemical, physical or biological agents. Untreated liquid waste generated from industries, agricultural institutions, schools and commercial areas that undergo several changes due to biological and chemical reactions and which can affect the health of human beings, animals and plants when discharged, into water bodies, plans or soils, before treatment.

Food Quality Control which is unhygienic, contaminated, unwholesome or mislabeled and does not meet the standards of food quality. Water Quality Control is prohibited to give water supply service from springs, wells or through pipes unless its quality is verified by the Health Authority.

Waste Handling and Disposal shall collect waste in an especially designated place and in a manner which does not affect the health of the society. Toilet Facilities providing public service has the obligation to organize clean, adequate and accessible toilet facilities for its customers. It is responsible to provide public toilet and ensure its cleanliness.

Communicable disease shall cooperate for medical examination or vaccination. The prevention and control of communicable diseases shall be regulated by the regulations issued in accordance with this proclamation.

The Environmental Protection Authority (EPA) was established by Proclamation No. 9/1995. The Environmental Organs Establishment Proclamation Number (No.) 295/2002 expanded the mandates of EPA, and further established it as an autonomous organization. The Proclamation decentralized the original central structure of environmental management.

Article 15 of the Proclamation calls for each of the 11 national regional states to establish an independent regional environmental agency, or designate an existing agency to lead environmental management. The proclamation also stipulates that all government ministries or agencies establish an environmental unit to ensure that their activities comply with the environmental standards and laws of the country.

At the Federal level, under Proclamation No. 4/1995, (Ministry of Labor and Social Affairs (MOLSA) is given the power to determine standards and measures for the safety and health of workers and to follow up on their implementation. In addition, MOLSA is responsible for collecting, compiling and disseminating information on the safety and health of workers. There is, however, no national policy that

outlines how occupational safety and health should be handled nationally or at lower governing levels as required by the International Occupation Safety and Health and Working Environment Convention No. 155/1981.

1. The following laws are hereby repealed:

a) Public Health Proclamation No. 26/1942; and

b) Public Health Proclamation No. 92/1947.

2. Regulations issued under proclamation NO. 26/1942 and Proclamation No. 91/1947 shall remain applicable as long as they are not inconsistent with this Proclamation.

1.14 Occupational hazards

In the United States, the National Institute for Occupational Safety and Health (NIOSH) conduct workplace investigations and research addressing workplace health and safety hazards resulting in guidelines. An occupational hazard is a hazard experienced in the workplace. Occupational hazards can encompass many types of hazards, including chemical hazards, biological hazards (biohazards), psychosocial hazards, and physical hazards. The Occupational Safety and Health Administration (OSHA) establishes enforceable standards to prevent workplace injuries and illnesses.

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.

1.15 Most common work place hazards in Ethiopia

Safety Hazards are unsafe working conditions that that can cause injury, illness and death. Safety hazards are the most common workplace hazards.

Hazards or stressors that cause stress (short term effects) and strain (long term effects). These are hazards associated with workplace issues such as workload, lack of control and/or respect, etc. like workload demands, workplace violence, Intensity and/or pace, Social support or relations, etc.

1.15.1 Chemical hazards

Chemical hazards are a sub type of occupational hazards that involve dangerous chemicals. Exposure to chemicals in the workplace can cause acute or long-term detrimental health effects. These is evidence that workplace exposure to 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. Chemical Hazards are present when a worker is exposed to any chemical preparation in the workplace in any form (solid, liquid or gas). Some are safer than others, but to some workers who are more sensitive to chemicals, even common solutions can cause illness, skin irritation, or breathing problems. Beware of:-

1) Liquids like cleaning products, paints, acids, solvents – especially if chemicals are in an unlabeled container!
2) Gases like acetylene, propane, carbon monoxide and helium.
3) Flammable materials like gasoline, solvents, and explosive chemicals
   Pesticides.

1.15.2 Biological hazards

Biological agents, including microorganisms and toxins 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 insects, spiders, snakes and scorpions, contact dermatitis from exposure to urushiol from poisonous Toxicodendron plants, Lyme disease, West Nile Virus, and coccidioidomycosis. According to NIOSH, outdoor workers at risk for these hazards "include farmers, foresters, landscapers, groundskeepers, gardeners, painters, roofers, pavers, construction workers, laborers, mechanics, and any other workers who spend time outside."

Biological Hazards include exposure to harm or disease associated with working with animals, people, or infectious plant materials. Workplaces with these kinds of hazards include, but are not limited to, work in schools, day care facilities, colleges and universities, hospitals, laboratories, emergency response, nursing homes, or various outdoor occupations.

This exposed to include Blood and other body fluids, Fungi/mold, Bacteria and viruses, Insect bites, etc.

1.15.3 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.

1.15.4 Physical hazards

Physical hazards are a sub type of occupational hazards that involve environmental hazards that can cause harm with or without contact. Physical hazards include

Physical hazards can be any factors within the environment that can harm the body without necessarily touching it. Such as:-

Radiation: including ionizing, non-ionizing (EMF's, microwaves, radio waves, etc.) High exposure to sunlight / ultraviolet rays Temperature extremes hot and cold constant loud noise.

1.15.5 Ergonomic hazards

Ergonomic Hazards occur when the type of work, body positions and working conditions put a strain on your body. They are the hardest to spot since you don't always immediately notice the strain on your body or the harm that these hazards pose. Short-term exposure may result in "sore muscles" the next day or in the days following the exposure, but long-term exposure can result in serious long-term illness. Such as Improperly adjusted workstations and chairs, Frequent lifting, Poor posture, Awkward movements, especially if they are repetitive, Having to use too much force, especially if you have to do it frequently, Vibration, etc.

1.15.6 Noise

Occupational hearing loss is the most common occupational illness in the manufacturing sector. Workers in certain fields, such as musicians,[mine workers, and even those involved with stock car racing, are exposed to higher levels of noise and therefore are at a higher risk of developing hearing loss.

Additionally, a partnership with the National Hearing Conservation Association (NHCA) has resulted in the creation of the Safe-in-Sound Award to recognize excellence and innovation in the field of hearing loss prevention.

1.16 IDENTIFYING HAZARDS IN THE WORKPLACE

Some commonly observed hazards in the workplace include occupational noise and dust of the various types in the manufacturing sectors and chemical exposures in the flower industry. Injury in both the agriculture and the manufacturing sectors is another workplace hazard commonly observed in the county. A lack of information made assessing work place exposures in detail difficult. The prevalence of noise exposure was found to be high with the potential to seriously impact hearing capacity.

Exposure to dust in textile and cement factories greatly exceeded international permissible limits. There is a high level of workplace injuries that often leads to an extended loss of productive working days.

Occupational safety and health services were found to be inadequately organized. There is limited practice in exposure assessment and monitoring. This happens to be true despite the existing favorable environment in areas of policies and regulation frameworks.

1.17 IMPORTANCE OF MANAGEMENT COMMITMENT ON HEALTH & SAFETY

In order to develop a successful health and safety programme, it is essential that there be strong management commitment and strong worker participation in the effort to create and maintain a safe and healthy workplace. An effective management addresses all work-related hazards, not only those covered by government standards. All levels of management must make health and safety a priority. They must communicate this by going out into the worksite to talk with workers about their concerns and to observe work procedures and equipment. In each workplace, the lines of responsibility from top to bottom need to be clear, and workers should know who is responsible for different health and safety issues.

1.17.1 Benefits of leadership commitment to health and safety at work

Good leadership in OSH and consequently good occupational health and safety standards within a company help differentiate the best performing enterprises from the rest. Companies showing excellent OSH leadership commitment can be recognized by safer and healthier working conditions, by employees who are confident and competent in their work, by effective OSH policies in place and followed by all staff and by individuals and teams recognized and rewarded for their success. Such healthy culture fully supported by the management on all levels leads to a continuous OSH improvement. As a result, the following pays off to the company:-

- Reduced sickness absence,
- Enhanced productivity,
- Less work accidents,

- Less occupational diseases and work related health problems,
- Higher motivation and
- Lesser turnover.

1.18 HEALTH AND SAFETY PROGRAMME

A health and safety program is a definite plan of action designed to prevent accidents and occupational diseases. Some form of a program is required under occupational health and safety .

Effective workplace health and safety programmes can help to save the lives of workers by reducing hazards and their consequences. Health and safety programmes also have positive effects on both worker morale and productivity, which are important benefits. At the same time, effective programmes can save employers a great deal of money. For all of the reasons given below, it is crucial that employers, workers and unions are committed to health and safety.

a) Workplace hazards are controlled - at the source whenever possible.

b) Records of any exposure are maintained for many years.

c) Both workers and employers are informed/ training about health and safety risks in the workplace.

d) There is an active and effective health and safety committee that includes both workers and management.

e) Worker health and safety efforts are ongoing.

CHAPTER 2:

COMPANY PROFILE

St. Paul's Hospital was established with intent to help poor people who could not afford medical expenses. The hospital first location was where Atobistera (Regional bus terminal) is today. It was inaugurated in July 1947, furnished with 250 beds.

The hospital was first administered by the Ministry of Health, but the management of the hospital was later transferred to the Emperor Haileselassie I foundation. The foundation assigned high profile people for St. Paul`s Hospital Board of Directors. In 1968/1969, new Hospital buildings were constructed in the Gullele area, Swaziland Street, its present site. The Hospital had the capacity to admin 400 inpatients and 300 out patients. During that time, the hospital staff consisted of 9 medical doctors and 18 nurses. A nursing college building was constructed at the back of the main hospital building.

According to the Ministry of planning, in 1969/1970, St. Paul`s nursing school was one of the seven institutions in the country giving training in nursing. There was a building on the hospital`s premises designed to accommodate staff members. German Evangelical Church financed 75 percent of the cost of the building`s construction while the rest of the cost was converted by welfare organizations with in the country, such as the National Lottery Administration, which gave nearly one million birr.

According to documents from Emperor Haileselasie I foundation, the Emperor himself had given 33,000 sqm plot of land in addition to over 6,000,000 birr. Moreover, he gave a lot of money that he received as a gift on his 75th birthday. After serving the nation only as a hospital for 60 years, St. Paul`s formed a Medical College during the Ethiopian Millennium celebrations in 2007. So, the Ministry of Health named it St. Paul`s Hospital Millennium Medical College (SPHMMC).

It was established through the decree of the council of Ministers in 2010, although the medical school opened in 2007. The college curriculum is very different from the traditional medical schools. It is the country`s first undergraduate integrated modular curriculum medical education. Within a decade, the college stretched to postgraduate and sub-specialty programs. There are over 16 departments which include Forensic medicine and toxicology, internal medicine, neurology, general surgery, ENT, psychiatry, ophthalmology, dentistry(maxillofacial surgery), radiology, dermatology, gynecology, obstetrics, pediatrics, biomedicine, emergency medicine, neurosurgery---etc.

The college has 1,057 (425 male and 632 female) BSc clinical, 754 (492 male and 262 female) medical and academic doctoral, and 3,043 (1332 male and 1711 female) admin staff. In general in St. Paul`s Hospital Medical College has 4, 854 clinical and non-clinical staffs. While the inpatient capacity is 700 beds sees an annual average of 300,000, and more than 2,000 outpatient and emergency clients have been visiting our health facility daily.

St. Paul`s has a vision of becoming a medical University with a prestigious academic and research center, and one of the most sought after medical care provider.

Mission

To provide community centered, advanced and affordable high quality health care services, train competent and compassionate health professionals and perform problem based research.

Vision

To become a center of excellence in healthcare, training and research.

Values and pillars

Patient-Community-Student.

Pillars

Leadership

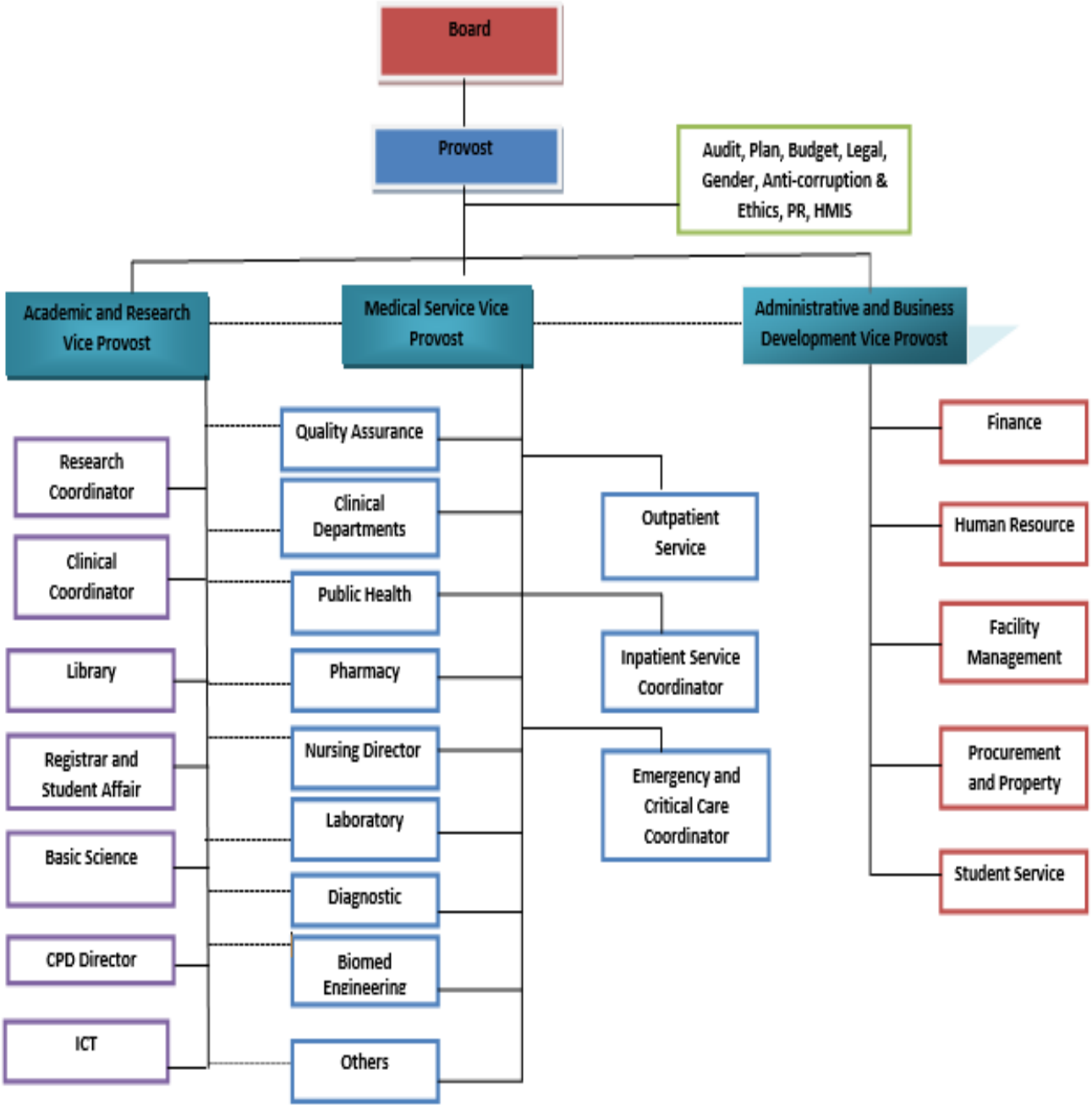
Integrity collaboration

Excellence

Trust

St. Paul`s Hospital Millennium Medical College front side map (figure 2.1)

St. Paul`s Hospital Millennium Medical college Structure: Organization chart (figure 2.2)


Board
Provost
Audit, Plan, Budget, Legal, Gender, Anti-corruption & Ethics, PR, HMIS
Academic and Research Vice Provost
Medical Service Vice Provost
Administrative and Business Development Vice Provost
Research Coordinator
Clinical Coordinator
Library
Registrar and Student Affair
Basic Science
CPD Director
ICT
Quality Assurance
Clinical Departments
Public Health
Pharmacy
Nursing Director
Laboratory
Diagnostic
Biomed Engineering
Others
Outpatient Service
Inpatient Service Coordinator
Emergency and Critical Care Coordinator
Finance
Human Resource
Facility Management
Procurement and Property
Student Service

CHAPTER 3:

REVIEW OF LITERATURE

Johansson B; Rask K; Stenberg M (2010), this study was to carry out a broad survey and analysis of relevant research articles about piece rate wages and their effects on health and safety. A total of 75 research articles were examined extensively and 31 of these were found relevant and had sufficient quality to serve the purpose of this study. The findings of these relevant articles are summarized and analyzed in the survey. More recent research shows a clear interest for health, musculoskeletal injuries, physical workload, pains and occupational injuries. The fact that 27 of the 31 studied articles found negative effects of piece rates on different aspects of health and safety does not prove causality, but together they give very strong support that in most situations piece rates have negative effects on health and safety.

Tompa, Emile PhD; Dolinschi, Roman MA; de Oliveira (2009), we reviewed the occupational health and safety intervention literature to synthesize evidence on financial merits of such interventions. A literature search included journal databases, existing systematic reviews, and studies identified by

content experts. We found strong evidence that ergonomic and other musculoskeletal injury prevention intervention in manufacturing and warehousing are worth undertaking in terms of their financial merits. The economic evaluation of interventions in this literature warrants further expansion. The review also provided insights into how the methodological quality of economic evaluations in this literature could be improved.

Conor CO Reynolds; M Anne Harris; Peter A Cripton; Meghan Winters (2009), Bicycling has the potential to improve fitness. Understanding ways of making bicycling safer is important to improving population health. We reviewed studies of the impact of transportation infrastructure on bicyclist safety. To assess safety, studies examining the following outcomes were included: injuries; injury severity; and crashes. Results to date suggest that sidewalks and multi-use trails pose the highest risk, major roads are more hazardous than minor roads, and the presence of bicycle facilities (e.g. on-road bike routes, on-road marked bike lanes, and off-road bike paths) was associated with the lowest risk. Street lighting, paved surfaces, and low-angled grades are additional factors that appear to improve cyclist safety.

Lucia Artazcoz; Imma Cortes; Vincenta Escriba-aguir; Lorena Cascant (2009), the objectives of this study was to identify family and job characteristics associated with long work hours. The sample was composed of all salaried workers aged 16–64 years (3950 men and 3153 women) interviewed in the 2006 Catalonian Health Survey.

Factors associated with long working hours differed by gender. In men, working 51–60 hours a week was consistently associated with poor mental health status, self-reported hypertension, job dissatisfaction, smoking, shortage of sleep. Among women it was only related to smoking and to shortage of sleep. The association of overtime with different health indicators among men and women could be explained by their role as the family breadwinner.

Peter Hasleand Hans Jorgen Limborg (1995), the scientific literature regarding preventive occupational Health and Safety Activities in Small Enterprises has been reviewed in order to identify effective preventive approaches and to develop a future research strategy. There is a lack of evaluation of intervention studies, both in terms of effect and practical applicability. However, there is sufficiently strong evidence to conclude that workers of small enterprises are subject to higher risks than the larger ones, and that small enterprises have difficulties in controlling risk. The most effective preventive approaches seem to be simple and low cost solutions, disseminated through personal contact. It is important to develop future intervention research strategies, which study the complete intervention system of the small enterprises.

International Council on health and safety workplace, Rice University, The report, "Current Knowledge and Practices regarding Environmental Health and Safety in the hospital Workplace", offers a review

and analysis of existing efforts to develop "best practices." This report finds that efforts to catalogue workplace practices have not systematically documented current environment, health and safety practices in a variety of workplace settings and geographies. Moreover, it finds that some existing documents are not publicly available.

Maynard, Andrew D, Article from newsletter by Andrew Maynard summarizing the current level of development and government investment in nanotechnology research and development, how nanotechnology presents a potential challenge to conventional approaches to understanding health hazards in the workplace, and how the United States National Institute of Occupational Safety and Health is working to address current and potential adverse health impacts in the workplace from hospital. 20) Scandinavian Journal of Work, Environment, and Health, This article seeks to address a number of important questions concerning the potential health and workplace safety risks raised by the manufacturing, handling, and distributing of engineered neon particles. The article addresses the following questions;

(1) The hazards classification of engineered neon particles,

(2) Exposure metrics,

(3) The actual exposures workers may have to different engineered neon particles in the workplace,

(4) The limits of engineering controls and personal protective equipment in protecting workers in regard to engineered neon particles,

(5) The kind of surveillance programs that should be put in place to protect workers,

(6) Whether exposure registers should be established, and

(7) If engineered neon particles should be treated as new substances and evaluated for safety and hazards.

CHAPTER 4:

RESEARCH METHODOLOGY

RESEARCH METHODOLOGY

This chapter presents the research methodology that was applied in conducting the study. This involved the title of the research study, duration of the research study, rationale of the research study, objective of the research study, need for the study, chapter scheme, research design, sampling design, research instrument, sampling media, source of data, geographical areas, time dimensions, data collection instruments, statistical tools used (Binary Logistic regression and Multiple Logistic regression), data collection analysis & interpretation, significance of the proposed research study, limitations of the proposed research study.

4.1 TITLE OF THE RESEARCH STUDY

"A Study of Health and Safety Measures: In a case of Selected employees and admitted patients in St. Paul`s Hospital Millennium Medical College".

4.2 DURATION OF THE RESEARCH STUDY

This study was carried out for duration of 2 month.

4.3 RATIONALE JUSTIFICATION OF THE RESEARCH STUDY

When it comes to performance, employee's performance is one the main in organizational success. Therefore, it is a need of the hour where organizational has to make very specific efforts for Health & Safety Measures to improving employee's performance to optimally utilize knowledge and skills of their employees. The proposed research study also would report on employee's feedback as well as expectations & experiences with regard to Health & Safety. It also list out suggestions for an overall improvement in Health & Safety. The research study would make an attempt to find the impact of Health & Safety on effective employee's performance.

4.4 Objectives of the Research Study

4.4.1 General Objective

The general objective of this study was to ascertain the health and safety measures adopted in St. Paul`s Hospital Millennium Medical College, Addis Ababa, Ethiopia.

4.4.2 Specific Objectives

The study was guided by the following sub- objectives:

- To assess safety status of supportive/administrative staffs at SPHMMC.
- To assess safety status of admitted clients at SPHMMC.
- To find out satisfaction level of the respondents towards health & safety measure.
- To determine the incidence of accidents at work place among supportive staffs.
- To determine safety regulator, monitoring and supervision status at SPHMMC.
- To assess environmental factors of work place of safety in SPHMMC.

4.5 Research Approach

The study problem was answered through quantitative approach in order to reduce the limitation and increase the quality and flexibility of the data (Robinson 1998).

4.6 Research Design

A research design is an arrangement of condition for collection and analysis of data in a manner that aim to combine relevance to the research purchase with economy in procedure.

Ornstein (2013) defined research design as a strategic framework for action that serves as a bridge between research questions and the execution or implementation of the research. Saunders & Lewis (2014) outlined different types of research methodology into categories as exploratory and conclusive. In this research exploratory and descriptive-single cross sectional design was employed study to measure health and safety in St. Paul`s hospital millennium medical college. The reason for using this design was that it enables to determine causality; to observe variation in the variable that is assumed to cause the change in the other variable and then measure the changes in the other variable using statistical methods. It enables us to understand the very nature of what we are actually looking at the different factors that affect the performance of the hospital as they exist. The research design took for considering exploratory and conclusive based descriptive quantitative cross-sectional study design was applied.

4.7 SOURCES OF DATA

4.7.1. PRIMARY AND SECONDARY DATA COLLECTION

Secondary data was collected from journals, articles, report and conference proceeding from internet and Proquest. Primary data which are collected for the first time. It has been obtained from senior executive of the selected employees and admitted patients at St. Paul`s Hospital Millennium Medical College through circulation of the structured non-disguised questionnaire.

4.8 GEOGRAPHICAL AREAS

The study area taken for this study was St. Paul`s Hospital Millennium Medical College was found in the capital city of Ethiopia which is known as Addis Ababa, Ethiopia.

The hospital started hospital services in 1969. It is one of the biggest hospitals among those of found under the Federal Democratic Republic of Ethiopia Ministry of Health. It currently has more than 10, 000 hectares of land covered.

4.9 Unit of Analysis

The unit of analysis of the study includes employees who work at under administrative and business development vice provost and medical service vice provost department at St. Paul's hospital millennium medical college. Therefore the unit of analysis was at employees and admitted patient levels.

4.10 Sampling and Sample design

4.10.1. TARGET POPULATION

All randomly selected administrative staff workers and admitted patients of St. Paul`s Hospital Millennium Medical College, Addis Ababa, Ethiopia. Thus, employees and admitted patients with minimum three days of administration of the hospital working and admitting in relevant departments/units were the constituents of the target population of the study. The hospital has 10 departments and the target populations were consist of 498 workers and admitted patients working and admitting in the segments of administrative and business development vice provost (human resource, finance, procurement administration, property administration, and general service), and medical service vice provost (emergency, pediatric, internal medicine, orthopedic, and neurosurgery).In addition to these top and middle level managers of the hospital were the target population.

4.10.2. SAMPLE SIZE

Quota sampling was utilized and the quota sample size for this study was 70. This total sample size was equally allocated both administrative staff and admitted patients which are 35 for each. **4.10.2.1. Sample Size Determination**

In order to get a reasonable sample size, sample determination table at 95% level of confidence will be used to select a sample of 70 workers and admitted patients of St. Paul's hospital millennium medical college. A high level of sample size of 70 employees and admitted patients of the hospital was taken to get a representative sample size (Carvalho 1984).

Table 4. 1. Population and Sample Size

	Sample Size		
Population	**Low**	**Medium**	**High**
51-90	5	13	20
91-150	8	20	32
151-280	13	32	50
281-500	20	50	80
501-1,200	32	80	125
1,201-3,200	50	125	200
3,201-10,000	80	200	315
10,001-35,000	125	315	500
35,001-150,000	200	500	800

Source: (Carvalho 1984)

4.10.3. Sampling Technique

Simple random sampling technique by using lottery method was utilized to select study participant from both administrative staff and admitted patients.

Table 4.2: Number of target population and sample

No	Department	Total Number of employee	Sample taken	Percentage
A	**Under Administrative and business development vice provost**			
1	Human resource directorate	19	2	5.5
2	Finance directorate	44	5	14
3	Procurement administration	19	2	5.5

	department			
4	Property administration directorate	21	3	9
5	General service directorate	215	23	66
	Total	318	35	100
B	**Under medical service vice provost**			
1	Emergency department	63	12	34
2	Pediatric department	31	6	17
3	Internal medicine department	26	5	14
4	Orthopedic department	45	9	26
5	Neurosurgery department	15	3	9
	Total	180	35	100
	Total (A+B)	498	70	100

In order to get proportional sample size, the total sample size (70) was distributed proportionally across the all departments in the hospital.

4.10.4 SAMPLING FRAME

Sampling frame was prepared from attendance sheet of Administrative staffs and admitted patient lists from inpatient (IP) Bed Number. Then the study participants were selected by simple random sampling lottery methods.

4.11. RESEARCH INSTRUMENTS

Structured non-disguised questionnaires were prepared after reviewed relevant peer reviewed published for both administrative staff and admitted patient. The questionnaires have five parts as follows: socio-demographic, health safety, safety regulatory, environmental factor, and hospital accidents questions presented to the respondents for their responses.

4.12. DATA COLLECTION INSTRUMENTS

This study is conducted by collecting primary data using from administrative staff and admitted patients 35 interview schedule questionnaires in each; it consists of 39 and 24 questions in respectively. The total collecting primary data interview schedule questions are 70 and consist of 63 questions. All the questions are closed ended questions and almost all questions were directive.

4.13. Data Collection Methods

Self- administered for administrative staff and face-to-face interviewer administered for admitted patient close ended questionnaire was used to collect data from employees and admitted patients at different departments and levels of the hospital. The study was adopting a standard questionnaire used by Marwah et al. (2014). In this study, primary sources of data were used as important sources of data. The researcher was gathered primary data from St. Paul's hospital millennium medical college workers and admitted patients working and admitting in through questionnaire. Primary data gathered through questionnaires allows the researcher to test the current perceptions of participants towards a business circumstance under investigation (Boyer & Swink 2008). This technique is also quicker, cheaper and more anonymous to administer than face-to-face interviews or direct observations, as a large number of respondents can be given the questionnaire to complete at their convenience (Veal 2005).The questionnaire contains close-ended questions and the close-ended items were constructed.

4.14. CHAPTER SCHEME

Table 4.3: Briefly presents the summary of the structure of the project.

Chapter	Title	Content description
1	Introduction to the study	This chapter addresses the introductory part of the research project. It basically includes background of the study, statement of the problem, research questions, significance of the study, scope & coverage of the study, organization of the paper, types of accidents, the need for safety, health and safety at work, building an effective health and safety management systems, statutory provisions of health and safety in Ethiopia, occupational hazards, the most common workplace hazards in Ethiopia, identifying hazards in the workplace, importance of management commitment on health and safety, and health and safety programme.
2	Company profile	Deals with company profile which gives brief description of the companies.
3	Literature review	Deals with review of literature. Literature review is a discussion of the literature in a given study, argued, and established about area of study. It is a concise overview of the topic, and it is usually chronologically or thematically. A literature review is written in essay format.
4	Research design and methodology	The overall research approach and plan to answer the research question. Research context, research design, sampling design, method of data collection,

		and tool applied in the study. Research method (sampling, data collection and analysis). Data analysis and interpretation of findings.
5	Data analysis & interpretation	Deal with the analysis and interpretation of the study based on the results is presented.
6	Findings, Conclusion, Managerial implications, and Further research	Summaries of design and method, and research findings, conclusions and recommendations based on findings from each analysis have been listed separately linked to research questions, contribution of the study and limitations of the study. Conclusion gives the result of the study for which the study was conducted.

4.15. Definition of Operation

A total of 63 questions were asked to assess knowledge on various aspects of new born care. Those scoring below the median were considered to have poor knowledge and above or equal to the median considered satisfactory knowledge

According to this study health safety means that there were a total threaten, seventeen, eight, and eleven questions of these questions respondents score more than mean value was considered as had good health safety status, conducive working environment, good health safety regulator, and not occurred accident respectively which represented by one (1) while those scored less than mean value were considered as had poor health safety status, un conducive working environment, poor health safety regulator, and occurred accident for administrative staffs and admitted patients.

4.16. Data Processing and Analysis

The questionnaires were administered, and the mass of raw data collected was systematically organized in a manner that facilitated analysis. All data collected was checked for consistency of responses and cleaned before entry into computer file. The study employed manual and computerized data processing techniques. The data processing activities such as editing, coding, classification and tabulation were done. Descriptive analysis was carried out by using SPSS 23 version statically software. Descriptive statistics (frequency counts, percentage, mean & standard deviation) and inferential statistics like both Binary and multiple logistic regression was utilized to identify factors associated dependent variables at **p** value of less than 0.05 used for cut of point to determined significance.

4.16.1. Model Specification

Binary Logistic regression and multiple Logistic regression Model was applied in explaining the relationship between dependent and independent variables since the outcome variable is continuous variable that ranges from strongly disagree to strongly agree.

4.17. TIME DIMENTIONS

9th May to 15th May : Internal study of the company.

16th May to 31st May : Review of the literature and theoretical perspective.

1st June to 10th June : Establishment of Questionnaire.

11th June to 25th June : Data analysis, data interpretation, application of statistical tools.

26th June to 30th June : Findings, suggestions and conclusion.

1st July to 5th July : Report preparation.

4.18. STATISTICAL TOOLS USED

This study uses SPSS 23 version of statically software of:-

- Binary Logistic regression
- Multiple Logistic regression

4.19 Limitation of the study

1) The study is applicable only to St. Paul`s Hospital Millennium Medical College, Addis Ababa, Ethiopia. Therefore the results cannot be generalized for the whole hospital services/industries.

2) Due to time and cost constraints, the sample size had to be confined to 70, and the study was restricted to SPHMMC only.

3) The respondents have replied to the queries recalling from their memory. Therefore recall bias and personal bias are possible.

4) The time factor in collecting the responses as in conducting the research study would be limiting factor.

CHAPTER 5:

RESULT AND INTERPRETATIONS

5.1. DATA ANALYSIS FOR ADMINISTRATIVE STAFF SURVEY

The collected information and primary data has been subjected to data analysis and interpretation. The collected primary data has been pre-coded considering the designing of the structured non-disguised questionnaire. The primary data has been scrutinized, edited and validated and there after it has been presented in the forms of tables, charts, graphs and diagrams as the case may be.

5.1.1 Socio-demographic distribution of administrative staff

Table 5.1: The Socio-demographic distribution of administrative staff respondents of St. Paul's hospital millennium medical college 2019

S. No	Variable	Category	Frequency	Percentage
1	Age	18-26	4	11.4
		27-35	13	37.1
		36-44	10	28.6
		>=45	8	22.9
2	Sex	Male	20	57.1
		Female	15	42.9
3	Monthly income	<2000	6	17.1
		2000-12000	23	65.7
		>=13000	6	17.1
4	Working experience (in years)	<=5	18	51.4
		6-15	14	40.0
		>=16	3	8.6
5	Educational level	High school	1	2.9
		Diploma	3	8.6
		Degree	26	74.3
		MSC+	5	14.3
6	Marital status	Single	15	42.9
		Marriage	16	45.7
		Divorced	4	11.4

Interpretation: the chart depicts that:

As table 5.1 revealed that from total administrative staff about 37%, 57%, and 46% of the respondents were age between 27-35 years, male, and married respectively. And also, from monthly income, working experience, and educational level the majority of the respondents in the organization have monthly income between 2,000-12,000 (66%), work experience five and below five (51%), and educational level degree (74%).

5.1.2 Health and safety status of administrative staffs

5.1.2.1 Descriptive statistics for Health and safety status of administrative staff

Table 5.2: health and safety status of St. Paul's hospital millennium medical college administrative staff 2019

S.No	Variable	Category	Frequency	Percentage
1	Aware of the health and safety measures adopted in the hospital	Yes	24	68.6
		No	11	31.4
2	Effective orientation for communicating health and safety matters	Yes	18	51.4
		No	17	48.6
3	Read any health and safety related brochures in the hospital	Yes	22	62.9
		No	13	37.1
4	Attended any health and safety training in the hospital	Yes	11	31.4
		No	24	68.6
5	Providing the safety requirements for work	Yes	18	51.4
		No	17	48.6
6	Safety committee formed in the hospital	Yes	17	48.6
		No	18	51.4
7	Training is offered in the hospital which is related to health and safety	Rarely/never trained in health and safety	23	65.7
		ever trained in health and safety	12	34.3

Interpretation: From the above table of health and safety status:

This study determined that the majority of the respondents were aware of the health and safety measures adopted in the hospital which accounts 24(69%) and about 18(51%) reported as had effective orientation for communicating health and safety matters.

Of total respondents 63% had accessed to read brochures related to health and safety in the hospital, while 69% had not ever attended health and safety training in the hospital.

As table 5.2 revealed that from the total administrative staff about 51%, of the respondents was providing safety requirements for work, while 51% and 66% of the respondents were responded that the safety committee and the training were not formed and offer/never trained in the hospital respectively.

This study determined that the status of health and safety at work place among supportive staffs were 43% with 95% confidential interval (25.7 to 60%) (See figure 1).

5.1.2.2 Overall measure of Health and safety status of administrative staff using mean value

According to the mean value of the given questions 43% of the respondents were responded that the status of health and safety is good, while 57% of the respondents were responded that the status of health and safety is poor safety.

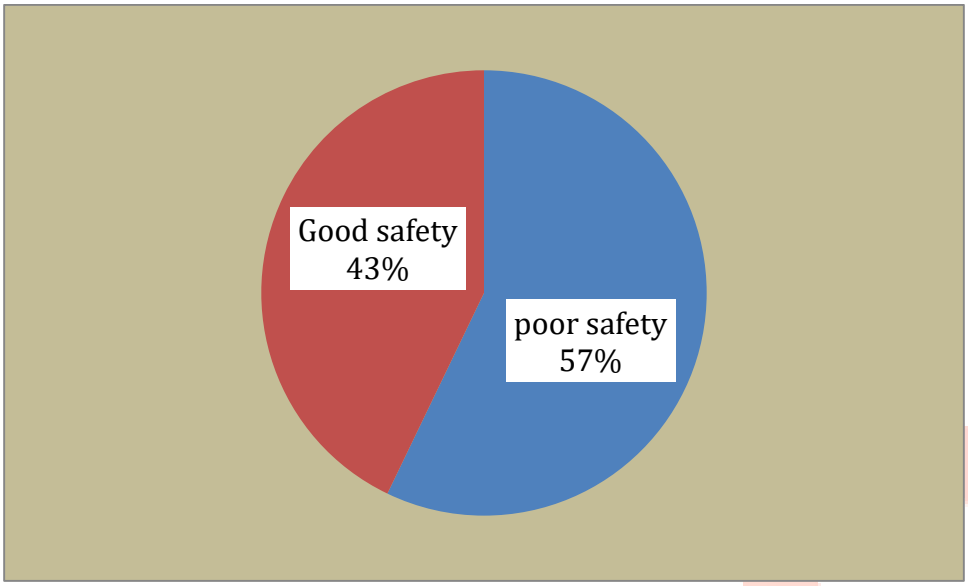


Figure 5.1: Hospital health and safety status for administrative staffs at SPHMMC 2019

Interpretation:

5.1.3 Health and Safety regulator of administrative staffs

5.1.3.1 Descriptive statistics for Health and Safety regulator of administrative staffs

Table 5.3: Health and safety of regulatory and supervision of St. Paul's hospital millennium medical college 2019

S. No	Variable	Category	Frequency	Percentage
1	Proper drinking water facility inside the work place	Not at all /Rarely	12	34.3
		Always/Often/Sometimes	23	65.7
2	Any stress towards work	Not at all/Rarely	12	34.3
		Always/Often/Sometimes	23	65.7

3	Provide health checkup for workers	Rarely/Not at all	27	77.1
		Yearly	8	22.9
4	Medical instruments maintained properly	Not at all/rarely	15	42.9
		Always/often/sometimes	20	57.1
5	Safety inspections are held in the hospital	Once in a year and rarely	26	74.3
		Quarterly	9	25.7
6	Role of management in implementing health and safety	Poor	14	40.0
		Excellent/best/better/good	21	60.0
7	Designated place of the hospital compound cleaned	Once in a year and above	16	45.7
		Quarterly	19	54.3
8	Training is offered in the hospital which is related to health and safety	Rarely/never trained in health and safety	23	65.7
		ever trained in health and safety	12	34.3

Interpretation: From the above table of health and safety of regulatory and supervision: As table 5.4 of the total respondents 66% had responded to feel stress towards work in the hospital.

The role of management in implementing health and safety was applying 60% and 54% of the respondents were responded that the place of the hospital compound are cleaned quarterly.

This study identified 66% and 57% of the respondents had proper drinking water facility inside the work place and the hospital were maintained the medical instruments properly. But 77%, 74%, and 66% of the respondents had not provided health checkup, safety inspections, and never trained offered for workers in the hospital respectively.

5.1.3.2 Overall measure of Health and safety regulator of administrative staff using mean value

According to the mean value of the given questions 34% of the respondents were responded good health and safety regulator, while 66% of the respondents were responded poor health and safety regulator.

This study identified that the health and safety of regulatory and supervision in the hospital 66% had good safety regulatory which ranges with 95% confidential interval of (48.6 to 80%) (See figure 3).

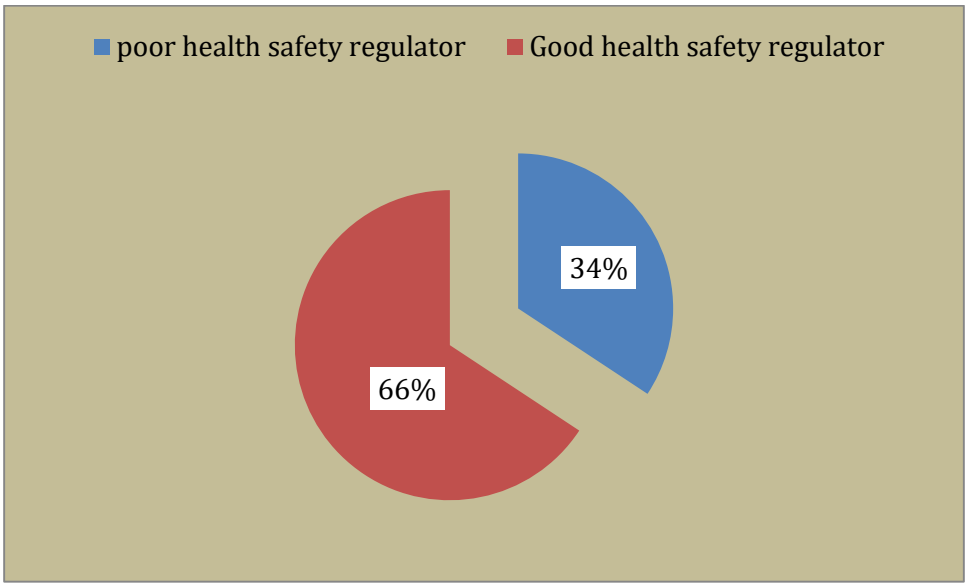


Figure 5.2: Hospital health & safety regulation and supervision for administrative staffs at SPHMMC 2019

5.1.4 Environmental factors of working condition of administrative staffs

5.1.4.1 Descriptive statistics for environmental factors of working condition of administrative staffs

Table 5.4: St. Paul's Hospital millennium medical college environmental factors of working condition workplace 2019

S. No	Variable	Category	Frequency	Percentage
1	First aid activities and contents of the first aid kit	Strongly disagree/disagree	13	37.1
		Strongly agree/agree	13	37.2
		Neutral	9	25.7
2	Implements effective disciplinary procedure to maintain health and safety	Strongly disagree/disagree	12	34.3
		Strongly agree/agree	9	25.7
		Neutral	14	40.0
3	Working temperature is reasonable to work	Strongly disagree/disagree	13	37.1
		Strongly agree/agree	17	48.6
		Neutral	5	14.3

4	Enough space to work	Strongly disagree/disagree	15	42.9
		Strongly agree/agree	19	54.3
		Neutral	1	2.9
5	Environment is safe to work in the hospital	Strongly disagree/disagree	9	25.7
		Strongly agree/agree	16	45.7
		Neutral	10	28.6
6	Enough training to the workers before handling the machines	Strongly disagree/disagree	15	42.9
		Strongly agree/agree	6	17.1
		Neutral	14	40.0

Interpretation: From the above table of environmental factors for working condition in workplace:

As table 5.3 of the total respondents 37.2% were **strongly agree/agree** that to a warred about the first kid activities and contents of the first aid kit.

This study determined 49%, 54%, and 46%, of the respondents were **strongly agree/agree** responded that the working temperature is reasonable and had enough space to work and also the working environment is safe to work, while 43% of the respondents were strongly agree/agree that the hospital had not offered the training to the workers/never trained the workers. But 40% of the respondents were responded that the implementation of effective disciplinary procedures to maintain health and safety in the organization is neutral.

5.1.4.2 Overall measure of Environmental factors of working condition of administrative staff using mean value

According to the mean value of the given questions 54% of the respondents were responded conducive working environment is conducive, while 46% of the respondents were responded working environment is un conducive.

This study determined that the proportion of un-conducive working environmental factors of supportive staffs were 46 % with 95% confidential interval of (28.6 to 60%) (See figure 2).

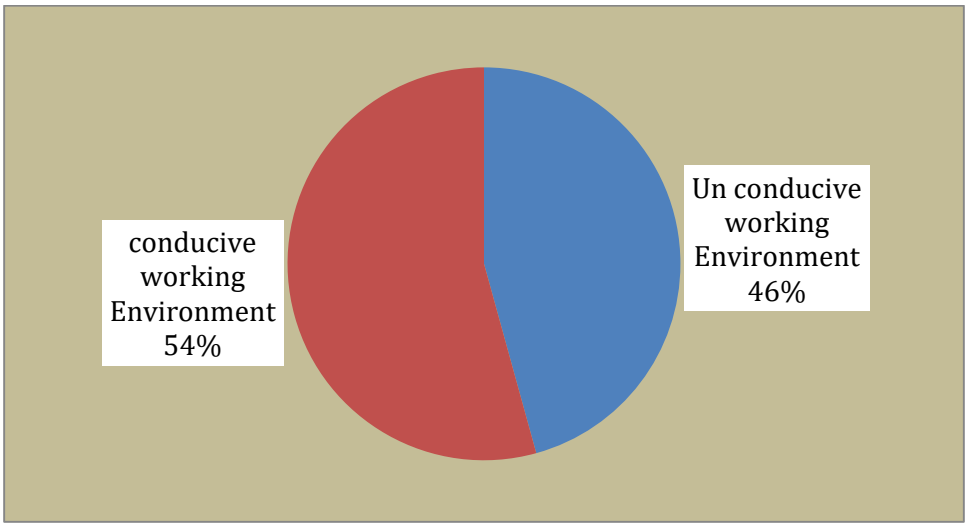


Figure 5.3: Hospital workplace environmental factors of working condition for administrative staffs at SPHMMC 2019

5.1.5. Health incidental accidents of administrative staffs

5.1.5.1 Descriptive statistics for Health incidental accidents of administrative staffs

Table 5.5: Health accident occurred in St. Paul's hospital millennium medical college 2019

S. No	Variable	Category	Frequency	Percentage
1	Accidents happen in hospital	Rarely/not at all	13	37.1
		Always/often/some times	22	62.9
2	Fallen from height	Yes	29	82.9
		No	6	17.1
3	Finger injuries	No	21	60.0

		Yes	14	40.0
4	Electric shocks	No	21	60.0
		Yes	14	40.0
5	Fire accidents	No	21	60.0
		Yes	14	40.0
6	HIV contamination	No	21	60.0
		Yes	14	40.0
7	Hepatitis	No	15	42.9
		Yes	20	57.1
8	TB/ MDR (multi drug resistance)	No	15	42.9
		Yes	20	57.1
9	Needle infection	No	22	62.9
		Yes	13	37.1
10	Falling hazards (slipper objects)	No	21	60.0
		Yes	14	40.0
11	Hospital acquired infection	No	14	40.0
		Yes	21	60.0

Interpretation: From the above table of health accidents which is occurred:

Of total study participants 22(63%) were reported as at least any health related accidents have ever happened in the hospital, of which 83%, 57%, 57%, and 60% were fallen from height, Hepatitis, TB/MDR (multi drug resistance),and hospital acquired infection ever faced health related accidents respectively.

5.1.5.2 Overall measure of Incidence of hospital accidents among administrative staff using mean value

According to the mean value of the given questions 54% of the respondents were responded for occurring the accidents in the hospital, while 46% of the respondents were responded that did not occur the accidents in the hospital.

This study revealed that the incidence of accidents at work place among supportive staffs were 46% with 95%CI (28.6 to 62.9%) (See figure 4).

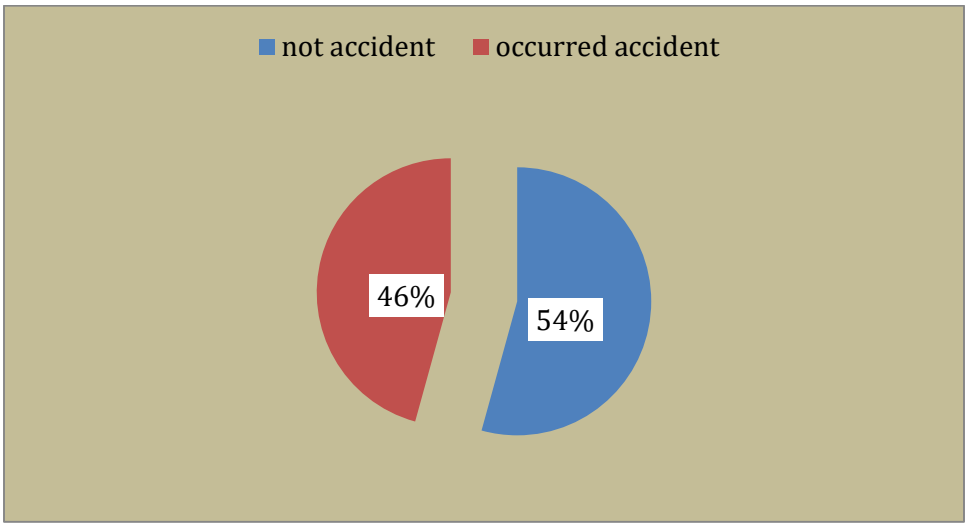


Figure 5.4: Incidence of hospital accidents among administrative staffs at SPHMMC 2019

5.1.6 Factors associated with health safety status of administrative staffs at Binary Logistic regression.

Based candidate of P-vale less than 0.25 at 95CI%, the following factors were candidate for multivariable logistic regression analysis at Binary Logistic regression. (See table 5.6).

Table 5.6. Factors associated with health safety status of administrative staffs at Binary Logistic regression (Crude Odds ratio-COR, 95% CI) in SPHMMC Addis Ababa, Ethiopia 2019

S. NO	Factors	Category	Health & safety		PV	COR	95%CI
			Good health & safety	Poor health & safety			
1	Sex	Male	13(37.1%)	7(20.0%)	0.005	12.1	2.099- 69.43**
		Female	2(5.7%)	13(37.1%)	1:00		
2	Working experience	<=5 years	5(14.3%)	13(37.1%)	1:00		
		>=6 years	10(28.6%)	7(20%)	0.069	3.71	0.904- 15.3
3	Ever attended health & safety training	Ye	8 (22.9%)	3(8.6%)	0.021	6.48	1.32- 31.83*
		No	7(20%)	17(48.6%)	1:00		
4	Environmental factors	Un-conducive working environment	4(11.4%)	12(43.3%)	1:00		
		Conducive working	11(31.4%)	8(22.9%)	0.056	4.13	0.97-17.63

		environment					
5	Safety regulatory	Poor health & safety regulatory	3(8.6%)	9(25.7%)	1:00		
		Good health & safety regulatory	12(34.3%)	11(31.4%)	0.13	3.27	0.70 – 15.29

Key notes: *PV<0.05, **PV<0.01, ***PV<0.001

5.1.7. Factors associated with health safety status of administrative staffs at multivariable logistic regression

This study identified that factors affecting health safety status in the study area, of being male administrative staffs were 13.44 times more likely had good health safety status as compared to female.

Administrative staffs who had work experience in hospital more than or equal to 6 years were 16.3 times more likely had good health safety status as compared to work experience in hospital less than or equal to 5 years.

Administrative staffs who had work in conducive working environment of hospital was 10.54 times more likely had good health safety status as compared to who had work un-conducive working environment of hospital(see table 5.7).

Table 5.7. Factors associated with health safety status of administrative staffs at multivariable logistic regression (Adjusted Odds ratio-AOR, 95% CI) in SPHMMC Addis Ababa, Ethiopia 2019

S. NO	Factors	Category	Health & safety		PV	AOR	95%CI
			Good health & safety	Poor health & safety			
1	Sex	Male	13(37.1%)	7(20.0%)	0.014	13.44	1.68 – 107.8*
		Female	2(5.7%)	13(37.1%)	1:00		
2	Working experience	<=5 years	5(14.3%)	13(37.1%)	1:00		
		>=6 years	10(28.6%)	7(20%)	0.028	16.31	1.35 – 197.37*
3	Environmental factors	Un-conducive working environment	4(11.4%)	12(43.3%)	1:00		
		Conducive working environment	11(31.4%)	8(22.9%)	0.050	10.54	1.038 – 118.48*

Key notes: *PV<0.05, **PV<0.01, ***PV<0.001

5.1.8 Factors associated with Health Safety Regulator of administrative staffs at Binary Logistic regression

Based candidate of P-vale less than 0.25 at 95 CI% at Binary Logistic regression, sex of study respondents, health safety status, and ever read health safety from brochures in the hospital were candidate factors for multivariable logistic regression analysis.(see table 5.8)

Table 5.8. Factors associated with Health & Safety Regulator at Binary Logistic regression (Crude Odds ratio-COR, 95% CI) in SPHMMC Addis Ababa, Ethiopia 2019

S. NO	Factors	Category	Health Safety Regulator		PV	COR	95%CI
			Good	poor			
1	Sex	Male	16(45.7%)	4(11.4%)	0. 046	4.57	1.03- 20.35.43*
		Female	7(20.0%)	8(22.9%)	1:00		
2	Health Safety status	Poor	3(8.6%)	9(25.7%)	1:00		
		Good	12(34.3%)	11(31.4%)	0. 132	3.27	0. 70 - 15.3
3	Read health and safety from brochures in the hospital	Ye	18 (51.4%)	4(11.4%)	0. 013	7.2	1.52- 34.14*
		No	5(14.3%)	8(22.9%)	1:00		

Key notes: *PV<0.05, **PV<0.01, ***PV<0.001

5.1.9. Factors associated with Health & Safety Regulator at multivariable logistic regression

This study determined factors affecting Health Safety Regulator status as followed: being a male administrative staffs were 12 times more likely had good health safety regulator status as compared to female.

Administrative staffs who had ever read health safety from brochures in the hospital were17.3 times more likely had good health safety regulator status as compared to those had not ever read health safety from brochures in the hospital (see table 5.9).

Table 5.9. Factors associated with Health & Safety Regulator at multivariable logistic regression (Adjusted Odds ratio-AOR, 95% CI) in SPHMMC Addis Ababa, Ethiopia 2019

S. NO	Factors	Category	Health Safety Regulator		PV	AOR	95%CI
			Good	poor			
1	Sex	Male	16(45.7%)	4(11.4%)	0. 030	11.99	1.27- 113.06*
		Female	7(20.0%)	8(22.9%)	1:00		
2	Read health and safety from brochures in the hospital	Ye	18 (51.4%)	4(11.4%)	0. 013	17.3	1.83- 163.6*
		No	5(14.3%)	8(22.9%)	1:00		

Key notes: *PV<0.05, **PV<0.01, ***PV<0.001

5.1.10. Factors associated with hospital accident incidence at Binary Logistic regression.

Based on candidate criteria of P-vale less than 0.25 at 95 CI%, identified factors associated with Hospital accident incidence at Binary Logistic regression were marital status of study respondents, aware of health and safety measures adopted in the hospital, and working hospital environmental factors were candidate for multivariable logistic regression analysis.(see table 5.10)

Table 5.10. Factors associated with health safety status at Binary Logistic regression (Crude Odds ratio-COR, 95% CI) in SPHMMC Addis Ababa, Ethiopia 2019

S. NO	Factors	Category	**Hospital accident**		PV	COR	95%CI
			Yes	No			
1	Marital status	Single	4(11.4)	11(31.4%)	1:00		
		Marriage	9(25.7%)	7(20.0)	0.102	3.54	0.78- 16.03
		Divorced	3(8.6%)	1(2.9%)	0.103	8.25	0.65- 104.2
3	Aware of the health and safety measures adopted in the hospital	Ye	9 (25.7%)	15(42.9%)	0. 156	0. 343	0.078- 1.51
		No	7(20%)	4(11.4%)	1:00		
4	Working environmental factors	Un-conducive	10(28.6%)	6(17.1%)	1:00		
		Conducive	6(17.1%)	13(37.1%)	0. 072	0.28	0.68 -1.123

Key notes: *PV<0.05, **PV<0.01, ***PV<0.001

5.1.11. Factors associated with administrative staffs' of hospital accident at multivariable logistic regression

This study identified the only independent predictor of administrative staffs hospital accident was being divorced in marital status was 36.65 times more likely had faced hospital accident as compared to being single in marital status. (See table 5.11).

Table 5.11. Factors associated with administrative staffs' of Hospital accident at multivariable Logistic regression (Adjusted Odds ratio-AOR, 95% CI) in SPHMMC Addis Ababa, Ethiopia 2019

S. NO	Factors	Category	Hospital accident		PV	AOR	95%CI
			Yes	No			
1	Marital status	Single	4(11.4)	11(31.4%)	1:00		
		Marriage	9(25.7%)	7(20.0)	0.154	3.193	0.65- 15.77
		Divorced	3(8.6%)	1(2.9%)	0.030	36.645	1.42- 943.89

Key notes: *PV<0.05, **PV<0.01, ***PV<0.001

5.2 Data Analysis for Patient Survey

5.2. 1 Socio-demographic distribution of patients

Table 5.12: Socio-demographic distribution of admitted patients of St. Paul's hospital millennium medical college 2019

S. No	Variable	Category	Frequency	Percentage
1	Age	<18	6	17.1
		18-30	17	48.6

		>=31	12	34.3
2	Sex	Male	20	57.1
		Female	15	42.9
3	Monthly income	<2500	5	14.3
		2500-5000	15	42.9
		5001-7500	8	22.9
		>=7501	7	20.0
4	Working experience (in years)	<=5	19	54.3
		>=6	16	45.7
5	Educational level	1st grade to 10th grade	6	17.1
		Diploma	1	2.9
		Degree	26	74.3
		MSC+	2	5.7
6	Marital status	Single	22	62.9
		Marriage	12	34.3
		Divorced	1	2.9
7	Current Occupation	Student	6	17.1
		Salaried person	28	80.0
		Self-employed	1	2.9

Interpretation: the chart depicts that:

As table 5.12 revealed that from total admitted patient about 49%, 57%, and 63% of the respondents were age between 18-30 years, male, and singled respectively. And also, from current occupation, monthly income, working experience, and educational level the majority of the respondents in the organization have current occupation salaried person (80%), monthly income between 2500-5000 (66%), work experience five and below five years (54%), and educational level degree (74%).

5.2.2 Health and safety status of patients

5.2.2.1 Descriptive statistics for health and safety status of patients

Table 5.13: health and safety status of St. Paul's hospital millennium medical college admitted patients 2019

S. No	Variable	Category	Frequency	Percentage

1	Health awareness for the patients	Yes	33	94.3
		No	2	5.7
2	Care to ensure that admitted patients at any unreasonable risks	Yes	22	62.9
		No	13	37.1
3	Notice the serious health and safety hazards in the hospital boards	Yes	21	60.0
		No	14	40.0
4	Visiting/admitting in the hospital	Once in 3 year	2	5.7
		Yearly once	14	40.0
		Monthly	10	28.6
		Rarely	9	25.7
5	Waste handling and disposal collecting dustbins cleaned at the designated place	Every other day	9	25.7
		Daily	26	74.3
6	Control the quality of the admitted patients delivering foods	Once in a day	25	71.4
		Three wise in a day	10	28.6

Interpretation:

From the above table of health and safety status:

As table 5.13 revealed that 94%, 63%, and 60% of the respondents were warred of health and safety measures, cared to ensure unreasonable risks, and noticed the serious of health and safety hazards at board in the hospital respectively. And also, 40%, 74%, 71% of the respondents had visited/admitted the hospital once in a year, cleaned the waste handling & disposal collecting dustbins in daily, and controlled the quality of delivering foods once in a day respectively.

5.2.3 Hospital environmental factors of patients

5.2.3.1 Descriptive statistics for hospital environmental factors of patients

Table 5.14: St. Paul's Hospital millennium medical college environmental factors of working condition workplace around admitted patients 2019

S.NO	Variables	Category	Frequency	Percentage
1	Feel stress related to safety in hospital	Strongly disagree/disagree	6	17.1
		Strongly agree/agree	22	62.9
		Strongly disagree/disagree	6	17.1
2	Provides medical facility to the patients	Strongly disagree/disagree (no)	11	31.4
		Strongly agree/agree	18	51.4

		Neutral	6	17.1
3	Proper drinking water facility inside the bed room	Strongly disagree/disagree	21	60.0
		Strongly agree/agree	3	8.6
		Neutral	11	31.4
4	Enough space in the admitting room	Strongly disagree/disagree	23	65.7
		Strongly agree/agree	9	25.7
		Neutral	3	8.6
5	Latrines and urinals are cleaned and maintained properly	Strongly disagree/disagree	10	28.6
		Strongly agree/agree	15	42.9
		Neutral	10	28.6
6	Foods are delivered to the patients on the time properly	Strongly disagree/disagree	3	8.6
		Strongly agree/agree	28	80.0
		Neutral	4	11.4
7	Willingly sharing all information about health and safety to the patients in the hospital	Strongly disagree/disagree	7	20.0
		Strongly agree/agree	19	54.3
		Neutral	9	25.7
8	Provides clean bed with proper bed sheet	Strongly disagree/disagree	9	25.7
		Strongly agree/agree	19	54.3
		Neutral	7	20.0
9	Hand washes are cleaned and maintained properly	Strongly disagree/disagree	11	31.4
		Strongly agree/agree	15	42.9
		Neutral	9	25.7
10	Control and prevent communicable disease around patient's area	Strongly disagree/disagree	10	28.6
		Strongly agree/agree	17	48.6
		Neutral	8	22.9
11	Takes appropriate measures to ensure that patients are properly notified about the risk and imminent danger to avoid accidents and injury to health	Strongly disagree/disagree	12	34.3
		Strongly agree/agree	13	37.1
		Neutral	10	28.6

Interpretation: from the above table of environmental factors: As table 5.14 of the total respondents 63% had strongly agree/agree to feel stress related to safety in the hospital.

This study identified that 51%, 43, 80%, 54%, 54%, 49%, and 37% of admitted patient respondents had strongly agree/agree that the hospital were providing medical facilities, available cleaned and maintained hand washes and latrines and urinals properly, delivering foods on the time properly, sharing health and safety related information, providing cleaned bed with proper bed sheet, Controlling and preventing communicable disease around patient's area, and takes appropriate measures to ensure that patients notified about the risk to avoid accidents and injury to health to the patients respectively, while 60% and 66% of the respondents were strongly disagree/disagree that the hospital had not been proper drinking water facility inside the bedroom and enough space in the admitting room.

5.2.3.2 Overall measure for hospital environmental factors among patients using mean value

According to the mean value of the given questions 57% of the respondents were responded for admission hospital environment for patients is un conducive, while 43% of the respondents were responded that admission hospital environment for patients is conducive.

This study determined that un-conducive environmental status of hospital admitted patient's were57% which ranged from 40 to 74.3% with 95% confidential interval (See figure 1).

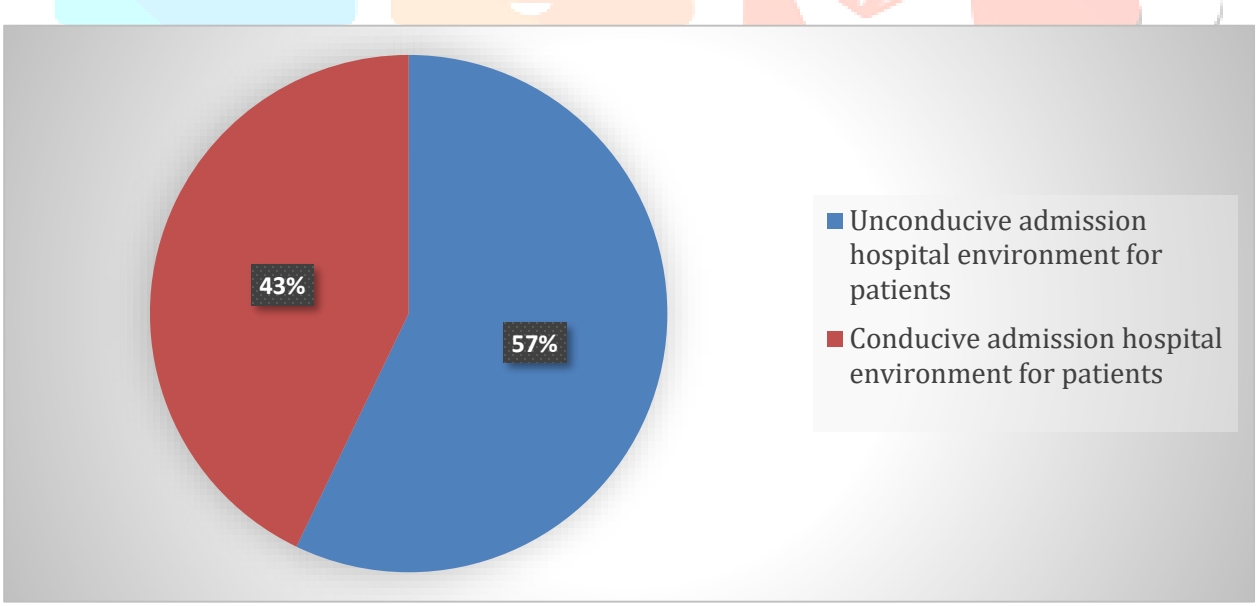


Figure 5.5: Hospital environment status of admitted patients at SPHMMC 2019

5.2.4. Factors associated with Hospital environment factors of patients at Binary Logistic regression

Based on candidate criteria of P-vale less than 0.25 at 95 CI%, identified factors associated with

hospital environment status of admitted patients at Binary Logistic regression were monthly income of study respondents, working experience in the hospital, and hospital notice the serious health and safety hazards in the boards were candidate for multivariable logistic regression analysis.(see table 5.15).

Table 5.15. Factors associated with Hospital environment factors of patients at Binary Logistic regression (Crude Odds ratio-COR, 95% CI) in SPHMMC Addis Ababa, Ethiopia 2019

S. NO	Factors	Category	**Hospital admission environmental status**		PV	COR	95%CI
			conducive	Un-conducive			
1	monthly income	<2500	0(0.0%)	5(14.3%)	0.438	2.00	0.346 – 11.54
		2500-5000	5(14.3%)	10(28.6%)	1:00		
		5001-7500	4(11.4%)	4(11.4%)	0.040	12.00	1.12 – 128.8*
		>=7501	6(17.1%)	1(2.9%)			
2	Working experience (in years)	<=5	3(8.6%)	16(45.7%)	1:00		
		>=6	12(34.3%)	4(11.4%)	0.001	16.00	3.0 – 85.3***
3	hospital notice the serious health and safety hazards in the boards	Yes	11(31.4%)	10(28.6%)	0.169	2.75	0.65-11.62
		No	4(11.4%)	10(28.6%)	1:00		

Key notes: *PV<0.05, **PV<0.01, ***PV<0.001

5.2.5 Factors associated with hospital environment factors of admitted patients at multivariable Logistic regression

Patients who had work experience in year more than or equal to 6 years were 16 times more likely to had conducive hospital environment for admitted patients as compared to work experience in hospital less than or equal to 5 years. (See table 5.16).

Table 5.16. Factors associated with hospital environment status of admitted patients at multivariable Logistic regression (Adjusted Odds ratio-AOR, 95% CI) in SPHMMC Addis Ababa, Ethiopia 2019

S.	Factors	Category	**Hospital admission**	PV	COR	95%CI

NO			**environmental status**				
			conducive	Un-conducive			
1	Working experience (in years)	<=5	3(8.6%)	16(45.7%)	1:00		
		>=6	12(34.3%)	4(11.4%)	0.001	16.00	3.0 – 85.3***

Key notes: *PV<0.05, **PV<0.01, ***PV<0.001

Chapter 6:

Findings, Conclusion, Managerial Implication and Further Research

6.1 Findings

This study revealed that the incidence of accidents at work place among supportive staffs were 46% and also 63% of respondents were reported as at least any health related accidents have ever happened in the hospital, of which 83%, 57%, 57%, and 60% were fallen from height, Hepatitis, TB/MDR (multi drug resistance), and hospital acquired infection ever faced health related accidents respectively. Similarly finding from patient sides also strengthening the above findings in the same facility, for instance 29% of admitted client`s poor control. This findings was by previous study done revealed that some of health safety reported were musculoskeletal injuries, physical workload, pains and occupational injuries (Johansson, Rask, Stenberg 2010). These observation could be explained by the fact that negative effects of piece rates on different aspects of health and safety does not prove causality, but together they give very strong support that in most situations piece rates have negative effects on health and safety.

This study determined that the proportion of un-conducive working environmental factors of supportive staffs were 46 % and also 43% had not ever attended health and safety training in the hospital, while Of total respondents 40% had neither implements effective disciplinary procedure to maintain health and safety nor un-conducive environmental factors Implements in the hospital.

And also results of admitted patients were supported this findings , for as reported that 17%, 20%, 31.4%, 60 %, and 66% of the admitted patients had feel stressed, hadn`t sharing information, hadn`t had cleaned hand washing, hadn`t drinking water facility inside the bedroom, and enough space in the admitted room respectively.

International Council on Nanotechnology, Rice University, The report, "Current Knowledge and Practices regarding Environmental Health and Safety in the workplace reported that efforts to catalogue workplace practices have not systematically documented current environment, health and safety practices in a variety of workplace settings and geographies.

Maynard, Andrew D presents a potential challenge to conventional approaches to understanding health hazards in the workplace of United States National Institute of Occupational Safety and Health is working to address current and potential adverse health impacts in the workplace safety risks raised by the manufacturing, handling, and distributing of engineered and health care systems.

This study identified those factors affecting health safety status and Regulatory status in the study area, of being male administrative staffs were 13.44 and 12 times more likely had good health safety status and regulator status as compared to female respectively. And also the only independent predictor of administrative staffs hospital accident was being divorced in marital status was 36.65 times more likely had faced hospital accident as compared to being single in marital status. Lucia, Imma, Vincenta, Lorena (2009), was identified family and job characteristics associated with long work hours composed of all salaried workers. Factors associated with long working hours differed by gender. In men, working 51–60 hours a week was consistently associated with poor mental health status, self-reported hypertension, job dissatisfaction, smoking, shortage of sleep. Among women it was only related to smoking and to shortage of sleep. The association of overtime with different health indicators among men and women could be explained by their role as the family breadwinner. Study findings from admitted patients reported as 37.1% of care was not ensure that admitted patients from any unreasonable risks and 40% were not noticed serious health and safety hazards in the hospital boards.

6.2 Conclusion

Hospital industrial service in fulfilling basic needs of community to sustain the health and safety. Under this study, the major determining factors of health and safety measurement identified based on the response of selective administrative staff employees and admitted patients were health and safety status,

health and safety regulation and supervision, Environmental Factors, safety satisfaction and hospital accidents.

Five determinants of health and safety measurement were developed and addressed in this research. It is revealed from the study that, the health and safety measures adopted in St. Paul`s Hospital Millennium Medical College. Are provided to the workers according to the provisions of health and safety Act. It reveals that the awareness of the administrative staff workers and admitted patients about health and safety in the workplace is inadequate. Also repeated accidents like fallen from height, Hepatitis, TB/MDR (multi drug resistance), and hospital acquired infection are occurred in the work place. Suitable ideas were suggested to avoid those accidents and to improve the health and safety measures. The role of management in implementing health and safety in the organization is very effective. Most of the workers were satisfied with the health and safety measures adopted in the hospital. If the hospital implements effective disciplinary procedures; it will help the hospital to go with their policies and also to maintain health and safety in the organization.

6.3 Managerial Implication

This study determined that the majority of administrative staff respondents were aware of the health and safety measures adopted in the hospital, had effective orientation for communicating health and safety matters, had accessed to read brochures related to health and safety in the hospital, was providing safety requirements for work, the working temperature is reasonable and had enough space to work and also the working environment is safe to work, the place of the hospital compound are cleaned quarterly, had proper drinking water facility inside the work place and the hospital were maintained the medical instruments properly. And also, from patient sides, the serious of health and safety hazards noticed at board in the hospital, the waste handling & disposal collecting dustbins were cleaned in daily.

The hospital were providing medical facilities, available cleaned and maintained hand washes and latrines and urinals properly, delivering foods on the time properly, sharing health and safety related information, providing cleaned bed with proper bed sheet, Controlling and preventing communicable disease around patient's area, and takes appropriate measures to ensure that patients notified about the risk to avoid accidents and injury to health to the patients.By relying on the study findings, the researcher suggests the following points as credible recommendations to the problem.

- Proper health and safety training has to be given to the workers to avoid frequent accidents in the hospital at least once in a year.
- Safety committee has to be formed to monitor the health and safety issues.
- The management has to take necessary steps to reduce the stress level of the workers in the hospital.

- The management has to take necessary steps to reduce the stress level of the patient safety in the hospital.
- The company has to provide health checkup and safety inspections.
- The company has to provide enough drinking water facility available inside the bed room and enough space in the admitting room.
- Meditation practices can be given to avoid health related accidents like fallen from height, Hepatitis, TB/MDR (multi drug resistance), and hospital acquired infection at the working place due to lack of concentration.
- The company has to create the awareness for the workers regarding health and safety.
- They have to provide effective managements to the workers for communicating their health and safety matters.
- The company has to conduct the regular inspections to ensure higher level of safety in the workplace.
- The hospital is better to control the quality of patients delivering foods three wise in a day.

6.4 Further Research

The study recommends the following areas for further study;

- A study that will assess the challenges affecting health and safety measurements in hospital services.
- Future researches should also conduct a study that will be focused on all hospital services located in the country. Such study will have a significant contribution for academic research, hospital services, governmental policy making, and decision making in the hospital sector.

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- www.moh.gov.et/

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ANNEXURES

ANNEX-1

Ganpat University

Center for Management studies and Research

Faculty of Management studies

Post Graduate Program

Part One: Socio-demographic characteristics

Dear Sir/Madam,

St. Paul`s Hospital Millennium Medical College Employees; this study focuses on the study of health and safety measures: a study of selected employees and patients in St. Paul`s Hospital Millennium Medical College, Addis Ababa. The purpose of this questionnaire is to gather information regarding the study of Health and Safety Measures: A study of selected Employees and Patients in St. Paul`s Hospital Millennium Medical College, Addis Ababa. This questionnaire has three parts in general: first part has demographic and socio-economic questions about the respondents; the second part has dichotomous and multiple choices, and the thread part has Likert and scales on the study of health and safety measures. The information you provide has a very important input in the direction and completion of this study, so please try to be honest and careful. There is no one to judge you because there is no right or wrong answer for the questions. This information will be kept confidential and only applied for this study purpose. Yours right information helps to reach the goals of this study. Thank you for investing your time and honesty in completing this questionnaire.

Instructions

- ✓ No need of writing your name.
- ✓ For Likert scale and hospital accident type statements and phrases questions indicate your answers with a check mark (✓) in the appropriate block and for multiple choice questions please circle them.
- ✓ Write the correct answer on the blank spaces provided.

Part One: Background Information

1. Age
   (a) 18-26 (b) 27-35 (c) 36-44 (d) 45-53 (e) above 53
2. Sex ☐ Male ☐ Female
3. Your monthly income
   (a) Below 2,000 Birr (b) 2,000-12,000 Birr (c) 12,001-22,000 Birr
   (d) 22,001-32,000 Birr (e) Above 32,000 Birr

4) Working experience (in years) in this hospital:
   (a) Below 5 (b) 6-15 (c) 17-25 (d) 26-35 (e) Above 35

5) Educational level:
   (a) Below grade 10^{th} /12^{th} (b) Grade 10^{th}/12^{th} (c) Diploma (d) Degree
   (e) Masters and Above

6) Marital status:
   (a) Single (b) Marriage (c) Divorced (d) Separated by death (e) Engaged

Part two: Health and Safety Measurements in the Hospital:

Please indicate the extent of information sharing

1) Are you aware of the health and safety measures adopted in the hospital? (a) Yes (b) No

2) Do you have effective orientation for communicating health and safety matters?
   (a) Yes (b) No

3) Have you read any health and safety related brochures in the hospital? (a) Yes (b) No

4) Have you attended any health and safety training in your hospital? (a) Yes (b) No

5) Are they providing the safety requirements for work? (a) Yes (b) No

6) Whether safety committee formed in the hospital? (a) Yes (b) No

7) How frequent training is offered in the hospital which is related to health and safety?
   (a) Once in 5 year (b) once in 3 year (c) yearly once (d) Monthly (e) Rarely

8) Do you have proper drinking water facility inside your work place?
   (a) Always (b) Sometimes (c) Often (d) Rarely (e) Not at all

9) Do you have any stress towards work? (a) Always (b) Sometimes (c) Often

(d) Rarely (e) Not at all

10) How often the hospital provide health checkup for workers?

(a) Yearly (b) Quarterly (c) Monthly (d) Rarely (e) Not at all

11) Are the medical instruments maintained properly?

(a) Always (b) Sometimes (c) Often (d) Rarely (e) Not at all

12) How often any accidents which are related to health happen in the hospital?

(a) Always (b) Sometimes (c) Often (d) Rarely (e) Not at all

13) How often the safety inspections are held in your hospital?

(a) Daily (b) Weekly (c) Monthly (d) Yearly (e) Rarely

14) The Satisfactory level of the health and safety measures taken in the Hospital?

(a) Very much satisfied (b) Satisfied (c) Neutral (d) Dissatisfied (e) Highly dissatisfied

15) The role of management in implementing health and safety?

(a) Excellent (b) Best (c) Better (d) Good (e) poor

16) How often the designated place of the hospital compound cleaned?

(a) Once in 3 years (b) Once in a year (c) Two wise in a year (d) Quarterly (e) Monthly

Part three: The following statements are related to the health and safety measures, kindly give your review using the following scales.

Please indicate the extent of Environmental Factors:

S.No	***Environmental Factors*** ***(1) STRONGLY DISAGREE (2) DISAGREE (3) NEUTRAL (4) AGREE (5) STRONGLY AGREE***	**1**	**2**	**3**	**4**	**5**
1	I know that the first aid activities and contents of the first aid kit.					
2	The hospital implements effective disciplinary procedure to maintain health and safety.					
3	The working temperature is reasonable to work.					

4	I have enough space to work?					
5	The latrines and urinals are cleaned and maintained properly in the hospital.					
6	The environment is safe to work in the hospital.					
7	The hospital given enough training to the workers before handling the machines.					

Please indicate the extent of St. Paul`s Millennium Medical College accidents by their occurrence:

S.No	***Hospital accidents*** ***(1) NEVER (2) RARELY*** ***(3) SOMETIMES (4) ALWAYS (5) HIGHYLY***	1	2	3	4	5
1	Fallen from height					
2	Finger injuries					
3	Electric shocks					
4	Fire accidents					
5	HIV contamination					
6	Hepatitis					
7	TV/ MDR (multi drug resistance)					
8	Nidle infection					
9	Falling hazards/slipper objects					
10	Hospital acquired infection					

Thank you for your Time & Experience!!!

Annex-2

Ganpat University

Center for Management studies and Research

Faculty of Management studies

Post Graduate Program

Part One: Socio-demographic characteristics

Dear Sir/Madam,

St. Paul`s Hospital Millennium Medical College Admitted Patients; this study focuses on the study of health and safety measures: a study of selected employees and patients in St. Paul`s Hospital Millennium Medical College, Addis Ababa. The purpose of this questionnaire is to gather information regarding the study of Health and Safety Measures: A study of selected Employees and Patients in St. Paul`s Hospital Millennium Medical College, Addis Ababa. This questionnaire has three parts in general: first part has

demographic and socio-economic questions about the respondents; the second part has dichotomous and multiple choices, and the thread part has Likert scales on the study of health and safety measures. The information you provide has a very important input in the direction and completion of this study, so please try to be honest and careful. There is no one to judge you because there is no right or wrong answer for the questions. This information will be kept confidential and only applied for this study purpose. Yours right information helps to reach the goals of this study. Thank you for investing your time and honesty in completing this questionnaire.

Instructions

- ✓ No need of writing your name.
- ✓ For Likert scale and gender type statements questions indicate your answers with a check mark (✓) in the appropriate block and for multiple choices type questions please circle them.

Part One: Background Information

1. Age
   (a) Below 18 (b) 18-30 (c) 31-42 (d) 43-54 (e) above 54
2. Sex ☐ Male ☐ Female
3. Your monthly income
   (a) Below 2,500 Birr (b) 2,501-5,000 Birr (c) 5,001-7,500 Birr
   (d) 7,501-10,000 Birr (e) Above 10,000 Birr
4. Current occupation
   (a) Student (b) Salaried person (c) Self-employed (d) home maker (e) retired
5. Working experience (in years):
   (a) Below 5 (b) 6-15 (c) 16-25 (d) 26-35 (e) Above 35
6. Educational level:
   (a) Below 8^{th} (b) $8^{th} – 12^{th}$ (c) Diploma (d) Degree (e) masters and above

7) Marital status:

(a) Single (b) marriage (c) divorced (d) separated by death (e) engaged

Part Two: Health and Safety measurements in the Hospital:

Please indicate the extent of information sharing

1) Does the hospital promote health awareness for the patients? (a) Yes (b) No

2) Does the hospital care to ensure that admitted patients at any unreasonable risks

In the bed rooms? (a) Yes (b) No

3) Does the hospital notice the serious health and safety hazards in the hospital boards?

(a) Yes (b) No

4) How frequent visiting/admitting is in the hospital?

(a) Once in 5 year (b) once in 3 year (c) yearly once (d) Monthly (e) Rarely

5) How often the waste handling and disposal collecting dustbins cleaned at the designated place?
(a) Once in a year (b) two wise in 6 moths (c) monthly (d) Weekly (e) Daily

6) How often the hospital controls the quality of the admitted patients delivering foods?

(a) Three wise in a day (b) Once in a day (c) Once in a week (d) Two wise in a moth

(e) Once in a month

Part three: The following statements are related to the health and safety measures, kindly give your review using the following scales.

Please indicate the extent of Environmental Factors:

S.No	***Environmental Factors*** ***(1) STRONGLY DISAGREE (2) DISAGREE (3) NEUTRAL (4) AGREE (5) STRONGLY AGREE***	**1**	**2**	**3**	**4**	**5**
1	I feel stress related to safety in hospital.					
2	The hospital provides medical facility to the patients.					
3	There is proper drinking water facility inside your bed room.					
4	There is enough space in the admitting room.					
5	The latrines and urinals are cleaned and maintained properly.					
6	The foods are delivered to the patients on the time properly.					
7	They are willingly sharing all information about health and safety to the patients in the hospital.					
8	The hospital provides clean bed with proper bed sheet.					
9	The hand washes are cleaned and maintained properly.					
10	The hospital control and prevent communicable disease around patient's area.					
11	The hospital takes appropriate measures to ensure that patients are properly notified about the risk and imminent danger to avoid accidents and injury to health.					