EFFECTS OF NON-COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (NO. 85 OF 1993) AMONG THE FOOD AND BEVERAGE INDUSTRIES IN SELECTED PROVINCES OF SOUTH AFRICA

by

MAUD MODITJA MASEKO

submitted in accordance with the requirements

for the degree of

DOCTOR OF LITERATURE AND PHILOSOPHY

in the subject

HEALTH STUDIES

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROF LI ZUNGU

CO-SUPERVISOR: DR S GABE

February 2016

Student number: 46305750

DECLARATION

I declare that **EFFECTS OF NON-COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (NO. 85 of 1993) AMONG THE FOOD AND BEVERAGE INDUSTRIES IN SELECTED PROVINCES OF SOUTH AFRICA** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted for any other degree at any other University.

1 February 2016

Signature **Date**

Maud Moditja Maseko

EFFECTS OF NON-COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (NO. 85 OF 1993) AMONG THE FOOD AND BEVERAGE INDUSTRIES, SOUTH AFRICA

STUDENT NUMBER: 46305750
STUDENT NAME: MAUD MODITJA MASEKO
DEGREE: DOCTOR OF LITERATURE AND PHILOSOPHY
DEPARTMENT: HEALTH STUDIES, UNIVERSITY OF SOUTH AFRICA
SUPERVISOR: PROF LI ZUNGU
CO-SUPERVISOR: DR S GABE

ABSTRACT

It is essential for both employers and employees to know and understand their obligations and rights about occupational health and safety. The study aimed at developing guidelines for the managers of health and safety programmes to promote compliance with OHS Act (No. 85 of 1993) among the food and beverage industry in South Africa. The study sites were from the four selected provinces of South Africa, with twenty three of them located in the Gauteng Province.

A quantitative research method which is descriptive in nature was used to obtain in-depth knowledge on compliance to the health and safety legislation. Data was collected from 27 study sites using an inspection checklist and an interview- led questionnaire for the 202 employees. Data was analysed using the Statistical Package for the Social Sciences (SPSS) version 21.

Most employees on the study sites were young and therefore needed regular supervision, information, instruction and training to promote safe work and reduce injury and diseases. The study sites were male dominated. It emerged that there was general lack of consultation and communication with regards to health and safety matters between the employers and the employees.

It was also noted that most study sites did not have a written and conspicuously placed health and safety policy and the OHS Act No. 85 of 1993. Majority of the study sites did not deploy adequate resources to manage problems related to health and safety at work and reduce their incidence. In addition, employees experienced injuries or illnesses at

one point or the other as they were exposed to various occupational hazards. Finally, most study sites had poor housekeeping practices.

Employers did not have the appropriate control measures, such as baseline risk assessments, in place. This placed employees at an increased risk of injuries and illnesses as well as the possibility of employers facing financial burdens such as higher compensation claims, medical specialist fees, fees involved in the replacement of injured employees or fees for the recruitment and training of new recruits.

KEY WORDS

Effects; compliance; occupational health and safety; food and beverage industry.

ACKNOWLEDGEMENTS

I am deeply indebted to my supervisor, Prof LI Zungu, for initially persuading me to conduct this study, her guidance, patience, encouragement, immense knowledge, stimulating suggestions and insightful comments. I am extremely grateful to her.

To my co-supervisor, Dr Sanyi Gabe, for his persistence on attention to detail, his encouragement and guidance at the tail end of this study.

My heartfelt thanks go to the UNISA financial department, for awarding me a bursary to conduct this research study. Without the financial support I would not have been able to complete this thesis successfully.

I owe my gratitude to all the employers and persons that granted me permission to conduct this research at their companies and for affording me time to collect the necessary data in spite of their busy schedule.

I would also like to express my gratitude to my colleagues, for their spiritual support and encouragement. I am especially deeply humbled by the unselfish support I received from Dr Zodwa Manyisa and Dr Shirley Maabela, for their continuous encouragement, when at times I felt I was giving up. Their constant support and encouragement kept me focused.

My sincere gratitude goes to Dr Paul Bigala and Dr Samuel Oladipo, for capturing the raw data and for the statistical analysis and interpretation of the data.

I would also like to thank the research assistant, Thabo Masipa for assisting with the interviews of employees.

I am very grateful to Dr Irikidzayi Manase, for editing this manuscript and for his invaluable input on the linguistic aspects of this thesis.

My sincere thanks to Ms Rina Coetzer, for professionally formatting the document.

This thesis would not have been possible without the continuous support from my family and friends. Their constant prayers and spiritual support made it possible for me to stay focused. I would like to express my sincere gratitude to my beloved mother, Prof Asnath Masipa and my late father Martin Masipa, who both put me through my first academic steps, my pillars of strength, without their support, encouragement and their unconditional love I would not have come this far.

I would also like to acknowledge my late aunt Maria Mmakola and my late uncle Komeng Mmakola, who together with my parents had a profound impact on my academic career and my life.

I also wish to acknowledge my brother Thabo Masipa and my sister Mahlogonolo Masipa, for their love, support and encouragement throughout my studies and always saying how proud they are of me.

Last but not least, my gratitude and appreciation goes to my loving son, Nkosinathi Maseko, for his moral support throughout my studies, and for allowing me to sacrifice quality time with him at his tender age.

Dedication

This thesis is dedicated to the Lord our Almighty for His grace, provision and protection throughout this study. I also dedicate this thesis to my loving mother and my dear late father who is always with me in spirit. To my brother, my sister and my loving son for their continuous love and support from the beginning to the end of this research study.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURES

LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BC	British Columbia
CEO	Chief Executive Officer
dB	Decibel
DoL	Department of Labour (South African)
GAO	United States' Government Accountability Office
GDP	Gross Domestic Product
HIRA	Hazard Identification and Risk Assessment
HIV	Human Immunodeficiency Virus
ILO	International Labor Organization
ILO-OSH	International Labor Organization Occupational Safety and Health Management System Model
ISO	International Organization for Standardization
KZN	KwaZulu-Natal
NIOSH	National Institute of Occupational Safety and Health
OHS	Occupational Health and Safety
OHS Act	Occupational Health and Safety Act (No. 85 of 1993) South African
OSHA	Occupational Safety and Health Administration, Department of Labor, USA.
OHSAS	Occupational Health and Safety Assessment Series
OHMS	Occupational Health Management System
OHSMS	Occupational Health and Safety Management System
PAHO	Pan American Health Organisation
PPE	Personal Protective Equipment
SADC	Southern African Development Community
SETA	Sector Education and Training Authority
SMART	Specific Measurable Attainable Relevant Time-based objectives
SLAC	Stanford Linear Accelerator Center National Accelerator Laboratory
SPSS	Statistical Package for the Social Sciences
UK	United Kingdom
UNISA	University of South Africa
USA	United States of America
WHO	World Health Organization

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Non-compliance with the occupational health and safety legislation within all sectors including the food and beverage industry in South Africa has had a negative impact including death, disability, loss of income, decline in the country's GDP and general costs to the country (Govindjee 2012:4). It is of paramount importance for employers to comply with occupational health and safety laws in order to reduce the incidents of work- related injuries and diseases as well as to increase productivity, raise employee morale and reduce employee turnover (Meswani 2008:2). The current study was undertaken in an attempt to find strategies that will facilitate this task.

This chapter provides an overview of the study. It outlines the background to the study; the research problem; the research aim; the study objectives and significance of the study as well as definition of key concepts used in this study. The chapter also outlines the foundation of the study; the research design and method used as well as the ethical considerations and the scope of the study and the structure of the thesis. It ends with a summary of all the chapters that are presented in this report.

1.2 BACKGROUND INFORMATION

Exposure to various occupational hazards is a serious public health problem that has received attention locally and internationally. Health and safety is also an employee's right as well as a potential contributor to improved productivity, thus, occupational injuries and illnesses are unaffordable risks for those working without adequate protection (Marriott 2008:4). There is an agreement among global agencies such as the World Health Organization (WHO) and the International Labor Organization (ILO) that health, safety and employee wellbeing is of paramount importance (Burton 2010:7). According to the European Agency for Safety and Health at Work (2008:8), lack of effective health and safety at work does not only have enormous impact on the

employees, but has a major negative impact on the economy of the country or the business. According to the WHO (2005:2) and the ILO (2009:1), global occupational injuries and illnesses account for an estimated 4% of the world's Gross Domestic Product (GDP).

The global situation reveals that many organisations and governments are not aware of the advantages of healthy workplaces or do not have the skills and the knowledge on how to improve the situation (Burton 2010:7). According to the WHO (2009:25) and the ILO (2014:3), occupational accidents and work-related illnesses account for over 2.3 million fatalities, out of which over 350 000 result from occupational accidents and almost 2 million result from work-related illnesses on an annual basis.

Occupational hazards also cause or contribute to the premature death of millions of people worldwide and result in disability, ill health and incapacity. The WHO (2009:25) states that people face numerous hazards at work which may result in injuries, hearing loss, respiratory problems, musculoskeletal disorders, cardiovascular disease, neurological disorders, reproductive problems, cancer and mental disorders. Furthermore, the WHO estimates that 160 million new cases of work-related illnesses occur every year and notes that workplace conditions account for over a third of back pain, 16% of hearing loss, nearly 10% of lung cancer and the burden of depression related to the workplace risk accounts for 8% (Machabe & Indermun 2013:20).

One of the major factors leading to unsafe work environment in Sub-Saharan Africa is non-compliance with the health and safety legislation (ILO 2009:45). Over the years, public health problems such as child mortality, HIV/AIDS and water borne diseases have received a great deal of attention because of their prevalence in Sub-Saharan Africa and this has resulted in the importance of occupational health being overlooked (Spee 2006:431). According to Nuwayhid (2004:1916), occupational health and safety problems in the developing world are neglected due to social, economic and political challenges. Failure to effectively address problems resulting from non-compliance with occupational health and safety legislation is believed to have contributed to under-developed occupational health programmes in the developing countries as compared to the rest of the world (Spee 2006:431). In many instances, working conditions in the developing world rarely meet the required standards set by international agents such as the ILO and the WHO, and there is also lack of occupational health and safety

infrastructure and professional capability as compared to the developed world (Rosenstock, Cullen & Fingerhut 2005:135).

In addition, developed countries have compelling economic incentives for employers to reduce occupational risks and hazards, an initiative that is still lacking in the developing countries (Rosenstock et al 2005:134). It has been observed that globalisation has had on health and safety has however had a negative effect on compliance with the OHS in the Southern African Development Community (SADC) region because of factors such as patchy law enforcement and criminal sanctions for breach of the OHS laws (Govindjee 2012:24). Similarly, Lowenson (2001:864) suggested that globalisation has had a negative impact on occupational health among the weak economies, while fast growing technology, the capitalist attitude of the employers and organisational changes are blamed for health and safety of employees being overlooked in African countries. Other factors that place employers in the Sub-Saharan countries in a disadvantaged position regarding detection and reporting of certain incidents that result from non-compliance with the OHS Act include the fact that Sub-Saharan countries are faced with cross boundary problems of work-related illnesses and injuries that are most of the time unreported or not detected because of the culture of migrant labour (Loewenson 2001:864).

South Africa does not have monitoring strategies to measure failures or deviation from planned systems that identify and report injuries and work-related illnesses owing to a shortage of qualified labour inspectors in the Department of Labour (DoL), which has resulted in an inspectorate that is understaffed and without the capacity to ensure compliance with the health and safety legislation (ILO 2010:15). It should be noted that labour inspectors are responsible for conducting workplace inspections and the investigation of occupational health and safety incidents as well as enforcing compliance with the health and safety legislation, thus, a decline in the number of inspectors has resulted in limited capacity and non-systematic application of workplace inspections in the country (ILO 2010:15). According to Govindjee (2012:24), South Africa has an inadequately resourced government inspection systems and endures the non-application of laws in the informal sector as well as poor of penalties for breach of occupational health and safety laws. Furthermore, labour inspectors in South Africa have an insufficient data gathering and information system for policy design, while lack of effective communication and record keeping systems and inadequate use of

electronic means of reporting and data collection makes it difficult to assess compliance (ILO 2010:16). As a result, the absence of consistent national reporting system implies that there is no set of figures that accurately reflect the full extent of occupational accidents and illnesses.

The South African DoL lost most of its experienced inspectors to the private sector due to various political, economic, social, cultural, administrative and technological challenges (DoL 2011:40). Currently, employers and employees do not have confidence in inspectors who cannot deal with labour law matters in an authoritative manner as the majority of them have Grade 12 level of education and no tertiary qualifications (DoL 2011:40). Therefore, in order for employers are encouraged to adopt the legally binding global framework for occupational health and safety laws in order for them to overcome the problem of inadequate workplace inspection by the DoL and to ensure the enforcement of compliance with health and safety laws (ILO 2012:7). Here, employers are obligated to implement the internationally standardised occupational health and safety laws, which are in line with those enforced by bodies such as the WHO and the ILO (Rosenstock et al 2006:134). This will enable the organisations to be systematic, comprehensive and effective in eliminating or minimising workplace injuries and illnesses.

Employers in South Africa can best comply with the provisions of the amended South African Health and Safety Act (No. 85 of 1993) and regulations thereof by putting in place an effective health and safety management system and developing a positive health and safety culture at work (ILO-OSH 2001:5). In addition, section 8(1) of the South African Occupational Health and Safety Act (OHS Act) (No. 85 of 1993) requires the employer to provide and maintain, as far as is reasonably practicable, a working environment that is safe and free of risks to the health of his/her employees (OHS Act No 85 of 1993:8). Every employer in South Africa is also bound by law to ensure a healthy and safe working environment for its employees (Tshoose 2011:165). The obligation is enshrined in section 24 of the Constitution of South Africa No 108 of 1996, which states that every person has the right to an environment that is not harmful to their health and wellbeing (Republic of South Africa 1996:6).

1.3 RESEARCH PROBLEM

1.3.1 Background to the problem statement

A consideration of both general statistics released throughout the world and past historical perspectives reveals that compliance with occupational health and safety laws has always been problematic. Although section 8(2)(a) of the amended (OHS Act No. 85 of 1993:8) stipulates that the employer shall provide and maintain systems of work, and ensure that they are safe and without risks to the health of employees, the food and beverage industry continues to be one of the most hazardous industry, with an unacceptable high level of injuries and fatalities resulting in considerable human suffering. The findings of the workplace inspections conducted by the South African DoL between 2004 to 2011 identified the food and beverage industry as one of the high risk industry for work-related injuries and diseases alongside mining, construction, agriculture and the iron and steel industries (DoL 2011:24; Pearson 2009:39).

Although the unique characteristics of the food and beverage industry may be found in other industries, these characteristics collectively provide a challenge with regard to occupational health and safety. Section 8(2)(b) of the amended OHS Act (No. 85 of 1993) stipulates that the employer shall eliminate or mitigate any hazard or potential hazard to the safety and health of employees before resorting to personal protective equipment (OHS Act) (No. 85 of 1993:8). According to the former South African DoL Minister, Membathisi Mdladlana, the DoL has repeatedly warned that the rate of workplace fatalities and injuries in the transport, mining, construction and food and beverage sectors are unacceptably high (DoL 1999:28). Minister Mdladlana further mentioned that in 1996 South Africa lost an estimated R17bn or 3.5% of gross domestic product as a result of work-related accidents (DoL 1999:28).

Although the financial years 2004/2005 and 2007/2008 experienced a high volume of workplace inspections with high compliance levels, financial years 2005/2006 and 2006/2007 had fewer inspections and lower compliance levels. In 2007 and 2008 the South African DoL conducted workplace inspections among the construction, agriculture, iron and steel and the food and beverage industries from which the findings revealed that the province of KwaZulu-Natal (KZN) had the highest incidents in the food and beverage industry followed by the Western Cape Province (DoL 2011:30). Findings

from workplace inspections conducted between 2009 and 2010 revealed that the Gauteng province had the most registered incidents in the food and beverage industry at 52%, with Gauteng North having registered 85% of occupational health and safety incidents, while Gauteng South registered 23% of the incidents (DoL 2011:35).

Hence, as noted by Govindjee (2012:4), non-compliance with the amended OHS Act (No. 85 of 1993) within the food and beverage industry in South Africa has had negative implications that include death, disability, loss of income, decline in the country's GDP and general cost to the country.

1.3.2 Problem statement

Compliance with the occupational health and safety legislation is of paramount importance for the reduction of work-related injuries and diseases (Meswani 2008:2). The South African DoL has identified among other things poor health and safety of employees in the food and beverage industry arising from consistent exposure to various occupational health hazards as one of cardinal militating factors against employees' effective performance and productivity (Bankole & Ibrahim 2012:60). The problem is exacerbated by overall lack of a systematic approach to managing health and safety at work, and a weak or an absence of the implementation of important elements of health and safety management programmes such as risk assessments, communication and provision of information and training. A systematic approach to managing health and safety at work proposes an integrated operational mechanism for continual improvement of occupational health and safety through constant development of policies, systems and techniques to prevent and control work-related injuries, illnesses and incidents (Taderera 2012:103).

There is a broad agreement in research that organisations that implement effective health and safety management systems at work are more successful in preventing or minimising work-related risks and therefore reducing injuries and diseases (Robson, Clarke, Cullen, Bielecky, Severn, Bigelow, Irvin, Culyer & Mahood 2007:344). Non-compliance with occupational health and safety laws contributes to economic and health inequalities (Gaydos, Bhatia, Morales, Lee, Liu, Chang, Salvatore, Krause & Minkler 2011:62). In addition, workplace injuries and illnesses cause an enormous amount of physical, financial and emotional hardship resulting from loss of employment and salary

as well as the inability to maintain a previous standard of living for individual employees and their families (OSHA 2012:3).

Although Anderson, Schulte, Sestito, Linn and Nguyen (2010:674) reported that the food and beverage distributing sector is perceived as having a low risk of work-related injuries, the job can be physically demanding in some way as workers handle thousands of items such as while stocking shelves. The food and beverage industry is also a very accident prone industry and needs more detailed investigation (DoL 2013:5). Injuries in this industry can have dire consequences and there are categories of employees that are most affected and vulnerable as indicated below:

- The meat and fish processing industry workers in South Africa are at a high risk of slips, trips and falls due to the wet slippery floors around the workstations and the freezer areas (DoL 2014:6). There is an agreement that workplace accidents resulting from slips and falls in the meat industry are associated with poor housekeeping where floors are often slippery, wet and greasy from animal fat or cluttered with obstacles and other tripping obstacles and hazards (British Meat Processors Association 2014:5; Lehtola, Brown & Becker 2009:3). Similarly, employees in the beer, wine and distilled alcoholic industries have high incidents of falls (Anderson et al 2010:688).
- According to the South African DoL (2014:11), the meat and fish processing workers in the wholesale and retail industry are at a risk of sustaining serious cuts, amputations and crushed bones from injuries resulting from unguarded machines such as saws, meat grinders, slicers, mixers, garbage disposal units or waste balers.
- The South African DoL (2010:10) suggests that working under extreme temperatures such as working in restaurant kitchens and bakeries can cause a fall in concentration levels which may lead to mistakes being made by workers, thus predisposing them to occupational injuries.
- Health surveillance is also important to prevent the common health problems in the food and beverage industry such as occupational asthma resulting from extended exposure to dust in the boiler room among fish produce workers (Jeebhay, Robins, Miller, Bateman, Smuts, Baatjies & Lopata 2008:900).
- Workers in the meat processing plants and abattoirs and dairy industry are exposed to animal diseases transmitted by direct contact with contaminated

animal parts through inhalation of infected aerosolised particles (Zachou, Papamichalis & Dalekos 2008:305). For example, Brucellosis is an infectious animal disease that can be transmitted to workers by handling infected cattle or swine (Corbel 2006:15).

- In addition, cleaning workers are exposed to chemicals such as detergents, soaps and caustic cleaning solutions used in cleaning operations and disinfection of process areas in the food and beverage industry (Eltayeb-Yassin & Elsadig 2013:27). Exposure to such hazardous chemicals may cause skin irritations such as occupational dermatitis (California OSHA 2012:14)

The food and beverage industry is high risk and non-compliance with the health and safety legislation is thought to be widespread in the entire industry and overall in the country. Most studies dwell on limited aspects as shown below and therefore there is a dire need for an investigation, such as the present one, which is more comprehensive in approach:

- Szana (2007:100) states that a person dies from work-related injuries and illnesses at a rate of between one every day or every 2 to 3 days in South Africa.
- The data from the inspections conducted in 2010 revealed that the food and beverage industry in KZN and the Northern Cape provinces violated the OHS Act (No. 85 of 1993) by not providing appropriate personal protective wear for the employees, for non-compliance with electrical installation regulations, failure to appoint first aiders and not displaying a copy of the amended Occupational Health and Safety Act (No. 85 of 1993) in a conspicuous place.
- The meat and fish processing industry workers in South Africa are at a high risk of slips, trips and falls due to the wet slippery floors around the workstations and the freezer areas (DoL 2014:6).
- The South African DoL annual report (DoL 2014:6) also revealed that aisles that are cluttered with boxes and uneven cracked floors in the meat and fish processing industry are hazardous to the employees (DoL 2014:6). According to California OSHA (2012:4), occupational hazards threatening the safety of workers in the restaurant workplace include obstructed walkways and exits as well as exits blocked by stored material. It is a statutory requirement for walkways and exits to be clear of obstacles that could interfere with orderly evacuation in case of emergency (Stanford Linear Accelerator Center (SLAC)

2014:2). South Africa's section 9(1) of the Environmental Regulations for Workplaces states that in the event of danger, employees need to evacuate workstations quickly and safely through the emergency exits (amended OHS Act No. 85 of 1993 and related regulations).

- An annual report published by the South African DoL (2013:5) suggests that occupational hazards threatening the safety of workers in the food and beverage industry include the risk of being hit by moving machinery and unsecured equipment.
- A survey conducted among wholesale and retail sector workers in South Africa revealed that working in places which are too hot or too cold can have a number of adverse effects such as a fall in concentration levels, leading to mistakes being made, resulting in an increase in accident levels and a decrease in work rate (DoL 2015:10).
- A survey conducted in the hospitality industry in South Africa revealed that kitchen employees are exposed to hot working conditions which may lead to heat related illnesses such as prickly heat, heat exhaustion, heat cramps or heat stroke (DoL 2015:5).
- The South African DoL identified several causes of occupational ill-health in the food and beverage sector that include musculoskeletal disorders which involve upper limb disorders and back injuries; work-related stress caused by poor work organisation; occupational asthma caused by inhaling bakery and grain dust; and rhinitis caused by irritant dusts such as bakery grain dusts, spices and seasoning (Bankole & Ibrahim 2012:60).
- Another cause of occupational ill health identified by the South African DoL in the food and beverage industry is noise-induced hearing loss which occurs where noise exceeds 85dB(A) (Bankole & Ibrahim 2012:60). According to (Kelly 2013:23), nightclubs, bars, catering and restaurant kitchens where dishwashing, vegetable preparation and cooking is done are commonly noisy with noise levels sometimes exceeding 100dB(A).
- An extended exposure to steam vapours from cooking fish in the cannery; exposure to dust in the boiler room; fishmeal dust and fish handling in the cannery is responsible for respiratory symptoms such as wheezing, shortness of breath and tight chest experienced by 20% of South African workers reported to

have inhaled excessive amount of aerosols in the factory (Jeebhay et al 2008:900).

- Work in the South African food retail sector among grocery store cashiers involves forceful, repetitive movements, extended duration, awkward positions and static postures which all lead to the development of muscle imbalances that cause muscular-skeletal injuries such as carpal tunnel syndrome (Zungu & Maseko 2011:26).
- Work-related stress among the food and beverage industry workers in South Africa is caused by poor work organisation (DoL 2013:8).
- Cashiers and stock clerks in the wholesale and retail industry in South Africa are at a risk of developing back injuries and lower back pain due to excessive lifting of groceries during the whole day shift and from reaching into the shelves respectively (DoL 2014:4).
- South Africa's wholesale and retail industry workers are at a risk of developing irritant contact dermatitis from direct contact with potentially hazardous chemicals (DoL 2014:4).
- Common health problems in the food and beverage industry in South Africa include occupational asthma resulting from extended exposure to dust in the boiler room among fish produce workers (Jeebhay et al 2008:900).

A total of 872 720 compensation claims in South Africa were paid out at the end of financial year 2011/2012 with the food and beverage industry paying out the bulk of the claims (Restaurant Association of South Africa 2012:4). Section 22(1) of the Compensation for Occupational Injuries and Diseases Act (No. 130 of 1993) stipulates that employees who have experienced lost-time injury have the right to compensation if the injury resulted in permanent disability or death, excluding any temporary partial disablement that lasts for three days or less (DoL 2010:16). The financial costs incurred due to lost-time injuries include medical costs, increase in insurance premiums, compensation costs, possible legal and enforcement costs, and possible additional costs for recruiting and training new employees (Ruseckaite & Collie 2011:5).

Judging from the above information on the magnitude of risks that employees in the food and beverage industry in South Africa and economic impacts faced by employers , it appears that there is an absence of implementation of important elements of health and safety management programme such as risk assessments, communication,

provision of information and training. Also, if proper monitoring measures were put in place, reduction of workplace injuries and illnesses would not only improve and save employees' lives, but it would reduce the hundreds of millions of Rands paid annually to victims of work-related injuries and relieve the pressure placed on the country's financial situation. It is indeed a legislative requirement to conduct risk assessments as a tool for ensuring that potential hazards to the health and safety of employees are eliminated or mitigated as stipulated in section 12(1)(a) of the amended OHS Act (No. 85 of 1993).

1.4 AIM AND OBJECTIVES OF THE STUDY

1.4.1 Aim of the study

The aim of this study was to investigate compliance of the food and beverage industry with occupational health and safety requirements (as stipulated by the amended OHSA No. 85 of 1993) and to develop guidelines for an effective occupational health and safety programme in the food and beverage industry in South Africa based on ILO-OSH 2001 model. The guidelines are expected to help the occupational health and safety managers to develop measures that will ensure best practices when dealing with issues related to occupational health and safety at the food and beverage industry.

1.4.2 Research objectives

The following objectives were set for this study in order to achieve the above purpose:

- To determine the demographic characteristics of employees in the food and beverage industry.
- To assess compliance with the requirements of health and safety legislation within the targeted food and beverage industry.
- To describe the common hazards confronted by workers at the targeted food and beverage industries in South Africa.
- To determine the incidents of occupational injuries and illnesses at the targeted food and beverage industry.

1.5 SIGNIFICANCE OF THE STUDY

The researcher envisaged that identifying and describing the risks and hazards associated with the nature of work in the target population would bring about a clear understanding of how important it is to adhere to the amended OHS Act (No. 85 of 1993) and eliminate as well as control those hazards, thereby reducing the incidence of workplace injuries and illnesses. It is the employer's obligation to provide safe working procedures and to provide engineering measures in order to minimise exposure to hazards. The researcher also expects this study to benefit the government because compliance with health and safety laws boosts any country's economy (Rosenstock et al 2006:134). The benefits for the government include an increase in the country's Gross Domestic Product (GDP), reduction in death and disability arising from work-related incidents, avoiding loss of income that may result from work-related injuries and diseases which can give rise to general costs for the government in the form of disability grants and welfare grants for the widows, widowers of the deceased workers and their children (especially in cases where the deceased is the breadwinner) as well as fees for rehabilitation of the injured workers or those who would have fallen ill due to work-related diseases (Govindjee 2012:4).

Therefore, a reduction of work-related incidents will result in a healthy and safe workforce, thus reducing expenses for the food and beverage industry and improving the economy thereof. The researcher also envisaged that assessing the nature and causes of work-related injuries and diseases among the target population would aid the employers to reduce -related incidents. A healthy and a safe workforce will increase productivity, reduce compensation claims and claims for liability insurance, reduce medical expenses for injured and sick workers, reduce expenses for wages paid to unproductive injured workers, and reduce expenses from wages paid to unproductive injured or ill workers and from the recruitment of replacement staff. Furthermore, a reduction of work-related incidents will reduce expenses arising from the payment for repair or replacement of damaged machinery and equipment. A reduction of work-related incidents also would also reduce the legal fees that can be imposed by the DoL for violation of the OHS Act (No. 85 of 1993).

Findings from the current study will also contribute to the development of guidelines for managing health and safety in the food and beverage industry in South Africa based on

ILO-OSH 2001 model. It was envisaged that when employers in the target population comply with the amended OHS Act (No. 85 of 1993), their influence would impact positively on the implementation thereof and therefore improve the culture of a healthy and safe working environment. .

1.6 DEFINITIONS OF KEY CONCEPTS

1.6.1 Act

The *Webster's II New College Dictionary* (1995:11) defines an Act as an enactment by a judicial or legislative body. In this study, the Act refers to the Occupational Health and Safety Act (No. 85 of 1993, as amended) by Occupational Health and Safety Amendment Act (No. 181 of 1993).

1.6.2 Employer

Employer refers to any person who employs or provides work for any person and remunerates that person (Stanton, Kielblock, Schoeman & Johnston 2007:375). In this study employer refers to persons who employ or provide work for persons in the food and beverage industry of the nine provinces of South African and remunerates them or expressly undertakes to remunerate them.

1.6.3 Employee

The *Webster's II New College Dictionary* (1995:369) refers to an employee as a person who works for another in exchange for financial compensation. In this study an employee refers to any person who is employed by or works for an employer in the food and beverage industry of the nine provinces of South Africa who receives or is entitled to receive any remuneration or who works under the direction or supervision of that employer.

1.6.4 Work

Work refers to the use of bodily or mental power in order to do or make something or an activity as a means of earning money (*Oxford Mini Dictionary and Thesaurus* 2008:763).

In this study the term work refers to physical and mental effort or activity directed towards the production of something within the food and beverage industry in South Africa.

1.6.5 Workplace

Workplace refers to any premises or place where employees work (Hattingh & Acutt 2003:87). Workplace in this study refers to a place or site where employees in the South African food and beverage industry work.

1.6.6 Incident

The *Webster's II New College Dictionary* (1995:559) defines incident as an occurrence or event that interrupts normal procedure or precipitates a crisis. In this study the term incident refers to an occurrence resulting from the use of plant or machinery or from activities at a workplace in the South African food and beverage industry.

1.6.7 Accident

The term accident is defined as a sudden uncontrollable, unplanned, undesirable happening that disrupts the normal functions of persons and causes or has the potential to produce or to cause unintended injury, death or property damage and/ or business interruption (Hattingh et al 2003:87). This study considers the term accident with reference to an undesirable occurrence arising out of and in the course of an employee's employment in the food and the South African beverage industry and resulting in a personal injury, illness or the death of the employee or damage to property.

1.6.8 Effects

The term effect refers to outcomes, results, repercussions, consequences and changes produced by an action or cause (*Oxford Mini Dictionary and Thesaurus* 2008:214). In this study the term effects is defined as the consequences of non-compliance with the OHS Act (No. 85 of 1993) within the food and beverage industries located in nine provinces of South Africa.

1.6.9 Non-compliance

Non-compliance is the state of not being in accordance with established guidelines, specifications, legislation or not meeting specified standards. The researcher derived the definition from the meaning of the word “compliance” which is the antonym of non-compliance, because the word non-compliance is not in the dictionary (*Oxford Mini Dictionary and Thesaurus* 2008:132). In this study non-compliance refers to nonconformity with sections of the OHS Act (No. 85 of 1993) relevant to the food and beverage industry.

1.6.10 Effects of non-compliance

These are consequences of not being in accordance with the established guidelines, standards, specifications and legislation. The researcher derived the meaning from the words Effects and Non-Compliance above, because the terms are defined separately in the dictionary (*Oxford Mini Dictionary and Thesaurus* 2008:132, 214). In this study effects of non-compliance refer to consequences of nonconformity with the OHS Act (No. 85 of 1993) within the food and beverage industry in South Africa.

1.6.11 Occupational health

According to the WHO and ILO (1950) in Hattingh and Acutt (2003:14), occupational health refers to the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations. In this study occupational health refers to the promotion and maintenance of a healthy working environment for employees in the South African food and beverage industry.

1.6.12 Occupational safety

According to Hattingh and Acutt (2003:84), occupational safety refers to being ‘free from occupational hazards and risks’. In this study occupational safety refers to employees in the food and beverage industry in South Africa being ‘free from occupational hazards and risks’.

1.6.13 Safety

The *Oxford Mini Dictionary and Thesaurus* (2008:580) defines safety as ‘free from hazards and risks’. The dictionary continues to state that synonyms to this include protection, security, shelter, sanctuary or refuge. In this study the term safety refers to being ‘free from threats' to the health and safety of employees in the food and beverage industry.

1.6.14 Food

Davidson, Jaine and Davidson (2006:491) define food as any substance consumed to provide nutritional support for the body. It is usually of plant or animal origin, and contains essential nutrients, such as carbohydrates, fats, proteins, vitamins, or minerals. In this study food is referred to as perishable and non-perishable consumables. Furthermore, this study considers consumables that are produced from establishments such as restaurants, grocery stores, abattoirs and millings.

1.6.15 Beverage

The *Webster’s II New College Dictionary* (1995:106) defines a beverage as a liquid which is specifically prepared for human consumption. For the purpose of this study, the term beverage refers to alcoholic and non-alcoholic drinks produced and distributed from bars, restaurants, grocery stores or manufacturers in the nine provinces of South Africa.

1.6.16 Food and beverage industry

According to the IMAP Food and Beverage Industry Global Report (2010:4), the food and beverage industry refers to sectors comprising of farming, food production, distribution, retail and catering. In this study the food and beverage industry refers to the food sector, food service sector, beverage sector and the hospitality sector located in the nine provinces of South Africa.

1.6.17 Hazard

Stanton et al (2007:378) define a hazard as an inherent potential of a substance or physical situation that can cause harm. In this study the term hazard refers to the danger associated with the nature of work in the food and beverage industry in South Africa.

1.6.18 Risk

Stanton et al (2007:386) define risk as the probability that a hazard will cause bodily harm or injury; an estimation of the likelihood of that potential being realised within a specific period or in specified circumstances, and the consequence. For the purpose of this study, the term risk refers to the probability that a hazard associated with the nature of work in the food and beverage industry in South Africa will cause bodily harm or injury.

1.6.19 Model

The *Webster's II New College Dictionary* (1995:704) defines a model as a tentative description of a theory or system that accounts for all of its known properties. According to (Embley & Thalheim 2011:23), a model attempts to clarify the meaning of various, usually ambiguous terms and to ensure that problems with different interpretations of the terms and concepts cannot occur. In this study the term model refers to a graphic or symbolic representation of measures that may be adopted as best practices to create a culture of safety and a healthier working environment as well as to promote compliance with the OHS Act (No. 85 of 1993) in the South African food and beverage industry.

1.6.20 Enterprise

Christians and Brauner (2011:22) define enterprise as any commercial or industrial undertaking carried on by any person, partnership, or corporation including such activities as manufacturing, merchandising or processing.

1.7 FOUNDATION OF THE STUDY

1.7.1 ILO-OSH 2001 occupational safety and health and safety management system framework

A framework that was chosen to provide grounding for this study is the ILO-OSH 2001 Occupational Safety and Health model. This is a five-step framework beginning with the establishment of an OH&S policy that emphasises participation of workers and their representatives, followed by an Organising step (ILO-OSH 2001:7; Burton 2010:6). The ILO-OSH 2001 framework also includes aspects about how to establish accountabilities and responsibilities, documentation and communication in order to ensure that the infrastructure to properly manage OH&S at work is in place. A detailed account of this theory is discussed in chapter 3 of this report.

1.8 SCOPE OF THE STUDY

This study was conducted at randomly selected study sites within the food and beverage industry which included the food and beverage manufacturing sector, the food and beverage distribution sector, the food and beverage service sector and the meat sector from four provinces of South Africa. The study examined a widespread range of occupational health and safety issues affecting employers in the food and beverage industry. The occupational health and safety issues included demographic characteristics of study sites and participants, compliance with the requirements of health and safety legislation, common hazards confronted by employees, incidents of occupational injuries and diseases, as well as the relationship between the injury and disease rates and non- compliance with health and safety legislation.

The aim of the study was to develop a model to promote compliance with the amended Occupational Health and Safety Act (No. 85 of 1993) within the food and beverage industry in South Africa.

1.9 STRUCTURE OF THE THESIS

This report is presented in seven chapters and they are described as follows:

Chapter 1: Orientation of the study

This chapter provides an orientation and overview of the whole study. It outlines the background, the research problem, the aim, study objectives, significance of the study, definition of the key concepts used in the study, the foundation of the study, the research design and method used, as well as the scope and layout of the thesis.

Chapter 2: Literature review

This chapter reviews a wide range of local South African and international literature that focuses on non-compliance with the amended OHS Act (No. 85 of 1993). The chapter discussed issues pertaining to demographic characteristics of study sites and participants, compliance to the requirements of health and safety legislation, common hazards confronted by employees, incidents of occupational injuries and diseases, and the relationship between the injury and disease rates and non- compliance with health and safety legislation.

Chapter 3: Theoretical framework

This chapter discusses the theoretical framework that guided the study. The key aspects of the Occupational Safety and Health Model ILO-OHS 2001 are discussed and explained in the context of the employers' attitude towards compliance with the amended OHS Act (No. 85 of 1993) in the food and beverage industry in South Africa.

Chapter 4: Research design and methods

This chapter addresses the research approach and methodology used for this study. It highlights the design, the study population, the data collection tools and issues pertaining to validity, reliability, ethical consideration and data analysis.

Chapter 5: Analysis, presentation and description of the research findings

This chapter analyses the data gathered from the study sites. It includes the presentation and description of the research findings.

Chapter 6: Discussion of the research findings

This chapter presents the discussion on findings that arose from chapter 5.

Chapter 7: Summary, conclusions and recommendations

The chapter presents the summary of significant findings of the present study. Contributions and the limitations of the current study are also presented in this chapter. Furthermore, conclusions and relevant recommendations drawn from the findings of the current study are also presented.

Chapter 8: Guidelines for managing health and safety in the food and beverage industry in South Africa based on ILO-OSH 2001 Framework

This chapter presents guidelines for the management of health and safety in the food and beverage industry in South Africa as an application of the ILO Occupational Safety and Health Management System Model ILO-OSH 2001.

1.10 CONCLUSION

This chapter examined a wide range of occupational health and safety issues affecting employers in the South African food and beverage industry. The chapter indeed discussed a general background of non-compliance with the amended OHS Act (No. 85 of 1993) within the food and beverage industry over the years, the purpose of the current study and the methodology followed in this study. The chapter also briefly highlighted the theoretical framework that provided the grounding for the current study.

The next chapter presents the findings from the literature reviewed in relation to this study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents findings of the relevant literature reviewed for the study. The chapter begins by presenting literature review findings relating to the description of the food and beverage industry in South Africa. Furthermore findings on compliance with health and safety legislation and regulation within the food and beverage industry both locally and internationally are presented.

2.2 METHODS

The literature review was conducted using library and internet research that included books, scientific journal articles, conference proceedings, reports from labour departments and the International Labor Office. A combination of South African and international literature was examined to gain an understanding of compliance with occupational health and safety legislation and regulations in the food and beverage industry.

Literature was selected and reviewed on the following aspects of the study: demographic characteristics of the food and beverage industry; compliance to health and safety legislation; common hazards confronted by employees at the food and beverage industry; incidents of injuries and diseases in the food and beverage industry; the relationship between injury and disease rates and non-compliance with health and safety legislation; costs and effects of work-related injuries and illnesses on the employer and employees as well as the characteristics of an effective health and safety programme used to ensure compliance with the requirements of health and safety legislation, yielding the findings outlined below.

2.3 FINDINGS OF THE LITERATURE REVIEW ON THE DEMOGRAPHIC CHARACTERISTICS OF THE FOOD AND BEVERAGE INDUSTRY IN SOUTH AFRICA

2.3.1 Literature review findings relating to the description of the food and beverage industry in South Africa

The food and beverage industry is multi-sectoral. The Food and Beverage Industry Global Report (2010:4) refers to the food and beverage industry as sectors comprising of farming, food production, distribution, retail and catering. The South African DoL (DoL 2013:5) suggests that the food and beverage sector comprises abbatoirs, sugar refinery and grain mills, malt manufacturers and whisky distilling establishments. According to LeBlanch and Barling (2005:42), the food and beverage industry includes agricultural production of raw material, food processing and distribution, production of fresh food and processed food as well as food and beverage value chains. In addition, a report by the Bureau of Labour Statistics (2008:4) states that products produced in the food and beverage industry include meat, dairy products, grain, fruit and vegetables, oilseeds, sugar, bakery products, confectionery products and animal foods.

One of the divisions of the food and beverage industry involves manufacturing. The Methodological Centre for Vocational Education and Training (2008:3), Notta and Vlachvei (2011:439), Schmit, Park, Henehan and Hall (2012:3) and the DoL (2013:6-7) agreed that establishments where vegetable and animal oils and fats are manufactured and where fruits and vegetables are processed and preserved are classified as the food manufacturing sector. In addition, the food manufacturing sector also comprises sectors such as meat and fish processing establishments, milling and animal feeds establishments, bakeries, dairy producers as well as confectioneries (Schmit et al 2012:3).

The literature review showed that the food manufacturing sector is characterised by industrial activities, such as processing and preserving of fish and fish products, the production, processing and preserving of meat and meat production (Notta & Vlachvei 2011:439). Occupations in the food manufacturing sector include packers, forklift drivers, transporters, machine operators and maintenance workers (Spellman & Bieber 2008:13). A report published by the European Agency for Safety and Health at Work

(2013:3) states that the food sector includes establishments such as the food retail sector, catering operations and food production establishments. Establishments where alcoholic drinks such as beer and wine, non-alcoholic beverages such as soft drinks are manufactured and where mineral water is bottled are classified as the beverage manufacturing sector (Notta & Vlachvei 2011:439). In addition, literature review findings revealed that the beverage manufacturing sector includes distilling, manufacturing of ethyl alcohol, wines, cider, non-distilled fermented drinks, beer, malt, soft drinks and mineral water manufacturers (Foley 2008:16).

The food and beverage industry also includes the sector involved in distribution. According to Kaipio and Leppanen (2005:18) and Foley (2008:12), the food and beverage distributing sector consists of retail warehouses, cash and carry stores and supermarkets. According to Foley (2008:16), the beverage distributing sector comprises drink retail establishments such as pubs and bars. A report published by the ILO (2011:3) states that the food and beverage distributing sector is characterised by industrial activities such as long working hours which often extend into the late night and early morning shifts and working over the weekend and over the holidays are common factors in this sector. The occupations in the food and beverage distributing sector include packers who are responsible for stocking shelves, checking groceries, preparing inventory as well as cashiers who run the register (Maseko 2008:9).

The food and beverage industry also includes a sector which is involved in services. According to Rogge and Becker (2008:2), the food and beverage service sector includes establishments such as fast food restaurants, restaurants in shops, stores and canteens. Davies and Konisky (2000:6) posit that the food service industry includes establishments that sell prepared foods, snacks, and beverages for on-premise or immediate off-premise consumption. A report by the Robert Wood Johnson Foundation (2008:3) states that the restaurant sector is characterised by workload that rises at peak hours and is dependent on customer behaviour. The occupations in the food and beverage service sector include restaurant waiting of tables, setting tables and packers (Tsai 2009:110).

2.3.2 Literature review findings relating to the demographic characteristics of employees in the food and beverage industry

2.3.2.1 Gender distribution of employees in the food and beverage industry

The economically active population, which includes employees or the self-employed individuals in Ghana, India and South Africa, is predominantly made up of men than women (Actionaid 2012:24). On the contrary, a study conducted by Mhazo, Mvumi, Nyakudya and Nazare (2012:1608) found that the majority of workers in the food processing industry in Sub Saharan Africa are women. In addition, in a study to identify patterns and sources of work-related injuries among Pick-'n-Pay employees in Gauteng province, it was found that Pick 'n Pay stores in the Gauteng province of South Africa have predominantly female assistants and packers (Zungu & Maseko 2011:25).

The United States' Government Accountability Office (GAO-05-96, 2005:15) reported that the largest proportion of workers in the meat and poultry industry comprises young male. In New Zealand most employees in the food and beverage industry are females (The New Zealand Tourism Research Institute 2007:4; Crawford, Hubbard, O'Neill & Guarino 2010:307). Similarly, according to Arfah and Pudjihardjo (2013:1), over half of the employees in the food and beverage industry in Makassa, Indonesia are women.

2.3.2.2 Age distribution of employees in the food and beverage industry

A survey conducted among meat and poultry workers in 2003 in the USA to describe the characteristics of workers and the conditions in which they work revealed that the largest proportion of workers comprised young males (GAO-05-96, 2005:15). The survey further revealed that the mean age of workers in the meat and poultry industry in the USA was 37 years and about 43% of all meat and poultry workers were under age of 35 (GAO-05-96, 2005:15). According to Kukanja (2013:102) and Viljoen, Kruger and Saayman (2014:37), the majority of workers in the fast food and catering industry are adults aged 21 years and older. Similarly, Schmitt and Jones (2013:3) affirm that the majority of workers in the fast food industry are adults aged 21 years and older.

2.3.2.3 Level of education

Majority of workers in the fast food industry are adults with a high school education (Schmitt & Jones 2013:3; Kukanja, 2013:102; Viljoen et al 2014:37). However, in Portugal workers in smaller enterprises are unskilled and newly hired workers learn about their jobs from older colleagues (Jacinto, Canoa & Guedes-Soares 2009:633).

2.3.2.4 Level of experience

Employees in catering and distribution had an average work experience of between 7 years (Kukanja 2013:102) and 10 years (Maseko 2008:49) respectively. A report by the National Institute of Occupational Safety and Health (NIOSH) (2012:2) states that the food and beverage service sector has a majority of teenagers who are mostly first time employees. Workers with less experience are at the higher risk of work-related injuries (Culp, Brooks, Rupe & Zwerling 2008:15). According to the Government of Western Australia (2010:2), longer years of experience at work and being older contributes to a better understanding of health and safety instructions, thereby improving compliance as well as promoting a more positive health and safety culture at work. The Government of Western Australia (2010:2) further suggests that older employees' skills and experience gained from many years of employment can assist with safety and health management because of their substantial knowledge and experience. It has also been shown that older employees bring many benefits to the workplace and are viewed as a more productive and resourceful population (Tishman, Van Looy & Bruyere 2012:4).

2.4 COMPLIANCE TO THE REQUIREMENTS OF HEALTH AND SAFETY LEGISLATION AND REGULATIONS

The review found a dearth of resources on compliance with health and safety law in South Africa, and studies on the workplace have mostly sought to address issues relating to job security and work conditions, trade unions and democracy as well as education and labour market (Buhlungu 2006:24; Lund & Ardington 2006:7).

In many jurisdictions around the world, workplace inspections are conducted to facilitate adherence to OHS legislation, while compliance orders issued to worksites as a result of these inspections are designed to reduce or eliminate risks of occupational injuries

and exposure to health hazards (Burstyn, Jonasi & Wild 2010:271). According to the Australian National OHS Compliance and Enforcement Policy (2008:2) efforts to minimise lack of compliance with occupational health and safety legislation are made by adopting regular enforcement of the OHSA legislation in order to reduce the incidents of work-related injuries and diseases.

There is growing evidence that continuous problems of compliance with the OHS legislation are detrimental to the economy of the country (Rosenstock et al 2006:134). Similarly, Govindjee (2012:4) posits that non-compliance with the OHS Act (No. 85 of 1993) within the food and beverage industry in South Africa has had negative implications including death, disability, loss of income, decline in the country's GDP and general cost to the country. Meswani (2008:2) is of the opinion that compliance with the OHS Act is extremely important for any organisation because it increases productivity, morale and reduces employee turnover.

Globalisation on health and safety has had a negative effect on compliance with the OHS in the Southern African Development Community (SADC) region because of factors such as patchy law enforcement and criminal sanctions for breach of the OHS laws (Govindjee 2012:24). Also, there are inadequately resourced government inspection systems, non-application of laws in the informal sector and penalties for breach of occupational health and safety laws which have been set at absurdly low levels (Govindjee 2012:24). Similarly, Lowenson (2001:864) alluded that globalisation has had a negative impact on occupational health among the weak economies, non-use of technology or inability to use technology, capitalist attitude of the employers and organisational changes are blamed for health and safety of employees being overlooked in African countries. Other factors that place employers in a disadvantaged position regarding detection and reporting of certain incidents that result from non-compliance with the OHS Act is the fact that Sub-Saharan countries are faced with cross boundary problems of work-related illnesses and injuries that are most of the time unreported or detected because of the culture of migrant labour (Loewenson 2001:864).

Literature has asserted that compliance is of paramount importance for the reduction of work-related injuries and diseases as well as to increase productivity, boost employee morale and reduce turnover (Meswani 2008:2). The employer is required by law to play the critical role in ensuring compliance with health and safety legislation in order to

protect employees' wellbeing, and enhance organisational performance by retaining productive employees (Aliyu & Saidu 2011:3).

A study conducted among food industry workers in Portugal revealed that non-compliance with the occupational health and safety laws exposes the employers to compensation and legal claims (Jacobi 2012:69). The purpose of the study was to identify causal patterns of work-related accidents in the food industry. The literature review also revealed that non-compliance with health and safety laws contributes to economic and health inequalities (Gaydos et al 2011:62).

Compliance with health and safety law requires development and implementation of an effective health and safety management system as well as building a positive health and safety culture at work. To be compliant and effective, health and safety must be given equal priority as production, and should be integrated in all business operations (ILO-OSH 2001:5; Taderera 2012:114). The occupational health and safety management systems that are widely used in occupational health and safety practice include the Occupational Health and Safety Assessment Series (OHSAS): 18001:2007 and the ILO-OSH 2001 model. Research has found that the latter is cheaper and can be implemented by smaller companies without the need for technical expertise, whereas OSHAS 18001:2007 is best implemented as an integrated management system with ISO 9001 and ISO 14001:2004 and is therefore expensive and needs expertise (Leka & Cox 2008:39).

2.4.1 Compliance by employers

It is a legal requirement for the employer to provide and maintain a working environment that is safe and free of risks to the health of his employees, as stipulated in section 8(1) of the amended South African Occupational Health and Safety Act (No. 85 of 1993), while section 8(2)(a) stipulates that the employer shall provide and maintain systems of work, and ensure that they are safe and without risks to the health of employees (OHS Act No. 85 of 1993). In addition, section 8(2)(b) of the OHS Act (No. 85 of 1993) stipulates that the employer shall eliminate or mitigate any hazard or potential hazard to the safety and health of employees before resorting to personal protective equipment (OHS Act No. 85 of 1993).

Furthermore, section 8(2)(e) of the OHS Act (No. 85 of 1993) requires the employer to provide his employees with information, instructions and training as well as supervision to ensure as reasonably practicable, the health and safety at work of his employees (OHS Act No. 85 of 1993). Also, section 13(a) of the amended OHS Act (No. 85 of 1993) requires the employer to inform employees about health and safety hazards related to any work which they have to perform, any article or substance which they have to produce, process, use, handle as well as with the precautionary measures which should be taken and observed with regards to those hazards (OHS Act No. 85 of 1993). To be compliant, the employer must provide effective leadership in health and safety management; demonstrate management commitment by allocating adequate resources for workplace health and safety (Allie 2008:52; Hughes & Ferret 2013:24).

Compliance with health and safety requirements is effective in reducing workplace injuries and illnesses which are costly to employers (Robson et al 2007:333). These costs include payment for repair or replacement of damaged machinery and equipment (Othman 2012:189). In addition, non-compliance with the health and safety legislation can lead to bad publicity which can tarnish the image of the company and pose a negative financial impact on the business (Othman 2012:187).

2.4.1.1 Occupational Health and Safety Management system

The International Labor Organization suggests that the Occupational Health and Safety Management System (OHMS) should consist of a body of inter-related elements namely policy, organising, planning and implementation, evaluation as well as action for improvement (ILO 2001:5). Furthermore, an OHMS should include the arrangements for prevention and control (Taderera 2012:114).

The South African legislation does not prescribe a specific model for managing workplace health and safety, leaving this to the judgement of each employer. Hence, Section 8(1) of the South African Occupational Health and Safety Act (No. 85 of 1993) requires the employer to provide and maintain, as far as is reasonably practicable, a working environment that is safe and free of risks to the health of his employees (OHS Act No. 85 of 1993). However, the law does require that an employer should put in place organisational arrangements that show clear lines of responsibilities and accountability for managing workplace health and safety. Hence, according to section

16(1) of the OHS Act (No. 85 of 1993), the Chief Executive Officer (CEO) should ensure that the duties of the employer are properly discharged (OHS Act No. 85 of 1993). Whilst, section 16(2) of the OHS Act (No. 85 of 1993), stipulates that the CEO may delegate health and safety related duties to any senior person in their department (OHS Act No. 85 of 1993). More research revealed that the implementation of an OHS management system will reduce the number of accidents and occupational diseases among the employees (Robson et al 2007:333).

2.4.1.2 Communication of the Occupational Health and Safety Act (No. 85 of 1993) and OHS information

Other scientists prescribe that good communication of health and safety information at work is critical in achieving health and safety goals. According to Machabe and Indermun (2013:30), an employer who makes the OHS Act (No. 85 of 1993) to be easily accessible is likely to improve awareness of the health and safety regulations in the workplace. Section 4 of the General Administrative Regulations of 2003 requires that an employer who has five or more employees should have a copy of the OHS Act (No. 85 of 1993) and the relevant regulations displayed in a conspicuous place (OHS Act No. 85 of 1993).

The literature on the importance of Occupational Health and Safety within the workplace revealed that to maintain safety in the workplace, every employer should communicate to its employees key information on occupational hazards and control measures put in place to protect them either verbally or in writing (Machabe & Indermun 2013:30). Similarly, section 13(a) of the OHS Act (No. 85 of 1993) requires the employer to communicate the Act to their employees and provide them with adequate information about the hazards and the risks to their health and safety including the measures they must observe to protect themselves (OHS Act No. 85 of 1993).

2.4.1.3 Hazard identification and risk assessment

Studies have shown that Hazard Identification and Risk Assessment (HIRA) is a process that involves collecting, analysing, interpreting, communicating and implementing information to identifying hazards and determining the frequency, magnitude and nature of any incident or scenario which may occur in the area, and

measures to be taken to remove, reduce or control potential causes of such incidents (City of Tshwane 2008:251, British Meat Processors Association 2012:12, Machabe & Indermun 2013:25; DoL 2014:15). Thus, HIRA provides the baseline for all OHS management programmes which involve determination of the risk profile of the organisation, the control measures required, the resources needed to implement the programme and the type of procedures and training needed.

The principle of hazard identification and risk assessment is entrenched in section 9(1) of the OHS Act (No. 85 of 1993), which stipulates that every employer shall ensure that persons other than those employed by him who may be directly affected by his activities are not exposed to hazards to their health and safety (OHS Act No. 85 of 1993). Permana (2012:44) defined a risk assessment process as comprising of identification of hazards at work, evaluation of their risks and eliminating them and if not possible controlling or minimising them. It is a legislative requirement to conduct risk assessments as a tool for ensuring that potential hazards to the health and safety of the employees are eliminated or mitigated as stipulated in section 12(1)(a) of the OHS Act (No. 85 of 1993, as amended) (OHS Act No. 85 of 1993).

2.4.1.4 Occupational Health and Safety policy and commitment

Employers, in consultation with employees and their representatives are required to set out in writing an OHS policy, which is specific to the organisation and in line with the activities of the organisation and appropriate to its size (ILO 2001:6; Taderera 2012:114; OHS Act No. 85 of 1993). Section 7(1)(b) of the OHS Act (No. 85 of 1993) requires the employer to prepare a written policy concerning the protection of the health and safety of his employees at work, while section 7(3) of the OHS Act (No. 85 of 1993) states that an employer should display a copy of the OHS policy in a conspicuous place where workers can access and read it (OHS Act No. 85 of 1993).

The Industrial Accident Prevention Association (2007:12) defines OHS policy as a statement of intent, and commitment to plan for coordinated management action. A report by the (Industrial Accident Prevention Association 2007:12) states that the OHS policy is important because it provides a clear indication of a company's health and safety objectives, which in turn provide direction for the health and safety programme. According to Allie (2008:45), the OHS policy should be written because it represents the

foundation from which occupational safety and health goals and objectives, performance measures and other system components are developed.

An OHS policy should include clear statement of commitment by senior management to allocate resources to ensure that overall organisational aims are achieved (ILO-OHS 2001:6). Also, the OHS policy needs to indicate more specific emphasis on worker participation, which is seen as an essential element of the management system that should be referred in the policy statement (Hughes & Ferret 2013:24).

2.5 EMPLOYEES' PERCEPTIONS ON COMPLIANCE TO THE REQUIREMENTS OF HEALTH AND SAFETY LEGISLATION

2.5.1 Employees' awareness of the right to health and safety

Some scientists suggest that employees need to be aware of their rights and obligations in health and safety. Employees need to be aware that it is their right to work in a safe and healthy working environment (Allie 2008:17). Employees have the right to adequate knowledge about health and safety and a right to stop work in case of imminent danger to their safety or health (Allie 2008:20). Health and safety in the workplace is not only the responsibility of the employer, but also that of the employees. According to section 14(a) of the Occupational Health and Safety Act (No. 85 of 1993), employees have the responsibility to take care of their own safety and of other persons who may be affected by their act or omissions (OHS Act No. 85 of 1993:10; Allie 2008:19). A report published by the British Meat Processors Association (2014:7) indicates that employees have the responsibility to report accidents, near misses and work-related health problems. Employees should also be aware of the need for them to know health and safety rules. Section 14(c) of the OHS Act (No. 85 of 1993:10) requires the employees to carry out any lawful order given to them and obey health and safety rules and procedures laid down by their employer or by anyone authorised by their employer in the interest of health and safety (Allie 2008:19; OHS Act No. 85 of 1993:10).

In addition, employees need to understand the health and safety rules in order for them to competently carry out the safety and health aspects of their duties and responsibilities (Taderera 2012:104). Furthermore, employees should be able to identify hazards in their work environment and promote safer work practices which will

result in the reduction of workplace injuries and diseases (Pouliakas & Theodossiou 2010:12).

Further, employees need to be aware that their employers are responsible for their health and safety in the workplace and for creating a safe and positive culture in the workplace (Machabe & Indermun 2013:31). According to the literature review, top management commitment, leading by example, provision of adequate health and safety information, instruction, supervision and training to employees including sufficient motivation, promotes a more positive health and safety culture among them and improves safety performance (Wolska & Namies'nik 2007:462; OHS Act No. 85 of 1993:8; Machabe & Indermun 2013:14).

2.5.2 Employee consultation and participation

Employee consultation means the need for employers to share information with the workers, giving workers a reasonable opportunity to express their views and taking those views into account before making decisions on health and safety matters (Clarke 2013:6; SafeWork Australia 2011:5). The Pan American Health Organisation (PAHO) (2006:23) report states suggests that consultation can lead to improvement in health and safety practices as employees become aware of the hazards in their work. It is imperative for consultation to take place as early as possible especially when there are changes being planned in the organisation (PAHO 2006:23). The health and safety policy statement should clearly state the importance of employee participation in health and safety matters in order to prevent occupational injuries and illnesses (Allie 2008:47). The ILO has emphasised that the employer should ensure that workers and their safety and health representatives are consulted, informed and trained on all aspects of OSH, including emergency arrangements associated with their work (ILO-OSH 2001:6)

Worker participation is an essential strategy that should be adopted by employers to manage workplace risks (Hughes et al 2013:24). Worker participation is referred to as an engagement of workers with supervisors, managers or employers on health and safety matters (ILO 2010:13). It is a legislative requirement for employees to participate in nominations and selection of their health and safety representatives as stipulated in section 17(2) of the OHS Act (No. 85 of 1993), where there are more than 20

employees as required by section 17(1) of the Act (OHS Act No. 85 of 1993). The report from the DoL (2012:12) further notes that the role of the health and safety representatives is to review the effectiveness of health and safety measures, in collaboration with the employer to examine the causes of incidents at the workplace, to investigate complaints by any employee on health and safety matters, and to present the afore mentioned to the health and safety committee.

2.5.2.1 Forms of consultation and employees' involvement in OHS

The report by The Pan American Health Organisation (PAHO) (2006:23) presents various forms of consultation which include:

- Involvement of employees in the development of policies, procedures and plans of action for hazard identification and risk assessments (HIRAs).
- Participation in solving problems related in health and safety matters in the organisation.
- Participation of employees in workplace inspection; accident and incident investigation and reporting through the work of OHS representatives and OHS committees as well as reviewing accident statistics.
- Consultation with employees or their representatives about key occupational health and safety matters. This can include exchanging ideas with supervisors, discussion in the committees and the use of surveys.
- Employees' involvement in senior management, workers and the labour union.
- Employer's guarantee that employees have access to all relevant information and training on health and safety matters.

Involvement of employees in health and safety matters also means ensuring that they take part in incident investigation and reporting of accidents and unsafe conditions individually or through their OHS representatives and OHS committees as well as reviewing accident statistics (PAHO 2006:23).

2.5.2.2 Benefits of effective consultation

A report published by the ILO revealed that effective consultation promotes good practice in health and safety management and reduction of occupational injuries and fatalities (ILO 2010:36). The ILO further asserts that effective consultation with the employees through their health and safety representatives is also important because the health and safety representatives represent the employees' interests and they are at a better position to lobby for improvement and enforcement of health and safety legislation and compliance thereof (ILO 2010:18). A report by The Australian Government (2005:10), the benefits of effective consultation include increased employee morale and productivity; improved management decision on OHS matters; a healthier working environment, reduction in the incidents and their severity; employee commitment to OHS and ownership of the outcomes of the consultation as well as effective lines of communication with employees knowing who to contact about OHS matters.

According to ILO (2010:25), the factors that affect consultation at work include the following:

- Strong occupational health and safety legislative enforcement.
- Management commitment to health and safety matters.
- Management commitment to employee participative approach.
- Consultation and communication between health and safety representatives and the employees.
- Competent management of hazard identification and risk assessments and control.
- Effective workplace inspection and control.
- Effective autonomous worker representation at the workplace.

Failure in consultation arrangements leads to a negative health and safety culture and an increase in workplace injuries and diseases. In order to improve health and safety culture and compliance with the OHS legislation in the organisation there should be stringent enforcement of OHS legislation and management commitment, and therefore improve productivity, while mandatory training in OHS matters can improve awareness

and thus reduce workplace injuries and diseases (Umeokafor, Umeadi & Jones 2014:11). According to these authors, an organisation with a robust safety culture tends to have a lower accident rate than one with a weak safety culture (Umeokafor et al 2014:8).

Clear and constructive safety communication systems, such as notice boards, newsletters, instructional leaflets, posters and videos can improve knowledge and understanding about OHS (Vecchio-Sadus 2007:1). Small instructional leaflets and a company newsletter are suitable for general distribution, while posters can be used to overcome language problems through the use of illustrations and symbols (Vecchio-Sadus 2007:4).

2.5.3 Employee training in health and safety

Employee training in health and safety is an essential element of the health and safety management programme and ensures that workers assume their duties competently and safely, thereby strengthening a culture of prevention at work. According to the ILO, employers must recruit competent staff supportive of all aspects of the organisation's OHS management system (ILO 2001:18). Training is required for new employees and young workers and should be repeated periodically, particularly if there are changes introducing new risks. Hughes and Ferret (2011:512) stated that training can be incorporated into new employee initiation or induction or carried out where employees may be exposed to new hazards. Training should focus on workplace health and safety rules (standards) workplace hazards and their risks to workers, controls in place and use of Personal Protective Equipment (PPE) (PAHO 2006:27).

2.5.4 Provision and utilisation of personal protective equipment

According to Tsai (2009:112), Chinese immigrant restaurant kitchen workers in the USA do not use their protective gloves to wash the dishes because they feel that wearing them makes it difficult for them to do their work because the sizes of the gloves are too small. Similarly, a study conducted to understand occupational injury occurrence and the associated factors in the fish processing industries in Western India revealed that Indian women employees in the fish processing industry neglected to use protective gloves because they felt that wearing them made it difficult for them to do their work,

and as a result they developed occupational dermatitis after extended exposure of handling the fish with their bare hands (Saha, Nag & Nag 2006:23).

2.6 WORK PREMISES AND MEANS OF EGRESS

2.6.1 Workplace environment

Poor housekeeping practices such as keeping floors which are slippery from spilt water, floors which are not in good condition, nor free of obstacles and other tripping hazards often result in serious workplace accidents (Lehtola et al 2009:3; VanDeCruze & Wiggins 2008:13). According to the WorkSafe BC (2013:3), slips, trips and falls are a leading cause of injuries that lead to time loss in the food and beverage industry. Bad housekeeping and poor drainage make floors and other walking surfaces in the food and beverage industry to be wet and slippery and may cause workers to fall and sustain injuries and/or cause damage to equipment or property (WorkSafe BC 2013:3).

The California OSHA (2012:4) published a report indicating that occupational hazards threatening the safety of workers in the restaurant workplace include obstructed walkways and exits as well as exits blocked by stored material. It is a statutory requirement for walkways and exits to be clear of obstacles that could interfere with orderly evacuation in case of emergency (Stanford Linear Accelerator Center (SLAC) 2014:2). Section 9(1) of the Environmental Regulations for Workplaces stipulates that in the event of danger, the employees need to evacuate workstations quickly and safely through the emergency exits (OHS Act No. 85 of 1993 and related Regulations). Also, a report published by the Health and Safety Authority (2007:18) states that emergency exits and the exits themselves should be kept clear at all times and lead as directly as possible to the open air or to a safe area through doors that are hung so as to open outwards.

Safety signage in the workplace is a mandatory requirement to prevent accidents. It is a statutory requirement for exits to be clearly visible and conspicuously marked with an illuminated exit sign with an arrow pointing to the direction of the nearest (SLAC 2014:2). In addition, a report published by WorkSafe Tasmania (2014:7) states that since burns are common injuries in the food industry, employers are required to post signs to warn workers about hot equipment. Employers are required to keep a first aid

kit in an accessible marked place and also to install a fire extinguisher for fat fires in an easy to reach marked location (WorkSafe Tasmania 2014:7).

2.6.2 Work equipment

An annual report published by the South African DoL (2013:5) suggests that occupational hazards threatening the safety of workers in the food and beverage industry include the risk of being hit by moving machinery and unsecured equipment. A survey on traumatic injury rates conducted among Midwestern pork-meat packing plant employees in the USA revealed that activities involving cutting operations such as meat grinders, cleavers, straight and wizard knives and hooks can cause lacerations and punctured wounds among meat processing plant workers (Culp et al 2008:8).

2.7 COMMON HAZARDS CONFRONTED BY EMPLOYEES IN THE FOOD AND BEVERAGE INDUSTRY

There are various hazards related to the food and beverage industry and these include physical hazards, chemical hazards, biological hazards, ergonomic hazards and psychological hazards (Sekheta, Sahtout, Sekheta, Kapkovic & Pantovic 2013:5).

2.7.1 Physical hazards

According to the Ministry of Social Affairs and Health Department for Occupational Safety and Health (2011:1), physical hazards are factors within the environment that can harm the body without necessarily touching it and these include constant loud noise, extreme temperature, lighting, vibration and high exposure to sunlight or ultraviolet rays and radiation including ionising and non-ionising such as microwaves and radio waves.

2.7.1.1 Extreme temperature

A survey conducted among wholesale and retail sector workers in South Africa revealed that working in workplaces which are too hot or too cold can have a number of adverse effects such as a fall in concentration levels, leading to mistakes being made, resulting in an increase in accident levels and a decrease in work rate (DoL 2015:10). A study

among bakery workers in Sibiu, Romania revealed that employees working nearby furnaces are at a high risk of developing caloric shock through exposure to increased temperature (Stoia & Oancea 2008:13). A survey conducted among hospitality industry in South Africa revealed that kitchen employees are exposed to hot working conditions which may lead to heat related illnesses such as prickly heat, heat exhaustion, heat cramps or heat stroke (DoL 2015:5). A study conducted to understand occupational injury occurrence and the associated factors among fish processing female employees in Western India revealed that extreme cold temperatures that the women were exposed to often resulted in frequent respiratory tract irritation; frequent sneezing and coughing as well as pealing of skin from their hands (Saha et al 2006:23).

2.7.1.2 Noise

A study to explore risk analysis of occupational noise exposure among the nightclubs in Leinster, Ireland revealed that nightclubs, bars, catering and restaurant kitchens where dishwashing, vegetable preparation and cooking is done are commonly noisy with noise levels sometimes exceeding 100dB(A) (Kelly 2013:23). In addition, a study conducted to assess industrial hygiene and occupational safety practices among the food and beverage industries in Khartoum, Sudan revealed that 74% of the inspected work places were exposed to high noise levels (Eltayeb-Yassin & Elsadig 2013:26). Another study conducted to investigate occupational noise in the food and beverage industry in British Columbia, Canada revealed that the food and beverage manufacturing industry has a high noise exposure with typical noise sources including glass bottling, packaging, compressed air in the beverage sector, while common sources of noise in the food sector include mixing, wrapping, packaging, grinding and manually pushing wheeled carts (Davies, Louie, Nahid & Shoveller 2012:44). Nawaz and Hasnain (2013:1547) posit that excessive noise exposure in the food and beverage manufacturing industry may enhance the risk of high blood pressure, myocardial infarction and coronary artery diseases.

2.7.2 Chemical hazards

A longitudinal study to investigate the changes in lung function of employees at a beverage processing plant in Italy revealed that workers use chemicals such as hydrogen peroxide, acetic acid and peroxyacetic acid to disinfect bottles before they are

filled with mineral water or beverages (Mastrangelo, Zanibellato, Fedeli, Fadda & Lange 2005:314). The review of literature further revealed that non-compliance with standards relating to hydrogen peroxide use has devastating consequences such as lung function changes, a condition which is worse among smokers as compared to non-smokers (Mastrangelo et al 2005:315).

A survey conducted to assess occupational health risks of wine industry workers in British Columbia, Canada revealed that exposure to several hazards including chemical additives used to manufacture wine and those chemicals used to clean and sterilise winemaking equipment has resulted in respiratory problems such as occupational asthma among wine industry workers (Youakim 2006:389).

A report published by WorkSafeBC (2006:8) stated that two workers died at a flaxseed oil bottling plant after they were exposed to harmful gases inside a confined space because their employer did not provide them with respirators, communication gear, emergency rescue equipment and training for entering confined spaces.

2.7.3 Biological hazards

A report published by the United States Government Accountability Office (GAO-05-96) (2005:20) indicated that in the meat and poultry industry, workers can fall ill when exposed to viruses, blood, faecal matter and bacteria such as Salmonella. In addition, a survey conducted on brucellosis among stock breeders in Greece revealed that a common occupational disease such as brucellosis affecting meat processing workers as well as dairy industry workers is acquired by direct contact with contaminated animal parts or through inhalation of infected aerosolised particles (Zachou et al 2008:305). Brucellosis is transmitted by the handling of infected cattle or swine with common symptoms including constant or recurring fever, headaches, weakness, joint pain, night sweats and loss of appetite if proper PPE is not used (World Health Organization 2006:15).

In a study to determine the prevalence and the causes of allergic symptoms, allergic sensitisation, bronchitis, hyper-responsiveness and asthma among the fish processing workers revealed that extended exposure to steam vapours from cooking fish in the cannery; exposure to dust in the boiler room; fishmeal dust and fish handling in the

cannery is responsible for respiratory symptoms such as wheezing, shortness of breath and tight chest experienced by 20% of workers reported to have inhaled excessive amount of aerosols in the factory (Jeebhay et al 2008:900).

2.7.4 Ergonomic hazards

There is widespread agreement in literature defining ergonomics as a scientific discipline that studies the interaction between people and their immediate work environment as well as designing the job to match the worker rather than matching the worker to the job (O'Neill & Albin 2011:1; Wolfenden & Phan 2013:3; Health and Safety Executive 2013:1).

A survey conducted to review fatality, injury and illness data for the wholesale and retail trade sector in the USA revealed that ergonomic problems are at an overwhelming high level due to the physical demands of work involving manual handling (Anderson et al 2010:674). Similarly, a review of a study conducted to investigate the demographics and patterns of work-related injuries in a food retail industry in Gauteng, South Africa and a report by the International Labor Organization (ILO) respectively revealed that work in the food retail sector among grocery store cashiers involves forceful, repetitive movements, extended duration, awkward positions and static postures which all lead to the development of muscle imbalances that cause muscular-skeletal injuries such as carpal tunnel syndrome (Zungu & Maseko 2011:26; ILO 2011:3). In the same vein, a report published by the European Agency for Safety and Health at Work (2013:3) states that workers in this sector handle thousands of items on a daily basis to carry out tasks such as stocking shelves.

A survey conducted to investigate the causes of occupational injuries and illnesses among Chinese restaurant workers in the United States revealed that restaurant waiters experience strenuous positions such as extended periods of standing and walking, as well as musculoskeletal illnesses such as pain, ache and soreness in the knees, legs or feet, deformity of the toes as well as cramps in the legs (Tsai 2009:110). A study conducted to investigate participatory ergonomics versus strength training on pain and work disability among slaughterhouse workers in Denmark revealed that slaughterhouse work and meat processing operations involve a high degree of repetitive and forceful upper limb movements as well as an elevated risk of work-related

musculoskeletal disorders (Sundstrup, Jakobsen, Andersen, Jay, Persson, Aagaard & Andersen 2013:2).

One study assessed poverty and injustice in the USA food system and revealed that the dangerous and repetitive nature of work in the meat processing plants poses a risk of sprains, back pain, contusions as well as long term disabilities from years of working in this type of work (VanDeCruze & Wiggins 2008:13). A study conducted to analyse the effects of handling products of different weights on trunk kinematics of supermarket cashiers in the UK showed that supermarket cashiers are at a high risk for occupational injuries resulting from biomechanically incorrect workstations (Rodacki et al 2006:129).

2.7.5 Psychological hazards

Psychological hazards refer to those interactions that prove to have a hazardous influence over employees' health through their perceptions and experience (Leka & Jain 2010:4). In the UK, the literature review on the state of knowledge and issues to the determinants and consequences of occupational health and safety at work revealed that working long hours typically defined as work in excess of 10 hours a day or 48 hours a week can be detrimental to the health of employees in the workplace (Poulakis & Theodossiou 2010:14). Illnesses that have been associated with long hours of work include ischemic heart disease and myocardial infarction and hypertension; and that workers with erratic shifts are at a risk of developing digestive disorders and decreased sleep which results in physical tiredness (Pouliakas & Theodossiou 2010:14). A report published by the DoL (2013:8) shows that work-related stress among the food and beverage industry workers can be caused by poor work organisation. In addition, a report published by the European Agency for Safety and Health at Work (2008:156) suggests that workers in sectors such as restaurants and bars where food and beverages are served are prone to work-related stress caused by irregular working hours, aggressive and angry or potentially violent customers as well as exposure to intimidation by colleagues.

As reported earlier, a report published by the United States' Government Accountability Office states that the Also, the largest proportion of workers in the meat and poultry industry comprises young male (GAO-05-96, 2005:15); while the ILO (2012:3) has classified female employees as vulnerable workers. Being the minority, women

employees may be subjected to sexual harassment and discrimination in a typically male-dominated industry (ILO 2012:7).

2.8 OCCUPATIONAL INJURIES AND ILLNESSES AT THE FOOD AND BEVERAGE INDUSTRY

Although Anderson et al (2010:674) reported that the food and beverage distributing sector is perceived as having a low risk of work-related injuries, the job can be physically demanding in some way as workers handle thousands of items such as while stocking shelves. A survey conducted to highlight injuries and causes of ill-health that occur worldwide and a DoL report revealed that the food and beverage industry in South Africa has been identified as one of the high risk industry for work-related injuries and diseases alongside the construction, agriculture as well as the iron and steel industry for work-related injuries (Pearson 2009:39; DoL 2011:24) respectively. A survey conducted among the food and beverage industry workers in Lagos State, Nigeria to examine the perceived influence of health education on occupational health of the workers revealed that the food and beverage industry workers have been victims of high risks of work-related diseases, illnesses and injuries such as conjunctivitis, chronic bronchitis, dermatitis and musculoskeletal disorders in the past 30 years as a result of the rapid industrialiation stemming from the global technological development (Bankole & Ibrahim 2012:58).

A survey conducted to develop a categorisation of young adult workers among retail industry workers in Denmark revealed that the majority of retail industry workers are young, and generally, young adult workers have the highest risk of accidents or injuries (Nielsen, Dyreborg, Kines, Nielsen & Rasmussen 2013:220). In addition, a study conducted to assess industrial hygiene and occupational safety practices in the food and beverage industries in Khartoum, Sudan revealed that common injuries in the food and beverage industry result from slips, trips and falls, falling objects, moving parts of equipment and machinery and unguarded machinery, use of hand tools, being hit by falling objects, electrical shock from defective electrical wires and fire burns (Eltayeb-Yassin & Elsadig 2013:27). Also, a report published by the British Meat Processors Association (2011:79) states that the meat processing plants and abattoirs may sustain fatal amputation of arms and fingers. In addition, slaughterhouse work and meat processing operations involve a high degree of repetitive and forceful upper limb

movements that can result in an elevated risk of work-related musculoskeletal disorders (Sundstrup et al 2013:2).

A common occupational disease such as Q fever among meat processing workers can be acquired by direct contact with contaminated animal parts or through inhalation of infected aerosolised particles (Zachou et al 2008:305). In the meat and poultry industry, workers can fall ill when exposed to viruses, blood, faecal matter and bacteria such as Salmonella (GAO-05-96, 2005:20).

Workers in the food and beverage industry are at a risk of exposure to extreme temperatures and sometimes below freezing temperatures (VanDeCruze & Wiggens 2008:13). Further, exposure to extreme cold can result in frequent respiratory tract irritation; frequent sneezing and coughing as well as pealing of skin from their hands (Saha et al 2006:23). A report by the DoL (2010:10) suggests that working in extreme temperature can cause a fall in concentration levels which may lead to mistakes being made.

2.8.1 Causes of work-related injuries and illnesses in the food and beverage industry

According to a report published by WorkSafe BC (2013:3), slips, trips and falls are a leading cause of injuries in the food and beverage industry in Canada. Also, a study to investigate traumatic injury rates among the Midwestern meatpacking plant workers in the USA revealed that activities involving cutting operations such as meat grinders, cleavers, straight and wizard knives and hooks can cause lacerations and punctured wounds (Culp et al 2008:8). Similar findings were reported in a study conducted in Western India (Saha et al 2006:23). In addition, employees may also sustain lacerations and cuts from broken glasses, dishes, sharp knives or meat slicers (Tsai 2009:109). A study conducted to identify causal patterns of work-related accidents in the food industry in Portugal revealed that injuries were due to lack of risk assessments, in which case managers neglect to put in place appropriate precautionary measures to avoid accidents (Jacinto et al 2009:632).

2.8.1.1 Body parts that sustain injury by the food and beverage employees

Supermarket cashiers are at a high risk of developing musculoskeletal disorders such as back pain, neck and shoulder strains, muscle fatigue and upper limb problems as a result of biomechanically incorrect workstations (Rodacki et al 2006:129). Similarly most occupational health related problems may be caused by slips and trips (Eltayeb-Yassin & Elsadig 2013:26). Fatal injuries may occur during work in confined space or by being struck or amputated by work equipment such as cranes (MacCarron 2006:93; GAO-05-96, 2005:23) and fractures caused by falls from height or on slippery surfaces (Government of Western Australia 2012:2).

2.8.1.2 Classification of work-related injuries and illnesses at the food and beverage industry

2.8.1.2.1 Back injuries

Back injuries are the most occupational health related problems caused by slips and trips (Eltayeb-Yassin & Elsadig 2013:26). Back injuries resulting from overexertion, including sprains, strains and tears are prevalent in the meat and poultry industry (GAO-05-96, 2005:22). Cashiers and stock clerks in the wholesale and retail industry in South Africa are at a risk of developing back injuries and lower back pain due to excessive lifting of groceries during the whole day shift and from reaching into the shelves respectively (DoL 2014:4).

2.8.1.2.2 Musculoskeletal disorders

A survey conducted among meat and poultry workers in 2003 in the USA revealed that musculoskeletal disorders are prevalent in the meat and poultry industry (GAO-05-96, 2005:12). In addition, slaughterhouse work and meat processing operations involve a high degree of repetitive and forceful upper limb movements as well as an elevated risk of work-related musculoskeletal disorders (Sundstrup et al 2013:2)

2.8.1.2.3 Respiratory problems

Abattoir workers as well as dairy industry workers suffer from respiratory problems resulting from inhalation of infected aerosolised particles (Zachou et al 2008:305). Workers in the meat and poultry industry are at a risk of experiencing respiratory irritation such as asphyxiation from exposure to pathogenic respiratory substances, and some workers have died from being overcome by hydrogen sulphide gas and drowning when they entered manure waste pits (GAO-05-96, 2005:22).

2.8.1.2.4 Occupational dermatitis

Another common occupational disease affecting abattoir workers as well as dairy industry workers is occupational dermatitis acquired by direct contact with contaminated animal parts (Zachou et al 2008:305). In South Africa wholesale and retail industry workers are at a risk of developing irritant contact dermatitis from direct contact with potentially hazardous chemicals (DoL 2014:4).

2.8.1.2.5 Exposures to cold temperatures

Extreme cold temperatures that the women were exposed to often resulted in frequent respiratory tract irritation; frequent sneezing and coughing and pealing of skin from their hands, particularly among female fish processing workers in Western India (Saha et.al 2006:23).

2.8.1.2.6 Cut/incision injuries or lacerations

Cuts and incisions from knives and sharp instruments are common in the fast food industry (Government of Western Australia 2012:5); while knife accidents involving cuts or stabs to the non-knife hand, forearm or body are prevalent in the meat processing industry (British Meat Processors Association, 2014:47); and workers in the meat, poultry, fish and slaughtering sectors are at a risk of being struck by hand tools such as knives especially during deboning process (Health and Safety Executive 2005:20).

2.8.1.2.7 Accidental amputation of limbs resulting from unguarded machinery and sharp objects

Studies have shown that start-up of equipment may cause fatalities and amputations as moving animals and nervous system reactions in stunned cattle that causes jerking may pose a risk of workers being hit by the carcasses of the animals (British Meat Processors Association 2011:79). In addition, meat and fish department workers in the wholesale and retail industry are at a risk of sustaining serious cuts, amputations, crushed bones from injuries resulting from unguarded machines such as saws, meat grinders, slicers, mixers, garbage disposal units or waste balers (DoL 2014:11).

2.8.2 Workers' health surveillance

The International Labor Organization (ILO) states that surveillance of workers' health, through suitable medical monitoring or follow-up of workers seeks to detect early signs of diseases and symptoms and prevents further development thereof (ILO-OSH 2001:14). Review findings show that that health surveillance monitors and measures those changes through periodic medical examinations, for example in skin examination of workers in the abattoir for symptoms of dermatitis and treatment or biological tests such as lung function testing where there is exposure to a substance that is known to cause asthma (British Meat Processors Association 2014:20).

Health surveillance is essentially a preventive measure which is undertaken to establish if the individual's physical and mental status is suitable for the performance of the work requirements of the job (Department of Health 2003:14) and is important to prevent the common health problems in the food and beverage industry such as occupational asthma resulting from extended exposure to dust in the boiler room among fish produce workers (Jeebhay et al 2008:900). One form of health surveillance is a mandatory pre-employment medical examination that is done to establish a baseline of the individual's health against which any future changes can be measured and also to identify possible risks of deterioration in the health status of the individual which might be caused by the work activities and work environment (Department of Health 2003:14).

Managers are required to conduct periodic medical review of workers in order to ensure that the company OHS approach is effective (DoL 2013:17) and is mandatory in

workplaces where workers are exposed to particular hazards including noise, asbestos, certain chemicals, biological agents and lead (Industrial Health Resource Group 2015:1; OHS Act No. 85 of 1993:10).

2.8.3 Lost time injury rates

Injury rates show on average how often injuries occur in any particular workplace, while lost-time injuries is an indication for performance measurement in a company. Smallwood, Haupt and Shakarntu (2009:5) stated that a very important measure for workplace injuries is the injury rate per 100, 1 000 or 10 000 workers, which is a very important measure for workplace performance and is required for reviewing accident statistics. In South Africa, injury rates can now be computed per 10 000 employees exposed to the risk per year (Hedlund 2013:14).

2.9 RELATIONSHIP BETWEEN COMPLIANCE WITH HEALTH AND SAFETY LEGISLATION AND OCCUPATIONAL INJURIES AND ILLNESSES

There is significantly strong association between an effective implementation of a health and safety management system at work and reductions in injuries and diseases (Robson et al 2007:344). Pearson (2009:39) and the South African DoL (2011:24) have suggested that the food and beverage industry in South Africa is a high risk industry for work-related injuries and diseases. There is evidence of a close link between increased occupational injuries and working in high-hazard occupations (Pouliakas & Theodossiou 2010:15).

There is a link between the quality and amount of employees' health and safety training and injury and illness rates. For example the United States Government Accountability Office published a report on health and safety in the meat and poultry industry which suggests that the emphasis which employers and employees place on safety and the amount and quality of training on occupational health and safety has an association with injury and illness rates (GAO-05-96, 2005:4). A study conducted to identify causal patterns of work-related accidents among workers in the food industry in Portugal revealed that over one third of injuries were as a result of inadequate or poor work procedures as well as frequent and tolerated risky behaviour by the employees (Jacinto et al 2009:632).

2.10 COSTS AND EFFECTS OF WORK-RELATED INJURIES AND ILLNESSES ON THE EMPLOYER

As shown in literature, work-related injuries and diseases are costly to employers. A survey conducted among persons of working age during a five year period between 1996 to 2000 in Australia revealed that the financial costs incurred due to lost-time injuries include medical costs, incapacity to work, poor productivity, increase in insurance premiums, compensation costs, possible legal and enforcement costs, possible additional costs for recruiting and training for new employees (Ruseckaite et al 2011:5).

2.10.1 Compensation for injured workers

In South Africa, a total of 872 720 compensation claims were paid out at the end of financial year end 2011/2012 with the food and beverage industry making a bulk of the claim (Restaurant Association of South Africa 2012:4). Section 22(1) of the Compensation for occupational injuries and diseases Act (No. 130 of 1993) stipulates that employees who have experienced lost-time injury have the right to compensation if the injury resulted in permanent disability or death excluding any temporary partial disablement that lasts for three days or less (DoL 2010:16).

A survey conducted among the food industry workers in France aimed at investigating the employment status of workers after worker's compensation claims for musculoskeletal disorders of the limbs revealed that compensation claimants from the food industry were among the 65% of workers who returned to work after worker's compensation claims (Roquelaure, Cren, Rousseau, Touranchet, Dano, Fanello & Penneau-Fontbonne 2004:79). It has been shown that some employers are not complying with the legislation on workers' compensation. For example, a survey conducted among the food system workers in the South Eastern part of the USA revealed that workers are usually denied worker's compensation claims and they are expected to work with their injuries because the employer does not want to pay for their compensation (VanDeCruze & Wiggens 2008:13).

2.10.2 Costs for medical professional fees

The California Department of Industrial Relation (2003:4) published a report showing that employers in the food processing industry can incur medical expenses for the injured employees and for vocational rehabilitation. Further, a study conducted among employees in the catering company in Eastern Europe with the purpose of identifying the financial, physical and psychological effects that workplace accidents can have on the employer revealed that the employer incurred costs for occupational health services for an employee who accidentally cut her wrist with the lid of baked beans tin (Health and Safety Authority 2007:61).

2.10.3 Wages paid to unproductive injured or ill workers

Employers in the food and beverage industry incur costs of extra wages for injured workers who are recuperating from injuries resulting from slips, trips and falls (WorkSafe BC 2013:3). In addition, the California Department of Industrial Relation (2003:4) published a report that states that employers in the food processing industry can also incur costs of wages paid to injured employees who are not productive.

2.10.4 Costs for recruitment and training of new staff

Reports published by the California Department of Industrial Relation (2003:4) and the Government of Western Australia (2010:2) indicate that excessive injuries can lead to resignations and as a result absenteeism of injured workers can lead to employers in the food processing industry incurring more costs on recruiting and training new staff to replace the injured workers either temporarily or permanently.

2.10.5 Costs for repair of damaged machinery and equipment

Other costs incurred by employers due to work-related injuries, illnesses and environmental damages include payment for repair or replacement of damaged machinery and equipment (Othman 2012:189; WorkSafe BC 2013:3). Costs for major damage to equipment are regarded as indirect cost covered by the insurance policies that the employer usually takes out (Lebeau & Duguay 2013:12). A report published by the California Department of Industrial Relation (2003:4) reports that employers in the

food processing industry can incur costs for replacement of damaged tools or equipment.

2.10.6 Reduced productivity by new or substitute employees

Factors that can lead to reduced productivity include reduced production by new or substitute employees and also the time required for administration personnel to investigate the injury, process the forms and settle claims (California Department of Industrial Relation 2003:4). According to Lebeau et al (2013:13), productivity losses stem from the stopping or slowing down of production due to property damage or accidents that affect the employees' physical integrity.

2.10.7 Bad publicity for the employer

According to a report published by the work-related injuries resulting from non-compliance with the occupational health and safety laws in the food processing industry can lead to negative image and bad publicity for the organisation (California Department of Industrial Relation 2003:4). The view is corroborated by the suggestion that bad publicity can tarnish the image of the company and poses a negative financial impact on the business (Othman 2012:187; WorkSafe BC 2013:3).

2.10.8 Litigation

Non-compliance with the OHS Act (No. 85 of 1993) can also lead to litigation. Section 38(1)(a) of the OHS Act (No. 85 of 1993) states that failure to comply with a provision or several sections of the Act will result in penalties and special orders of court because non-compliance with the Act is an offence in the court of law (OHS Act No. 85 of 1993, 2012:22). For example, a beef processing employer who did not have safe systems of working in confined spaces was fined $960 after a worker was killed by toxic fumes while cleaning a blood-collection tank, and eight years later fined again for repeating the same violation after three workers were killed while cleaning the same tank (Dillard 2007:14).

2.11 COSTS AND EFFECTS OF WORK-RELATED INJURIES AND ILLNESSES ON THE EMPLOYEES

2.11.1 Costs of work-related injuries, illnesses and death

It is known that failure to comply with health and safety laws could also result in pain and suffering. If employees fail to follow instructions provided by the employer in relation to health and safety legislation, or knowingly break the law this could result in injury, ill health or the death of the employee, their colleagues or members of the public. To emphasise this assertion, non-compliance with the occupational health and safety legislation within all sectors including the food and beverage industry in South Africa has had negative implications including death and disability (Govindjee 2012:4). A survey conducted among catering workers in Ireland revealed that a young inexperienced catering worker in her twenties could not use her hand properly for two weeks after she accidentally cut her wrist with the lid of baked beans tin (Health and Safety Authority 2007:62).

According to a report published by the Health and Safety Authority (2007:62), there are psychological effects such as emotional pain and suffering that non-compliance with the health and safety legislation can have on the employees. Further, resulting unemployment can lead to emotional stress (Blaug, Kenyon & Lekhi 2007:35). A report published by the California Department of Industrial Relations (2003:4) states that employees experience the grieving process after the loss of physical capacity as a result of a tragic injury or illness similar to those who experience the loss of a loved one.

2.11.2 Changes to lifestyle

Lifestyle is influenced by socio-economic factors such as income (Hassan, Austin, Celia, Disley, Hunt, Marjanovic, Shehabi, Villalba-Van-Dijk & Van Stolk 2009:17). A survey conducted among catering workers in Ireland revealed that a catering worker who was away from work due to work-related injury for six years could not take her family on holidays nor pay for her children's school tours due to lack of finances (Health and Safety Authority 2007:75).

2.11.3 Loss of income

Work-related injuries that result from failure to comply with health and safety laws could also result in loss of earnings. Working and earning a salary is not only essential to happiness but a clear source of self-respect and it makes one needed and productive (Blaug et al 2007:41). Injured workers in New Zealand bear approximately 30% of costs including loss of income and loss of future earnings (Pearce, Dryson, Feyer, Gander, McCracken & Wagstaffe 2004:5).

2.12 EFFECTIVE HEALTH AND SAFETY PROGRAMME FOR COMPLIANCE WITH HEALTH AND SAFETY LEGISLATION

A good health and safety programme is one that produces changes in the workplace, leads to the elimination of hazards and promotes safer behaviour in the workplace (Latourrette & Mendeloff 2008:7). A survey conducted to provide an overview of the importance of occupational health and safety within the workplaces in South Africa revealed that it is the management's responsibility to establish adequate health and safety programmes and provide sufficient human and financial resources to provide a healthy and safe workplace (Machabe & Indermun 2013:29). A report published by WorkSafe BC (2013:8) indicates that every health and safety programme should have the following elements:

- An Occupational Health and Safety policy statement of the aims of the program and the responsibilities for health and safety. The policy statement should clearly stipulate the employer's commitment to protect the health and safety of workers, aims and priorities of the OHS program and the responsibilities of the employer, supervisor and that of the workers (WorkSafe BC 2013:8).
- A health and safety programme should have regular inspection of premises, machines, tools, equipment and work practices in order to identify conditions and unsafe activities that have the potential to cause injury or illnesses, to determine necessary corrective measures, as well as to prevent unsafe work conditions from developing (WorkSafe BC 2013:8).
- Appropriate written instructions for workers. Further, review of literature revealed that written procedures are necessary to help train new employees and to establish a consistent level of work performance (WorkSafe BC 2013:11).

Examples of activities where health and safety regulations need work procedures include lockout, confined space entry, fall protection, personal protective equipment, violence in the workplace, emergency evacuation chemical spills clean-up as well as working alone or in isolation (WorkSafe BC 2013:11).

- Periodic management meetings. A report published by WorkSafe BC (2013:12) further states that periodic management meetings are important to discuss health and safety activities and incident trends. Furthermore, meetings can be used to review policies and procedures, to review feedback from workers, consider reports and other health and safety information provided by the committee, address concerns brought to their attention and also to review reports on health and safety issues in the workplace (WorkSafe BC 2013:12).
- Investigation of accidents and other incidents. Review of a report published by WorkSafe BC (2013:13) revealed that one of the important elements of an effective health and safety programme is to investigate accidents and other incidents that have the potential to cause an injury or illness, and it is important to investigate and identify the root cause and to take action and prevent similar incidents from happening again.
- Records and statistics. The WorkSafe BC (2013:17) report further revealed that accident and injury statistics are crucial in identifying trends and for measuring the effectiveness of health and safety activities and programs. Furthermore, keeping records makes them traceable to evaluate, for example, the effectiveness of training for continual improvement, and it would enable the employer to keep track of those they trained and the type of training obtained (Taderera 2012:105).
- Instructions and supervision of workers. Review of literature revealed that it is the employer's responsibility to provide every worker with instruction through education and training (WorkSafe BC 2013:18). Further, education involves formal lectures on health and safety topics, while training involves demonstration and active participation by the employees (WorkSafe BC 2013:18). In addition, supervision of employees is crucial in ensuring that they follow safe work procedures and it includes enforcing health and safety rules, making informal inspection, ensuring proper training of workers and conducting informal discussion with workers on health and safety matters (WorkSafe BC 2013:18).

2.13 CONCLUSION

This chapter explored literature pertaining to fundamental issues that revolve around compliance with occupational health and safety legislation. The Literature review has shown that a good health and safety management plan can benefit the employer and the employee, because investing effort into OHS and a safe environment can give employees confidence that their employer is concerned about their safety and health at work.

It is also evident that consultation with the employees can help create a higher degree of ownership and incentive, which can lead to an overall improvement in productivity and employee morale. The chapter also highlighted the fact that maintaining a safer and healthier workplace will also save the cost associated with work-related injuries and illnesses.

The next chapter will discuss the theoretical framework that underpins the current study.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 INTRODUCTION

The previous chapter presented national and international literature relating to the key issues affecting workers in the food and beverage industry. This chapter outlines the ILO-OSH 2001 management system on occupational health and safety in workplaces as a theoretical framework that supports and provides grounding for the current study. The ILO-OSH 2001 management system on OHS was developed to provide a unique international model compatible with other management system standards and guides aimed at promoting occupational health and safety; it encourages the integration of occupational safety and health management system with other management systems; and emphasises that OHS should be an integral part of business management (ILO 2011:2).

3.2 THEORETICAL FRAMEWORK SUPPORTING THE CURRENT STUDY

A theoretical framework is defined as a group of interrelated concepts, definitions, and propositions that provide guidance to a research study (Glanz Rimer, & Viswanath 2008:27). Concepts are defined as the building blocks of theories that are being studied, and they are the symbolic constructions that enable people to make sense of and attribute meaning to their worlds (Mouton 2006:181). There is increased recognition that using theory in crafting interventions can lead to more powerful effects than interventions without theory, and several reviews have shown the significance that a theory can provide in producing effective and sustained behavioural change (Glanz et al 2008:4).

The ILO-OHS 2001 Model was the theory of choice for this study. A wide variety of successful and reliable theories and techniques were indeed used to facilitate and support employee motivation for workplace safety in the past. However, the ILO-OHS

2001 Model was chosen by this researcher because of its relevance to the focus and objectives of this study.

3.3 GUIDELINES ON OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEMS (ILO-OSH 2001)

It is imperative for organisations to adopt occupational health and safety management systems because it provides employers with a platform for a continuous systematic management and improvement of OHS plans, policies, programmes and projects (Taderera 2012:116). The literature review revealed that it is more advantageous for businesses in developing countries to implement the ILO-OSH 2001 Guidelines on Occupational Safety and Health Management Systems because it is cheaper and can be implemented by smaller companies without the need for technical expertise, whereas OSHAS 18001:2007 is best implemented as an integrated management system with ISO 9001 and ISO 14001:2004 (Leka & Cox 2008:39) and it is expensive and needs expertise.

The general principle of the OHS law in South Africa is based on the ILO-OHS 2001 occupational health and safety management system. Just as the Occupational Health and Safety Assessment Series (OHSAS 18001:2007) it prescribes the use of systems, principles and strategies for continual improvement in managing workplace health and safety. Hence, to comply with the amended OHS Act (85 of 1993) requirements and relevant regulations, the employer should put in place an occupational health and safety management system consisting of inter-related elements that function as a whole to ensure that the environment is healthy and enables safe work (ILO 2001:5). The system includes the main elements of the OHS policy, organising, planning and implementation, evaluation, and action for improvement.

The ILO-OSH 2001 Guidelines on Occupational Safety and Health Management Systems provide for the systematic management of OSH at both national and company level (ILO 2011:8). It can be used at a national level to establish a national framework for OSH management systems which can be supported by national laws and regulations, while at a company level it can provide guidance to the employer, management, employees and their representatives in implementing appropriate OSH management principles and methods that continually improve the organisation's OSH

performance (ILO 2001:1). Furthermore, these guidelines apply to the employer who is expected to demonstrate commitment and leadership at an organisational level that seeks to improve the OSH management system to be based on a continuous improvement cycle (ILO 2001:5).

Robson et al (2007:607) confirmed the effectiveness of OSH management system in reducing the number of accidents, occupational diseases and related economic losses.

Key areas addressed by the ILO-OHS 2001 OHSMS model are illustrated in Figure 3.1:

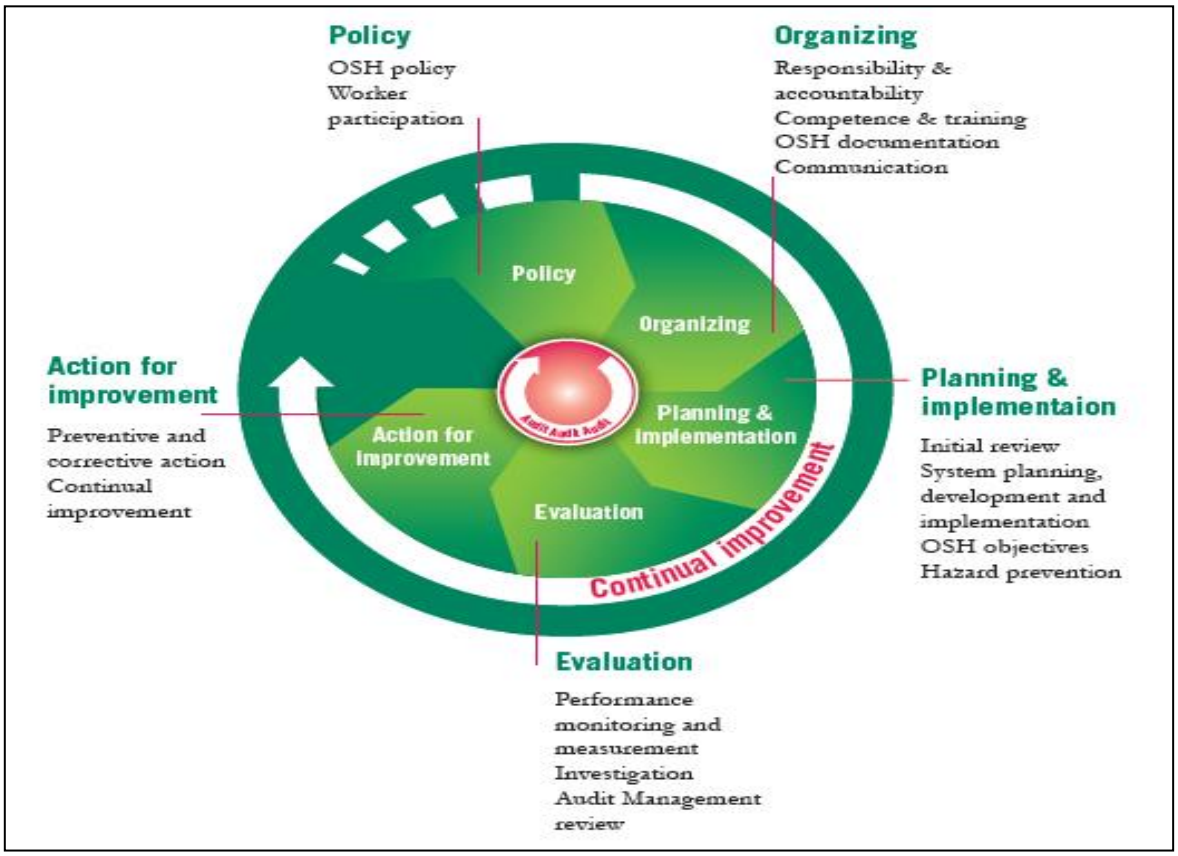


Figure 3.1 ILO-OHS 2001 OHSMS model

(Source: ILO-OSH 2001)

This is a five-step process, which begins with the establishment of an OH&S policy that emphasises participation of workers and their representatives, the model then sets an Organizing step (ILO-OSH 2001:7; Burton 2010:6). The ILO-OSH 2001 management system on occupational health and safety is intended at establishing accountabilities, responsibilities, documentation and communication to ensure that the infrastructure is in place for the proper management of OH&S. Planning and Implementation includes

undertaking a baseline review, determining OH&S hazards and setting objectives. Evaluation comprises performance monitoring and measurement, investigation of work-related injuries and illnesses, audit and management review. The last step, Action for improvement, includes preventive and corrective actions and continual improvement.

3.3.1 Policy

3.3.1.1 OHS policy

A health and safety policy is a statement by the organisation that establishes and positions health and safety as a priority. It states the aims and objectives of an organisation seeking to establish a health and safety culture. Other aspects that are highlighted in the health and safety policy are the recognition of the importance of commitment by both senior management and the employer to allocate resources to ensure that overall organisational aims are achieved (ILO-OSH 2001:6).

Furthermore, the employer together with the employees and their representatives are expected to draw up an OHS policy that is in line with the activities of the organisation and appropriate to its size (ILO 2001:6). The OHS policy should ideally be written in order to represent the foundation from which occupational safety and health goals and objectives, performance measures and other system components are developed (Allie 2008:45). In addition, the OHS policy should emphasise commitment by senior management to allocate resources for health and safety and ensure that overall organisational aims are achieved (ILO-OHS 2001:6). According to Hughes and Ferret (2013:24) the OHS policy needs to indicate more specific emphasis on worker participation, an essential element of the management system, which should be referred to in the policy statement.

3.3.1.2 Worker participation

Worker participation is referred to as an engagement of workers with supervisors, managers or employers on health and safety matters (ILO 2010:13). According to ILO (2001:6) the ILO-OSH 2001 management system emphasises on participation of workers and their representatives. ILO-OSH (2001:6) and Burton (2010:6) posit that one of management's duties and responsibilities is to promote the participation of all

members of the organisation towards a common goal with regards to health and safety issues. Implementation of worker participation will encourage the workers to become involved in determining their work environment or work organisation (ILO 2010:13).

3.3.2 Organising

3.3.2.1 Responsibilities and accountability

Organising for good Health and Safety practices should be directed towards creating a framework of roles and responsibilities that ensure the achievement of health and safety goals set by the OHS policy. Aspects that need to be addressed include good communication, co-operation and competence of employees in relation to their everyday activities (ILO 2001:7). Other aspects that need to be emphasised on the OHS policy include the employer's overall responsibility towards the protection of workers' safety and health and the provision of leadership for OSH activities (ILO 2001:7). In addition, the OHS policy should highlight issues such as the allocation of responsibilities, accountability and authority in the implementation of the management system (ILO 2001:5).

3.3.2.2 Competence and training of employees

It is a legal requirement that employers must employ persons that are competent and who support all aspects of the organisational OSH management system (ILO 2001:8). The ILO-OSH 2001 states that the necessary OSH competence requirements need to be defined by the employer and arrangements established and maintained to ensure that all persons are competent to carry out the health and safety aspects of their duties and responsibilities (ILO 2001:8). Furthermore, the ILO-OSH states that the employer should provide regular and effective initial and refresher training to all employees free of charge that should take place during working hours if possible (ILO 2001:8).

3.3.2.3 Communication

Good communication on health and safety measures with employees is critical to building a positive health and safety culture and maintaining safety in the workplace and ultimately reduces work-related injuries and illnesses (Machabe & Indermun 2013:30).

The employer needs to ensure that there is communication of occupational health and safety information between management and employees (Taderera 2012:105). According to the ILO-OHS 2001, the employer should establish and maintain arrangements and procedures for receiving, documenting and responding appropriately to internal and external communications related to the occupational health and safety of employees (ILO 2001:9). Furthermore, the ILO-OHS 2001 suggests that the employer should ensure internal communication of occupational health and safety information, such as the prevention and control of the workplace hazards and risks, and procedures and instructions on the use of PPE, between relevant levels and functions of the organisation, after receiving and while considering as well as their response to the concerns and ideas or inputs of workers on occupational health and safety matters (ILO 2001:9).

3.3.3 Planning and implementation

The purpose of planning should be to create an OSH management system that supports compliance with national laws and regulations (ILO 2001:10). The ILO-OSH 2001 model states that planning and implementation involves doing a baseline review, determining Occupational Health and Safety hazards and setting objectives (ILO 2001:10). The ILO-OHS 2001 emphasises that the employer should appoint a competent individual in consultation with employees and their representatives to conduct an initial evaluation of any OSH-MS, if it exists, and if the organisation is new, the initial review should serve as a basis for establishing an OSH management-system (ILO 2001:10). In addition, the initial review should identify the current applicable national laws and regulations, national guidelines on OHS or any other requirements to which the organisation subscribes to (ILO 2001:10).

3.3.3.1 Hazard prevention

Section 12(1)(a) of the OHS Act (No. 85 of 1993, as amended), emphasises on the significance of risk assessments as a tool for ensuring that potential hazards to the health and safety of the employees are eliminated or mitigated (OHS Act No. 85 of ’93, 1993:10). According to the ILO (2001:11) ILO-OSH 2001 emphasises that preventive and protective measures should be implemented to:

- Eliminate hazards and risks.
- Control hazards and risks at source, through the use of engineering controls or organisational measures.
- Minimise hazards and risks by the design of safe work systems which include administrative control measures.
- Enable the employer to provide appropriate personal protective equipment (PPE) as well as protective clothing free of charge in situations where outstanding hazards or risks cannot be controlled by combined measures. Furthermore, the employer should encourage that measures are implemented to ensure PPE use and maintenance.

Hazard prevention and control measures should also be: established and adapted to the hazards and risks encountered by the organisation; reviewed and modified when necessary on a regular basis; compliant with national laws and regulations; and reflect good practice as well as consider information or reports from institutions such as the DoL inspectorates and occupational health and safety services (ILO 2001:11).

3.3.3.2 Emergency prevention, preparedness and response

According to the ILO-OSH (2001:9) emergency prevention and preparedness and response arrangements should be established and maintained. The employer is required to ensure that necessary information, internal communication and coordination are provided to protect employees in the event of an emergency (ILO-OSH 2001:12). These arrangements should identify potential accident and emergency situations and address the prevention of occupational health and safety risks associated with them (ILO-OSH 2001:12). The arrangements should also address first-aid and medical assistance, fire-fighting and evacuation of employees and provide relevant information and training in emergency prevention, preparedness and response procedures (Taderera 2012:107).

3.3.4 Evaluation

Evaluation involves the monitoring, measuring and recording of occupational health and safety performance of the organisation on a regular basis (ILO 2001:6). This involves proactive and reactive monitoring strategies of workplace health and safety

performance. Proactive monitoring refers to monitoring and measuring health and safety performance of the management system's planned activities and these may include compliance with program plans, implementation of operational controls, carrying out risk assessments, equipment inspection and health and safety communication, and evaluating the competence of employees (Health and Safety Executive 2001:14). The ILO-OHS 2001 model states that the employer should conduct regular audits to determine whether OHS management system and its elements are in place, and whether it is adequate and effective in protecting the safety and health of workers (ILO-OSH 2001:13).

In addition, the ILO (2001:15) states that all OSH management system failures should be well documented. This calls for reactive monitoring, which refers to monitoring and measuring management system failures or deviations from the planned management system should be implemented. Reactive monitoring may include measuring failures in risk control, systems to identify and report injuries and work-related illnesses and losses such as damage to property as well as near misses (Health and Safety Executive 2001:13).

According to the ILO-OSH (2001:13), procedures to monitor, measure and record OSH performance on a regular basis should be developed, established and periodically reviewed. Performance monitoring and measurement should also be used as a means to determine the extent to which OSH policy and objectives are being implemented and risks are controlled (ILO-OSH 2001:14).

3.3.4.1 Management review

The purpose of conducting a management review is to ensure that all parts of the Health and Safety management system are working effectively and that the objectives of the policy are being achieved (ILO 2001:16). A review can take place against internal standards or performance indicators, and external performance indicators. A management review strengthens commitment and awareness of a healthy and safe organisational culture and it should evaluate the entire strategy of the OSH management system to determine whether it meets planned performance objectives (ILO 2001:16).

3.3.5 Action for improvement

3.3.5.1 Preventive and corrective action

It is imperative for the organisation to establish preventative and corrective action. The ILO-OSH 2001 guidelines suggest that the OSH management system audits and process of management review are completed once an OSH management system performance has been monitored and measured (ILO 2001:17). The root causes of non-compliance with related OSH legislation are identified at this stage. The ILO-OSH 2001 management system further suggests that any evidence of the existence of inadequate preventive and protective measures for hazards and risks should be addressed immediately (ILO 2001:9).

The employer is required to ensure that hazards are prevented, eliminated, controlled and minimised (ILO 2001:11). These hazards should be reviewed and modified on a regular basis if needs be (ILO 2001:12). In addition, an employer should establish and maintain an emergency prevention, preparedness and response system in place (ILO 2001:10). Compliance with the safety and health requirements for the organisation is usually identified, evaluated and incorporated into the procurement of the organisation (ILO 2001:13).

3.3.5.2 Continual improvement

ILO-OSH 2001 suggests that constant efforts must be made to improve an organisation's OHS performance, audits and corrective actions (ILO 2001:18). According to Taderera (2012:110), the employer should establish and maintain arrangements for continuous improvement of the occupational health and safety management system. Issues that are taken into account include organisational OSH objectives, and results from performance monitoring and measurement as well as the investigation of work-related injuries, diseases, ill health and incidents (ILO 2001:18 and Taderera 2012:110).

3.4 CONCLUSION

This chapter outlined in detail the key aspects of the theory that supported the study. The ILO-OSH 2001 appropriately guided the study to address the research topic on challenges of non-compliance with the OHS Act (No. 85 of 1993). The study investigated the effects of non-compliance with the OHS Act (No. 85 of 1993) by the employers and employees in the food and beverage industry in South Africa. In order to achieve this, the data collection instruments were guided by the key areas identified in the ILO-OSH 2001 model. The theory narrowed its focus on the employer's responsibilities towards the employees and employee participation in issues related to occupational health and safety.

The next chapter discusses the research methodology used to address the research objectives and describe the procedures and steps followed when conducting the study.

CHAPTER 4

RESEARCH DESIGN AND METHODS

4.1 INTRODUCTION

This chapter provides an overview of the research methods and processes followed in the execution of the study. The chapter also presents study settings, sampling process and tools used to collect data. The method used to analyse data and measures relating to the validity and reliability of instruments and ethical considerations are also described in this chapter.

4.2 RESEARCH DESIGN

4.2.1 Research paradigm

The study was rooted in a positivist quantitative paradigm intended at describing the relevance about compliance with the amended OHS Act (No. 85 of 1993) in the food and beverage industry in South Africa (Henning, Van Rensburg & Smit 2004:17). The quantitative paradigm was chosen as the preferred approach in this study because it provided guidance and evidence that reality is objective, (Krauss 2005:761). In addition, (Rubin & Babbie 2010:15) assert that a quantitative paradigm enables the researcher to discover the truth about effects of non-compliance with the amended OHS Act (No. 85 of 1993) among the food and beverage industry employers in South Africa in an objective and precise manner.

Furthermore, positivists maintain that scientific knowledge is gained through objective means such as observation, measuring and quantifying with a view to making generalisations. This is because scientific knowledge acquired using the positivistic paradigm is generated through an application of logical principles and reasoning (Burns & Grove 2005:26).

In this study a quantitative paradigm was adopted because it enabled the researcher to assess the level of compliance with current health and safety legislation and exposures

to occupational hazards in the targeted food and beverage industries in South Africa (Mouton 2006:190). Moreover, the quantitative research approach enabled the researcher to assess the conditions under which the work-related injuries and diseases among workers in the targeted food and beverage industry in South Africa were caused, and this was mostly undertaken with a descriptive research purpose (Mouton 2006:190).

The quantitative paradigm was applied in the current study as opposed to the qualitative paradigm because the methodology involved a collection of scientific data that were precise and measureable and the data were analysed using statistics with the intention that the findings could be generalised to the entire population of the food and beverage industry in South Africa (Krauss 2005:761). This complies with the Kanchanaraksa and Diener-West (2008:12) affirmation that the conclusion from data collected and analysed from a small group or sample can be generalised to the whole group or population.

In line with the study's quantitative approach, numerical data were gathered in order to identify and describe the demographical characteristics of study sites and participants as well as hazards associated with the nature of work in the food and beverage industry in South Africa; and to identify and describe the incidents of occupational injuries and diseases in the study sites (Pietersen & Maree 2007:184). Various studies postulate that research studies which seek to describe accurately and precisely a wide variety of characteristics of the target population, as was the case in the current study, are descriptive in nature (Mouton 2006:102; Mouton & Marais 2009:43; Babbie 2010:93, Salaria 2012:1; Grove, Burns & Gray 2013:25).

4.2.2 Research design

A research design is referred to as a blueprint, or the overall plan for collecting and analysing data, including specifications for enhancing the internal and external validity of the study (Mouton 2006:107). In other words, a research design exposes how a research study is conducted and guides the entire research process from the time the research question is conceived up to the reporting of the research findings (Bless, Higson-Smith & Kagee 2006:21; Babbie 2007:87). The current study adopted a descriptive research design to obtain in-depth knowledge on compliance to the amended OHS Act (No. 85 of 1993) within the food and beverage industry in South

Africa. In addition, the chosen design assisted the researcher to describe the current status of the work environment, the common hazards confronted by employees, incidents of occupational injuries and diseases and compliance with health and safety legislation.

A retrospective design was also used in this study. It included a review of incident registers, training records, documentation on health and safety programs of the study sites, and records on risk assessments conducted, reviews of the current occupational health and safety policy as well as review of reports from previous inspections.

4.3 RESEARCH METHOD

A research method is defined as the strategies and processes involved in conducting research studies (Vanderstoep & Johnston 2009:308). The strategies and processes followed by the researcher are outlined and presented in the sections that follow.

4.3.1 Study setting

A research setting is the location where a study is conducted (Burns & Grove 2009:362). According to Polit and Beck (2010:568), a research setting is referred to as the physical location and condition in which data is collected. This study's research setting included naturalistic settings of the South African food and beverage industry where the data were collected (Polit & Beck 2004:28). The setting was the food and beverage enterprises located in four provinces of South Africa, namely, the Gauteng Province (23), Free State Province (2), Limpopo Province (1) and the North West Province (1) as illustrated in Table 4.1 below. The study setting was made up of 27 sites that were stratified into 4 sceneries and consisted of the food and beverage manufacturing sector, food and beverage distribution sector, food and beverage service sector and the meat sector.

Table 4.1 Geographical location per province (n=27)

Province of operation	Frequency (n)	Percentage (%)
Gauteng	23	85.20
Limpopo	2	7.40
Northwest	1	3.70
Free State	1	3.70
Total	**27**	**100.00**

4.3.2 Sampling procedure

4.3.2.1 Target population

Babbie (2010:199) defines a population as the theoretically specified aggregation of the elements in a study. According to Mouton (2006:134), a population is a collection of objects, events or individuals having some common characteristics that the researcher is interested in studying. The members of a population need to be accessible because they are the target of investigation. An accessible population is defined as the population of subjects available for a particular study (Hayes 2011:1), while a target population is the entire group of people or objects that are of interest to the researcher and hence meet the criteria the researcher is interested in (Vanderstoep & Johnston 2009:26). The target population for this study consisted of thirty eight (38) selected enterprises from the food and beverage industry located in the four selected provinces of South Africa. In addition, the target population also included two hundred and seventy eight (278) employees from two meat processing enterprises.

4.3.2.2 Sampling

Polit and Beck (2008:339) refer to a sample as a portion of a population whose results can be generalised to the entire population for a particular study. Sampling is the process of extracting a portion of the population from which generalisation of the findings can be made (Amin 2005:237).

A systematic sampling technique was used in this study to ensure representation of the study population. In a systematic sample, firstly the elements of the population are put into a list and secondly selecting a fixed starting point in the larger population and then

obtaining subsequent observations by using a constant interval between samples taken, for instance a constant interval can be every 10th or every 2nd element in the list which can be chosen systematically for inclusion in the sample (Mouton 2006:137; Babbie 2010:211). The researcher also applied the non-probability sampling method known as purposive sampling method to select employees to participate in the study. According to Wamundila (2008:25), purposive sampling is a non-parametric sampling technique in which the researcher purposively identifies participants as source of data.

Additionally, the two sampling techniques were used to produce representativeness of the entire population of the food and beverage industry in South Africa (Babbie 2010:192). Ultimately, the sample size was decisive for the generalisation (Denzin & Lincoln 2011:307). The study sites were characterised by establishments producing consumable foods and drinks, distributing food, providing food and beverage services and those processing meat.

4.3.2.2.1 Sampling of the food and beverage sectors

To ensure representation of the study population, the sampling strategy used for the selection of study sites was systematic sampling. In a systematic sample, the elements of the population are put on a list and then every kth element in the list is chosen systematically for inclusion in the sample (Mouton 2006:137; Babbie 2010:211).

A list of 76 enterprises was obtained from the DoL. The list was not arranged or grouped in any type of order, a factor which was valuable to counteract any possible bias**.** Thus, the enterprises on the list were not arranged according to different food and beverage sectors, or grouped according to their specialties such as manufacturing, distribution, services or meat processing but were mixed from number 1 to 76.

First, to prevent any possible bias, the researcher selected the first enterprise at random, a method referred to as systematic sampling with a random start (Babbie 2010:213). The researcher manually selected a number that is less than the total population of 76 enterprises and this was number 20 on the list. Secondly, the researcher chose the sampling interval of every second enterprise on the list, which was the standard distance between elements selected in the sample. Every second enterprise was selected until the bottom of the list and the researcher continued with the

process at the top of the list to include every second number from 1 to 19. This process brought the number of enterprises selected to 38. Out of the 38 enterprises selected and approached, 27 consented to participate in the study.

4.3.2.2.2 Sampling of the employees in selected food and beverage sectors

The researcher also applied the non-probability sampling method known as purposive sampling to select the employees that would participate in the study. According to Wamundila (2008:25), purposive sampling is a non-parametric sampling technique in which the researcher purposively identifies participants as a source of data. Purposive sampling was used because it assists in identifying and involving key participants out of the entire population who have better a knowledge, understanding and information about the matter being studied in order to get as much relevant and valuable information for the research as possible (Schutt 2012:157). Purposive sampling is also referred to as a type of nonprobability sampling in which the units to be observed are selected on the basis of the researcher's judgement on the ones that will be the most useful or representative (Babbie 2010:193). In this study, employees from the meat processing sector were purposely handpicked from the population, as they were identified as the key participants to take part in the study, on the basis of the researcher's judgement. Purposive sampling was also used in order to generate representative data from the employees who possess the characteristics of the food and beverage industry employees (Green & Thorogood 2009:138).

The intention was to interview all employees from the selected study sites, however most employees from the study sites were not willing to be interviewed. As a result, employees from only two study sites from the meat sector consented to participate in the study.

In addition, the strategy was to interview all employees present at the two meat enterprises and those who would have consented to participate in the study. The researcher went to the two meat processing enterprises and surveyed the employees who were available and had consented to be interviewed. The researcher obtained a list of employees at each section of the sampled study site from the safety managers and used it as a database to recruit employees who were at work on the day of data collection. The total number of employees who were identified at the two meat

processing enterprises was 278, however only 202 employees who were available and consented to participate in the study were surveyed. Purposive sampling was suitable in this instance because employees from the meat sector were suitable as the study required a focus on only employees from the food and beverage industry.

4.3.2.3 Sample size

A total number of twenty-seven (27) study sites from the food and beverage industry among the four provinces of South Africa that met the inclusion criteria made up a sample size of the study sites, while two hundred and two (202) employees from the selected food and beverage companies who consented to participate in the study and were available on the day of data collection made up a sample size for the employees. The two hundred and two (202) employees provided data on their perceptions on: compliance with the requirements of health and safety legislation, their awareness of health and safety rules and responsibilities, their consultation and participation in health and safety matters and their training in health and safety measures. Selection bias was avoided since a systematic sampling of every second enterprise on the list was used to select those for inclusion in the sample for a true representation of the target population. The recruitment of all the available employees who made up 73% of the total number of employees at the two meat processing enterprises represented the true target population and assisted further in avoiding bias.

4.3.3 Inclusion and exclusion criteria

The study focused on enterprises from the selected food and beverage industry in the four provinces of South Africa which were willing to participate in the study. The study also focused on including employees from the food and beverage industry only that were willing and available to participate in the study on the day data was collected. Sectors which did not belong to the food and beverage industry were excluded from the study (Polit & Beck 2008:290). The food and beverage industry enterprises from other provinces were excluded, while the food and beverage industry enterprises and food and beverage industry employees who were unable to provide informed consent to participate in the study and those who did not belong to the food and beverage industry were also excluded.

4.3.4 Data collection

4.3.4.1 Data collection method

The development of data collection tools for the study sites and the employees was done with cognisance of the study's objectives and problem statement. Burns and Grove (2009:43) refer to data collection as a precise, systematic gathering of information that is relevant to the research purpose or the specific objectives, questions or hypothesis of a study. The instruments used to collect data included an inspection checklist for the study sites and an interview- led questionnaire for employees.

The inspection checklist was built on the existing checklist that is used by the DoL for workplace health and safety inspections. A new checklist was piloted because the one used by the DoL does not focus on areas relevant to the present study. In addition, the checklist was developed after a review of relevant literature. The researcher's supervisor reviewed the checklist and provided feedback which resulted in changes being made. The checklist was eventually validated by the research supervisor who is an expert in the field.

Inspections at some study sites took place in the morning, some took place after the morning tea break, while some took place after lunch. Each lasted for approximately an hour and a half to two hours for the twenty-seven (27) study sites.

Secondly, the interview-led questionnaire was designed with both closed and open-ended questions. This sought to ensure that additional unquantifiable attributes and perceptions specifically relating to compliance with the requirements of health and safety legislation, employee awareness of health and safety rules and responsibilities, employee consultation and participation in health and safety matters, and their training in health and safety measures were also accommodated. Concepts and phenomenon being investigated were overtly accounted for in the instrument and found to be consistent with previous successful and comparable studies and literature.

The interviews were conducted in a way that sought to accommodate the different contexts at the sites. At one meat processing enterprise, employees were interviewed in the boardroom, while at another meat processing enterprise the employees were

interviewed in a spare office. At both study sites the interviews were conducted from morning to the afternoon and each lasted for an average of 20 minutes. Although the interview-led questionnaire was in English, to ensure that all employees understood the questions, other languages that the researcher and research assistant used and are conversant in included Sesotho, Sepedi, isiZulu, Setswana and Afrikaans.

The process followed in gathering information on variables of interest consisted of three steps, namely gaining entry into the setting, the data gathering phase and exiting the field. A two phase data collection process was followed in which the environmental inspection of the study sites and record review were conducted first during the first week of June 2011 and ended in July 2012. Secondly, interviews for employees were conducted during the second phase of data collection which took place from July 2014 to August 2014.

4.3.4.1.1 Gaining entry into the settings

Prior to data collection, the researcher liaised with several employers and was granted permission to conduct the study, discuss issues pertaining to the research protocol, gain access to the study sites and gather data from the study sites. Proper arrangements were made regarding suitable time and dates for collecting data. Dates that were suitable for the researcher and the study sites were secured in advance for the study sites that were geographically accessible for the researcher.

4.3.4.1.2 Data gathering phase

- **The use of an inspection checklist as a data collection tool**

Data were collected using an inspection checklist. A total of twenty-seven (27) inspection checklists were administered by the researcher during the study site observations. Informed consent forms were distributed through the arrangement agreed upon between the researcher and the study sites. Prior to data collection, the researcher liaised with the employers at the study sites to discuss on issues pertaining to the research protocol, gaining access to the study sites and the participants and collecting data from the participants. Suitable dates and times were agreed upon with the employers and employee supervisors and managers at the study sites. This was

done in order to avoid disrupting the participants' daily routines. The researcher also explained ethical issues and assured the employers that they could withdraw from the study or could choose not to provide any information they were not comfortable with.

The researcher used the inspection checklist to investigate compliance with the occupational health and safety legislation at the study sites. Issues that were investigated included compliance with the health and safety rules and employers' responsibilities; issues pertaining to workplace environment; common hazards confronted by employees; general safety in the study sites and work-related injuries as reported by employers at the study sites; training of employees on health and safety issues; employees participation in health and safety matters; and emergency preparedness at the study sites.

- **Document review**

The inspection checklist was also used to enter data collected from document review during worksite inspection. The researcher informed the employers in advance to prepare the list of documents to be reviewed and reminded them a day before the worksite visit to prepare the documents. The researcher reviewed reports such as injury registers, investigation reports about work-related injuries and diseases reported to the DoL for compensation purposes in order to assess the nature and causes of work-related injuries and diseases. The researcher also reviewed the existing OHS policies and OHS programmes and procedures by employers that had them in place in an effort to identify and describe the nature of OHS implemented in the study sites.

- **The use of a questionnaire as a data collection tool**

A total of two hundred and two (202) interview-led questionnaires were administered by the researcher and the research assistant. Informed consent forms were presented to the employees prior to the interviews (Annexure D). The researcher explained, to the employees, the nature of the study and its topic, the purpose, type of information and level of commitment required of them. Thereafter, the willing participants signed the consent forms to participate in the study. The researcher also explained ethical issues and assured the employees that they could withdraw from the study or could choose not to answer any questions. Special arrangements such as using the language

understood by employees were made to assist those who experienced difficulty in understanding and completing the consent forms. Most of the interviews were conducted with employees during their tea and lunch breaks to ensure that the research data collection process would not interfere with the service delivery of the enterprise under research.

The participants were asked to respond to questions pertaining to demographic characteristics, their awareness of health and safety rules and their responsibilities. In addition, the questions on the questionnaire sought to determine whether the employer consulted with and involved the employees in decision-making, particularly on matters that affect them. Employees were also asked if they had received training in health and safety measures. The questionnaire also sought to investigate whether employees had experienced work-related illness on their jobs before.

4.3.4.1.3 Exiting the field

This is the point of departure after collecting the necessary data, a process in which the researcher reflects on his or her own effect on the data that was collected and also the researcher's effect on the social and cultural process of the research itself (Petrovich 2011:3). In this study the researcher reflected on the observations and record review from the worksite, what the employees from the study sites had described as their personal beliefs, assumptions and knowledge about compliance with the amended OHS Act (No. 85 of 1993) and what they believed were the implications of non-compliance with health and safety legislation.

4.3.4.2 Development, characteristics and pre-testing of the data collection tools

4.3.4.2.1 Development of the data collection tools

The development of the two data collection instruments was guided by an earlier literature review. Topics on the data collection tools were identified from the objectives of the study and information obtained from the literature reviewed for this study. The researcher also used the inputs from the supervisor and the co-supervisor to review and refine the instruments so that they would be in line with the context of the study setting.

4.3.4.2.2 Characteristics and description of the various sections of data collection tools

- **Inspection checklist**

The researcher administered a checklist which was addressed to the employers with regard to compliance with the Occupational Health and Safety Act (No. 85 of 1993) in the food and beverage industry, South Africa. The checklist was divided into 8 sections. Section A concerned descriptive characteristics of the study sites. Section B consisted of 25 items relating to health and safety rules and employers' responsibilities. Section C comprised 8 items on work premises and means of egress, while section D consisted of 13 items investigating common hazards confronted by employees. Section E contained 8 items seeking to assess general safety in the study sites, and section F 8 items assessed work-related injuries as reported by employers at the study sites. Section G of the checklist contained 4 items that assessed the training of employees in health and safety issues as well as employees participation in health and safety matters. Finally, section H of the checklist consisted of 4 items relating to the state of emergency preparedness and response at the study sites.

Document examination was also conducted at sites where the employers had been able to produce documents on request. This included review of incident reports, training records, documentation on the health and safety programs of the company, records of risk assessments, review of the health and safety policy as well as a review of reports from previous inspections. The researcher intended to establish whether incidents were recorded and what hazards were identified at the workplace and whether control measures were documented and put in place. Finally, the inspection checklist was also used to enter data collected from the document review process.

- **The interview-led questionnaire**

The questionnaire comprised of five sections for the purpose of gathering data on compliance with the amended OHS Act (No. 85 of 1993). Section A sought to identify the participants' demographic characteristics, while section B determined the employees' awareness of health and safety rules and their responsibilities. Section C sought to determine whether the employers consult with and involve their employees in

decision-making, particularly on matters that affect their health and safety. Section D concerned employees training in health and safety. The questionnaire concluded with section E which assessed whether employees had experienced work-related illness on their jobs before.

- **Observation**

In addition to the two data collection tools, photographs depicting hazardous conditions in the study sites were considered during the observation exercise in an effort to validate employee responses, the workplace health and safety conditions and exposures, as well as to enrich the findings of this study through an evaluation of visual images. The inspection checklist was also used to enter data collected from environmental observation of the study sites.

4.3.4.2.3 Pre-testing of the data collection tools

A pilot study aimed at gathering information based on compliance with the OHS Act (No. 85 of 1993, as amended), was conducted in the food and beverage industry in South Africa. The researcher conducted a pilot study to use the findings from that initial study to enrich the main tools that would be used in the ultimate study. According to Polit and Beck (2008:51), a pilot study is a small scale version of a major study.

Pre-testing of the data collection tools was done to facilitate the refinement of the final data collection tools. Two instruments, including the inspection checklist and interview-led questionnaire, were used to solicit information and to establish if there were interesting patterns in the data (Mouton 2006:103). Both tools were used in the pre-testing in order to validate the responses from the pilot study sites and the employees to enrich the responses. Furthermore, the inspection checklist and the questionnaire were pre-tested for length, clarity and general suitability (Polit & Beck 2008:337).

The researcher undertook a pilot study in order to identify the flaws and to improve the feasibility of the administration of the process as well as to assess the reliability, validity and objectivity of the instruments (Powell 2003378; Katzenellenbogen & Karim 2007:116). The pilot study sites were randomly selected from the Gauteng Province of South Africa. The study settings which participated in the pre-testing of the checklist

comprised of 1 meat processing enterprise from Pretoria, 1 beverage manufacturing enterprise from Krugersdorp, and 1 restaurant from Johannesburg. The participants who participated in the pre-testing of the interview-led questionnaire were from 1 beverage manufacturing enterprise from Johannesburg, 1 restaurant from Johannesburg and 1 catering enterprise from Johannesburg. Lastly, a study site observation was conducted at 1 food retail enterprise in Johannesburg. As a result, a total of seven (7) food and beverage industry study sites participated in the pilot study to pre-test the three different data collection tools. The seven (7) study sites which participated in the pre-testing of the data collection tools, however, did not form part of the final study sample. The process of the pilot study's data collection involved an observation, a record review of incident records and the interviewing of two employees from 1 meat processing enterprise. The different food and beverage settings were included in the pilot study because they all had similar characteristics with regard to the targeted population of the study.

The feedback that the researcher received from the pilot study sites and the pilot study employees were that the data collection instruments were lengthy and a repetition of questions. In addition, some questions were not answered because they caused confusion. Therefore, a revision of questions was necessary and most were reworded for clarity. The researcher was guided by the research supervisor and the joint supervisor to redesign the two data collection tools.

4.3.4.3 Ethical considerations related to data collection

Appropriate steps had to be taken in order to adhere to strict ethical guidelines in order to uphold the privacy of the study sites, confidentiality, dignity, rights and anonymity. Babbie (2010:84) refers to ethics as the quality of research procedures seeking to ensure an adherence to professional, legal and social obligations to the research subjects. Thus, in order to show respect to the study sites, the following ethical considerations were adhered to:

4.3.4.3.1 Permission to conduct the study

Prior to the commencement of this study, ethical approval was requested and obtained from the Research Ethics Committee of the Department of Health Studies at the

University of South Africa (UNISA) (Annexure E). Furthermore, permission was requested and obtained from various study sites in the food and beverage industry in South Africa, prior to the execution of the study (Appendix G).

4.3.4.3.2 Informed consent

According to Green and Thorogood (2009:285), participation in research should be voluntary; while informed consent needs to be obtained from participants who also need to be informed about the risks, benefits and purpose of their participation before deciding whether or not to take part and be informed as well that they have the right to withdraw from the study at any time. Informed consent forms were distributed through the arrangement agreed upon between the researcher and the study sites. Also, informed consent forms were presented to the employees prior to the interviews. Special arrangements were made to assist the employees who experienced difficulty in understanding and completing the consent forms. The researcher informed the study sites and the employees that they could withdraw from the study at any time or could choose not to answer any questions.

The researcher ensured that all the study sites and the employees that were interviewed had full knowledge of what the research process entailed. In other words, for the study sites and employees to understand the entire research process, the researcher explained the data collection methods and their role in the research (Green and Thorogood 2009:68-69). The signed letters of informed consent were signed prior to commencement of the interviews.

4.3.4.3.3 Confidentiality

According to Babbie (2010:67), a research project guarantees confidentiality when the researcher can identify a given person's responses but essentially promises not to do so publicly. In other words, confidentiality means not divulging any information about a person (Burns & Grove 2009:196). The study sites and employees who participated in this study were assured that only they and the researcher would know the information they provided and only those who gave consent were included.

4.3.4.3.4 Anonymity

According to Babbie (2010:84), anonymity refers to the principle that the identity of an individual is kept secret. In this study, anonymity was secured by instructing the employers not to write identifying details such as the organisation names or managers' names on the questionnaires. Furthermore, the researcher assured them that the details of all the study related information would be suppressed in the final write up of this thesis so that the reader would not figure out who the participants were in the study in order to respect their privacy. Anonymity was also upheld during data analysis by allocating numbers to each study site. Anonymity in this regard was guaranteed by using questionnaire and inspection checklist identification numbers rather than respondent names or enterprise names. The conditions of anonymity also applied to the collection of data by means of using a camera. The photographs did not identify who the study sites or who their employees were.

4.3.4.3.5 Participant's benefits from the research

The researcher explained to all the study sites that they would benefit from the study by gaining information related to ways in which they could improve their compliance with the amended OHS Act (No. 85 of 1993). In addition, they were informed that they may benefit from the recommendations and subsequent improvements as a result of the study, while the model that would be developed in this study could provide a framework to enhance their occupational health and safety performance. The researcher had also envisaged that the study sites would have a copy of the thesis as a form of appreciation for their time, effort and patience in participating in the study.

4.3.5 Data analysis

The researcher involved a statistician who assisted with electronic entry and analysis of the data. The researcher and the statistician discussed the data and an agreement was reached once it was clear that all important information was captured. The researcher verified the electronic output against the completed data collection tools in order to eliminate any form of bias that could arise from data capturing. Data were coded and entered into an excel spread sheet and analysed using the Statistical Package for the

Social Sciences (SPSS) version 21 as well as the Microsoft Excel. Data that were collected were quantifiable and could be numerically expressed in measurement (Polit & Beck 2006:36, 323). Descriptive statistics were used to calculate frequencies and percentages of injury and disease rates among employees and the rate at which the food and beverage industry complies with the Occupational Health and safety Act (No. 85 of 1993, as amended). Data was presented in tables and described using frequencies and percentages.

4.3.6 Data management

Once analysis was completed the researcher kept the data in a safe place, where she was the only person who had access to it. Data were eventually destroyed at the end of the study.

4.4 VALIDITY AND RELIABILITY OF THE INSTRUMENTS

4.4.1 Validity

4.4.1.1 Face validity

Babbie (2010:153) defines face validity as an indicator that makes it seem a reasonable measure of some variable. In other words, face validity is the subjective judgement that the instrument measures what it intends to measure in terms of relevance (Polit & Beck 2008:423). Thus, the researcher ensured, in this study, when developing the instruments that uncertainties were eliminated by using appropriate words and concepts in order to enhance clarity and general suitability (Polit & Beck 2008:337). Furthermore, the researcher submitted the instruments to the research supervisor and the joint supervisor who are both occupational health experts, to ensure validity of the measuring instruments and determine whether the instruments could be considered valid on face value (Bless et al 2006:160; Rubin & Babbie 2010:83). Validity was also ensured by including questions which were in line with the objectives of the study.

4.4.1.2 Content validity

Babbie (2010:155) refers to content validity as the degree to which a measure covers the range of meanings included within a concept. Furthermore, content validity of a data collection instrument refers to the degree to which the items in an instrument adequately represent concepts being measured (Vanderstoep & Johnston 2009:59).

In this study, the researcher was guided by reviewed literature related to compliance with the occupational health and safety Act and data collection methods before she could develop the measuring instruments. In addition, the pilot study that was conducted prior to the main study assisted the researcher to avoid uncertainties of the contents in the measuring instruments. A thorough inspection of the measuring instruments by the statistician and the researcher's supervisor and joint supervisor, to ensure that all concepts pertaining to the study were included, ensured that the instruments were enriched.

4.4.2 Reliability

According to Vanderstoep and Johnston (2009:62), reliability refers to the ability of the instrument to yield similar results consistently when repeating the same study using similar conditions. Reliability is a matter of whether a particular technique, when applied repeatedly to the same study sites yields the same results each time (Babbie 2010:150). A quantitative data collection instrument is considered reliable if it produces the same numerical results when it is repeatedly used under the same circumstances (Delport & Roestenburg 2011:177). In the current study the researcher conducted a pilot study to maintain reliability of the instruments.

4.5 CONCLUSION

The chapter highlighted the descriptive research design adopted in the present study to obtain in-depth knowledge on compliance to the OHS Act (No. 85 of 1993, as amended) within the food and beverage industry in South Africa. A quantitative approach was adopted and a systematic sampling strategy was used in the selection of study sites, while the convenient sampling technique was used to include employees in the study.

In addition, issues pertaining to data collection procedures were highlighted. Data collection instruments used in the study included an interview led questionnaire for employees and a checklist for employers. Ethical considerations complied with in the study and issues pertaining to the validity and reliability of the data collection instruments were also highlighted.

The next chapter presents an analysis, description and presentation of the research findings.

CHAPTER 5

ANALYSIS, PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS

5.1 INTRODUCTION

This chapter presents the research findings based on the analysis of data obtained from employees and employers within the food and beverage industry in selected provinces of South Africa. The chapter first presents the findings on the geographic location of the study sites and the demographic characteristics of the participants' compliance with the requirements of health and safety legislation at the study sites, common hazards confronted by employees as well as the nature and sources of occupational injuries and diseases. The chapter also focuses on the results of the environmental and facilities inspections as well as photographs taken during the research.

5.2 DATA MANAGEMENT AND ANALYSIS

5.2.1 Data collection methods

Two different data collection tools were used to collect data during this study. These are: (i) an interviewer-led questionnaire for participants that consisted of closed-ended and open ended questions and an (ii) inspection checklist for facilities and registers/records.

5.2.1.1 The interviewer-led questionnaire

The interviewer-led questionnaire comprised of five sections aimed at gathering data on compliance with the amended OHS Act (No. 85 of 1993). Section A was concerned with the participants' demographic characteristics, while section B sought to determine the employees' awareness of health and safety rules and their responsibilities. Section B was divided into six items related to whether the employees were: aware of the health and safety policy of the company; understood the health and safety policy; aware of the occupational health and safety Act (No. 85 of 1993); and if they had seen or heard

about the policy and the health and safety Act (No. 85 of 1993); as well as whether they were aware of their responsibilities for health and safety and the responsibilities of their employers on health and safety towards them. Furthermore, section C aimed at collecting data regarding the employer's obligation towards the employees' consultation and involvement in health and safety-related matters, whilst section D was concerned with an assessment of whether employees were trained in health and safety-related measures. Lastly, the questionnaire concluded with section E which determined whether employees have experienced work-related illnesses.

5.2.1.2 The inspection checklist

The researcher also used an inspection checklist to guide the inspection of the environmental conditions and facilities that was conducted during the study. Environmental and facilities inspections were conducted in order to validate data reported by participants. The inspection checklist was adapted from a checklist currently used by the South African DoL for conducting workplace health and safety inspections (Annexure B). The checklist included sections that focussed on: the descriptive characteristics of the study sites; health and safety rules and employers' responsibilities; work premises and means of egress; items pertaining to investigation of common hazards confronted by employees; items used to assess general safety in the study sites; items used to assess work-related injuries as reported by employers at the study sites; items that assessed training of employees in health and safety issues; and employees participation in health and safety matters as well as items relating to the emergency preparedness and response at the study sites.

The researcher took, over and above the participants' responses and study site inspections, photographs of the environmental conditions and facilities. The aim was to validate the responses from the participants and the observations made during study site inspections to enrich the findings of this study through visual images.

5.2.2 Data analysis approach

A descriptive statistical analysis was used to calculate frequencies and percentages of injury and disease rates among employees as well as the rate at which the food and beverage industry is compliant with the amended Occupational Health and safety Act

(No. 85 of 1993). Data were coded and entered into an excel spread sheet and analysed using the Statistical Package for the Social Sciences (SPSS) version 21.

5.3 FINDINGS FROM THE INSPECTION CHECKLIST

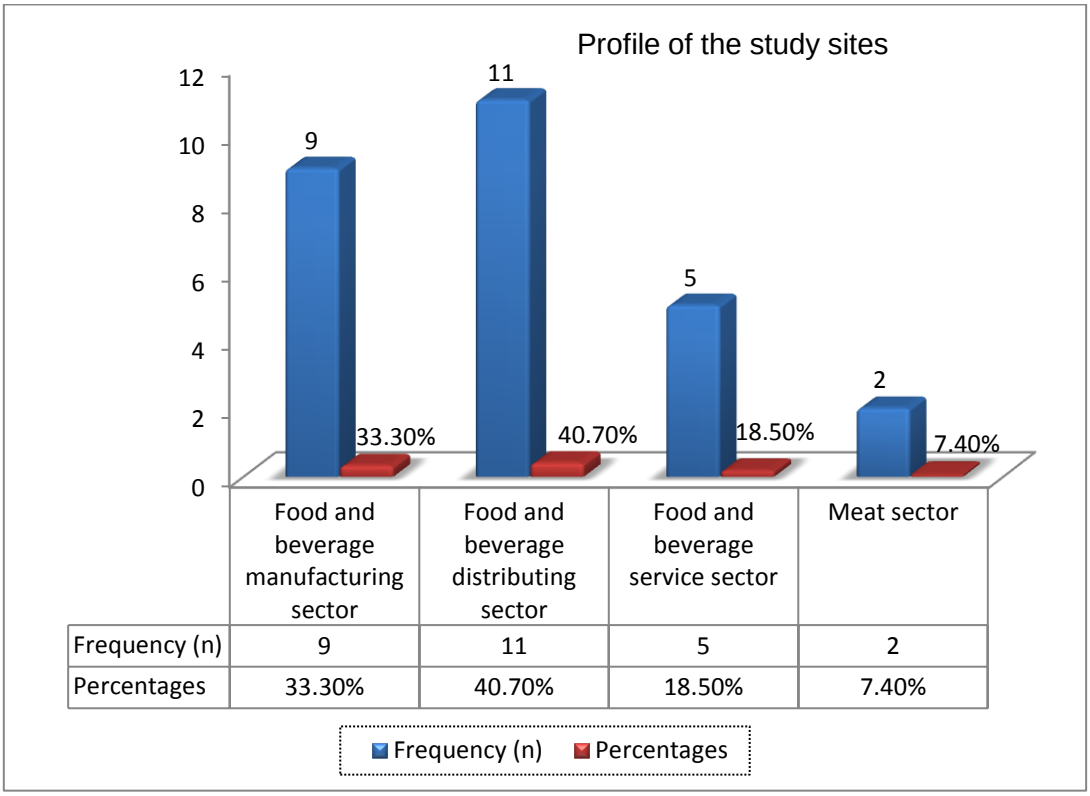
A total of 38 sites were sampled and 27 participated in the study, thus resulting in a response rate of 71%. The worksite inspections were, therefore, conducted at 27 study sites to elicit information about employers' compliance with health and safety legislation and responsibilities.

SECTION A: OBSERVATION OF THE WORK ENVIRONMENT

This section discusses the findings relating the profile of the study sites, the employers' obligations, physical work environment, common hazards and general equipment safety. The objective of observing the study sites was to gain first-hand information on the nature of hazards at the study sites and the work practices that were put in place to control these hazards.

5.3.1 Profile of the study sites

The analysis showed that the study sites were categorised into four main sectors, which are: food and beverage manufacturing sector 9(33.3%); food and beverage distributing sector 11(40.7%); the food and beverage service sector 5 (18.5%) and the meat sector 2 (7.4%). The section thus presents the results relating to the 27 study sites.



	Food and beverage manufacturing sector	Food and beverage distributing sector	Food and beverage service sector	Meat sector
Frequency (n)	9	11	5	2
Percentages	33.30%	40.70%	18.50%	7.40%

Figure 5.1 Profile of the study sites (n=27)

5.3.1.1 The total number of employees at the study sites

Figure 5.2 illustrates the proportion of employees at the 27 study sites. The analysis shows a total of 6 213 employees at the 27 study sites and these comprised of 3 552 (57.2%) employees from the food and beverage manufacturing sector, while those from the food and beverages distributing sector constituted 2 310 (37.2%). Furthermore, only 149 (2.4%) of the employees worked in the food and beverages service sector, while 202 (3.2%) were from the meat sector.

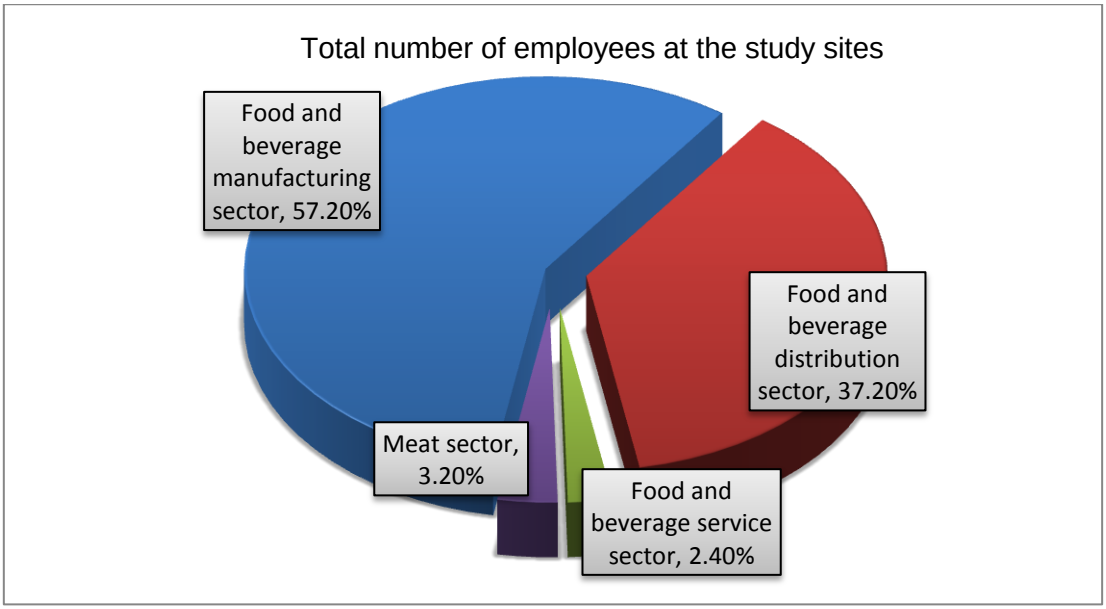


Figure 5.2 Total number of employees at the study sites (n=6 213)

5.3.1.2 Number of disabled employees working at the 27 study sites

Table 5.1 shows the total number of disabled employees working at the 27 study sites. The analysis indicates that 25 disabled employees worked at the study sites, with 13 (52.0%) being from the food and beverage distributing sector; while 11 (44.0%) worked in the food and beverage manufacturing sector and only 1(4.0%) worked at the meat distribution plant. Further findings from the current study are that no disabled persons were employed in the beverage service sector. Nevertheless, a total of 16 (64.0%) disabled male employees participated in the study compared to 9 (36.0%) female employees who participated in the study.

Table 5.1 Total number of disabled employees at the study sites (n=25)

Sector	Gender of employees			Percentage (%)
	Males	Females	Frequency (n)	
Food and beverage manufacturing sector	7	4	11	44.0
Food and beverage distributing sector	8	5	13	52.0
Food and beverage service sector	0	0	0	0.0
Meat sector	1	0	1	4.0
Total	**16 (64.0%)**	**9 (36.0%)**	**25**	**100.0**

5.3.2 Employers' obligations

As part of the research project, the researcher assessed employer's compliance with the requirements of health and safety legislation within the targeted food and beverage industry. The intention here was to find out if the employees were adequately catered for in respect of their safety at work and also whether the industry was adequately equipped to take care of the workers' health. The assessment was carried out using a non-parametric binomial test and the results are presented below.

5.3.2.1 Display of copies of the Act

The analysis, as shown in Table 5.2, shows that 22 (81.5%) of the study sites did not have a copy of the OHS Act (No. 85 of 1993, as amended) in a conspicuous and accessible place.

5.3.2.2 OHS policy and health and safety commitment by employers

As illustrated in Table 5.2, an overwhelming number 23 (85.2%) of the study sites did not have a written and conspicuously placed health and safety policy in their organisation.

5.3.2.3 Compliance model/guidelines or management system

As evidenced in Table 5.2, 20 (74.1%) of the study sites did not have any proof of health and safety compliance model/guidelines or a management system designed to ensure compliance with the OHS Act No (85, 1993). In addition, the remaining 7 (26.9%) were implementing a health and safety management model.

Table 5.2 Employers' obligations to the requirements of health and safety legislation (n=27)

	Items	Response category	Frequency\(n)	Percentage (%)
1	Is there a copy of the OHS Act (85 of 1993), as amended, in a conspicuous and accessible place?	No	22	81.5
2		Yes	5	18.5
3	Is there a health and safety policy in writing and prominently displayed?	No	23	85.2
		Yes	4	14.8
*4	Does the policy protect the health and safety of the staff?	No	23	85.2
		Yes	4	14.8
5	Is PPE provided free of charge?	No	1	3.7
		Yes	26	96.3
6	Is the PPE compliant with the recognised standards?	No	0	0.0
		Yes	27	100.0
7	Has an ergonomic assessment been done to assess risks of injuries resulting from manual handling such as lifting/pushing/pulling/ twisting and carrying?	No	19	70.4
		Yes	8	29.6
8	Is there a written procedure for fire evacuation?	No	23	85.2
		Yes	4	14.8
9	Is there a health and safety compliance model and management system designed to ensure compliance with the OHS Act (85 of 1993)?	No	20	74.1
		Yes	7	26.9
10	Are initial medical examinations carried out before commencement of work?	No	11	40.7
		Yes	16	59.3
11	Are the physical examinations and any other essential medical examinations carried out on 2-yearly basis?	No	20	74.1
		Yes	7	26.9
12	Are there employees under medical surveillance who are recommended by an occupational health practitioner to undergo medical surveillance?	Yes	16	59.3
		No	11	40.7
13	Are there health and safety representatives (where there are more than 20 employees) as required by section 17(1) of OHS Act (85 of 1993)?	No	6	22.2
		Yes	21	77.8
14	Are the health and safety representatives nominated and selected by workers?	No	18	66.7
		Yes	9	33.3
15	Are health and safety representatives informed about the occurrence of incidents?	No	21	77.8
		Yes	6	22.2
16	Has a health and safety committee been established?	No	21	77.8
		Yes	6	22.2
17	Does the employer usually inform the designated health and safety reps or planned inspection by Department of Labour?	No	20	74.1
		Yes	7	26.9

5.3.3 Physical work environment

The responses provided below are based on findings from the inspection checklist. With regards to the physical work environment, 21 (77.8%) of the study sites were found not to have good floor conditions that were skid free. Furthermore, 25 (92.6%) of the study sites did not have a work station that was clear of falling objects, and just over two thirds 19 (70.4%) of the study sites did not have a work station that is clear of unstable materials that can injure workers.

As shown in Table 5.3, 24 (88.9%) of the study sites had walkways that were not wide enough to allow easy passage for staff, thus constituting a safety threat. In addition, 24 (88.9%) of the study sites did not have appropriate handrails and barriers in place, while 22 (81.5%) did not have sufficient signs displayed for safe management of workplace transport, fire safety, welfare and first aid arrangements.

Table 5.3 Physical work environment (n=27)

	Item	Response category	Frequency (n)	Percentage (%)
1	Are floors in good condition, skid free, free of obstacles and other tripping hazards?	Yes	6	22.2
		No	21	77.8
2	Are work stations clear of falling objects?	Yes	2	7.4
		No	25	92.6
3	Are workers at risk of being injured by unstable materials and moving objects?	No	8	29.6
		Yes	19	70.4
4	Are emergency exits free of obstacles?	No	25	92.6
		Yes	2	7.4
5	Are walk ways wide enough to allow staff to pass safely?	No	24	88.9
		Yes	3	11.1
6	Are appropriate handrails and barriers in place?	No	24	88.9
		Yes	3	11.1
7	Are adequate precautions taken to protect all persons on the premises from the risks of injury from collision with vehicles?	No	20	74.1
		Yes	7	26.9
8	Are sufficient signs displayed for safe management of workplace transport, fire, safety, welfare and first aid managements?	No	22	81.5
		Yes	5	18.5

5.3.3.1 Environmental conditions of the facilities

The environmental conditions of the facilities at the 27 study sites were also inspected in order to physically verify if there were any hazardous working environments that the employees in the food and beverage industry were exposed to. Photographs were taken at some study sites in order to validate the findings obtained from the employees.

5.3.3.1.1 Slippery floors

Figure 5.3 portrays the photograph of the slippery floor at the meat processing workstation that was taken by the researcher during the site inspection. As shown in Figure 5.3, the workstation's floor is wet and contaminated with blood and animal fat. The worker is not wearing protective gloves thus, exposing himself to possible contact with blood and the risk of developing infectious diseases or occupational dermatitis.

Furthermore, Figure 5.3 displays an uneven and dilapidated floor surface that is cluttered with obstacles. This can cause the worker to slip, trip and fall and ultimately result in serious injury.

Figure 5.3 Wet contaminated floor with a cluttered floor surface. The worker is not wearing protective gloves

5.3.3.1.2 The risk of being hit by moving objects

Figure 5.4 depicts a photograph of a worker cleaning moving carcasses. The photographed moving assembly line exposes the worker to the risk of getting hit by the moving carcasses at this meat processing plant.

Furthermore, observations of the environmental working conditions at the study sites showed that workers often stand on unguarded platforms. The absence of guards or hand rails on the front of the pictured worker poses a risk of being hit by carcass or falling forward and sustaining a serious injury (Figure 5.4).

There are other risks that are captured in Figure 5.4. For instance, there is also shows evidence of the worker not wearing protective gloves, thus, allowing for possible contact with blood. In addition, reaching above the right shoulder for a prolonged period of time, poses a risk of developing musculoskeletal disorders such as back pain, neck and shoulder strains, muscle fatigue and upper limb problems for the worker. There is also inadequate space for safe movement on the platform, as illustrated in Figure 5.4, which exposes the worker to the risk of falling from a height and sustaining a serious injury. In addition, the nearby gas cylinder is not placed in a secured place, thus allowing possible explosion if the worker accidently falls onto the cylinder with the open gas flame that he is holding in his right hand. He can also sustain serious injuries to his body if he falls onto the cylinder.

Figure 5.4 Photograph showing a worker removing hair from the moving carcasses on assembly line depicting inadequate space for movement

He is using open gas flame to do this. The worker is standing on an unguarded platform and he is not wearing gloves and the gas cylinder is not placed in a secured place.

5.3.4 Common health and safety hazards

5.3.4.1 Workers exposure to physical hazards

Figure 5.5 shows that 20 (74.1%) of the work environments did not expose employees to hazardous or extreme temperatures compared to only 7 (25.9%) that did so. Notably, 17 (63.0%) of the employers reported that their workplaces did not expose employees to hazardous or extremely high noise levels compared to 10 (37.0%) who reported the contrary. In addition, 26 (96.3%) of the employers confirmed that they provided adequate ventilation and sufficient lighting in their workplaces compared to 1(3.7%) who did not provide adequate ventilation and lighting.

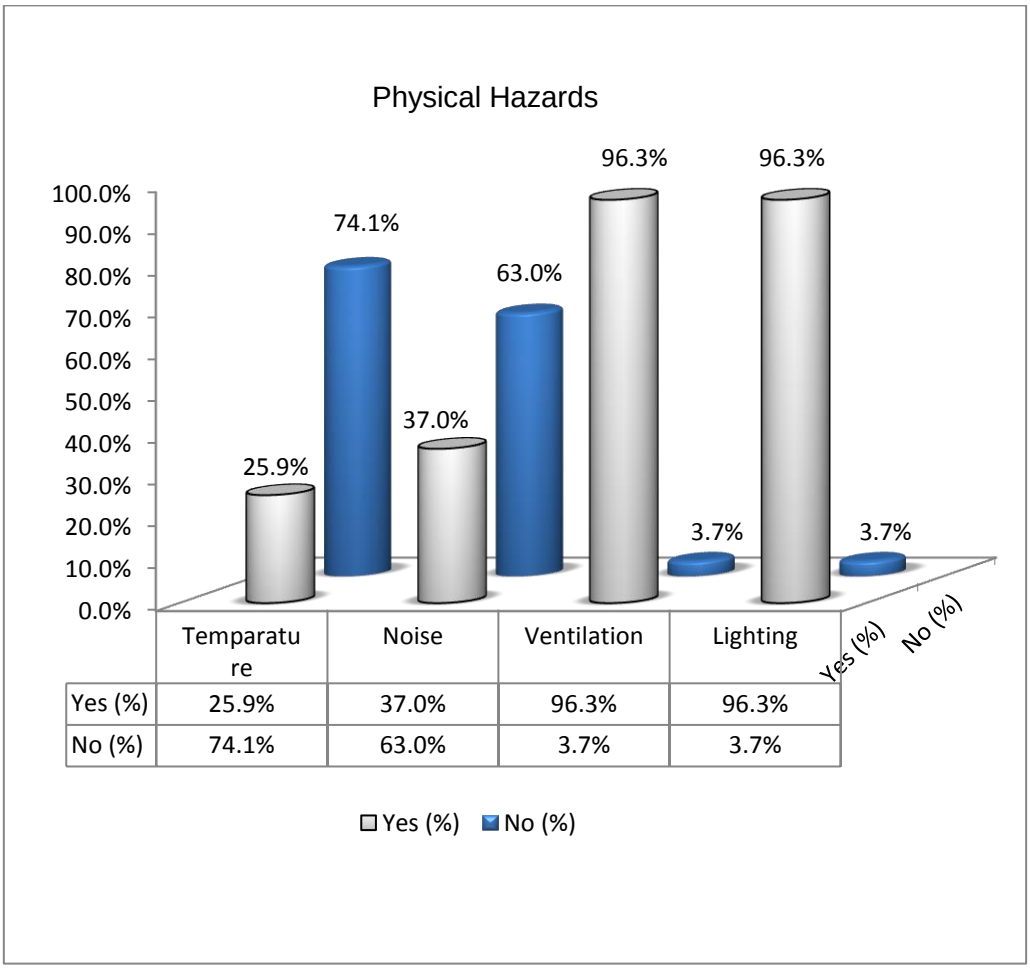


Figure 5.5 Workers exposure to physical hazards (n=27)

5.3.4.2 Workers exposure to chemical hazards

Figure 5.6 focuses on workers' exposure to chemical hazards in the workplace. The analysis shows that a proportionate number 21 (77.8%) of the employers exposed their employees to hazardous industrial fumes and fluids compared to 6 (22.2%) who did not. In addition, 12 (44.4%) of the employers exposed their employees to dust, while 15 (55.6%) did not.

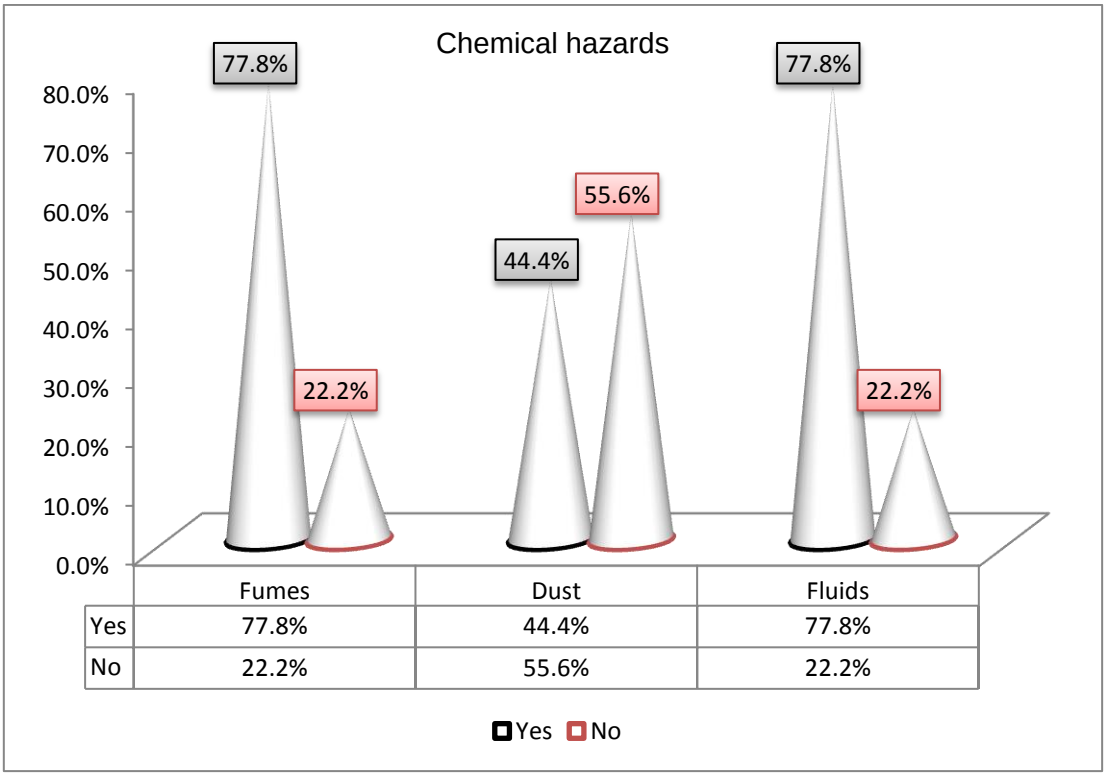


Figure 5.6 Workers exposure to chemical hazards (n=27)

5.3.4.3 Workers exposure to biological hazards

As illustrated in Figure 5.7., 16 (59.3%) of the employers indicated that they did not expose their employees to biological hazards in the workplace. Eleven (40.7%) of the employees reported that their workers were exposed to biological hazards, such as bacterial infections and allergies from food contamination.

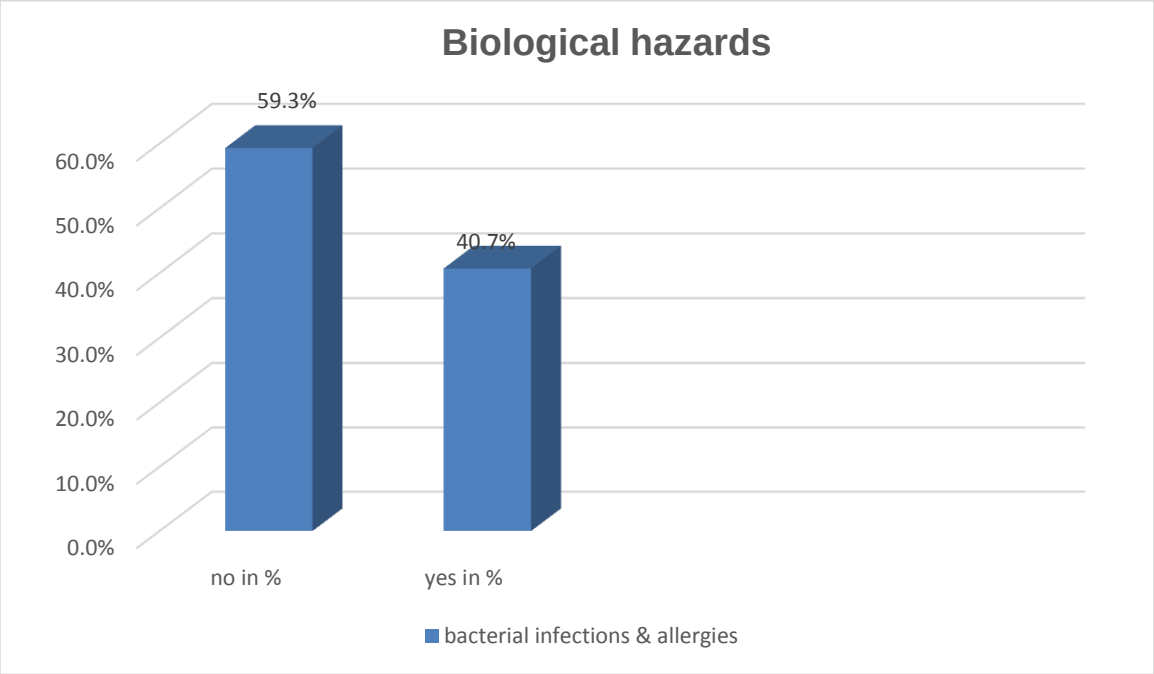


Figure 5.7 Workers exposure to biological hazards (n=27)

5.3.4.4 Workers exposure to ergonomic hazards

Figure 5.8 depicts results of responses relating to the ergonomic hazards confronted by workers at the study sites. The analysis shows that 11 (40.7%) of the employers exposed their employees to static posture, while 16 (59.3%) did not. Apart from awkward posture experienced by employees at the study sites, the analysis shows that 15 (55.6%) of the workers did not have any other ergonomic exposures. For example, 23 (85.2%) of the study sites did not experience frequent bending and twisting of the trunk.

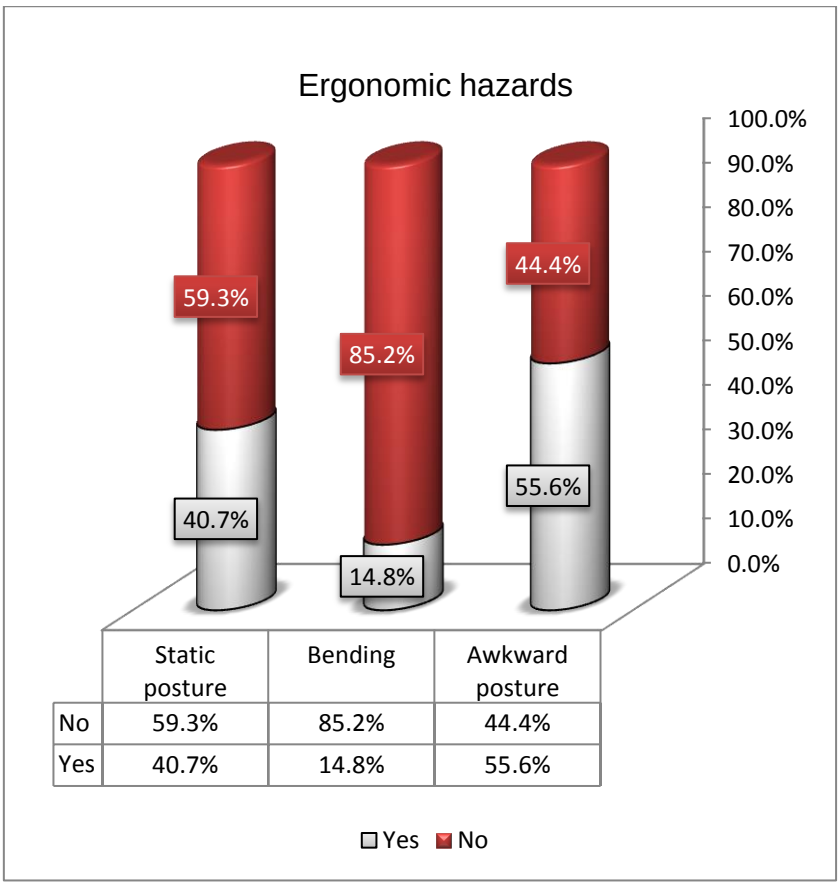


Figure 5.8 Workers exposure to ergonomic hazards (n=27)

5.3.4.4.1 Forceful repetitive movements of the upper limbs and the trunk

Figure 5.9 (i) shows a worker who spends extended periods of time in an awkward posture on a daily basis. Furthermore, the worker, as indicated in the same figure, is degutting a carcass in an awkward posture. The activity involves repetitive movements of the waist and twisting, stooping when grabbing each 150 kg carcass at a time with one hand and degutting it with the other whilst the conveyer belt is in motion.

Depicted in Figure 5.9 (i), is the process of degutting. It involves forceful repetitive movements of the wrist and the extended force on the waist; excessive reaching to pull the carcasses from the moving belt; excessive stooping and repetitive movements of the waist and the shoulders. On the day of the inspection, the workers at the plant processed 500 carcasses for eight hours. They were given short breaks of 30 minutes for tea and an hour lunch break to stretch and move around in order to alleviate injuries caused by repetitive movements.

Figure 5.9 (ii) shows the same worker in contact with sharp edges. There are a number of potential risks here. These include lacerations and punctured wounds that arise from the repetitive movements of the knife and the hook. A high degree of repetitive and forceful upper limb movements also has the potential to cause serious musculoskeletal disorders, such as the carpal tunnel syndrome.

Figure 5.9 (i) A photograph depicting an employee degutting a carcass in an awkward posture

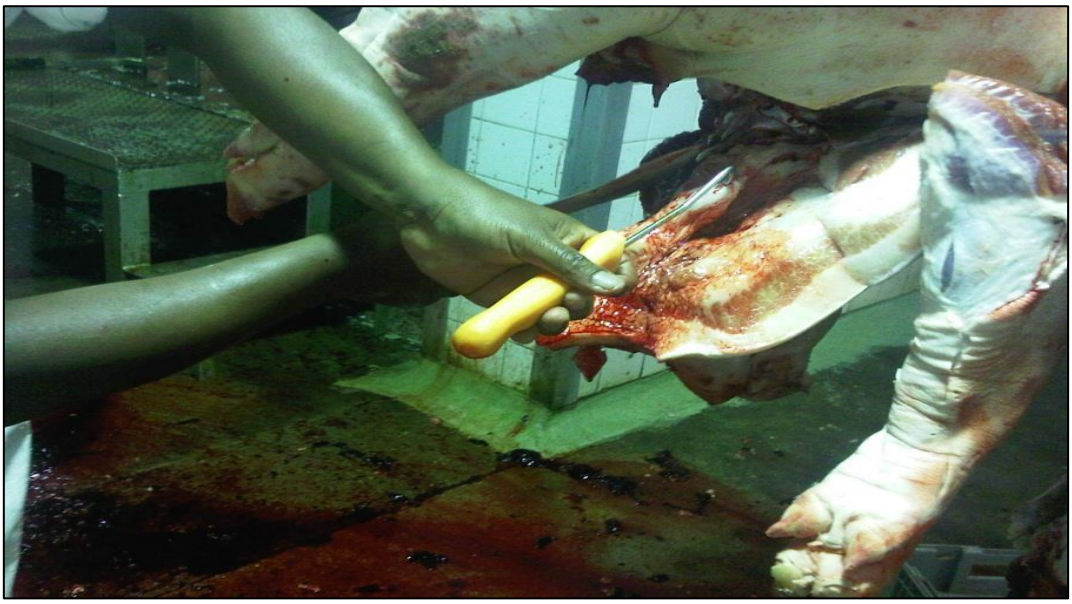


Figure 5.9 (ii) A photograph showing repetitive movements of the knife and the hook

5.3.4.5 Workers exposure to psychological hazards

Figure 5.10 presents findings based on employers' responses to questions on whether their workers were exposed to work-related stress, time pressure, long hours of work, and violence at work. Sixteen (59.3%) workers reported that they had experienced work-related stress, compared to 11 (40.7%) who did not find the workplace to be stressful. Twenty (74.1%) of the employers reported that their employees experienced psychological risk factors arising from the long working hours during the night and shift work. Seventeen (63.0%) of the workers experienced exposure to violence. Finally, as shown in Figure 5.10, only 13 (48.1%) of the employers exposed their workers to time pressure, while 14 (51.9%) did not.

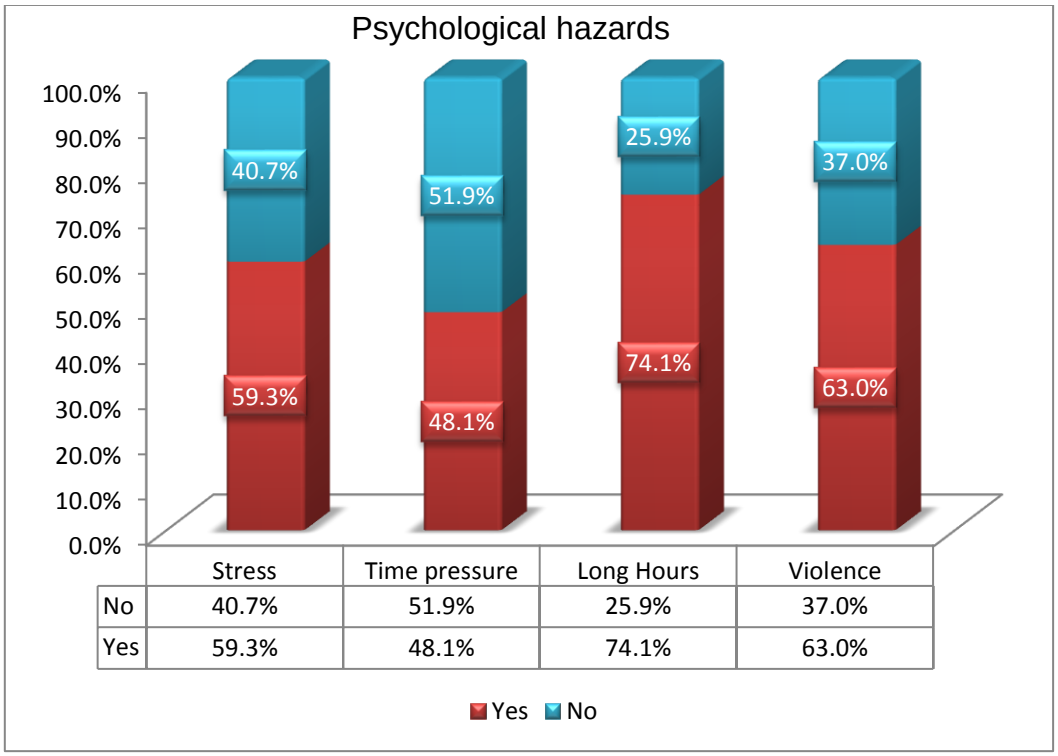


Figure 5.10 Workers exposure to psychological hazards (n=27)

5.3.5 General equipment safety

The photograph in Figure 5.11 (i) depicts a visual image of unstable materials and moving objects. It also documents a poorly maintained moving assembly line that is supported by an iron rod to prevent the old rusty chains from being loose, thus exposing the workers to the risk of getting hit by unstable materials. The chains on the assembly

line do not have the support of an iron rod and as such can become loose and cause serious injuries to anyone working nearby.

Furthermore, Figure 5.11 (ii) also shows a worker in contact with sharp edges. The repetitive movements of the knife and the hook can cause lacerations and punctured wounds.

Figure 5.11 (i) Photograph of unstable assembly line and moving carcasses

The photograph shows a poorly maintained moving assembly line being supported by an iron rod.

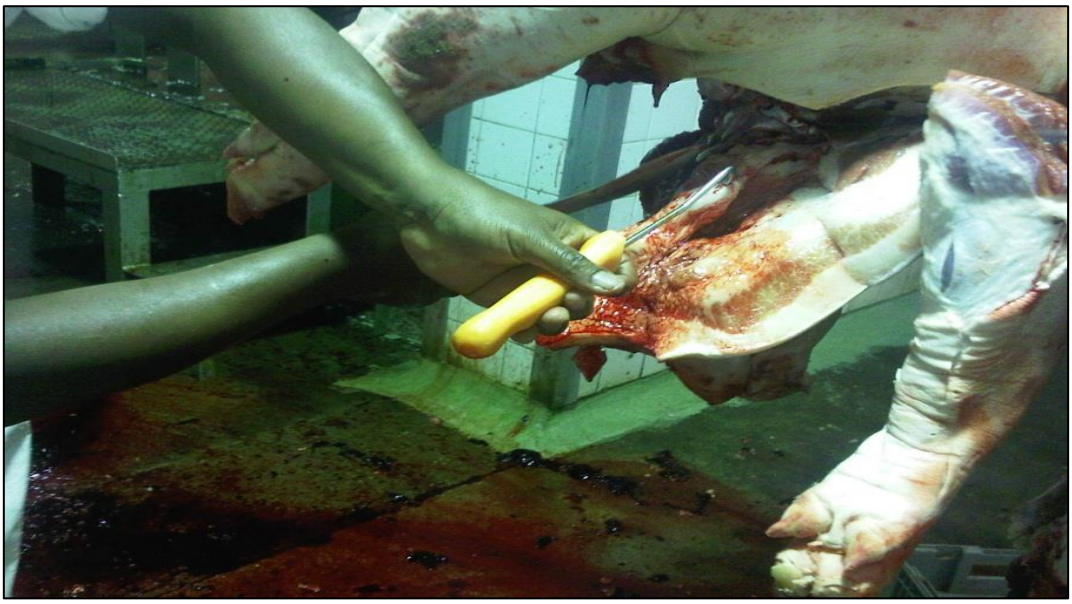


Figure 5.11 (ii) A photograph showing repetitive movements of the knife and the hook

Contact with sharp edges poses a risk for lacerations and punctured wounds.

SECTION B: RETROSPECTIVE RECORD REVIEW

An inspection checklist was also used to enter data collected from document review during worksite inspection. Documents that were reviewed included injury registers, investigation reports about work-related injuries and illnesses reported to the DoL for compensation purposes -in order to assess the nature and causes of work-related injuries and illnesses, and OHS training records as well as the records of the risk assessments that had been carried out.

5.3.6 Availability of incident records at the study sites

With regards to whether the study sites kept a completed record of incidents in the form of injury registers, investigation reports of work-related injuries and diseases, the analysis in Table 5.4 shows that 12 (44.4%) of the study sites were able to produce their incident reports for review. However, 15 (55.6%) could not do so. Therefore, only data from study sites that produced incident records is presented in this section.

Table 5.4 Availability of incident reports at the study sites (n=12)

Items	Response	Frequency (n)	Percentages (%)
Does the employer keep a completed record of incidents?	Yes	12	44.4
	No	15	55.6
Total		**27**	**100.0**

5.3.7 Total number of work-related injuries elicited from incident records

The results from the reviewed records indicated that work-related injuries among the study sites are classified into 5 broad categories as listed in Table 5.5. The analysis shows that there were 28 work-related injuries at the study sites that presented incident reports. Table 5.5 also shows that the highest number of work-related injuries that were sustained by employees at the study sites were musculoskeletal injuries 12 (42.9%), followed by soft tissue injuries 7 (25.0%). The analysis further indicates that the most common form of injury experienced by employees in the food and beverage distribution sector is musculoskeletal injuries, with a total of 6 (21.4%), followed by 4 (14.3%) in the food and beverage manufacturing sector. Only 3 (10.7%) back injury incidents/ cases were reported. Finally, the analysis shows that amputation of fingers constituted only 2(7.1%) of injuries.

Furthermore, the food and beverage distributing sector had 10 (35.7%) work-related injuries and these were followed by the meat sector's 8 (28.6%), as reflected in Table 5.5. The table also presents a proportionate 5 (17.9%) number of work-related injuries that were reported at the food and beverage manufacturing sector and the food and beverage service sector respectively.

Table 5.5 Total number of work-related injuries as reported in the incident reports at the study sites (n=28)

Sector	Musculo skeletal injuries, (carpal tunnel syndrome)	Soft tissue injuries	Back injuries	Cuts/ incision injuries or laceration	Amputation of fingers	Fre-quency (n)	Per-cen-tage (%)
Food and beverage manufacturing sector	4 (14.3%)		1 (3.6%)			5	17.9
Food and beverage distributing sector	6 (21.4%)	2 (7.1%)	1 (3.6%)	1 (3.6%)		10	35.7
Food and beverage service sector	1 (3.6%)	3 (10.7%)		1 (3.6%)		5	17.9
Meat sector	1 (3.6%)	2 (7.1%)	1 (3.6%)	2 (7.1%)	2 (7.1%)	8	28.6
Total	**12 (42.9%)**	**7 (25.0%)**	**3 (10,7%)**	**4 (14.3%)**	**2 (7.1%)**	**28**	**100.0**

5.3.8 Sources of work-related injuries as reported in the incident reports

Table 5.6 illustrates that work-related injuries at 6 (50.0%) of the study sites were as a result of handling and lifting heavy load, followed by 3 (25.0%) slips, trips and falls that lead to work-related injuries. In addition, the analysis shows that the handling and lifting of heavy load was responsible for work-related injuries among 4 (33.3%) of the study sites from the food and beverage distributing sector. The analysis also indicates that machinery- related injuries at a minority of the study sites constituted 1 (8.3%), and these were from the food and beverage manufacturing sector. It is further illustrated in the analysis that work-related injuries resulting from contact with sharp edges were from the food and beverage service sector and the meat sector 1 (8.3%).

Table 5.6 Sources of work-related injuries at the study sites as reported in the available incident reports (n=12)

Sector	Slips, trips or falls	Handling and lifting heavy load	Contact with sharp edges	Machinery e.g conveyor, skinning, slicing machinery	Frequency (n)	Percentage (%)
Food and beverage manufacturing sector		1 (8.3%)		1 (8.3%)	2	16.7
Food and beverage distributing sector	1 (8.3%)	4 (33.3%)			5	41.7
Food and beverage service sector	1 (8.3%)	1 (8.3%)	1 (8.3%)		3	25.0
Meat sector	1 (8.3%)		1 (8.3%)		2	16.7
Total	**3 (25.0%)**	**6 (50.0%)**	**2 (16.7%)**	**1 (8.3%)**	**12**	**100.0**

5.3.9 Total number of work-related illnesses elicited from incident records using the checklist

The results from a review of the records, indicate that work-related illnesses among the study sites are classified into 3 broad categories, as listed in Table 5.7. The analysis shows that the study sites that presented incident reports had a total of 10 work-related illnesses.

Table 5.7 shows that 6 (60.0%) of work-related illnesses suffered by employees at the study sites were respiratory problems related to the cold conditions which caused frequent sneezing, runny nose coughing and dry hands. These are followed by 2 (20.0%) of occupational asthma emanating from extended exposure to chemical fumes and food dust. Two (20.0%) employees also experienced the work-related irritant contact dermatitis illnesses. Finally, the meat sector and the food and beverage manufacturing sector had a proportionate 4 (40.0%) of work-related illnesses, followed by the food and beverage distribution sector and the food and beverage service sector which each constituted 1 (10.0%) of the work-related illnesses.

Table 5.7 Total number of work-related-illnesses as indicated on reviewed incident records at the study sites (n=10)

Sector	Respiratory problems	Problems related to cold	Occupational dermatitis	Frequency (n)	Percentage (%)
Food and beverage manufacturing sector	1 (10.0%)	2 (20.0%)	1 (10.0%)	4	40.0
Food and beverage distributing sector		1 (10.0%)		1	10.0
Food and beverage service sector		1 (10.0%)		1	10.0
Meat sector	1 (10.0%)	2 (20.0%)	1 (10.0%)	4	40.0
Total	**2 (20.0%)**	**6 (60.0%)**	**2 (20.0%)**	**10**	**100.0**

5.3.10 Sources of work-related illnesses at the study sites as reported in the incident reports

Sources of work-related illnesses data were determined from the incident reports that were made available at the study sites. The results are illustrated in Table 5.8. The analysis indicates that 6 (50.0%) of the study sites, which were from the food and beverage manufacturing sector, experienced most of the work-related illnesses. The remaining study sites from the food and beverage distributing sector, food and beverage service sector and the meat sector proportionately experienced 2 (16.7%) work-related illnesses.

Table 5.8 illustrates that work-related illnesses at over half 7 (58.3%) of the study sites emanated from exposure to extreme cold temperature. The analysis also illustrates that work-related illnesses from a quarter 3 (25.0%) of the study sites, from the food and beverage manufacturing sector, resulted from exposure to extreme cold temperature. In addition, the analysis demonstrates that exposure to fumes and food dust was responsible for work-related illnesses among a quarter 3 (25.0%) of the study sites. Other work-related illnesses, resulting from exposure to chemicals from, cleaning detergents were proportionately common in the minority, 1 (8.3%), of the study sites from the food and beverage manufacturing sector and food and beverage service sector.

Table 5.8 Sources of work-related illnesses as reported in the available incident reports (n=12)

Sector	Exposure to fumes or food dust	Exposure to extremely cold temperature	Exposure to chemicals from cleaning detergents	Frequency (n)	Percentage (%)
Food and beverage manufacturing sector	2 (16.7%)	3 (25.0%)	1 (8.3%)	6	50.0
Food and beverage distributing sector	1 (8.3%)	1 (8.3%)		2	16.7
Food and beverage service sector		1 (8.3%)	1 (8.3%)	2	16.7
Meat sector		2 (16.7%)		2	16.7
Total	**3 (25.0%)**	**7 (58.3%)**	**2 (16.7%)**	**12**	**100.0**

5.3.11 Health and safety training

Only data from 12 study sites, where training records were available, is presented in this section. The analysis illustrates that a majority 9 (75%) of the study sites had trained their employees on workplace safety, while a quarter 3 (25%) had not. Two thirds, 8 (66.7%), of the study sites which presented records did not train their employees on how to use PPE appropriately. In addition, over half, 7 (58.3%), of the study sites trained their employees on the use of machinery and equipment.

Table 5.9 Health and safety training as reported in the reviewed records (n=12)

Item	Response category	Frequency (n)	Percentage (%)
Are workers trained on workplace safety?	Yes	9	75.0
	No	3	25.0
Have employees received training on how to use PPE appropriately?	Yes	4	33.3
	No	8	66.7
Are the employees trained on the use of machinery and equipment?	Yes	7	58.3
	No	5	41.7

5.3.12 Risk assessment

The record review also assessed whether the study sites had conducted at least one risk assessment within the past 12 months. As presented in Table 5.10, a majority 9 (75.0%) of the 12 study sites that produced records, had not conducted risk assessments, while only 3 (25.0%) had done so.

Table 5.10 Risk assessments conducted at the study sites (n=12)

Item	Response category	Frequency (n)	Percentage (%)
Has risk assessment been conducted in the past 12 months?	No	9	75.0
	Yes	3	25.0
Total		**12**	**100.0**

5.3.13 Emergency preparedness

The results from the records review indicated that an overwhelming majority 10 (83.3%) of the study sites had a written procedure for fire evacuation. In addition, the analysis shows that a majority 9 (75.0%) of the study sites trained their employees on fire evacuation. As indicated in Table 5.11, an overwhelming majority 10 (83.3%) had fire extinguishers that accessible and located on a marked location, while just over two thirds, 8 (66.7%), of the study sites recorded that their fire extinguishers were serviced regularly. The analysis also indicates that more than half, 7 (58.3%) of the study sites, had onsite clinics where medical treatments were carried out.

Table: 5.11 Emergency preparedness (n=12)

Item	Response category	Frequency (n)	Percentage (%)
Is there a written procedure for fire evacuation?	No	10	83.3
	Yes	2	16.7
Is all staff trained on what to do in the event of a fire?	Yes	9	75.0
	No	3	25.0
Are fire extinguishers accessible and marked?	Yes	10	83.3
	No	2	16.7
Are fire extinguishers serviced regularly?	Yes	8	66.7
	No	4	33.3
Are medical treatments for recorded incidents carried out on the premises? (on onsite clinic)	Yes	7	58.3
	No	5	41.7

5.3.14 Sick leave due to work-related illnesses or injuries

On the question of whether the study sites experienced employee absenteeism, it was revealed that out of a total of 12 (44.4%) study sites that produced incident records, employees from more than half, 7 (58.3%), of the study sites took sick leave due to work-related injuries and illnesses. Furthermore, employees from the remaining 5 (41.7%) study sites which also produced incident reports did not take sick leave.

Table 5.12 Sick leave due to work-related illnesses or injuries (n=12)

Item	Response	Frequency (n)	Percentage (%)
Does the company experience employee absenteeism related to work-related illnesses or injuries?	Yes	7	58.3
	No	5	41.7
Total		**12**	**100.0**

5.3.14.1 Total number of sick leave in days

The study sites' accident records were reviewed in order to determine the duration of the sick leave. A summary of the annual duration of sick leave (in days per year) as a result of work-related injuries or illnesses is presented in Table 5.13 below. The

analysis, as shown in Table 5.13, revealed that the duration of sick leave, in days, resulting from work-related injuries and illnesses averaged a maximum of 60 days per year for musculoskeletal injuries and back injuries.

The analysis indicates further that the duration of the work-related injuries or illnesses induced sick leave in days, averaged a maximum of 2 days for soft tissue injuries, occupational dermatitis, cuts/incisions and lacerations. Table 5.13 also shows that the duration of sick leave arising from work-related injuries and illnesses averaged a maximum of 14 days for respiratory problems, problems related to cold and the amputation of fingers.

Table 5.13 Total number of sick leave in days (n=168)

	Item	**Frequency**	**Percentages**
1	Back pain	60	35.7
2	Musculoskeletal injuries	60	35.7
3	Soft tissue injuries	2	1.2
4	Respiratory problem	14	8.3
5	Problem related to cold	14	8.3
6	Occupational dermatitis	2	1.2
7	Cuts/incision injuries or laceration	2	1.2
	Amputation of fingers	14	8.3
	Total	**168**	**100.0**

5.4 FINDINGS FROM THE QUESTIONNAIRE

Out of a total of 278 employees recruited, 202 employees participated in the study, resulting in a response rate of 73%. The distribution of the participants was such that 128 (63.4%) employees were from the meat distribution sector, while 74 (36.6%) were from the meat processing sector. The intention was to sample all employees from each of the 27 study sites to interview. However, only employees from the two study sites from the meat sector were willing to participate in the interviews. The researcher therefore adopted a sampling strategy that consisted of interviewing all the employees from the two meat plants. The employees from the meat sector that were available for the interview were asked about their awareness of health and safety legislation and

their responsibilities for health and safety at work. Therefore, data from a total of 202 participants is presented in this section.

5.4.1 Participants' socio-demographics

5.4.1.1 Participants' gender distribution

The analysis shows that there were 3 987 (64.2%) male employees, which is a larger number to their female counterparts who accounted for 2 226 (35.8%) of the total number of employees on the study sites. The findings of the current study further indicate that of the total number of employees in the study sites, 2 851 (45.9%) of the employees in the food and beverage manufacturing sector were male compared to 701 (11.3%) females working in the same sector. In addition, the food and beverage distributing sector had a significant number 1 426 (23.0%) of female employees as compared to their 884 (14.2%) male counterparts. The food and beverages service sector had 96 (1.5%) males and 53 (0.9%) females. Of the total number of employees in the study sites, the meat sector had 156 (2.5%) male employees and 46 (0.7%) female employees.

Table 5.14 Gender distribution of employees in the 27 study sites (n=6213)

Sector	Gender of employees		Frequency (n)	Percentage (%)
	Males	Females		
Food and beverage manufacturing sector	2851 (45.9%)	701 (11.3%)	3552	57.2
Food and beverage distributing sector	884 (14.2%)	1426 (23.0%)	2310	37.2
Food and beverage service sector	96 (1.5%)	53 (0.9%)	149	2.4
Meat sector	156 (2.5%)	46 (0.7%)	202	3.2
Total	**3987 (64.2%)**	**2226 (35.8%)**	**6213**	**100.0**

5.4.1.2 Participants' age distribution

Only employees from the meat sector consented to participate in the study. Thus, in this section presents findings relating to employees in the meat sector. Figure 5.12 presents a summary of findings on the employees' age distribution. The minimum age of participants was 21 years and the oldest was 62 years. The mean age was 35.87

years, with a standard deviation of 11.38. Furthermore, 86 (42.6%) of participants were between the ages of 21 years and 30 years.

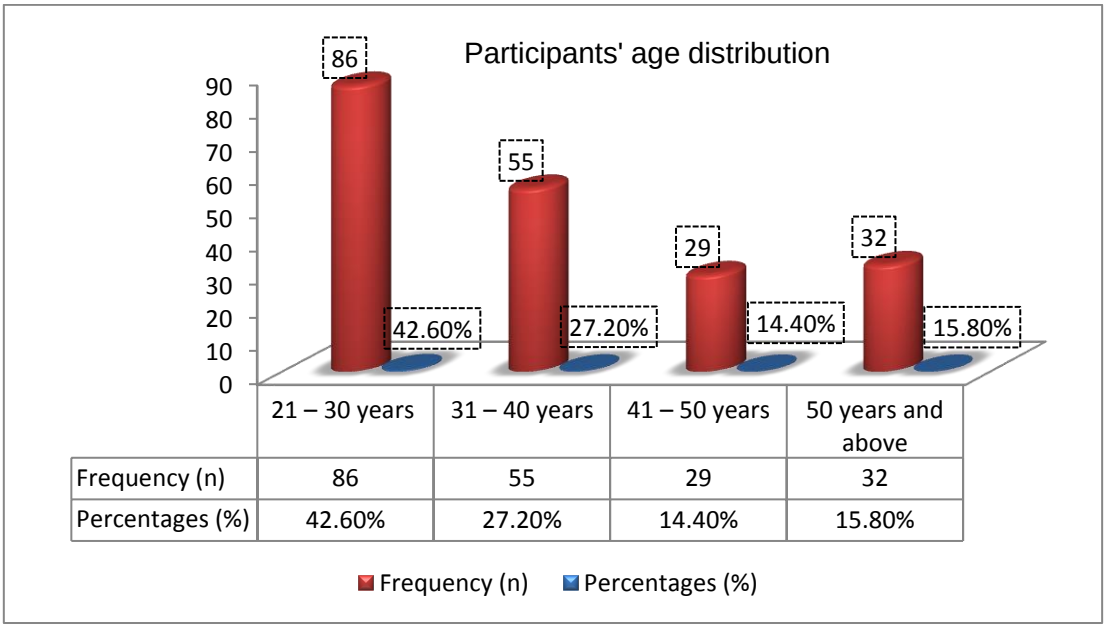


Figure 5.12 Age distribution of employees (n=202)

5.4.1.3 Participants' marital status

The marital status of participants was also examined. The analysis in Figure 5.13 illustrates that over two thirds 139 (68.8%) of the workforce were single and just over one quarter 57 (28.2%) were married, while 4 (2.0%) indicated that their spouses were deceased and 2 (1.0%) indicated that they were cohabitating.

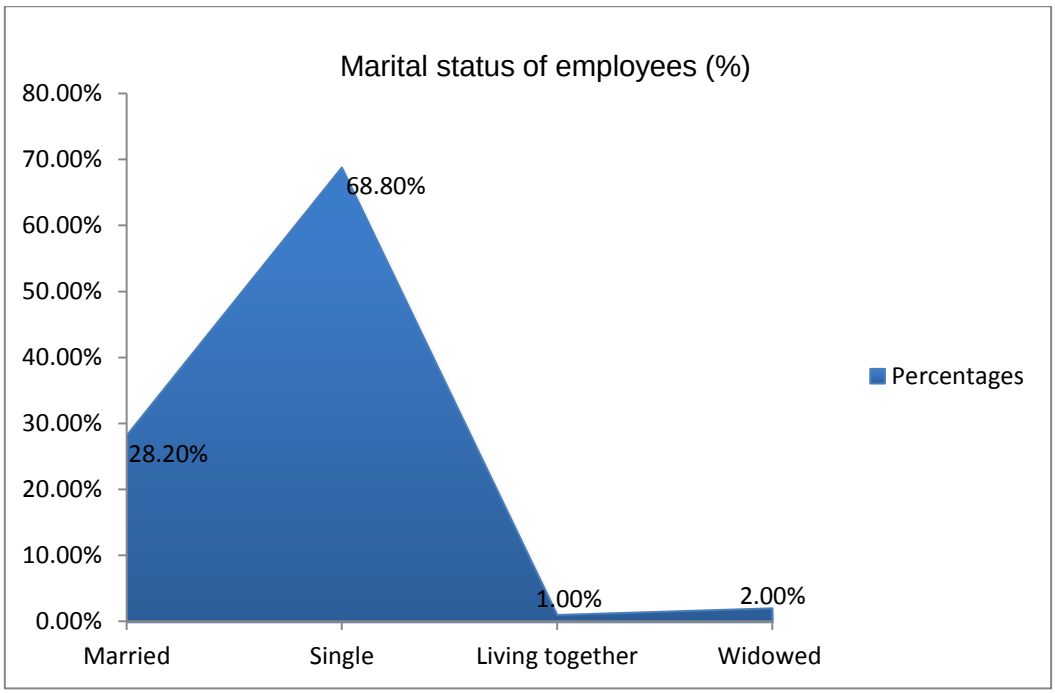


Figure 5.13 Marital status of employees (n=202)

5.4.1.4 Participants' level of education

Other demographic characteristics of the sample are shown in Figure 5.13 and the analysis points out that an overwhelming majority 180 (89.1%) had secondary school education, while 13 (6.4%) had primary education. Furthermore, 4 (2%) indicated that they had attended at a Technikon, while 3 (1.5%) had non-formal education, and the remaining participants 2 (1.0%) stated that they did not attend school.

5.4.2 Employees' awareness of the existence of health and safety legislation

5.4.2.1 Awareness of the existence of OHS policy

Table 5.15 below reflects the employees' awareness of health and safety rules and responsibilities. The analysis points out that over half, 112 (55.4%), of the participants were aware of the existence of the health and safety policy.

5.4.2.2 Understanding of OHS policy

As shown in Table 5.15, the questionnaire review of the participants' understanding of occupational health and safety policy, showed that just over half 106 (52.5%) of the participants reported that they understood the policy.

5.4.2.3 Awareness of the OHS Act (No. 85 of 1993)

Participants were asked to state whether they were aware of the amended Occupational Health and Safety Act (No. 85 of 1993). A majority 157 (77.7%) of the participants indicated that they were not aware of the Occupational Health and Safety Act No(85 of 1993) at their work place, while less than a quarter, 45 (22.3%), reported that they were aware of the existence of the Occupational Health and Safety Act (No. 85 of 1993)

With regards to where they saw or heard about the OHS Act (No. 85 of 1993), over two thirds, 137 (67.8%), reported that they had seen it on their workplace notice boards, followed by 22 (10.9%) who pointed out that they learned about it during induction training. The analysis also illustrates that a minority 12 (5.9%) of the participants heard about it from their co-workers.

5.4.2.4 Employee's responsibilities to OHS at work (Section 14 of the OHS Act No. 85 of 1993)

Table 5.15, which is related to the responsibilities of employees for health and safety at work, demonstrates that over half, 108 (53.5%), of the participants reported that the use of proper personal protective equipment and devices was imperative. In addition, 46 (22.8%) indicated that their understanding of all health and safety practises was their responsibility

5.4.2.5 Employers' responsibilities as reported by employees

Finally, the participants' response to the question on the nature of the employer's responsibilities to his/her workers with regards to health and safety, show that 97 (48.0%) of the participants attributed the responsibility of ensuring and providing a safe health and safety environment to the employer. Seventy-three (73) (36.1%) indicated

that the provision of safe and well maintained work equipment is also the responsibility of the employer towards his or her employees. Furthermore, analysis in Table 5.15 shows that few of workers, 9 (4.5%), interviewed knew that the employer had an obligation to consult workers on health and safety matters.

Table 5.15 Employees' awareness of health and safety legislation (n=202)

	Item	Response categories	Frequency (n)	Percentage (%)
1	Are you aware of the health and safety policy of the company?	No	90	44.6
		Yes	112	55.4
2	If yes, do you understand the policy?	No	96	37.6
		Yes	106	52.5
3	Are you aware of the occupational health and safety Act requiring the employer to maintain health and safety at work?	No	157	77.7
		Yes	45	22.3
4	Where did you see or hear about the policy and the act?	On one of our notice boards	137	67.8
		On the company's intranet	16	7.9
		During induction training	22	10.9
		From co-workers	12	5.9
		Others	15	7.4
5	What are your responsibilities for health and safety at work?	To be familiar with all health and safety practices	46	22.8
		To ensure my own safety and the safety of others at work	36	17.8
		To use the proper personal protective equipment and devices	108	53.5
		To report immediately unsafe conditions/acts, accidents and injuries	7	3.5
		To cooperate with employer and participate in safety matters	5	2.5
6	What are the responsibilities to you of your employer in health and safety? Please select all that apply.	Provide a healthy and safe work environment	97	48.0
		Provide work equipment that are safe and well maintained	73	36.1
		Provide workers PPE free of charge	18	8.9
		Consult workers in health and safety matters	9	4.5
		Conduct risk assessments and communicate results to workers	2	0.9
		Inform workers of the hazards at works, the control measures in place and how they are used	3	1.5

5.4.3 Employee consultation and participation

5.4.3.1 Information by the employer regarding risk assessment

Table 5.16 below presents a percentage distribution of the employees' consultation and participation in risk assessments in the work place. The analysis illustrates that an overwhelming majority 173 (85.6%) of participants stated that they were not informed about results of the risk assessments, while the remaining 29 (14.4%) reported that they were informed.

5.4.3.2 Employee participation in conducting risk assessment, incident/ accident investigation

Table 5.16 below, presents a percentage distribution of the employees' consultation and participation in risk assessments and incident investigation in the work place. The analysis demonstrates that an overwhelming majority, 183 (90.6%), and 184 (91.1%) of the participants indicated that they did not take part in risk assessments, nor took part in investigations of accidents or incidents at their work places.

5.4.3.3 Reporting of hazards/incidents by participants

When participants were asked if they usually report any hazard, unsafe conditions or acts that come to their notice, only 34 (16.8%) responded in the affirmative. Instead, a majority, 168 (83.2%), of the participants stated that they did not report any hazards or unsafe situations because they felt that their employers did not see their safety at work as a priority. A total of 122 (60.4%) participants pointed out that they had witnessed an accident, incident or unsafe condition more than once, followed by 61 (30.2%) who stated that they only witnessed such once, whilst the remaining 19 (9.4%) stated that they had never witnessed an incident or unsafe condition at work.

5.4.3.4 Availability of safety representatives/committee as reported by participants

An analysis of the participants' response with regards to whether they had health and safety representatives, shows that over half, 110 (54.5%), indicated that they had a

health and safety representative, whereas 92 (45.5%) pointed out that they did not have health and safety representatives. Nevertheless, an overwhelming majority, 195 (96.5%), of the participants stated that they had a health and safety committee at work and only 7 (3.5%) noted that they did not have one.

5.4.3.5 Participation in the election of safety reps/committee as reported by participants

In response to the question on whether they participated in electing their health and safety representatives or members of the health and safety committee, most, 193 (95.5%), of the participants reported that they did not elect their health and safety representatives and members of the health and safety committee, while only 9 (4.5%) stated that they were involved in the election of their representatives and members of the health and safety committee.

Furthermore, 122 (60.4%) of the participants mentioned that the health and safety representatives and health and safety committee were selected by the employer, in their response to the question on why they did not participate in the election process. In addition, the remaining 80 (39.6%) indicated that they did not have any reason why they did not participate in the selection process.

5.4.3.6 Feedback on matters related to OHS from safety representatives

The participants were asked on whether they received feedback on matters related to OHS from their safety representatives or committee members. One hundred and ninety, 190 (94.1%) of the participants reported that they did not receive feedback from their health and safety representatives and committee members on matters related to OHS.

5.4.3.7 Motivation for good health and safety behaviour

Finally, Table 5.16 also illustrates that less than half, 43 (21.3%), of the participants were not motivated to have good health and safety conduct. Nevertheless, a significant number, 159 (78.7%) of the participants indicated that they were motivated to have good health and safety conduct.

Table 5.16 Employees' consultation and participation (n=202)

	Items	Response categories	Frequency (n)	Percentages (%)
1	Does your employer inform workers about results of risk assessment?	No	173	85.6
		Yes	29	14.4
2	Do you or your representatives take part in risk assessment or workplace inspections to identify hazards and unsafe conditions and take control measures?	No	183	90.6
		Yes	19	9.4
3	Do you or your representative take part in investigating accidents or incidents that occur in the workplace?	No	184	91.1
		Yes	18	8.9
4	Do you report any hazard, unsafe conditions or acts that come to your notice at work so they can be addressed?	No	168	83.2
		Yes	34	16.8
5	Please state how many instances you remember having reported an accident, incident or unsafe condition?	Never	19	9.4
		Once	61	30.2
		More than once	122	60.4
6	Do you have a health and safety representative at work?	No	92	45.5
		Yes	110	54.5
7	Do you have a health and safety committee at work?	No	7	3.5
		Yes	195	96.5
8	Did you participate in electing your representative or member of the health and safety committee?	No	193	96.5
		Yes	9	4.5
9	If no, please explain why	Don't know	80	39.6
		Employer appoints	122	60.4
10	Do you receive feedback from the work of your representatives or safety committee?	No	190	94.1
		Yes	12	5.9
11	Are workers motivated on good health and safety behaviour?	No	43	21.3
		Yes	159	78.7

5.4.4 Employee health and safety training

5.4.4.1 Employee induction training on general workplace health and safety rules and practices

Table 5.17 presents the percentage distribution of assessment results of employees' training in health and safety measures. The analysis shows that a majority 153 (75.7%) of the participants received induction training on general workplace health and safety rules that had to be adhered to. However, less than a quarter, 49 (24.3%), did not receive such training.

5.4.4.2 Benefit of OHS training to a healthy and safe work environment

With regards to whether they benefited from the OHS training, just over half, 112 (55.4%), indicated that their training had helped them to work safely, while less than half, 90 (44.6%), of them reported that the training was not beneficial.

5.4.4.3 Employee training on specific hazards and risks

On the question of whether they were trained on specific hazards and risks at their workplace, most, 142 (70.3%), participants indicated that they were trained on specific hazards and risks related to their job and on measures they had to observe to prevent or reduce the risks. In addition, under a third of the participants, 60(29.7%), reported that they did not receive such training.

5.4.4.4 Person who trained employees on OHS matters

With regards to who trained them on specific hazards and risks on the job, more than half, 119 (58.9%), indicated that most of their training was facilitated by their supervisors, followed by 12 (5.9%) who reported that their training was performed by consultants from outside their organisations, while 8 (4.0%) and 3 (1.5%) indicated that their training on the matter was done by the foreman and the SHEQ officer, respectively. The remaining 60 (29.7%) participants did not receive such training and therefore, did not respond to this specific question.

5.4.4.5 Employee evacuation drill in case of fire or other emergencies

Most participants, 179 (88.6%), indicated that they had received training, such as fire evacuation drills, to acquire knowledge on what needs to be done in case of fire or any other emergency. However, only 23 (11.4%) of the participants stated that they did not receive such training.

5.4.4.6 Employees' knowledge of their fire warden

With regards to whether they know who their fire warden is at their workplace, an overwhelming majority, 194 (96.0%) knew their fire warden, while only 8 (4.0%) did not have such knowledge.

Table 5.17 Employees' training in health and safety measures (n=202)

	Item	Response category	Frequency (n)	Percentage (%)
1	Have you received induction training on the general workplace health and safety rules and practices you must follow at work?	No	49	24.3
		Yes	153	75.7
2	Has this training helped you to work safely and without risk of harming others at work?	No	90	44.6
		Yes	112	55.4
3	Have you been trained on the specific hazards and risks of your job and the measures you must observe to prevent or reduce them?	No	60	29.7
		Yes	142	70.3
4	Who trained you?	My supervisor	119	58.9
		The foreman	8	4.0
		The SHEQ officer	3	1.5
		Consultant from outside	12	5.9
		Not applicable	60	29.7
5	Have you received training such as evacuation drills so you know what to do in case there is a fire or other emergency?	No	23	11.4
		Yes	179	88.6
6	Do you know your fire warden?	No	8	4.0
		Yes	194	96.0

5.4.5 PPE

5.4.5.1 PPE suitability and use

Almost a third, 61 (30.2%), of the participants reported that their personal protective equipment fitted them and was suitable for their work. This is in addition to the fact that 141 (69.8%), of the participants indicated that their PPE did not fit them adequately and did not allow them to function optimally at work.

Additionally, when asked to explain why their PPE did not fit or was unsuitable for their work, 64 (31.7%) could not provide an explanation, followed by just over half, 53 (26.2%), who indicated that their PPE was of large sizes. In addition, only 24 (11.9%) participants reported that their PPE was too small and not suitable for their work. The remaining 61 (30.2%) who had already pointed out that their PPE fitted them and was suitable for their job reported that the question was not applicable to their situation.

5.4.5.2 Training in the use of PPE

Responding to the question on whether they received any training and instruction on how to wear, maintain and store the personal protective equipment they were given, over half, 119 (58.9%), of the participants indicated that they did not receive any instruction on how the protective clothing should be worn, maintained and stored.

Table 5.18 Personal protective equipment (n=202)

	Item	Response category	Frequency (n)	Percentage (%)
1	Does your PPE fit you and is suitable for your work?	No	141	69.8
		Yes	61	30.2
2	If no please explain why?	No explanation	64	31.7
		Too big	53	26.2
		Too small	24	11.9
		Not applicable	61	30.2
3	Have you received any instruction on how to wear, maintain and store personal protective equipment given to you for your work?	No	119	58.9
		Yes	83	41.1

5.4.6 Record-keeping for training sessions

Finally, just over half, 104 (51.5%), of the participants did not have any response to whether their employers kept records of their training. The results in Table 5.19 further show that just over a quarter, 53 (26.2%), of the participants were aware of their employer's recording of their training. In addition, less than half, 45 (22.3%), reported that their employer had not kept a record of their training.

Table 5.19 Record-keeping for OHS training sessions

	Item	Response category	Frequency (n)	Percentage %
1	Has your employer kept a record of your training?	No	45	22.3
		Yes	53	26.2
		No response	104	51.5

5.4.7 Nature and sources of work-related injuries and illnesses

5.4.7.1 Experience of work-related injuries as reported by participants

As indicated in Table 5.20, responses to the question of work-related injury suggested that the majority 160(79.2%) of the participants had had work-related injury at one time or the other, while less than a quarter never. This section discusses work-related injuries of those who experienced injuries only.

Table 5.20 Experience of work-related injuries as reported by participants (n=202)

	Item	Response category	Frequency (n)	Percentage (%)
1	In the past 12 months have you experienced work-related injuries?	No	42	20.8
		Yes	160	79.2
	Total		**202**	**100.0**

5.4.7.1.1 Location of the injuries as reported by participants

Over half, 88 (55.0%), of the injuries were sustained on the hand or finger, the cause of which was ascribed to sharp objects. In addition, less than a quarter, 35 (21.9%), of the participants sustained injuries on the body, whilst 17 (10.6%) stated that they sustained injuries on the arm, followed by 9 (5.6%) who reported that their injuries were sustained on the foot and the leg. The remaining participants, 2 (1.3%), stated that their injuries were sustained on the head.

Table 5.21 Location of injuries on the body (n=160)

	Response options	Frequency (n)	Percentage (%)
1	Foot	9	5.6
2	Body	35	21.9
3	Hand/finger	88	55.0
4	Arm	17	10.6
6	Head	2	1.3
7	Leg	9	5.6
	Total	**160**	**100.0**

5.4.7.1.2 Source of injuries as reported by participants

Table 5.22 shows that half, 80 (50.0%), of participants who experienced injuries at work reported that their injuries were due to contact with sharp edges. A quarter, 41 (25.6%), of the participants stated that their injuries were due to slips, trips and falls. The analysis further shows that a few, 18 (11.3%), stated that their injuries were due to the handling or lifting of heavy loads and, very few, 15 (9.4%), participants indicated that they were struck by falling objects. The results also show that machinery-related injuries constituted a minority 6(3.8%).

Table 5.22 Source of injuries as reported by participants (n=160)

	Item	Frequency (n)	Percentage (%)
1	Struck by an object	15	9.4
2	Handling and lifting heavy load	18	11.3
3	Contact with sharp edges	80	50.0
4	Slips or trips, falls	41	25.6
5	Machinery e.g. conveyor, skinning machines	6	3.8
	Total	**160**	**100.0**

5.4.7.1.3 Severity of injuries as reported by participants

Regarding the severity of injuries reported by the participants, it was revealed that of the participants who experienced work-related injuries, less than half, 72 (45.0%), reported that they had had minor injuries that required first aid treatment. Furthermore, the analysis in Table 5.23 illustrates that less than a third, 50 (31.3%), required absence for one or more days from work, while a few said that the injuries required them to work for less hours. In addition, Table 5.23 shows that a minority of participants stated that their injuries required them to temporarily change their jobs, while a few more reported that their injuries prevented them from continuing with their current duties.

Table 5.23 Severity of injuries as reported by participants (n=160)

	Item	Frequency (n)	Percentage (%)
1	Minor injury requiring first aid	72	45.0
2	Required absence for one or more days	50	31.3
3	Required shortened job hours	30	18.8
4	Required temporary job change or transfer	3	1.9
5	Required restrictions from certain job duties.	5	3.1
	Total	**160**	**100.0**

5.4.7.1.4 Participants' self-reporting of injuries to their supervisors

As shown in Table 5.24, the analysis demonstrates that just over two thirds, 107 (66.9%), of the participants who experienced work-related injuries did not report their injuries to their supervisors. However, a third, 53 (33.1%), did.

5.4.7.1.5 Employees' awareness of investigation of accidents by supervisors

The analysis in Table 5.24 further indicates that of the 107 participants who reported their injuries, less than half, 53 (49.5%), reported that their accidents were investigated. half of the participants, however, pointed out that their accidents were not investigated.

5.4.7.1.6 Feedback on investigation of accidents given to employees

The analysis also shows that an overwhelming majority, 98 (91.6%), of the participants who reported their accidents said that they never received feedback on the investigation, and a minority indicated that they did.

5.4.7.1.7 Employees' application for compensation to relevant authorities

As shown in Table 5.24, an overwhelming majority, 155 (96.9%), of the participants who experienced work-related injuries did not apply to relevant authorities for compensation.

Table 5.24 Employees' awareness of employer's responsibility (n=107)

	Item	Response category	Frequency (n)	Percentage (%)
1	Was the accident investigated?	No	54	50.5
		Yes	53	49.5
2	Did you receive feedback on the investigation?	No	98	91.6
		Yes	9	8.4
1	Did you report the injury to your supervisor or Foreman?	No	107	66.9
		Yes	53	33.1
2	Did you apply for compensation to relevant authorities?	No	155	96.9
		Yes	5	3.0

5.4.7.2 Experience of work-related illnesses as reported by participants

When asked if they had experienced any health related problems within the previous 12 months, over two thirds, 138 (68.3%), of the participants indicated that they had experienced illnesses associated with their work activities and environment. In addition, about a third, 64 (31.7%), of the participants stated that they had never experienced health-related problems associated with their work activities and environment.

Table 5.25 Experience of work-related illnesses as reported by participants (n=202)

	Item	Response category	Frequency (n)	Percentages (%)
1	In the past 12 months have you experienced work-related illnesses?	No	64	31.7
		Yes	138	68.3
	Total		**202**	**100.0**

5.4.7.2.1 Nature of illnesses experienced by participants

It was revealed in the analysis that 50 (36.2%) of the participants had had occupational asthma, followed by 56 (40.6%) who reported that they had problems related to repeated colds. Furthermore, 17 (12.3%) of the participants indicated that they experienced back pain, and 9 (6.5%) reported that they had occupational dermatitis. A proportionate, 3 (2.2%), number of participants indicated that they experienced shoulder and neck pain and general body.

Table 5.26 Nature of illnesses experienced by participants (n=138)

	Item	Frequency (n)	Percentage (%)
1	Back pain	17	12.3
2	Shoulder and neck pain	3	2.2
3	General body pain	3	2.2
4	Occupational asthma	50	36.2
5	Problem related to repeated cold	56	40.6
6	Occupational dermatitis	9	6.5
	Total	**138**	**100.0**

5.4.7.2.2 Onsite health facilities

With regards to whether the employer provides them with onsite health facilities or an occupational health nurse, the analysis presented in Table 5.27 indicates that of the 202 participants interviewed from the two meat enterprises, just under two thirds, 128 (63.4%), of participants from the meat distributing plant reported that they had a healthcare facility onsite. The rest of the participants from the meat processing plant, who constituted just over a third, 74 (36.6%), of the participants said that they did not have a healthcare facility or an occupational health nurse onsite.

5.4.7.2.3 Medical surveillance (section 12(1)(c) of OHS Act No. 85 of 1993)

It is further illustrated in Table 5.27 that 178 (88.1%) participants confirmed to having undertook medical examinations at the time of their appointment to their jobs. However, 24 (11.9%) indicated that they did not undergo any medical examination before commencing work.

Regarding responses to the question of whether employers provided workers with periodic medical examination, under a quarter, 47 (23.3%), of the participants reported that their employers conducted periodic medical examinations on them. A majority, 155 (76.7%), responded in the negative, stating that their employers did not conduct periodic medical examinations on them.

Table 5.27 Medical surveillance (n=202)

	Item	**Response categories**	**Frequency (n)**	**Percentage (%)**
1	Does your company provide health care facilities or an occupational health nurse onsite?	No	74	36.6
		Yes	128	63.4
2	Did you undergo a pre-employment medical exam?	Yes	178	88.1
		No	24	11.9
3	Does your company have a programme for your periodic medical examinations?	Yes	47	23.3
		No	155	76.7
	Total		**202**	**100.0**

5.5 CONCLUSION

This chapter presented the findings from the study sites' profile and participants' demographic information, compliance to the requirements of health and safety legislation and the common hazards confronted by employees at these study sites. In addition, outcomes on the incidents of occupational injuries and illnesses were also documented in this chapter. Photographs of findings from the environmental and facilities inspections that were taken to validate the findings obtained from the employees are also shown in this chapter.

The next chapter pays attention to the inferences drawn from the present chapter. It also focuses on the discussion of findings and their implication.

CHAPTER 6

DISCUSSION OF THE RESEARCH FINDINGS

6.1 INTRODUCTION

This chapter discusses the findings presented in the previous chapter. It discusses the findings on the demographic characteristics of the employees and the study sites, compliance to health and safety legislation, common hazards confronted by employees at the study sites and on incidents of injuries and illnesses at the targeted industry.

6.2 DISCUSSION ON RESEARCH FINDINGS

6.2.1 Discussion on findings from the inspection checklist

Worksite inspections were conducted at 27 study sites to elicit information about employers' compliance with health and safety legislation and responsibilities.

SECTION A: OBSERVATION OF THE WORK ENVIRONMENT

This section discusses the findings relating to the profile of the study sites, the employers' obligations, physical work environment, common hazards, general environmental and equipment safety. The objective behind the observation of the study sites was to gain first-hand information on the nature of hazards evident at the study sites and the work practices put in place to control them.

6.2.1.1 Profile of the study sites

6.2.1.1.1 Discussion on findings relating to the categories of sectors at the study sites

The study indicated that the food and beverage industry is categorised into four main sectors. These sectors are: the food and beverage manufacturing sector; food and beverage distributing sector; the food and beverage service sector, and the meat sector. The findings on the nature of the study sites was compared to a reviewed sector skills plan document by the Food and Beverage Manufacturing Sector Education and Training

Authority (FoodBev SETA) (2011:6-7) on the food and beverage manufacturing sector in South Africa. In contrast, the findings documented locally suggest that the food and beverage industry comprises slaughterhouses, sugar refinery and grain mills, malt manufacturers and whisky distilling establishments (DoL 2013:5). Internationally, similar studies conducted by LeBlanch and Barling (2005:42) stated that the food and beverage industry includes the agricultural production of raw material, food processing and distribution, production of fresh food and processed food, and food and beverage value chains. In addition, a report by the Bureau of Labour Statistics (2008:4) suggests that the food and beverage industry produces meat, dairy products, grain, fruit and vegetables, oilseeds, sugar, bakery products, confectionery products and animal foods; while the Food and Beverage Industry Global Report (2010:4) indicates that the food and beverage industry is made up of the farming, food production, distribution, retail and catering sectors.

6.2.1.1.2 Discussion on findings on the total number of employees at the study sites

Current findings indicated that a total of 6 213 employees were employed at the study sites and of these, over half of the employees were from the food and beverage manufacturing sector, while over a third were from the food and beverages distributing sector. The findings also showed that a minority of employees worked in the food and beverages service sector and the meat sector. The findings documented locally by Statistics South Africa (2009:5) suggest that at the end of 2007, the total number of employees in the food and beverage industry was 179 119, with restaurants, coffee shops and tea rooms employing the largest number of employees, and these accounted for 50.5% of the total number of employees in the food and beverage industry, while the fast food outlets had 19.0% of the total number of employees in the industry. Internationally, studies conducted by the Methodological Centre for Vocational Educational and Training (2008:3) indicate that the food and beverage manufacturing industry employed 4 million employees who make up 1.8% of the European Union gross domestic product. In addition, a report by the Food Drink Europe (2011:7) pointed out that the European Union bakery producers, meat sector, dairy producers and drinks and food producers employed 80% of the total number of employees in the food and beverage industry.

6.2.1.1.3 Discussion on findings relating to the number of disabled employees working at the study sites

The findings illustrated that only a few number of people with disability were employed at the study sites. Over half of the disabled workers were from the food and beverage distributing sector, while less than half of the disabled employees worked in the food and beverage manufacturing sector and a minority worked at the meat distribution plant. The findings indicated further that the food and beverage service sector did not employ disabled persons. The findings are in line with Smit's (2012) survey that was conducted locally within the hospitality industry's restaurant and hotel kitchen workers. The study was conducted with the aim of collecting information to provide more insight on the employment of persons with disabilities and how organisations experience this with reference to South Africa's non-discriminatory policies. The study found out that a limited number of people with disability were employed in the hospitality industry (Smit 2012:114).

Further, similar sentiments were expressed in a report documented by the European Parliament (2011:11) that drew on conditions within various industries, including the food and beverage industry, which stated that in most European Union countries a small proportion of people of working age who were living with disabilities were employed across various industries. A study conducted in Scotland by Sosenko (2013:20) to investigate representations of equality groups within the food and drink manufacturing and processing sector yielded similar results. The aim of the study was to probe frequent under-representations of equality groups in the labour market. The findings were that the food and drink manufacturing and processing sector employs a small proportion of employees with disability and this constituted 8% of the workforce compared to 13% of the able bodied in the entire workforce in the industry (Sosenko 2013:20).

Furthermore, just under two thirds of disabled male employees participated in the study, compared to over a third of female employees who participated. On the contrary, a 2006 survey conducted by Statistics Canada (2006:2) among the tourism industry workers in Canada indicated that women with disabilities constituted 60% of the disabled employees as compared to 40% of disabled men among the country's food and

beverage industry. The impression created by the present study findings is that the employment of disabled people is considered as less important. Such an attitude indeed creates discrimination and a negative attitude towards disabled people. This is of great concern because it seems as if South Africa's pre-democracy years have contributed to the sluggish elimination of unfair discrimination in a social context, while the post-apartheid constitution of South Africa upholds principles that value human dignity, equality, freedom and social justice in a united, non-racial society.

6.2.1.2 Employers' obligations

6.2.1.2.1 Display of copy of the Act (No. 85 of 1993)

In the current study, an overwhelming majority of the study sites did not have a copy of the OHS Act (No. 85 of 1993) as amended displayed in a conspicuous and accessible place. These findings indicate a contradiction to section 4 of the General Administrative Regulations of 2003 documented by the DoL (2012:644) which states that an employer with five or more employees is required to have a copy of the OHS Act (No. 85 of 1993), with the relevant regulations displayed in a conspicuous place and have the Act readily accessible to all employees. Displaying the OHS Act (No. 85 of 1993) or making it accessible to the employees is a form of communicating health and safety to the employees. According to Machabe and Indermun (2013:30), good communication of the health and safety message is critical in building a positive health and safety culture, maintaining safety in the workplace and in reducing work-related injuries and illnesses. Therefore, an easily accessible OHS Act (No. 85 of 1993) allows the employees to be conversant with the health and safety regulations. The findings imply that the health and safety message was not well communicated by employers at the study sites.

6.2.1.2.2 OHS policy and health and safety commitment by employers

This study's consideration of the issue of OHS policy and employer commitment found out that an overwhelming number of the study sites did not have a written and conspicuously placed health and safety policy in their organisation. The findings are in contrast with section 7(1)(b) of the OHS Act (No. 85 of 1993:8) which states that an employer is required to prepare a written policy concerning the protection of the health and safety of their employees at work. In addition, section 7(3) of the OHS Act (No. 85

of 1993) states that an employer is required to display a copy of the OHS policy on a conspicuous place where workers normally report for duty. Further different findings are documented in a report by the (ILO 2001:6) and from a study conducted among employees across various sectors by Taderera (2012:114), which focused on Zimbabwe's occupational health and safety policy, regulatory and institutional framework. The Zimbabwean study findings and the ILO report indicated that employers, in consultation with employees and their representatives are required to set out in writing an OHS policy, which is specific to the organisation and in line with the activities of the organisation and appropriate to its size. The current findings, however, demonstrated that a majority of the study sites did not meet the OHS legislative requirements as they did not recognise the importance of managing safety at work and therefore showed less commitment to allocating resources in a way that prioritises the health and safety of employees is a company. The findings are in contrast with a report by the ILO-OHS (2001:6) which states that some of the requirements of an OHS policy are that it should emphasise senior management's commitment to allocating resources for health and safety and ensuring that overall organisational aims are achieved. According to a report by the Industrial Accident Prevention Association (2007:12), the OHS policy is important in that it provides a clear indication of a company's health and safety objectives, which in turn provides direction for the health and safety programme. The findings imply that employers at the study sites showed poor management commitment to safety and suggest that their employees' wellbeing was not a company priority.

6.2.1.3 Discussion on findings relating to compliance model/guidelines or the management system

The findings from this study point to the fact that a majority of the study sites did not have evidence of health and safety compliance model/guidelines or a management system designed to ensure compliance with the OHS Act (No. 85 of 1993). Thus, elements such as policy, hazard identification and risk assessments and control programmes, organisational arrangements to manage OHS, communication, arrangements for consultation and training, and active and proactive measures of performance, seeking to measure overall compliance with the OHS Act (No. 85 of 1993), were not available at the study sites. On the contrary, a study conducted by Taderera (2012:114) emphasised the importance of establishing and maintaining

documentation of management systems consisting of arrangements for prevention and control of workplace hazards by the employer, thus laying a platform upon which action for continual improvement may be pursued (Taderera 2012:114).

Furthermore, the findings indicate a contradiction to section 16(1) of the OHS Act (No. 85 of 1993:2012:11) which states that an employer should put in place organisational arrangements that show clear lines of responsibilities and accountability in the management of workplace health and safety. The existence of these arrangements at a workplace can be shown through an organogram that is posted on notice boards so that all are aware of those with responsibilities and accountable for health and safety. According to Robson et al (2007:333), the implementation of an OHS management system reduces the number of accidents and occupational diseases among employees. The findings imply that steps were not taken to comply with aspects related to the management of continual improvement of health and safety in the workplace. It is apparent that there was no systematic approach to the Occupational Health and Safety at the majority of the study sites.

6.2.1.4 Discussion on findings relating to the physical work environment

The present study found out that a majority of study sites had poor housekeeping practices which exposed the workers to the risks of injuries and illnesses. In addition, the findings illustrated that floors were slippery, wet and covered with animal blood. These conditions increased the workers' risk to injuries from falls and infection with animal disease such as Q fever caused by Coxiella burnetii, a micro-organism that may be present in the blood of infected livestock. The present study also found out that the floors were cluttered with obstacles, which could cause the workers to slip, trip and fall, thus resulting in serious injuries. The findings are in contrast with a report documented by the DoL (2012:124) which states that section 6(2)(c) of the Environmental Regulations for Workplaces of 1987 requires an employer to ensure that every indoor workplace is clean, orderly and free of materials and tools which are not necessary for the work done at a given workplace. In addition, study findings documented by Lehtola et al (2009:3) and VanDeCruze and Wiggens (2008:13) suggest that poor housekeeping practices, such as keeping floors slippery from spilt water, uneven or broken, and littered with obstacles and other tripping hazards, often result in serious workplace accidents. Therefore, bad housekeeping and poor drainage that makes

floors and other walking surfaces in the food and beverage industry to be wet and slippery have the potential to cause worker injuries and/or cause damage to equipment or property (WorkSafe BC 2013:3).

Further findings showed that most walkways were not wide enough for easy passage, especially when carrying load. Platforms along production lines did not have handrails and barriers to protect workers from falling and sustaining injury. On the contrary, a report by the DoL (2012:125) notes that section 6(2)(f) of the Environmental Regulations for Workplaces of 1987 requires employers to board over or enclose with rails or guards or take other measures which may be necessary for the access of persons or the movement of material.

Most of the study sites had cluttered emergency exits which could make evacuation drills very difficult. The findings differ from section 9(1) of the Environmental Regulations for Workplaces of 1987 which requires the provision of an emergency exit through which, in the event of danger, workers can evacuate quickly and safely to a secured place. Similar findings were documented in a report documented by the California OSHA (2012:4) which indicated that occupational hazards threatening the safety of workers in the restaurant workplace included obstructed walkways and exits as well as exits blocked by stored material. Furthermore, the findings are in contrast to a report by the Stanford Linear Accelerator Center (SLAC) (2014:2) which states that it is a statutory requirement for walkways and exits to be clear of obstacles that could interfere with an orderly evacuation in case of emergency.

This study also revealed that most study sites did not have adequate signage for safe management of workplace transport, fire safety, welfare and first aid. On the contrary, a report by WorkSafe Tasmania (2014:7) suggests that one of the good practices that prevent common burns from hot surfaces in the food industry is to post signs warning workers about hot equipment or surfaces. In addition, the employer is required to keep a first aid kit in an accessible marked place and to install a fire extinguisher for fat fires in an easy to reach marked location (WorkSafe Tasmania 2014:7). The findings suggest that employees as well as visitors were not sufficiently warned of corresponding hazards and lacked adequate information on what is prohibited or allowed or endangering the lives of others.

6.2.1.5 Discussion on findings relating to common health and safety hazards

There are various hazards that are related to the food and beverage industry and these include physical, chemical, biological, ergonomic and psychological hazards (Sekheta et al 2013:5).

6.2.1.5.1 Workers exposure to physical hazards

Current findings revealed some positive steps that were taken to comply with the requirements of the OHS legislation. The study findings further indicated that a significant number of employers provided adequate ventilation and sufficient lighting to their workers. It was also found out that under two thirds of the study sites had acceptable noise level in their workplace. On the contrary, a study conducted to assess industrial hygiene and occupational safety practices among the food and beverage industries in Khartoum, Sudan, by Eltayeb-Yassin and Elsadig (2013:26) revealed that 74% of the inspected work places were exposed to high noise levels. Another study, with differing findings, which investigated occupational noise in the food and beverage industry in British Columbia, Canada revealed that the food and beverage manufacturing industry has a high noise exposure with typical noise sources including glass bottling, packaging and compressed air in the beverage sector, while common sources of noise in the food sector include mixing, wrapping, packaging, grinding and manually pushing wheeled carts (Davies et al 2012:44).

It was also revealed in the present study that a majority of the study sites did not expose their employees to high temperatures. Contradictory findings from studies conducted among the food and beverage industry workers by VanDeCruze and Wiggens (2008:13) found that workers are at a risk of being exposed to extreme temperatures and sometimes below freezing temperatures. The findings contrast further with an international study conducted by Stoia and Oancea (2008:13) to determine occupational risk factors among bakery workers in in Romania Sibiu, revealed that employees working near furnaces are at a high risk of developing caloric shock through exposure to increased temperature. Findings from a survey conducted locally among the hospitality industry in South Africa by the DoL (2015:5) also found out that kitchen employees are exposed to hot working conditions which may lead to heat related illnesses such as

prickly heat, heat exhaustion, heat cramps or heat stroke. The findings suggest that prevention and mitigation of areas of physical hazards were given utmost attention by employers at the study sites.

6.2.1.5.2 Workers exposure to chemical hazards

It was shown in the present study that employees at a quarter of the study sites were exposed to food dust and fumes such as leaking ammonia from the refrigerators. Similar findings were documented locally in a study of fish processing workers conducted by Jeebhay et al (2008:900), which aimed at reviewing the prevalence and causes of allergic symptoms, allergic sensitisation, bronchitis, hyper-responsiveness and asthma. The study found out that occupational asthma, arising from extended exposure to dust in the boiler room, was a common health problem within the fish produce environment (Jeebhay et al 2008:900). Further similarities found in a study conducted among wine industry workers by Youakim (2006:389) showed that exposure to hazards, such as chemical additives used to manufacture wine and chemicals used to clean and sterilise winemaking equipment, resulted in respiratory problems such as occupational asthma.

The current study's other findings were that a minority of the study sites, from the food and beverage manufacturing sector and the food and beverage service sector, exposed their employees to chemicals from cleaning detergents, which resulted in occupational dermatitis. Similarly, findings from a report documented by the DoL (2014:4) indicated that workers in the South Africa wholesale and retail industry are at a risk of developing irritant contact dermatitis from direct contact with potentially haardous chemicals. According to Bourke, Coulson and English (2009:946-947) irritant contact dermatitis occurs following repetitive exposure to weaker irritants which may be: either 'wet', such as detergents, organic solvents, soaps, weak acids and alkalis: or dry, such as low humidity air, heat, powders and dusts. Thus, in the present study prevention and mitigation of some hazardous chemicals were not given utmost attention at the considered study sites, risking the onset of diseases.

6.2.1.5.3 Workers exposure to biological hazards

The present study revealed that employees at one third of the study sites were exposed to biological hazards such as bacterial infections and allergies from food contamination. In addition, a photograph from the findings of the present study illustrated a workstation with a wet floor contaminated with blood and animal fat. The photograph also captured an employee who was not wearing protective gloves, thus showing a possible contact with blood and the existence of a risk of developing infectious diseases such as Q fever. Another photograph showed a worker responsible for removing hair from the moving carcasses on assembly line touching the carcasses without protective gloves, which also indicated a possible contact with blood or faecal matter and the risk of developing infectious diseases such as Q fever, Salmonella or brucellosis. Similar sentiments are shared in findings from a survey conducted in the USA by the United States Government Accountability Office (GAO-05-96) (2005:20) which documented that workers in the meat and poultry industry are at high risk of contracting diseases when exposed to viruses, blood, faecal matter and bacteria such as Salmonella. Likewise, international findings from a study conducted among meat processing workers as well as dairy industry workers in Greece by Zachou et al (2008:305) indicated that common occupational diseases such as Q fever affecting meat processing workers and dairy industry workers was acquired through direct contact with contaminated animal parts or inhalation of infected aerosolised particles. In addition, findings of a study conducted among meat processing establishments by the World Health Organization (2006:15) showed that the prevalence of the infectious brucellosis disease among the meat processing establishments was caused by a bacterium and transmitted by the handling of infected cattle or swine. The study noted that the brucellosis disease's common symptoms included constant or recurring fever, headaches, weakness, joint pain, night sweats and loss of appetite, and these occurred due to an improper use of PPE. This emphasises the high risk nature of the industry and confirms further the findings of the literature review which classified the industry as high risk. The above findings denote that prevention and mitigation of some hazardous biological agents were not given utmost attention, thus risking the onset of infectious diseases.

6.2.1.5.4 Workers exposure to ergonomic hazards

The current study found out, in its consideration of the workers' exposure to ergonomic hazards, that employees at under half of the study sites experienced static posture. In addition, employees at over half of the study sites experienced awkward posture. Photographs taken during the current study showed a worker who was degutting carcasses while maintain an awkward posture for extended periods of time. The other photograph showed the same worker performing repetitive movements of the wrists and the extended force on the waist; excessive reaching to pull the carcasses from the moving belt; excessive stooping and repetitive movements of the waist and the shoulders. Furthermore, observations illustrated another worker responsible for removing hair on the carcasses with a gas flame reaching above the right shoulder for a prolonged period of time, posing a risk of developing musculoskeletal disorders such as back pain, neck and shoulder strains, muscle fatigue and upper limb problems.

The current study's findings are in line with findings of a study by Sundstrup et al (2013:2) that investigated participatory ergonomics versus strength training on pain and work disability among slaughterhouse workers in Denmark. The findings yielded by the study were that slaughterhouse work and meat processing operations involve a high degree of repetitive and forceful upper limb movements as well as an elevated risk of work related musculoskeletal disorders (Sundstrup et al 2013:2). Similar findings were documented in a study conducted to assess poverty and injustice in the USA's food system by VanDeCruze and Wiggens (2008:13) which revealed that the dangerous and repetitive nature of work in the meat processing plants poses a risk of sprains, back pain, contusions as well as long term disabilities from years of working in this type of work.

Further findings from the current study indicated that employees at an overwhelming number of the study sites did not experience frequent bending and twisting of the trunk. On the contrary, findings of a study conducted by Rodacki et al (2006:129) to analyse the effects of handling products of different weights on trunk kinematics among supermarket cashiers in the UK showed that the cashiers are at a high risk of developing musculoskeletal disorders such as back pain, neck and shoulder strains, muscle fatigue and upper limb problems, as a result of biomechanically incorrect workstations. The above findings might actually reflect the type of jobs carried out at

the study sites, and further strengthen the finding of the literature review that the industry is high risk.

6.2.1.5.5 Workers' exposure to psychological hazards

Employees at over half of the current study's total sample experienced work-related stress compared to those at over a third of the study who were not exposed to work-related stress. According to the South African DoL (2013: 8), work-related stress among the food and beverage industry workers can be caused by poor work organisation.

It emerged, from the findings of the current study, that employees at most of the study sites experienced psychological risk factors of long hours of night work and shift work, especially among cashiers, cooks and general workers. In addition, it was found out that employees, such as cashiers and waiters, at just under two thirds of the study sites were exposed to violence that included robbery and aggressive customers. The findings of the current study concur with findings of a survey conducted by the European Agency for Safety and Health at Work (2008:156) which documented that workers in sectors such as restaurants and bars, where food and beverages are served, are prone to work-related stress caused by irregular working hours, aggressive and angry or potentially violent customers and exposure to intimidation by colleagues. A survey conducted by Poulakis et al (2010:14) to review the UK state of knowledge and issues about the determinants and consequences of occupational health and safety at work, found out that working long hours, defined as work in excess of 10 hours a day or 48 hours a week, can be detrimental to the health of employees in the workplace. Furthermore, illnesses associated with long hours of work include ischemic heart disease, myocardial infarction and hypertension; just as working erratic shifts may result in digestive disorders, decreased sleep and physical tiredness (Poulakis et al 2010:14). It is, therefore, apparent that although the food and beverage industry might appear to be low risk as compared to the other industries, such as mining and construction, the nature of some of the activities that employees in the present study were involved in, are high risk and detrimental to their health.

In addition, the hazardous conditions observed in the present study are consistent with the findings of the literature review that considered the industry as high risk.

6.2.1.6 General equipment safety

A photograph on the present study site conditions revealed a poorly maintained moving assembly line that was supported by an iron rod to prevent the old rusty chains from being loose. The photograph indicated that the assembly line at this study site exposed the meat processing workers to the risk of getting hit by unstable materials. The findings further showed that the chains on the assembly line did not have the support of an iron rod and as such could become loose and cause a serious injury for anyone working nearby. The findings are in line with a report documented by the South African DoL (2013:5) which indicates that other occupational hazards threatening the safety of workers in the food and beverage industry include the risk of being hit by moving machinery and unsecured equipment.

The findings further illustrated an observation of an employee at a meat processing plant degutting a carcass using repetitive movements of the knife and the hook, posing a risk for lacerations and punctured wounds. Similar findings were documented in a survey on traumatic injury rates conducted among Midwestern pork-meat packing plant employees in the USA by Culp et al (2008:8) who revealed that the use of meat grinders, cleavers, straight and wizard knives and hooks during cutting operations can cause lacerations and punctured wounds among meat processing plant workers. It is therefore apparent that there is no systematic approach in managing safety at the meat processing plant. Furthermore, there is no emphasis on close supervision of employees to ensure that they fully understand the dangers involved in their tasks, which may result in injuries at work.

SECTION B: RETROSPECTIVE RECORD REVIEW OF WORK-RELATED INJURIES AND DISEASES

6.2.1.7 Availability of incident records at the study sites

The findings from the current study point out that less than half of the study sites were able to produce their incident reports for review, whilst over half of the study sites could not. Completed records of incidents were kept in the form of injury registers and investigation reports of work-related injuries and illnesses.

6.2.1.7.1 Total number of work-related injuries elicited from incident records

It was found out in the present study that the highest number of employee work-related injuries, sustained at less than half of the study sites, were musculoskeletal injuries. Similar findings were documented in a survey conducted in 2003 by the United States Government Accountability Office (GAO-05-96) (2005:12) which revealed that musculoskeletal disorders are prevalent in the meat and poultry industry. The same sentiments were expressed in a study conducted by Sundstrup et al (2013) to investigate participatory ergonomics versus strength training on pain and work disability among slaughterhouse workers in Denmark. Sundstrup et al (2013:2), found out that slaughterhouse work and meat processing operations involve a high degree of repetitive and forceful upper limb movements as well as an elevated risk of work-related musculoskeletal disorders.

It was additionally found out in the present study that the second highest number of work-related injuries sustained at a quarter of the study sites were soft tissue injuries. The current findings concur with findings documented in a report by (GAO-05-96, 2005:23) and findings from MacCarron's (2006:93) study which indicate that work-related soft tissue injuries and fatal injuries may occur from being struck by work equipment such as cranes. Equally, findings of a survey conducted by the Government of Western Australia (2012:2) reported that soft tissue injuries may result from falls from heights or slippery surfaces.

A few back injuries were also reported in the current study. The findings are in support of findings documented in a survey conducted in 2003 by the (GAO-05-96, 2005:22) which revealed that back injuries resulting from overexertion, including sprains, strains and tears are prevalent in the meat and poultry industry. The findings further indicated that finger amputation injuries were sustained by employees at a minority of the study sites. Similarly, findings documented in a survey conducted by the British Meat Processors Association (2011:79) showed that workers in the meat processing plants and abattoirs may sustain amputations of arms and fingers.

6.2.1.7.2 Sources of work-related injuries as reported in the incident reports

Half of the study sites that were able to produce incident reports for review, documented that employees had sustained injuries from handling and lifting heavy load, and a third of these were from the food and beverage distributing sector. The current findings are in agreement with a report documented by the DoL (2014:4) which states that cashiers and stock clerks in the wholesale and retail industry in South Africa are at a risk of developing back injuries and lower back pain due to excessive lifting of groceries during the whole day shift and from reaching the shelves respectively. In the same vein, a report published by the European Agency for Safety and Health at Work (2013:3) states that workers in this sector handle thousands of items on a daily basis while carrying out tasks such as stocking shelving.

Furthermore, the findings revealed that a quarter of the study sites documented that their employees sustained injuries as a result of slips, trips and falls. These were mostly common among the food and beverage distribution sector, food and beverage serve sector, and the meat sector. The findings concur with the results from Eltayeb-Yassin and Elsadig (2013:27) assessment of industrial hygiene and occupational safety practices among the food and beverage industries in Khartoum, Sudan, which revealed that some common injuries in the food and beverage industry result from slips, trips and falls.

In addition, the current study found out that a minority of the study sites from the food and beverage manufacturing sector recorded that their employees sustained machinery-related injuries. Similar findings were documented in a survey conducted by the DoL (2014:11) which reported that meat and fish department workers in the wholesale and retail industry are at a risk of sustaining serious cuts, amputations and crushed bones from injuries resulting from unguarded machines such as saws, meat grinders, slicers, mixers, and garbage disposal units or waste balers. Additionally, a study conducted by Eltayeb-Yassin and Elsadig (2013:27) to assess industrial hygiene and occupational safety practices in the food and beverage industries in Khartoum, Sudan revealed that some common injuries in the food and beverage industry result from moving parts of equipment and machinery and unguarded machinery.

Finally, findings from the present study pointed out that a minority of the study sites from the food and beverage service sector and the meat sector recorded that their employees sustained work-related injuries resulting from contact with sharp edges. The findings correspond with a Government of Western Australia (2012:5) report which found out that cuts and incisions from knives and sharp instruments are common in the fast food industry. Likewise, a survey conducted by the British Meat Processors Association (2014:47) noted that knife accidents involving cuts or stabs to the non-knife hand, forearm or body are prevalent in the meat processing industry.

6.2.1.7.3 Total number of work-related illnesses elicited from incident records using the checklist

According to the current findings, the highest number of work-related illnesses suffered by employees at the study sites emanated from repeated exposure to cold which caused frequent sneezing, runny nose, coughing and dry hands. Similar findings documented in a study conducted by Saha et.al (2006:23) among fish processing female employees in Western India, to determine occupational injury occurrence and the associated factors, revealed that exposure to extreme cold temperatures often resulted in frequent respiratory tract irritation; frequent sneezing and coughing and pealing of skin from their hands.

Illnesses related to cold temperatures were followed by a low number of occupational asthma cases emanating from extended exposure to chemical fumes and food dust. The findings are in alignment with those from a study conducted among the fish processing workers in South Africa by Jeebhay et al (2008) which reviewed the prevalence and causes of allergic symptoms, allergic sensitisation, bronchitis, hyper-responsiveness and asthma. The Jeebhay et al (2008:900) study revealed that extended exposure to steam vapours from cooking fish in the cannery; exposure to dust in the boiler room; fishmeal dust and fish handling in the cannery, are responsible for respiratory symptoms such as wheezing, shortness of breath and tight chest. This was experienced by 20% of workers reported to have inhaled excessive amount of aerosols in the factory (Jeebhay et al 2008:900).

In addition, a few more of the study sites recorded irritant contact dermatitis as an illnesses experienced by the employees. Similar findings were documented in a report

by the DoL (2014:4) that stated that workers in the South Africa wholesale and retail industry are at a risk of developing irritant contact dermatitis from direct contact with potentially hazardous chemicals.

6.2.1.7.4 Sources of work-related illnesses at the study sites as reported in the incident reports

It emerged, from the findings of the current study, that work-related illnesses from a quarter of the study sites resulted from exposure to extreme-cold-temperature-causing-problems such as respiratory tract irritation and sneezing, which were related to cold. The findings are in line with a study conducted by VanDeCruze and Wiggens (2008:13), whose assessment of poverty and injustice in the USA's food system, revealed that workers in the food and beverage industry are also at a risk of developing respiratory tract irritation due to exposure to extreme temperatures and sometimes below freezing temperatures. A study conducted among fish processing workers in Western India by (Saha et al 2006:23), revealed a similar observation that exposure to extreme cold can result in frequent respiratory tract irritation; frequent sneezing and coughing; and pealing of skin from the hands.

The present study also revealed that exposure to fumes and food dust was responsible for work-related illnesses such as occupational asthma among a quarter of the study sites. The same sentiments were expressed in a study conducted by Zachou et al (2008:305) among abattoir and dairy industry workers which found out that workers are exposed to animal diseases transmitted by direct contact with contaminated animal parts through inhalation of infected aerosolised particles. Similar findings are documented in a report by the United States Government Accountability Office (GAO-05-96) (2005:22) which noted that workers in the meat and poultry industry are at a risk of experiencing respiratory irritation such as asphyxiation from exposure to pathogenic respiratory substances, and some workers have died from being overcome by hydrogen sulphide gas or drowning after entering manure waste pits.

According to the current findings, work-related illnesses such as irritant occupational dermatitis resulting from exposure to chemicals from cleaning detergents were proportionately common in the minority of the study sites from the food and beverage manufacturing sector and the food and beverage service sector respectively. Likewise,

findings from a study conducted among abattoir and dairy industry workers by Zachou et al (2008:305) indicate that irritant occupational dermatitis is acquired by direct contact with contaminated animal parts. A study conducted to assess industrial hygiene and occupational safety practices among the food and beverage industries in Khartoum, Sudan by Eltayeb and Elsadig (2013:27) showed that cleaning workers in the food and beverage industry are exposed to chemicals such as detergents, soaps and caustic cleaning solutions used in cleaning operations and disinfection of process areas. Similarly, a report documented by (California OSHA 2012:14) indicated that exposure to hazardous cleaning chemicals may cause skin irritation such as occupational dermatitis. The findings, therefore, suggest that there was lack of proper work practices that sought to reduce illnesses.

6.2.1.8 Health and safety training

This section discusses data obtained from the 12 study sites that availed incident records and training records for this study. The study findings showed that a majority of study sites had trained their employees on workplace safety. The findings support section 8(2)(e) and section 17(7) of the amended OHS Act No. 85 of 1993 which state that employers are required to ensure that health and safety representatives and employees are trained in order to enhance their control procedures regarding compliance with health and safety legislation OHS Act (No. 85 of 1993). According to (PAHO 2006:26), training is an important component of the health and safety management program because it enabled the workers to assume their duties competently. Furthermore, training strengthens the culture of prevention of occupational health and safety hazards. The findings are further in line with a report by the ILO (2001:8) which posits that it is a legal requirement for employers to employ persons that are competent and who support all aspects of the organisational OSH management system. It is apparent; in the current study that, some positive steps were taken by employers regarding health and safety training.

Further findings indicated that employees at over half of the study sites were provided with training on the use of machinery and equipment. Similar sentiments were expressed in a report documented by (PAHO 2006:27) which suggests that on-site training in health and safety is required, and this could be training in handling machinery, equipment or work procedures. According to Hughes and Ferret

(2011:512), training may be incorporated into new employee initiation, at induction or on being exposed to new or increased risks. It is apparent from the above findings that an effort was made to adopt a systematic approach for managing safety, which resulted in an effective implementation of such an important component of OHS management programmes as training.

Two thirds of the study sites which presented training records did not provide their employees with any instruction on how the PPE is worn, maintained and stored. Opposing findings were documented in a report by the Pan American Health Organisation (PAHO 2006:27) which indicated that training should focus on workplace health and safety rules (standards), workplace hazards and their risks to workers, controls that in place and on use of Personal Protective Equipment. The use of PPE, besides relying on active cooperation and compliance by employees, is the last resort and according to section 8(2)(9e) of OHS Act (No. 85 of 1993), it is important for the employer to ensure that proper training on how PPE is worn, maintained and stored is provided (OHS Act No. 85 of 1993) It is clear that if employees are not provided with proper training, they might find it difficult to perform their duties efficiently or know when to use the PPE. This lack of training poses a risk of exposure to hazards from which they are supposed to be protected. The current findings further imply that by not getting proper training in how PPE is worn, maintained and stored, employees are more likely to resist compliance or buy-in the idea of using PPE.

It is of great concern that only less than half of the study sites were able to present their OHS training records. According to Taderera (2012:105), OHS training needs to be documented and records thereof retained to determine if there is a need for future review. Keeping records makes them traceable to evaluate the effectiveness of training for continual improvement. Additionally, keeping the training records enables the employer to keep track of those trained and the type of training obtained. For example, any employee who has had competency training in the past might only need a refresher course, which might be cheaper with minimal time off from work. The current findings indicate that there was no systematic approach and no model for managing safety, which results in the absence of an effective implementation of the training component of OHS management programmes.

6.2.1.9 Risk assessment

The record review also assessed whether the study sites had conducted at least one risk assessment within the past 12 months. A majority had not conducted risk assessments within the previous 12 months. On the contrary, section 12(1)(a) of the OHS Act (No. 85 of 1993) as amended emphasises on the significance of risk assessments as a tool for ensuring that potential hazards to the health and safety of the employees are eliminated or mitigated (OHS Act No. 85 of 1993). According to Permana (2012:44), a risk assessment process comprises of the identification of hazards at work, evaluation of their risks and their elimination, and if not possible, controlling or minimising them. Thus, HIRA provides the baseline for all OHS management programmes which involve the determination of the organisation's risk profile, the control measures required, the resources needed to implement the programme and the type of procedures and training needed. This may mean that the study sites have base-line assessments or a systematic statement on the hazards and risks to their employees and therefore are not able to systematically control or monitor and measure performance for the purpose of review to ensure continual improvement. It further implies that a majority of employers did not have proactive monitoring strategies that would monitor and measure planned activities such as risk assessment and the health and safety performance of their organisations.

6.2.1.10 Emergency preparedness

The study findings indicated that an overwhelming majority of the study sites had a written procedure for fire evacuation. The findings are in line with a report documented by WorkSafe BC (2013:11) which states that an employer should have, in place, appropriate written procedures necessary to help train employees and establish a consistent level of work performance in activities such as emergency evacuation.

In addition, most of the study sites trained their employees on fire evacuation. Similar sentiments are expressed by the (ILO-OSH 2001:6) guidelines which emphasize that the employer should ensure that workers and their safety and health representatives are consulted, informed and trained on all aspects of OSH, and on emergency arrangements associated with their work. Likewise, findings of a survey conducted by WorkSafeBC (2008:32) among the food processing industry in British Columbia suggest

that employers should ensure that their employees are trained in emergency procedures and conduct periodic fire drills with their employees to ensure that they are ready to act if an emergency occurs. This implies that competent employees who have proper training in emergency procedures would know what to do to prevent injuries as compared to someone who lacks knowledge in this regard. This also suggests that work-related injuries can be prevented if employees are provided with such OHS training and constant supervision.

The current findings also established that an overwhelming majority of the study sites had accessible fire extinguishers in a marked location, while just over two thirds of the study sites recorded that their fire extinguishers were serviced regularly. Similar findings, from a survey conducted among the food retail employees in Tasmania by WorkSafe Tasmania (2014:7), emphasised that the employer is required to install a fire extinguisher for fat fires in an easy to reach marked location. A survey conducted among the food processing industry in British Columbia by WorkSafeBC (2008:28) also suggest that companies should have fire extinguishers in an accessible location and be prepared to respond to emergencies such as fires.

Furthermore, in the present study, more than half of the study sites had onsite clinics where first aid and medical treatments were offered. The findings concur with a report by the DoL (2013:8) which indicates that some businesses in the food and beverage industry in South Africa employ specialist occupational health personnel in possession of a medical background to attend to the day-to-day first aid and medical examinations of employees. Similarly, findings documented in a survey conducted within the food processing industry in British Columbia by WorkSafeBC (2008:28) suggest that all employers need to keep a first aid kit on-site and employ a first-aid attendant. The current findings imply that the presence of a medical facility and an effective first aid programme can reduce the severity of work-related injuries and illnesses, and ultimately minimise financial costs associated with extensive medical treatment or the need to replace employees who are unable to work due to injuries or illnesses (WorkSafe BC 2008:28).

6.2.1.11 Sick leave due to work-related illnesses or injuries

The present study established that over half of the study sites experienced employee absenteeism associated with work-related illnesses or injuries. Similar sentiments are expressed in a survey conducted by the Health and Safety Authority (2007:62) among catering workers in Ireland which revealed that a young inexperienced catering worker in her twenties was absent from work because she could not use her hand properly for two weeks after she accidentally cut her wrist with the lid of baked beans tin. According to Ruseckaite et al (2011:5) the financial costs incurred due to work-related absenteeism include medical costs, increases in insurance premiums, compensation costs, possible legal and enforcement costs, and additional costs for recruiting and training new employees. Therefore, absence from work due to sickness may become costly for the employer with more injured or ill employees staying away from work and the employer having to spend more money to recruit and train new workers.

6.2.1.12 Total number of sick leave in days

It was revealed that, with regard to lost time injury rates, the duration of work-related injuries or illnesses sick leave averaged a maximum of 60 days per year for musculoskeletal injuries and back injuries, where employees could not perform their duties. Similar outcomes are recorded in a survey conducted by the Irish Health and Safety Authority (2007:75) which revealed that a catering worker who was away from work due to work-related injury for six years could not perform her duties for that period of time. The present findings further concur with a survey conducted by Pearson (2009:39) to highlight injuries and causes of ill-health that occur worldwide which found the food and beverage industry in South Africa as one of the high risk industry for work-related injuries and illnesses alongside the construction, agriculture and the iron and steel industries. Furthermore, 60 days lost per year is a significant loss that could have been prevented or minimised at the study sites through effective management of workplace safety. The findings indicate that sick leave may lead to lower employee morale, lack of job satisfaction and productivity and in some cases income.

6.2.2 Discussion of findings from the questionnaire

A total of 202 employees from the meat sector were interviewed to determine their level of awareness of health and safety legislation and responsibilities.

6.2.2.1 Participants' socio-demographics in the meat sector

6.2.2.1.1 Participants' gender distribution

Findings from the present study indicate that more males than females work in the meat sector. The male to female worker ratio was 3:1, thus showing that the workforce in the selected study sites in the meat sector is largely male-dominated. Similarly, a study conducted in the USA suggests that the meat and poultry workforce tends to be male-dominated with men making up 65% of the workforce (United States Government Accountability Office (GAO-05-96) 2005:15). Similar outcomes are documented in a study conducted by Allen and Sachs (2007:7) which found that an estimated 20% of the workforce in the meat processing sector in the USA were women and an overwhelming 80% comprised of men.

It is worth noting that the ILO has classified female employees as vulnerable workers (ILO 2012:3). In general, women workers face the same health and safety risks but may suffer different effects and face additional health and safety challenges at work when compared to their male counterparts. The ILO (2012:7) suggests further that in a typically male-dominated industry, as found in the present study, women employees may be subjected to sexual harassment and discrimination. The findings imply that the health and safety needs of women may not receive adequate attention as they are in a minority and women may be underrepresented in consultative and decision-making instances such as the health and safety committee where they can articulate their concerns and safeguard their specific interests.

6.2.2.1.2 Participants' age distribution

It emerged that, from the findings of the current study, the mean age of participants in the meat sector was 35 years. It was also found out that a majority of workers were young, with less than half being in the age group 21-30, while those in the older age

group of 41-50 constituted just over a quarter. These findings are in agreement with a study conducted in the USA by the United States Government Accountability Office (GAO-05-96) (2005:3), which found that 43% of the workforce in the meat and poultry industry tended to be young and under the age of 35. On the contrary, studies conducted among catering industry waiters in Slovenia by Kukanja (2013:102) found that 42% of participants were aged between 20 and 25. Further contrast to the findings are documented in a study conducted by Viljoen et al (2014:37) among the food and beverage employees in Potchefstroom, South Africa, which indicated a higher number of employees (61%) with an average age of 31 years as compared to the less than 50% found in the present study.

According to a study conducted among retail industry workers in Denmark by Nielsen et al (2013:228), young workers need special risk assessments because they have different perceptions of risk and are more risk-taking. Furthermore, a report by the European Parliament (2011:72) shows that young workers tend to believe that they are physically healthier and stronger than older workers. Therefore, it can be argued that having older employees at the study sites would contribute to a better understanding of health and safety instructions, thereby improving compliance and promoting a more positive health and safety culture at work (Government of Western Australia 2010:2). Similarly, older employees would bring many benefits to the workplace as they are viewed as a more productive and resourceful population (Tishman et al 2012:4).

6.2.2.1.3 Participants' marital status

The current findings show that over two thirds of the participants were single, and just over one quarter were married. On the contrary, findings from a local study by Viljoen et al (2014:37) reported a lower rate of 58% compared to the 68.8% found in the current study for single employees in the food and beverage industry and a higher rate of 37% of employees in the same industry who are married or living together compared to the 28.2% revealed in the current study. According to Statistics Canada (2008:7), single workers among all types of industries that require shift working hours are more likely to be in the majority of shift workers working long hours compared with 2 in 10 of those working regular day shift. The findings support the present study findings reported earlier in the chapter which pointed out that employees at most of the study sites experienced psychological risk factors from the long hours of night and shift work.

Therefore, the current findings imply that in instances where the employer requires workers to work overtime and long hours, single people are most probably the first ones to volunteer or be approached because employers might feel that they do not have ties to a spouse at home, thus risking exposure to work-related psychological risk factors from long hours of night and shift work, such as violence and intimidation by customers. These employees might also be exposed to illnesses associated with long hours of work such as ischemic heart disease, myocardial infarction and hypertension; and working erratic shifts may also result in digestive disorders, decreased sleep and physical tiredness (Poulakis et al 2010:14).

6.2.2.1.4 Participants' level of education

It was found out, in this study, that most of the participants in the meat sector had secondary level of education. Similar findings were documented by Schmitt and Jones (2013:3) who found that 70% of fast food sector workers in the United States of America had a high school education, while Kukanja (2013:102) found that 57% of workers in the food service sector in Slovenia had secondary education. In addition, comparable findings in a study conducted by Viljoen et al (2014:37) showed that 48% of workers among the South African food and beverage sector had Grade 12 level of education, followed by 21% who indicated that they had attended high school. An employer is required to recruit workers that are competent and fit to perform their work safely and ensure the safety of others (ILO-OSH 2001:8). Section 8(2)(e) of the OHS Act (No. 85 of 1993) provides that where workers are largely unskilled and lowly educated, it is mandatory for the employer to provide adequate information, instruction, training and supervision to ensure safe work (DoL 2012:8). It can be argued that employees who are unskilled and possess low levels of education, such as general workers and those performing simple tasks, would not normally require elaborate training but the usual health and safety induction would be mandatory in their situation.

6.2.2.1.5 Participants' job title

This study's findings indicated that employees who worked as general workers accounted for just over half of the participants; and a sixth of the participants were meat cutters, while packers accounted for a minority of the participants. In addition, it

emerged in the current study that other job titles for the participants included loaders; machine operators; receivers; cashiers; cooks and plumbers. Likewise, a study by Spellman and Bieber (2008:13) conducted among the meat packing plants in the USA found out that occupations included packers, forklift drivers, transporters, machine operators and maintenance workers. Similar findings were documented in a study conducted among Pick ‘n Pay employees in the Gauteng province of South Africa by (Maseko 2008:9) where the food and beverage retail sector included packers who are responsible for stocking shelves, checking groceries and preparing inventories, as well as cashiers who run the register. The current findings also concur with findings from a study that investigated the causes of occupational injuries and illnesses among Chinese immigrant restaurant waiters in the United States, which showed that other occupations in the food and beverage service sector include restaurant waiters and packers (Tsai 2009:110).

6.2.2.1.6 Participants’ years of working experience

It was revealed from the findings of the present study that more than a third of the workforce in the meat sector had worked for less than a year, while almost half of the workforce had work experience of between 1-5 years and a few of them had working experience of over 5 years. Similarly, findings from a study conducted among the food and beverage industry employees in Potchefstroom, South Africa by Viljoen et al (2014:37) found that (30%) of the employees had been employed for less than a year. In contrast to the findings of the current study, a study conducted in Piran, Slovenia by (Kukanja 2013:102) found out that employees in catering and distribution had on average over 7 years of work experience; while a study conducted among Pick ‘n Pay employees in the Gauteng Province of South Africa by Maseko (2008:49) found out that employees in the food and beverage retail industry had an average of 10 years of working experience. The findings from a study conducted among the meat packaging plant employees in the USA also revealed that workers with few years of working experience were at the highest risk of work-related injuries (Culp et al 2008:15). This would suggest that employees with few years of work experience need constant training and supervision because they would be unfamiliar with their jobs, working environment and the risks associated with the job. In addition, it is unlikely that the less experienced

workers would be able to identify risks in their working environment or pay adequate attention to those risks.

6.2.3 Employee awareness of health and safety legislation

6.2.3.1 Awareness of the OHS policy

It emerged, from the findings of the current study, that over half of the participants reported that they were aware of the OHS policy. The current findings are in agreement with section 7(1)(b) of the OHS Act (No. 85) of 1993 which states that an employer is required to prepare a written policy concerning the protection of the health and safety of his employees at work, while section 7(3) of the OHS Act (No. 85 of 1993) asserts that an employer should display a copy of the OHS policy on a conspicuous place where workers can access and read it (OHS Act No. 85 of 1993). Likewise, the findings are in support of Machabe et al (2013:30) who indicate that in order to maintain safety in the workplace, every employer should communicate with its employees, either verbally or in writing, about key information on occupational hazards and control measures put in place to protect them. According to Wolska and Namies'nik (2007:462) top management commitment; leading by example; provision of adequate health and safety information and instruction to employees; and sufficient motivation promotes a more positive health and safety culture among workers and improves safety performance.

6.2.3.2 Understanding of the OHS policy

This study revealed that over half of the employees on the two study sites confirmed that they understood the contents of the occupational health and safety policy. The findings are in support of a study by Taderera (2012:104) who emphasised that employees need to understand the health and safety rules in order for them to competently carry out the safety and health aspects of their duties and responsibilities. In addition, a clearly documented OHS policy should highlight the importance of employee participation with health and safety issues in order to prevent occupational injuries and illnesses (Allie 2008:47). The present findings imply that the provision of adequate health and safety information and instruction to employees by their employers; and adequate encouragement for employees to adhere to health and safety

standards, promotes a more positive health and safety culture among the workers and improves safety performance (Wolska & Namies'nik 2007:462).

6.2.3.3 Awareness of the OHS Act (No. 85 of 1993)

This study established that a majority of participants indicated that they were not aware of the OHS Act (No. 85 of 1993). On the contrary, section 13(a) of the OHS Act (No. 85 of 1993) states that an employer must communicate the Act to their employees and provide them with adequate information about the hazards, risks to their health and safety and the measures they must observe to protect themselves (OHS Act No. 85 of 1993). These failings could be explained by the possibility that employers did not fully appreciate the benefits of managing health and safety at work and prioritised production at the detriment of health and safety.

6.2.3.4 Employee's responsibilities to OHS at work (Section 14 of OHS Act 85 of 1993)

More than half of the employees surveyed in the current study appeared to be aware of their duties with regard to health and safety at work. For example, they thought that it is their responsibility to use proper personal protective equipment and devices, while less than a quarter knew that they had an obligation to know health and safety rules. Health and safety in the workplace is not only the responsibility of the employer, but also that of the employees. Similarly, section 14(b) of the OHS Act (No. 85 of 1993) indicates that an employee shall co-operate with their employer to ensure that the duties or requirements of the OHS Act are accomplished. Furthermore, section 14(c) requires an employee to carry out any lawful order given to them, and obey health and safety rules as well as procedures laid down by the employer or by any one authorised by the employer in the interest of health and safety (OHS Act No. 85 of 1993; Allie 2008:19).

The current study's findings also showed that very few participants knew that it is their duty to ensure the health and safety of their fellow workers and others, such as visitors and contractors, present in the workplace. However, section 14(a) of the OHS Act (No. 85 of 1993) and (Allie 2008:19) stipulates that every employee shall take reasonable care and safety of themselves and of other persons who may be affected by their act or

omissions at work. The above findings imply that in order to take care of their safety and health, employees need to understand their responsibilities to occupational health and safety at work.

6.2.3.5 Employers' responsibilities as reported by employees

It was revealed in the current study that, less than half of the participants thought that it is the duty of the employer to ensure health and safety at work. The findings corroborate with findings from a South African study on the broad overview of the importance of OHS within the workplace conducted by Machabe and Indermun (2013:31) which indicates that management has the responsibility to create a safe and positive culture amongst its employees. The findings of this study concur with studies conducted in Poland by Wolska and Namies'nik (2007:462) and the one conducted in South Africa by (Machabe & Indermun 2013:14) which reported that top management's commitment, leading by example, provision of adequate health and safety information, instruction, supervision, training of employees and provision of sufficient motivation, promote a more positive health and safety culture among employees and improves safety performance.

In order to improve the attitude of the majority of employees towards health and safety in the workplace and a safety culture in the organisation, it is very important for health and safety to be part of the way business is conducted, and to involve everyone. Therefore, employees need to be part of the safety improvement and initiatives in the organisation and this is only feasible if they know the health and safety rules at their work places.

6.2.4 Employee consultation and participation (Section 13 OF OHS Act No. 85 of 1993)

6.2.4.1 Information by the employer regarding risk assessment

The current study noted that an overwhelming majority of participants were not informed about risk assessments results. The findings are in contrast to section 13(a) of the OHS Act (No. 85 of 1993) which states that every employee needs to be conversant with the hazards to their health and safety that are attached to any work or activities which they

perform. This could mean that there is no systematic approach to managing the safety of employees. Consultation is vital in improving worker commitment and it gives them a sense of belonging if they are encouraged by the employer to participate in the making of decisions on health and safety matters.

6.2.4.2 Employee participation in conducting risk assessment, incident/accident investigation

This study revealed that an overwhelming majority of participants did not take part in risk assessments, nor in the investigations of accidents or incidents at the work place. However, findings documented by the ILO (2001:6) and Burton (2010:6) indicated that occupational health and safety management system emphasises on the participation of workers and their representatives. Worker participation is referred to as an engagement of workers with supervisors, managers or employers on health and safety matters (ILO 2010:13). Further opposing findings were documented by (Burton 2010:6) who indicates that the ILO-OSH 2001 management system states that one of management's duties and responsibilities is to promote the participation of all members of the organisation towards a common goal with regards to health and safety issues. According to (Hughes & Ferret 2013:24) a fundamental strategy that can be adopted by the employers to manage workplace risks is paying emphasis to worker participation. Therefore, the implementation of worker participation encourages the workers to become involved in determining their work environment or work organisation (ILO 2010:13). Failure to encourage employee participation could be explained by the possibility that employers did not fully appreciate the benefits of managing health and safety at work and as such prioritised production at the detriment of health and safety.

6.2.4.3 Reporting on hazards/incidents by participants

The present study revealed that an overwhelming majority of participants did not report on any encountered hazards and injuries. The participation of employees in health and safety matters also includes reporting on accidents and unsafe conditions through the work of OHS representatives and OHS committees and the reviewing of accident statistics (PAHO 2006:23). The findings of the study are in contrast with section 14(d) of the OHS Act (No. 85 of 1993) which states that every employee is required to report any unsafe or unhealthy situation to the employer or to the health and safety

representatives, while section 14(e) of the OHS Act (No. 85 of 1993) states that employees need to report any incident that would have occurred as soon as possible. Further contrasting findings were documented in a report by the British Meat Processors Association (2014:7) which indicate that employees have the responsibility to report accidents, near misses and work-related health problems.

A number of reasons could be used to account for the lack of reporting on accidents and hazards. It could be that workers did not report because nothing was being done following earlier reports. Employees could be afraid of losing their jobs or facing other negative consequences. In addition, reporting procedures were probably not properly defined or communicated to the employees. Workers were not reporting incidents probably because a majority did not elect their OHS representatives and as such their representatives may not have been trusted to report to. This may also mean that there were no specific strategies to measure failures or deviations from planned systems and to identify and report injuries and work-related illnesses. According to Kelly (2012:27), many incidents in the food industry go unreported due to employees' fear of losing their jobs or facing other negative consequences. According to section 38(1) of the Compensation for Occupational Injuries Diseases Act (2010b:20) it is a legal requirement to report injuries and illnesses in writing or verbally as soon as possible after such injuries occurred by an employee concerned to the employer. These may be minor incidents where the health and safety of a person was endangered, where a person was injured or where there was loss of consciousness requiring an emergency evacuation. Therefore, incidents should be reported so that they can be investigated to determine the root causes and take corrective action or review precautionary measures put in place and records kept.

6.2.4.4 Availability of safety representatives/committee as reported by participants

It emerged in the present study that over half of the participants pointed out that they had a health and safety representative, whereas less than half noted that they did not have health and safety representatives. This is despite having a health and safety committee at work as reported by the majority of participants. The findings are contradictory to section 17(2) of the OHS Act (No. 85 of 1993) which states that an employer and representatives of his employees, in consultation with the employees,

should consult in good faith regarding the arrangements and procedures for the nomination or election of representatives. The findings suggest that existence of proper communication channels, such as clear and constructive safety communication systems that include boards, newsletters, instructional leaflets, posters and videos, between employers and their employees, have the potential to improve knowledge and understanding about OHS information. In addition, posters could be used to overcome language problems through the use of illustrations and symbols, just as these communication materials could be used to inform employees about the availability of health and safety representatives in their workplace. According to the OHS Act (No. 85 of 1993) the role of the health and safety representatives is to review the effectiveness of health and safety measures, in collaboration with the employer to examine the causes of incidents at the workplace, investigate on health and safety complaints by any employee to present the afore mentioned to the health and safety committee.

It is plausible that some employees were not aware of their representatives at work as most of these representatives were either handpicked by the employers or just chosen without any democratic process. This may not be in the best interest of the employees as such a representative is mostly likely to be loyal to the management that appointed him/her rather than protecting and fighting for the interest of the employees that he/she is supposed to be representing. Furthermore, this implies that by not getting involved in health and safety issues at the planning stage or decision making, employees are more likely to resist compliance or buy-in the idea of a health and safety practice on the work place.

6.2.4.5 Participation in the election of safety reps/committee as reported by participants

An overwhelming majority of participants indicated that they did not elect their health and safety representatives nor members of the health and safety committee. The findings of this study are in contrast with section 17(2) of the OHS Act (No. 85 of 1993**,** which stipulates that it is a legislative requirement, in cases where there are more than 20 employees, for the workers to participate in nominations and selection of their health and safety representatives (OHS Act No. 85 of 1993). According to (SafeWork Australia 2011:5) and Clarke (2013:6), it is imperative for employees to be consulted on issues such as the nomination and election of health and safety representatives because

consultation gives workers a reasonable opportunity to express their views and allows employers to take those views into account before making decisions on health and safety matters. Furthermore, a report by the Pan American Health Organisation (PAHO) (2006:23) suggests that consultation is important as it can lead to improvements in health and safety practices as employees become aware of the hazards in their work. Thus, if employees are encouraged by the employer to participate in the making of decisions on issues such as nomination and election of health and safety representatives, this can improve their commitment to health and safety matters and give them a sense of belonging. It is probable that some employees were not aware of their representatives at work as most of these representatives were either handpicked by the employers or just chosen without any democratic process. This may not be in the best interest of the employees as such a representative may be loyal to the management that appointed him rather than maintaining the interest of the employees that he is supposed to be representing. In addition, employees need to be consulted because they are better placed to suggest effective solutions as they do the work and know the hazards better, as well as the health and safety concerns in the workplace.

6.2.4.6 Feedback on matters related to OHS from safety reps

An overwhelming majority of the current study's participants reported that they did not receive feedback from their health and safety representatives and committee members on matters related to OHS. The current study's findings differ with a report by the ILO (2010:18) which asserts that effective consultation with the employees, through their health and safety representatives, is important because these representatives represent the employees' interests and are at a better position to lobby for improvement and enforcement of health and safety legislation and compliance thereof. In addition, an ILO report revealed that effective consultation promotes good practice in health and safety management and reduces occupational injuries and fatalities (ILO 2010:36). According to an Australian Government Report, the benefits of effective consultation include increased employee morale and productivity; improved management decision on OHS matters; a healthier working environment; a reduction in incidents and their severity; employee commitment to OHS and ownership of the outcomes of the consultation; and effective lines of communication with employees as they would be knowing who to contact about OHS matters (Australian Government 2005:10).

6.2.4.7 Motivation for compliance with health and safety conduct

The study findings illustrate that a majority of the participants were motivated for good health and safety behaviour. The findings coincide with section 14(c) of the OHS Act (No. 85 of 1993:2012:10) which requires the employees to carry out any lawful order given to them, and obey health and safety rules and procedures laid down in the interest of health and safety by their employer or by anyone authorised by their employer. Similar assertions were documented by (Allie 2008:19) who indicated that workers need to be motivated to follow established safety procedures. On a similar note, Taderera's (2012:104) study conducted to explore Zimbabwe's occupational health and safety policy, as well as regulatory and institutional framework, indicated that employees need to know health and safety rules in order for them to willingly and competently carry out the safety and health aspects of their duties and responsibilities. Finally, a study conducted in the UK to review the current state of knowledge and issues related to the determinants and consequences of occupational health and safety at work by Pouliakas and Theodossiou (2010:12), also showed that for employees to be inspired by good health and safety behaviour, they should be able to identify hazards in their work environment and promote safer work practices which will result in the reduction of workplace injuries and diseases.

The above findings indicate that in order to improve the attitude of the majority of employees towards health and safety in the workplace and that of a safety culture of safety in the organisation, health and safety should be prioritised in conducting business. Therefore, employees need to be part of the safety and health improvement initiatives in the organisation and this is only feasible if they are aware of the health and safety rules at work.

6.2.5 Employee health and safety training (Section 8(2)(e) of OHS Act No. 85 of 1993)

6.2.5.1 Employee induction training on general workplace health and safety rules and practices

Current findings show that a majority of participants received induction training on general workplace health and safety standards, while less than a quarter did not receive such training. The findings are in line with documented findings by (Hughes & Ferret 2011:512) who reported that training may be incorporated into new employee initiation, at induction or on being exposed to new or increased risks. On the contrary, a study conducted in Trinidad and Tobago by Nathai-Balkissoon (2011:38) to analyse the OHS gap on several of the requirements of the OSH Act among the food and beverage manufacturing enterprises revealed that employees did not receive induction training on matters related to OHS. This training may include training in workplace standards, occupational hazards and risks, controls, use of personal protective equipment and in accident notification and emergency procedures (PAHO 2006:27). The findings imply that the employers' incorporation of OHS training on new employee induction programme indicates some of the positive steps that sought to ensure that the workers could undertake their duties competently, and be knowledgeable about hazards in the new working environment.

6.2.5.2 Benefits of OHS training to a healthy and safe work environment

Just over half of the study's participants indicated that their training had helped them to work safely. The findings concur with studies by Wolska and Namies'nik (2007:462) and Machabe and Indermun (2013:14) who stated that top management's commitment; leading by example; provision of adequate health and safety information; instruction; supervision; training of employees and the provision of sufficient motivation, promote a more positive health and safety culture among employees and improves safety performance. According to a report documented by the PAHO (2006:27) training should focus on workplace health and safety standards, workplace hazards and their risks to workers, make sure that controls in place and pay attention to use of Personal Protective Equipment (PPE). Employee training in health and safety is an essential element of the health and safety management programme and ensures that workers

assume their duties competently and safely, thereby strengthening a culture of prevention at work. It is apparent that a majority of the study sites had a systematic approach and effort was made to put in place an effective implementation of such an important component of OHS management programme as training.

6.2.5.3 Employee training on specific hazards and risks

The present study revealed some positive steps that were taken by employers regarding health and safety training. A majority of the participants indicated that they were trained on specific hazards and risks associated with their job and on measures they had to observe to prevent or reduce the hazards and risks. The findings are in support of section 8(2)(e) of the OHS Act (No. 85 of 1993) which requires the employer to provide his/her employees with information, instructions and training and supervision to ensure, as reasonably practicable, health and safety at work for his/her employees (OHS Act No. 85 of 1993). Furthermore, the same sentiments are expressed in section 13(a) of the amended OHS Act (No. 85 of 1993) which requires an employer to inform employees on health and safety hazards related to any work that they have to perform, any article or substance which they have to produce, process, use and handle as well as the precautionary measures which should be taken and observed with regards to those hazards (OHS Act No. 85 of 1993). It is a legal requirement that employers must employ persons that are competent and who support all aspects of the organisational OHS management system (ILO 2001:8). In order to improve the attitude of a majority of the employees towards health and safety in the workplace and the safety culture in the organisation, it is very important for health and safety to be part and parcel of conducting business in the organisation.

Therefore, employees need to be part of the safety improvement and initiatives in the organisation. This is only feasible in cases where the employees are aware of the health and safety standards at work. It is also that effort was made by the employers within the meat sector to ensure that there is a systematic approach to managing safety through an important component of OHS management programmes such as training.

6.2.5.4 Person who trained employees on OHS matters

The present study's findings, with regards to who trained the employees on specific hazards and risks on the job, show that more than half of the participants indicated that their training was facilitated by their supervisors, followed by a few who reported that their training was performed by consultants from outside their organisations. A minority of the participants indicated that their training was led by the foremen and the SHEQ officers. The findings are in agreement with section 16(2) of the OHS Act (No. 85 of 1993) which stipulates that the Chief Executive Officer (CEO) may delegate health and safety-related duties to any senior person in their department (OHS Act No. 85 of 1993). Similarly, Allie (2008:52) asserted that it is the employer's responsibility to provide leadership for OHS activities in the organisation, because they must show their commitment by prioritising the health and safety of employees and in that way make the employees view health and safety programs as a worthwhile and sustainable exercise. In the same vein, the law does require that an employer should put in place organisational arrangements that show clear lines of responsibilities and accountability for managing workplace health and safety. The current findings, therefore, indicate that an effort was made by employers to ensure their accountability for the health and safety of their employees.

6.2.5.5 Employee evacuation drill in case of fire or other emergency

This study indicates that an overwhelming majority of the participants reported that they had received training, such as fire evacuation drills, which acquainted them with the knowledge on what had to be done in case of fire or other emergency. Nevertheless, a few of the participants stated that they did not receive such training. On the contrary, a study conducted in Trinidad and Tobago by Nathai-Balkissoon (2011:38) that analysed the occupational health and safety gap on several of the requirements of the Occupational Safety and Health Act of Trinidad and Tobago among the food and beverage manufacturing enterprises, revealed that employees were not trained in areas related to fire safety and a regular fire drill schedule had not been established. The current findings concur with a report documented by the ILO-OSH (2001:6) which states that an employer should ensure that workers and their safety and health representatives are consulted, informed and trained on all aspects of occupational health and safety, and other emergency arrangements associated with their work. The findings imply that

effort was made by the employers to ensure that there is a systematic approach to managing safety through an important component of OHS management programmes, such as training.

6.2.5.6 Employees' knowledge of their fire warden

The study findings depicted that an overwhelming majority of participants stated that they knew their fire warden. The current findings are in support of section 8(2)(e) of the (OHS Act No. 85 of 1993) which states that employers are required to provide their employees with information to ensure a reasonably practicable health and safety at work of his employees. The findings further concur with a report by Allie (2008:52), which who indicated that it is the employer's responsibility to provide leadership on OHS activities in the organisation. In addition, a report documented by Hughes and Ferret (2013:24) states that the employer must also allocate resources to ensure that overall organisational aims, such as the safety and health of the worker, are achieved. The findings suggest that employees have the advantage of knowing who to consult or exchange ideas with on OHS matters related to fire accidents or who to report potential fire accidents to.

6.2.5.7 Personal Protective Equipment (PPE)

6.2.5.7.1 PPE suitability and use

The findings yielded that almost a third of the participants reported that their PPE fitted them and was suitable for their work. More than two-thirds of the participants indicated that the PPE did not fit them well and were not suitable for their work. Further findings showed that two thirds of the participants indicated that their PPE was of a large size and prevented them to conduct their duties adequately. The findings also indicated that only a few participants indicated that their PPE was too small and not suitable for their work. Similarly, findings of a study conducted by Tsai (2009:112) revealed that Chinese immigrant restaurant kitchen workers in the USA do not use their protective gloves to wash the dishes because they feel that wearing them makes it difficult for them to do their work as the sizes of the gloves are usually too small. Finally findings from a study conducted by Saha et al (2006:23), which examined occupational injury occurrence and the associated factors in the fish processing industries in Western India, also revealed

that Indian women employees in the fish processing industry neglected to use protective gloves because they felt that wearing them made it difficult for them to do their work, and as a result they developed occupational dermatitis after extended exposure to handling the fish with their bare hands.

The above noted other similar findings confirm the current study's findings that there is lack of employer consultation with employees. Employees need to participate in the selection of their PPE to obtain a better fit and conform, and hence protection from workplace hazards. The use of PPE is the last resort, which relies on active cooperation and compliance by employees. It only makes sense that if employees are not provided with their appropriate sizes, they might find it difficult to perform their duties due to the experienced discomfort, restricted movement or lack of protection and hence exposure to the hazards from which they are supposed to be protected.

6.2.5.7.2 Training on the use of PPE

According to the current findings, over half of the participants indicated that they did not receive any instruction on how their PPE are worn, maintained and stored. The findings are in contrast with a report documented by the Pan American Health Organisation (PAHO) (2006:27), which indicates that training should focus on: workplace health and safety standards; workplace hazards and their risks to workers; controls that are in place; and on use of Personal Protective Equipment. It is apparent that there was no systematic approach nor a model for managing safety, which resulted in the absence of an effective implementation of such an important component of OHS management programs as training.

6.2.5.8 Record-keeping for training sessions

Current findings indicated that just over a quarter of the participants were aware of their employer's recording of their training. The findings are in agreement with a report documented by the British Meat Processing Association (2011:8), which states that all health and safety training and assessment sessions conducted among the meat and poultry industry are documented and included in the employees training records. Similar assertions are expressed in the findings from a study conducted by Taderera (2012:105) that explored Zimbabwe's occupational health and safety policy, regulatory

and institutional framework, which indicated that OHS training needs to be documented and records thereof retained for future review to determine if there is a need to revise it. Keeping records makes the training traceable to evaluate the effectiveness of training for continual improvement. Keeping the training records also enables the employer to keep track of those they trained and the type of training obtained. For example, an employee who has had competency training in the past might only need a refresher course, which might be cheaper with minimal time off from work.

6.2.6 Nature and sources of work-related injuries and illnesses

6.2.6.1 Experience of work-related injuries as reported by participants

In this study most of the participants reported that they had had work-related injury at some time or the other. Similarly, findings in a study conducted by Bankole and Ibrahim (2012:58), among the food and beverage industry workers in Lagos State, Nigeria to examine the perceived influence of health education on the occupational health of workers, revealed that the food and beverage industry workers have been victims of high risks of work-related injuries in the past 30 years as a result of the rapid industrialisation stemming from the global technological development. Furthermore, comparable findings were documented in a study conducted by Nielsen et al (2013) among the Danish retail industry, which sought to develop a categorisation of young adult workers among the retail industry workers. Nielsen et al (2013:220) revealed that a majority of retail industry workers have the highest risk of accidents or injuries. The findings imply that although the food and beverage industry is perceived as having a low risk of work-related injuries, the job tasks can be physically demanding and hazardous to the employees' wellbeing.

6.2.6.1.1 Location of the injuries as reported by participants

The current findings reveal that over half of the participants reported that their injuries were sustained on the hand or finger as a result of contact with sharp objects and repetitive movements. The above findings concur with a report documented by the Government of Western Australia (2012:5) which indicated that hand cuts and incisions from knives and sharp instruments are common in the fast food industry. Likewise, the

findings of a survey conducted among meat processing employees by the British Meat Processors Association (2014:47) note that knife accidents involving cuts or stabs to the non-knife hand, forearm or body are prevalent in the meat processing industry. The current findings are also in line with a report by the Health and Safety Executive (2005:20) which indicates that workers in the meat, poultry, fish and slaughtering sectors are at risk of being injured on the hands from being struck by hand tools such as knives, especially, during deboning process. Furthermore, similar sentiments are shared by findings from a survey conducted in the USA among the meat and poultry industry by the United States Government Accountability Office (GAO-05-96) (2005). The Accountability Office documented that employees sustained cuts and lacerations sustained on the hand or fingers, the cause of which was ascribed to sharp objects and repetitive motion injuries (GAO-05-96, 2005:24).

Further findings of this study revealed that less than a quarter of the participants reported that they sustained injuries on the trunk from being struck by carcasses and moving objects. The present findings are in line with a survey conducted in the USA by (GAO-05-96, 2005:24), which documented that employees in the meat and poultry industry in the USA sustained injuries and bruises on the trunk from being struck by carcasses, moving objects and kicks of live animals, as well as falling from multilevel walkways and slipping on wet or greasy floors.

It was further revealed in the current study that a few participants reported that they sustained injuries and bruises on the arm from cuts and fractures. Likewise, a survey conducted among the meat and poultry industry in the USA by (GAO-05-96, 2005:24) indicated that employees sustained injuries and bruises on the arm from cuts and fractures.

A minority of the participants reported that their injuries were sustained on the feet, legs and the head from being struck by falling objects, moving carcasses and moving equipment. Similarly outcomes were documented in a survey conducted in the USA, which found that the meat and poultry industry employees sustained injuries on their feet and legs from being hit by falling objects, while other injuries were sustained on the head from being struck by moving carcasses and moving equipment (GAO-05-96, 2005:24).

6.2.6.1.2 Source of injuries as reported by participants

Current findings indicate that half of the participants who experienced work-related injuries reported that their injuries were due to contact with sharp edges of a sharp object. The findings are in line with a study conducted by Culp et al (2008:8) to investigate traumatic injury rates among the Midwestern meatpacking plant workers in the USA which revealed that activities involving the use of meat grinders, cleavers, straight and wizard knives and hooks resulted in lacerations and punctured wounds. Similar outcomes documented in a study conducted by Saha et al (2006:23) to determine occupational injury occurrence and the associated factors among the fish processing industry's female employees in Western India revealed that the use of sharp hand tools was responsible for 17 lacerations per 1000 persons. Furthermore, Tsai (2009:109), asserts that Chinese immigrant restaurant kitchen workers in the USA sustained lacerations and cuts from broken glasses, dishes, sharp knives and meat slicers.

Further findings from the current study showed that a quarter of the participants who experienced work-related injuries stated that their injuries were due to slips, trips and falls. The findings are in agreement with a report documented by WorkSafe BC (2013:3) which states that slips, trips and falls are a leading cause of injuries in the food and beverage industry in Canada. Likewise, a study conducted by Eltayeb-Yassin and Elsadig (2013:27) to assess industrial hygiene and occupational safety practices in the food and beverage industries in Khartoum, Sudan, revealed that some common injuries in the food and beverage industry result from slips, trips and falls.

The current study also found out that a few participants stated that their injuries were due to handling or lifting heavy loads. Similar findings of a study conducted among the meat and poultry industry in the USA by the United States Government Accountability Office (GAO-05-96) 2005:22) reported that back injuries, sprains, strains and tears resulted from lifting and overexertion. Corresponding findings of a local study conducted by the DoL (2014:4) among cashiers and stock clerks in the South African wholesale and retail industry showed that the prevalent back injuries and lower back pain were caused by excessive lifting of groceries during the whole day shift and from reaching the shelves respectively.

Further findings found that a small number of participants who experienced work-related injuries pointed out that their injuries were sustained from being struck by falling objects. Similarly, an international study conducted by MacCarron (2006:93) to investigate statistics on fatal accident occurring in confined spaces, in Western Australia, found out that some of the fatal injuries among the meat processing employees working in confined spaces were the result of being struck by work equipment. Findings of a study conducted to assess industrial hygiene and occupational safety practices in the food and beverage industries in Khartoum, Sudan by Eltayeb-Yassin and Elsadig (2013:27) also indicated that some of the common injuries in the food and beverage industry resulted from being hit by falling objects.

A minority of the participants who experienced work-related injuries in the current study related their injuries to machinery and work equipment. Similar outcomes of a local study reported by the DoL (2014:11) indicated that meat and fish department workers in the wholesale and retail industry are at a risk of sustaining injuries resulting from unguarded saws, meat grinders, slicers, mixers, garbage disposal units and waste balers. Furthermore, comparable findings were documented by the British Meat Processors Association (2011:79) which found that start-up equipment in the meat processing sector could cause fatalities and amputations as moving animals and nervous system reactions in stunned cattle causes jerking that may pose a risk to workers, such as being hit by the animals. The current findings are further in line with a survey on traumatic injury rates conducted among Midwestern pork-meat packing plant employees in the USA by Culp et al (2008:8) which revealed that activities involving cutting operations such as meat grinders, cleavers, straight and wizard knives and hooks can cause lacerations and punctured wounds among meat processing plant workers.

From the above findings it is evident that there was a lack of proper work practices aimed at reducing injuries among the employees.

6.2.6.1.3 Severity of injuries as reported by participants

Less than half of this study's participants who experienced work-related injuries reported that they had minor injuries that required first aid, while a few said that the injuries required them to work for lesser hours. The findings concur with a report by the

Southern Poverty Law Centre (2010:39) which states that a poultry processing plant employee who continued to work after she developed blisters on her fingers from using dull scissors to cut the chicken only needed to receive first aid treatment and no further action was taken by the employer.

The findings also indicated that less than a third of the participants who experienced work-related injuries required absence for one or more days from work. In contrast, the findings documented in a survey conducted by the British Meat Processors Association (2011:15) among the meat processing employees indicated that employees who sustained less serious injuries only required absence from work for 3 or more days.

Furthermore, a minority of participants said that their injuries required them to temporarily change their jobs, while another few reported that their injuries required them to be restricted from certain job duties. This study produced results that were in contrast with a study conducted by Ruser and Wiatrowskim (2013:36) among the United States sectors such as the meat and poultry processing sector which reported that a higher proportion (64%) of the participants were temporarily restricted from certain job duties as a result work-related injuries.

The above findings, therefore, suggest that although injuries in any workplace are inevitable, more effort can be made to put precautionary measures and emphasis on health and safety training and prevention of serious injuries. This effort will compel employees to make an effort to abide by the company health and safety rules because absence from work lowers employee morale, job satisfaction and productivity and in some cases income. This will also benefit the employer because excessive injuries can lead to resignations and the employer would have to spend more money to recruit and train new workers.

6.2.6.1.4 Participants' reporting of injuries to their supervisors

Findings on whether the participants reported any hazard, unsafe conditions or acts that came to their notice showed that just over two thirds of the participants who experienced work-related injuries did not report the injuries to their supervisors, while a third of them did. The findings are in contrast with a report published by the British Meat Processors Association (2014:7) which indicates that employees have the responsibility

to report accidents, near misses and work-related health problems. The above findings further contradict section 14 (e) of the OHS Act (85 of 1993) as amended which states that employees are required to report any injuries that occur in their workstations to their employers or their health and safety representatives as soon as possible (OHS Act No. 85 of 1993).

In addition, findings from an international study conducted by Kelly (2012:27) among the food industry workers in Dublin, Ireland, reported that many incidents go unreported due to the employees' fear of losing their jobs or facing other negative consequences. This could be that workers were not reporting injuries because nothing was being done following reports. The findings also imply that employees could be afraid of losing their jobs or facing other negative consequences. In addition, reporting procedures might not be properly defined or communicated to the employees.

Thus, workers were not reporting incidents probably because a majority of them did not elect their OHS representatives who may not be trusted to report to. This may also mean that there were no reactive monitoring strategies for measuring failures or deviations from planned systems to identify and report injuries.

6.2.6.1.5 Employees' awareness of investigation of accidents by supervisors

It was found out, in the present study, that of the 107 participants who reported their injuries, half of them indicated that their accidents were not investigated. On the contrary, section 18(c) of the OHS Act (No. 85 of 1993) states that health and safety representatives are required to visit the accident site and in collaboration with the employer investigate the cause of the accidents that occur in the workstations (OHS Act No. 85 of 1993). The findings are in further contrast with a report documented by WorkSafe BC (2013:13) which revealed that one of the important elements of an effective health and safety programme is to investigate accidents and other incidents that have the potential to cause an injury or illness, and that it is important to investigate and identify the root cause, take action and prevent similar incidents from happening again. The findings imply that health and safety procedures might not have been properly defined or communicated to the employees, or that the employers probably prioritised productivity at the detriment of their employees' health and safety.

6.2.6.1.6 Feedback on investigation of accidents given to employees

The present study results indicated that an overwhelming majority of the participants who reported their accidents pointed out that they never received feedback on the investigation. The findings differ with section 13(a) of the OHS Act (No. 85 of 1993) which states that the employer is required to ensure that its employees are made conversant with the hazards to their health and safety (OHS Act No. 85 of 1993). Further opposing findings documented by the Pan American Health Organisation (PAHO) (2006:23) indicate that incident investigation and feedback should be reported to the employees by the OHS representatives and OHS committees.

The findings imply that reporting procedures and feedback about investigation of injuries might not have been properly defined or communicated to the employees. Yet, work-related injuries in general have serious consequences and result in work time loss. Therefore, failure to prevent work-related injuries or provide feedback on the investigation of the injuries could be considered a serious public health problem, because employees might not know what the source of those injuries is or how to prevent them from recurring.

6.2.6.1.7 Employees' application to relevant authorities for compensation

The current findings show that an overwhelming majority of the participants who experienced work-related injuries did not apply to the relevant authorities for compensation because they said that they had only experienced minor injuries. The findings showed further that a majority of the participants knew when to apply for compensation. The findings are in line with section 22(1) of the Compensation for Occupational Injuries and Diseases Act (No. 130 of 1993) which stipulates that employees who have experienced lost-time due to injury have the right to compensation if the injury resulted in permanent disability or death, while those who sustained minor injuries and any temporary partial disablement that lasts for three days or less need not do so (DoL 2010:16).

In addition, the findings are in contrast with findings of a survey conducted by Roquelaure et al (2004:79), among the food industry workers in France to investigate the employment status of workers after worker's compensation claims for

musculoskeletal disorders of the limbs, which revealed that compensation claimants from the food industry were among the 65% of workers who returned to work after worker's compensation claims. The findings imply that some positive steps were taken with regards to educating employees about rights regarding workers' compensation after an injury. Thus, OHS procedures might have been properly defined or communicated to the employees, as seen in the employers' compliance with the legislation on workers' compensation.

6.2.6.2 Experience of work-related illnesses as reported by participants

This study's findings show that most of the participants reported that they had had work-related illnesses at one stage in their work life. The findings concur with a global survey conducted by Pearson (2009:39) to highlight injuries and causes of ill-health among the food and beverage industry workers, and a report by the DoL (2011:24), which both noted that the South African food and beverage industry has been identified as one of the high risk industries with regard to work-related injuries and illnesses alongside the construction, agriculture and iron and steel industry. Similar outcomes were documented in a study conducted by Bankole and Ibrahim (2012) among the food and beverage industry workers in Lagos State, Nigeria, which examined the perceived influence of health education on occupational health of the workers. Bankole and Ibrahim (2012:58) revealed that the food and beverage industry workers have been victims of work-related illnesses such as conjunctivitis, chronic bronchitis, dermatitis and musculoskeletal disorders in the past 30 years, owing to the rapid industrialisation stemming from the global technological developments.

The above findings, therefore, denote that although the food and beverage industry is perceived as having a low risk of work-related illnesses as indicated in a study conducted by Anderson et al (2010:674), the nature of the activities characterising the job can be detrimental to the health of the employees, and not much effort was being made to prevent employees from being exposed to the illnesses.

6.2.6.2.1 Nature of illnesses experienced by participants

- *Back pain*

The present study found that less than a quarter of the employees who were surveyed had experienced back pain. The current findings are in line with a study by VanDeCruze and Wiggens (2008:13), which assessed poverty and injustice in the USA's food system, and revealed that the dangerous and repetitive nature of work tasks in the meat processing plants pose a risk of sprains, back pain, contusions and long term disabilities from years of working in this type of work. Comparable findings are documented in a report by the United States' Government Accountability Office (GAO-05-96, 2005:22) which indicated that back injuries from overexertion, including sprains, strains and tears, are prevalent in the meat and poultry industry (GAO-05-96, 2005:22). In addition, a report by the DoL (2014:4) indicates that cashiers and stock clerks in the South African wholesale and retail industry are at a risk of developing lower back pain due to excessive lifting of groceries during the whole day shift and from reaching onto the shelves.

- *Shoulder and neck pain*

Further findings of the study showed that a minority of the participants reported having suffered from shoulder and neck pain that resulted from repetitive movements. The findings are in agreement with a survey conducted among meat and poultry workers in 2003 in the USA by the United States' Government Accountability Office (GAO-05-96, 2005:12), which revealed that musculoskeletal disorders, such as shoulder and neck pain, are prevalent in the meat and poultry industry. Similar findings were documented in a study conducted by Sundstrup et al (2013:2) among meat processing employees, which indicated that slaughterhouse work and meat processing operations involve a high degree of repetitive and forceful upper limb movements, and an elevated risk of work-related musculoskeletal disorders, such as neck and shoulder pain. The current findings concur further with the findings from a study conducted among supermarket cashiers by Rodacki et al (2006:129), which revealed that employees in the food retail industry are at a high risk of developing musculoskeletal disorders such as back pain, neck and shoulder strains, muscle fatigue and upper limb problems as a result of biomechanically incorrect workstations.

- *General body pain*

It was also revealed in the current study that a minority of participants experienced general body pain. The findings are in agreement with the outcomes from a survey conducted by Tsai (2009:110) to investigate the causes of occupational injuries and illnesses among Chinese restaurant workers in the United States, which revealed that restaurant waiters experience strenuous positions such as extended periods of standing and walking, as well as musculoskeletal illnesses, such as pain, ache and soreness in the knees, legs or feet, deformity of the toes and cramps in the legs. Similar observations were made in a study conducted by VanDeCruze and Wiggens (2008:13) to assess poverty and injustice in the USA food system, which revealed that the dangerous and repetitive nature of work in the meat processing plants poses a risk of sprains, contusions and long term disabilities.

- *Occupational asthma*

The other findings showed that over a third of participants had occupational asthma. Similar outcomes were realised in a study by Jeebhay et al (2008) that reviewed the prevalence and causes of allergic symptoms, allergic sensitisation, bronchitis, hyper-responsiveness and asthma among the fish processing workers in South Africa. Jeebhay et al (2008:900) noted that extended exposure to steam vapours from cooking fish in the cannery; exposure to dust in the boiler room; fishmeal dust; and fish handling in the cannery is responsible for respiratory symptoms such as wheezing, shortness of breath and tight chest experienced by 20% of the workers in the factory. The findings also agree with a study conducted by Zachou et al (2008:305) among abattoir and dairy industry workers, which found that workers suffer from respiratory problems resulting from inhalation of infected aerosolised particles. Similar findings documented in a report by the United States' Government Accountability Office (GAO-05-96, 2005:22) indicate that workers in the meat and poultry industry are at a risk of experiencing respiratory irritation such as asphyxiation from exposure to pathogenic respiratory substances.

- *Problems related to frequent exposures to cold temperatures*

In addition, the current findings show that over a third of the participants reported having problems related to frequent exposures to cold temperatures. Similarly, a survey by VanDeCruze and Wiggens (2008:13) conducted on brucellosis among stock breeders in Greece revealed that workers are at a risk of being exposed to extreme temperatures and sometimes below freezing temperatures. The same sentiments were expressed in a study by Saha et al (2006), which evaluated the occupational injury occurrence rate and the associated factors among fish processing female employees in Western India. The Saha et al (2006:23) study revealed that employees' continued exposure to extremely cold temperatures often resulted in frequent respiratory tract irritation; frequent sneezing and coughing, and the pealing of skin from their hands.

- *Occupational dermatitis*

The current study findings also indicated that a few participants experienced occupational dermatitis. This concurs with findings from a study by Zachou et al (2008:305) that examined the prevalence of brucellosis among stock breeders in Greece which noted that a common occupational disease affecting abattoir workers and dairy industry workers is occupational dermatitis acquired through direct contact with contaminated animal parts.

It is apparent, from the above findings that, although the food and beverage industry might appear to be low risk as compared to the other industries, such as mining and construction, the nature of the activities that employees in the present study were involved in, are high risk and detrimental to their health.

6.2.6.2.2 Onsite health facility

Findings from the current study showed that just under two thirds of the interviewed employees reported that they had a healthcare facility at their work places. Similar findings were documented in a survey conducted among the meat processing employees by the British Meat Processors Association (2011:9) which stated that it is a legal requirement to include medical health facilities and nursing staff onsite in order to address injuries that require first aid and health-related issues experienced by

employees. The findings are also in support of section 43(1)(b)(ix) of the (OHS Act No. 85 of 1993), which states that the Minister of Labour may make regulations that in his or her opinion are necessary for the promotion of the health and safety of employees, and that emergency equipment and medicine be held by the employers on the premises and be administered by qualified personnel. The findings denote that employers made an effort to ensure that measures are put in place to establish systems that assist with the identification of possible work activities and work environment risks to the health and safety status of employees.

6.2.6.2.3 Medical surveillance (section 12(1)(c) of OHS (Act No. 85 of 1993))

- *Pre-employment medical examination*

The study findings indicated that an overwhelming majority of the participants reported that they went through medical examinations at the point of entry into their job. This was probably aimed at ascertaining the health status of the individual employees before their employment. Comparable findings were documented in a report by the Department of Health (2003:14) which indicates that one form of health surveillance is a mandatory pre-employment medical examination that is done to establish a baseline of the individual's health against which any future changes can be measured and also to identify possible risks of deterioration in the health status of the individual which might be caused by the work activities and work environment. This is an indication of efforts by the employer to comply with section 12(1)(c) of OHS Act (No. 85 of 1993) which states that every employer whose employees are exposed to hazards emanating from their work activities, shall, after consultation with the health and safety committee and having regard to the nature of the risks associated with such work and the level of exposure of such employees to the hazards, carry out an occupational hygiene programme and biological monitoring, and subject such employees to medical surveillance.

- *Periodic medical examination*

Current findings showed that a majority of participants reported that their employers did not conduct periodic medical examination for them, while under a quarter of the participants reported that their employers did. The findings are in contrast to a report by

the local DoL (2013:17), which indicates that managers are required to conduct periodic medical reviews of workers in order to ensure that the company OHS approach is effective. The findings could be explained by the absence of a medical facility or an occupational health nurse onsite. Observations during workplace inspections revealed that workers were handling carcasses with their bare hands and used sharp knives without protective gloves posing a risk of sustaining cuts and contact with diseases through direct contamination with animal fluids. This is a serious violation of section 12(1)(c) of OHS Act (No. 85 of 1993).

6.3 CONCLUSION

This chapter provided a comprehensive discussion on the findings regarding compliance with health and safety legislation by the employers and employees. The chapter also discussed the profile of the study sites and demographic composition of the participants. It was highlighted in the chapter that lack of compliance with health and safety legislation has a considerable effect on productivity due to lost-time injuries, and absenteeism resulting from work-related injuries and illnesses.

The chapter also highlighted that management has a responsibility to establish communication channels, and to encourage employees to be part of safety improvement initiatives. It was also highlighted in the chapter that prevention and mitigation of hazardous agents needs to be given utmost attention to prevent the spread of infectious diseases. Furthermore, the chapter indicated that the provision of OHS training, necessary measures to deal with emergency preparedness, and a safe working environment, constitutes a strong preventative action that ultimately reduces workplace injuries and illness. The chapter also highlighted the nature of work-related injuries and illnesses.

The next chapter presents the conclusions, contributions, limitations and recommendations of the present study.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

This chapter presents a summary of the study's significant findings. The chapter also discusses conclusions drawn from the main research findings and the present study's contributions to occupational health and safety in the food and beverage industry in South Africa. The recommendations gathered from the major findings of the study as well as the limitations to this research are also outlined in this chapter.

7.2 CONCLUSIONS

Non-compliance with the health and safety legislation is unquestionably a big challenge for the target population. What needs to be recognised from this study is that, although the OHS Act (No. 85 of 1993) is well developed and regularly reviewed by the DoL, the question remains whether it is properly enforced and complied with. The findings of the current study show that it is most likely that the required combination of rules, attitudes, perceptions, good health and safety practices, creates a positive safety culture at work. Therefore, for as long as the employer is not committed to a safety culture and is more concerned about production rather than safety, this raises questions on how a positive attitude and motivation to comply with the OHS Act (No. 85 of 1993) can be developed among the employers in the food and beverage industry of South Africa.

Whilst the findings of this study did not confirm that there is an overwhelming non-compliance with the OHS Act (No. 85 of 1993, as amended), it did substantiate that most of the surveyed employers had not adequately complied with the requirements of health and safety legislation in South Africa. Furthermore, most employers had not ensured that their employees are adequately aware of health and safety issues concerning the employees.

The study sites were male dominated. As a result, the specific needs of the fewer women employees were not adequately addressed, leaving the female workers at

increased risk for injuries and illnesses from their work, particularly due to unsuitable PPE.

Most workers in the study sites were young. Therefore, they needed to be competent at entry or be provided with regular supervision, information, instruction and training to promote safe work practices and reduce injury and diseases.

There was a general lack of communication of health and safety matters between the employer and the employees. In addition, a majority of the study sites did not recognise the importance of managing safety at work and therefore showed less commitment to ensuring that the health and safety of employees is a company priority. This resulted in lack of awareness of health and safety as well as of rights and obligations among a majority of the employees.

A majority of the study sites did not meet the requirements of having a written and conspicuously placed health and safety policy and the OHS Act (No. 85 of 1993) in their organisation. These failings could be explained by lack of enforcement by the DoL and the possibility that employers did not fully appreciate the benefits of managing health and safety at work, while prioritising production at the detriment of health and safety.

Employees at more than two-thirds of the study sites were not given an opportunity to elect their own health and safety representatives, instead these were appointed by their employers. Failure to allow employees to democratically appoint their health and safety representatives may have defeated any attempts to encourage compliance with health and safety legislation because the employees would most not likely support or cooperate with persons they have not elected. The existence of such failures may be evidence of the absence of periodic compliance inspection visits by the DoL.

Another conclusion drawn from the study is that employees were not empowered on health and safety matters. Most employees did not know about their rights and obligations regarding health and safety in the workplace. The lack of a systematic approach to health and safety meant that the important role of employees in ensuring a healthy and safe work environment was lost. This is further hampered by that fact that employees did not actively participate in the decision-making processes on matters

concerning their own health and safety. This failing may have led to employees' resistance to compliance with the idea of a health and safety practice in the work place.

There was general lack of consultation with the employees. The lack resulted in employers issuing employees with wrong sized PPE and the high rate of worker exposure to hazards. Failure in consultation arrangements regarding employees' PPE sizes may lead to an increase in workplace injuries and illnesses.

It also emerged from the present study that there was a lack of appropriate safety practices as well as poor housekeeping and inadequate signage for safe management of workplace transport, fire safety, welfare and first aid. This increased the risk of workers' exposure to injuries and illnesses from their work.

A majority of the study sites did not have evidence of health and safety compliance model, guidelines or management system designed to ensure compliance with the OHS Act (No. 85 of 1993). This failing indicates that there was no systematic approach to Occupational Health and Safety at a majority of the study sites.

Furthermore, the study revealed that there was lack of regular and in some cases baseline risk assessments. As a result of this failing, the employers did not have the appropriate control measures in place, which is an important factor explaining the injuries and illnesses reported by the surveyed employees.

Although positive steps were taken at most study sites with regard to the training of employees on general workplace health and safety rules and fire evacuation procedures, a significant proportion of the interviewed participants indicated that they were provided with incorrect sizes of PPE and did not receive any instruction on how to put on their PPE, maintain and store it. The absence of effective implementation of training, an important component of the OHS management programme, resulted in most employees being unaware of the importance of using their PPE at all times and as a result, risking exposure to occupational hazards.

A majority of the interviewed participants reported that their employers did not arrange their attendance of periodic medical examinations to test for early signs of disease. This

failing could be explained by the fact that these employers did not have a medical facility or an occupational health nurse onsite.

The shortcomings of lack of communication of health and safety policy and the OHS Act (No. 85 of 1993) as well as non-recognition of the importance of establishing medical facilities or an occupational health nurse onsite could imply that there is inadequate enforcement of health and safety legislation by the DoL inspectorate.

It was revealed in the present study that the type of work performed at the study sites exposed employees to many hazards. These hazards include including working in extreme temperatures; working extended shifts into the late night exposing them to violence such as robbery and aggressive customers; exposure to hazardous chemicals such as ammonia from the refrigerators, as well as exposure to contaminated animals that can cause infections on employees who do not use protective gloves. In addition, employees performed tasks that required repetitive movements, twisting and bending or adopting various awkward postures but employers did not generally conduct ergonomic risk assessments and were therefore short of the required control measures and exposed workers to musculoskeletal disorders.

Most study sites did not deploy adequate resources to manage health and safety and reduce incidents in the workplace. This placed workers at increased risk of injuries and illnesses. The employers also faced possibilities of financial burden such as higher compensation claims, medical specialist fees for injured or ill employees, fees involved in replacement of injured employees or even fees for recruitment and training of new recruits.

7.3 RECOMMENDATIONS AND FUTURE RESEARCH

These recommendations focus on each of the stakeholders relevant to this study as follows:

7.3.1 Recommendations to employers

Based on the conclusions of the current study, the following recommendations were made:

7.3.1.1 Demographics of employees

- The employers must promote the inclusion of women as health and safety representatives or health and safety committee members by encouraging employees to elect them. In addition, there should be increased participation of female employees in decision-making on matters relating to their health and safety. This can be achieved through employer promotion of women's inclusion in health and safety committees or their election as safety representatives. Finally, gender-specific risk assessments should also be carried out to ensure the provision of appropriate PPE to all employees.

7.3.1.2 Employers' obligations to compliance with health and safety legislation

- Employers must comply with the requirements of health and safety legislation by having a copy of the OHS Act (No. 85 of 1993) and the relevant regulations displayed in a conspicuous place to improve awareness of the health and safety legislation at the workplaces. Management should also improve their communication channels and transfer of health and safety information to employees on a regular basis. This can include communication on aspects such as emergency response, major hazards and risks in the workplace and on measures taken to eliminate hazards in the workplace.
- The employer, in consultation with the worker and their representatives, should set out in writing an Occupational Health and Safety policy which should be communicated and made readily accessible to all persons in the workplace. In addition, the policy should stipulate management's commitment to provide resources to ensure that the health and safety of employees is a company priority.
- The employers must encourage and empower employees to independently select their own health and safety representatives and not interfere in the process. Furthermore, employees should democratically nominate and select their health and safety representatives in any workplace where there are more than 20 employees.
- Employers must show commitment, led by example and provide employees with adequate education and training pertaining to their rights and obligations on health and safety. Employers should further educate and train employees on

health and safety rules in order for the employees to competently carry out the safety and health aspects of their duties and responsibilities. Being educated about their rights and obligations will improve their awareness and understanding in their role and what is expected of them in matters relating to health and safety.

- Employers must make sure that appropriate personal protective equipment is available, and serve as an example by using PPE in work areas that require it. PPE provision and use should be on the basis of a risk assessment. The employer must first take steps to eliminate or mitigate all hazards before resorting to PPE.
- The employer must ensure that the workplace is organised and tidy. It should also have slip-resistant floors installed and have employers providing employees with slip resistant shoes to prevent slips and falls. Furthermore, employees should be encouraged to wipe spills immediately. More emergency signs need to be conspicuously displayed to warn employees of potential hazards in the workplace.
- The employer must provide effective leadership on health and safety management and demonstrate management commitment by allocating adequate resources for workplace health and safety. In addition, in order to comply with the health and safety legislation, as well as to reduce the number of accidents, occupational illnesses and related economic losses, the employers should ensure that good health and safety guidelines and an occupational health and safety management system are established and maintained.
- The employer should empower employees to be conversant with the hazards to their health and safety attached to their work, as well as with the precautionary measures which should be taken with respect to those hazards.
- The employer must create a favourable environment where employees feel safe to report incidents. In addition, employers should inform health and safety representatives of incidents as soon as they occur.
- The employer must identify tasks that present serious risks to the health and safety of employees and assess these tasks in detail to determine factors that lead to the risk. In addition, employers should comply with health and safety legislation by having a baseline risk assessment as the basis of their health and safety management programme and conduct regular more specific risk

assessments in order to ensure continual improvement as an ongoing endeavour.

- The employer must incorporate health and safety training into new employee induction, and ensure that employees are provided with information and training on health and safety and make sure that such training is a pivotal part of their company health and safety management programme. The new and younger employees should be provided with frequent refresher training as well as regular supervision, information and instructions to promote safe work and reduce injury and diseases. Furthermore, training should be provided on when and how to use the personal protective equipment and on how to maintain and store the PPE.
- Employers must conduct a mandatory pre-employment medical examination in order to establish a baseline of the worker's health against which any subsequent health surveillance can be measured.

7.3.2 Recommendations to the government

- The DoL must develop and implement strategies to ensure that OHS legislation is effectively implemented and enforced. In addition, the DoL can develop guidelines to help employers understand and comply with health and safety legislation.
- The DoL inspectors must increase the number of workplace health and safety inspections and ensure that targets are met through increasing the budget for capacity building.

7.3.2.1 Common health and safety hazards

- Utmost attention should be given to prevent and mitigate physical, chemical, biological and psychological hazards. In addition, the employer should take appropriate steps to reduce risk of injury from manual handling by providing employees with biomechanically suitable workstations and designing jobs that matches the workers and their work environment. For example, to avoid awkward postures such as twisting and turning while working on heavy carcasses in the meat processing plant, the employer should bring the carcasses up to the comfortable height and use an elevated conveyor belt. Also, employees who are involved in manual handling should be provided with

information and training about the weight of the loads and dangers involved in manual handling of such weight and how to lift heavy loads.

7.3.2.2 Incidents of work-related injuries and illnesses

- Employers must ensure that the health and safety policy statement clearly states the importance of employee participation in health and safety matters in order to prevent occupational injuries and illnesses. Furthermore, employers should ensure that employees are consulted and informed on matters pertaining to occupational health and safety. This includes emergency arrangements related to their work activities.

7.4 RECOMMENDATIONS FOR FUTURE RESEARCH

This research has thrown up many questions that still need of further investigation. It will be of great benefit to the advancement of science and improvement of the body of knowledge on compliance with the OHS Act (No. 85 of 1993) if the following imperative aspects are addressed in future studies:

- Guidelines for the management of health and safety to assist employers to comply with the health and safety legislation were developed based on the findings of the study. It is recommended that these guidelines be applied to different groups of the food and beverage sites in a research project and further be tested, validated, evaluated and modified where necessary.
- Research in collaboration with the South African DoL could be conducted to enhance compliance with health and safety legislation in the food and beverage industry.
- Future research should examine factors that contribute to occupational accidents and illnesses in the food and beverage industry.
- Future research should establish techniques to strengthen policies to promote compliance with the health and safety legislation among the food and beverage industry in South Africa.

- Future research should investigate and ascertain what is responsible for the discrepancies in employees' assessment of organisational health and safety compliance and the employer's assessment thereof.

7.5 CONTRIBUTIONS OF THE STUDY

The purpose of this study was to develop guidelines for the management of health and safety to assist employers to comply with the Occupational Health and Safety Act (No. 85 of 1993) as amended for the food and beverage industry in South Africa. These simplified guidelines are based on the ILO-OSH 2001 Guidelines on occupational safety and health management system principles. These guidelines will be beneficial to the businesses in the food and beverage industry because it facilitates the process of complying with South African Health and safety legislation by developing, implementing and maintaining workplace health and safety management through the application of the systems approach and the principle of continual improvement without recourse to specific expertise or substantial expenditure. Furthermore, an application of the guidelines will contribute to the building of a more positive health and safety culture in the South African food and beverage industry.

In summary, the study's contribution towards a more effective and systematic management of workplace health and safety in the food and beverage industry in South Africa consists identifying strategies for:

- Improving employer's and employees' compliance with the occupational health and safety Act (No. 85 of 1993) as amended, which may subsequently result in the overall success of the business.
- Identification and mitigation of common hazards experienced by workers in the food and beverage industry.
- Reduction of occupational injuries and illnesses within the food and beverage industry.

7.6 LIMITATIONS OF THE STUDY

Limitations in the present study were unavoidable due to the fact that investigating employers and employees for non-compliance with the health and safety legislation put

some of them in an awkward position. This is because some employers and employees were not comfortable sharing information about their company's health and safety status with an outsider. Therefore, potential biases could not be ruled out in the responses and information provided by some of the employers and employees.

There was also a limited number of employers who consented to their employees to participate in the study. In addition, the findings of the study may not be generalised to the South African food and beverage industry at large as it only focused on four provinces of the country, and included a limited study population. To that end, the geographic limitations could possibly limit the findings and inferences drawn from the study. This implies that data collected and analysed might not have been exhaustive as a higher response rate could have produced. Coupled with this limitation, the study also used only one approach which was the quantitative approach under the positivist quantitative paradigm. Despite the strengths of this approach, the researcher in the present study acknowledges that it also has its own weaknesses which could minimise the generalisation of the findings of the current study to other food and beverage companies in other provinces of South Africa.

7.7 CONCLUSION

The chapter summarised the significant findings of the present study. It also presented conclusions and recommendations drawn from the significant findings. The next chapter outlines the guidelines for the management of health and safety to assist employers on how to comply with the health and safety legislation within the food and beverage industry in South Africa.

CHAPTER 8

GUIDELINES FOR THE DEVELOPMENT OF AN EFFECTIVE OCCUPATIONAL HEALTH AND SAFETY PROGRAMME IN THE FOOD AND BEVERAGE INDUSTRY IN SOUTH AFRICA

8.1 INTRODUCTION

This chapter presents guidelines for the management of health and safety in the South African food and beverage industry. These guidelines, which are based on the ILO-OSH 2001 Occupational Health and Safety Management System, aim at assisting employers to comply with the requirements of occupational health and safety legislation. The application of the ILO-OSH 2001 framework is based on the findings of the current study and relevant aspects of the literature review.

8.2 PROCESS OF DEVELOPING THE GUIDELINES

The guidelines presented in this chapter are drawn from the conclusions derived by the researcher after analysing the findings of the present study, the literature review and the theoretical framework. Thus, the relevant aspects of the reviewed literature on compliance with health and safety legislation discussed in chapter 2 and the relevant components of the ILO-OSH 2001 framework, as discussed in chapter 3, were linked to the key study findings as discussed in chapter 6 of this report. These linked aspects, therefore, are considered in the development of the guidelines for health and safety management in the food and beverage industry of South Africa.

Secondly, the researcher considered the theoretical framework in the development of the guidelines. The framework comprised of key components crucial to the development of the guidelines and these include OHS policy; organising; planning and implementation; evaluation and action for improvement, as illustrated in Figure 8.1 below. These components were applied to the relevant issues related to compliance with health and safety legislation and used to guide the description of procedures of the guidelines.

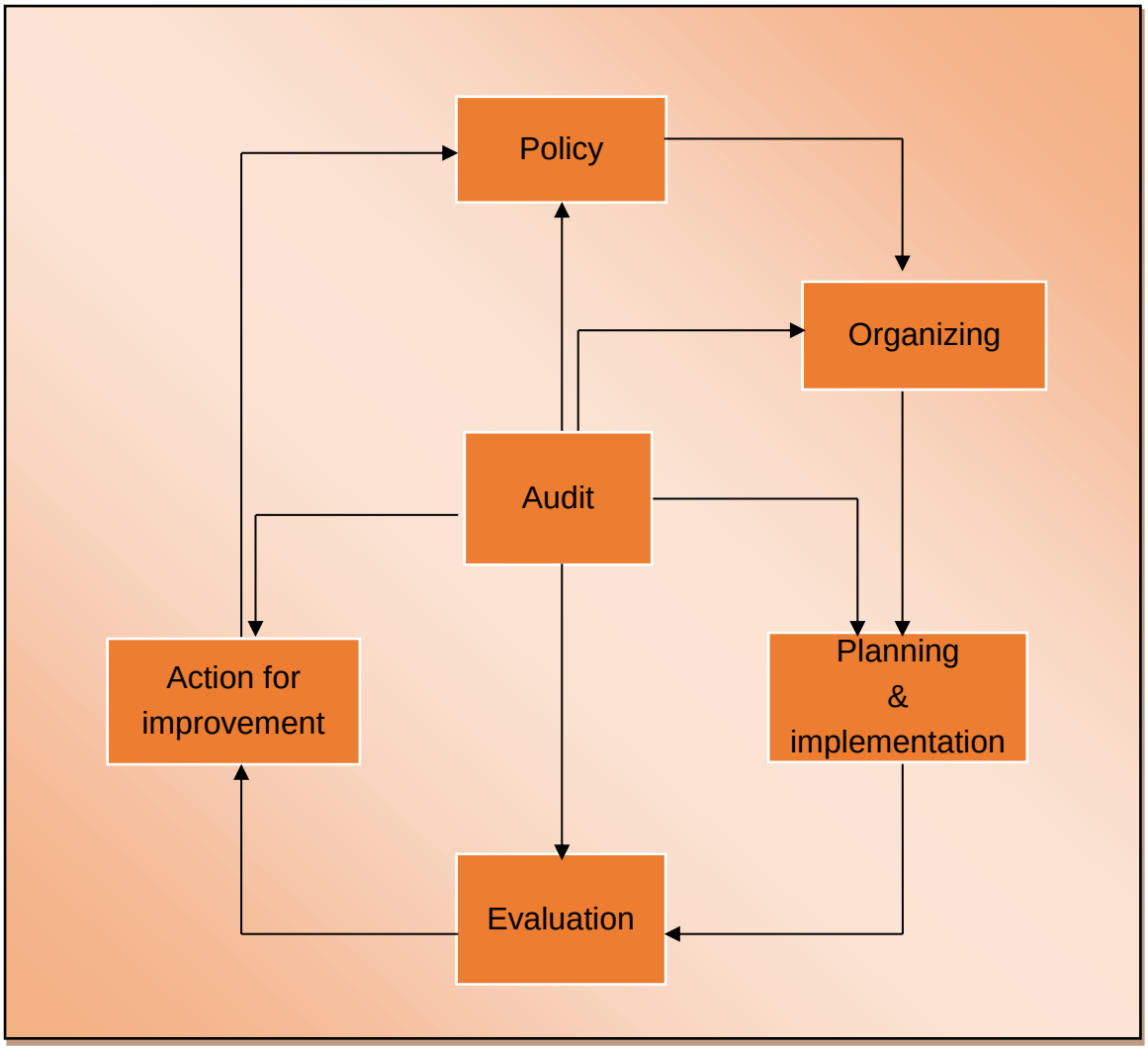


Figure 8.1: Simplified framework for managing health and safety in the food and beverage industry in South Africa

(Adapted from Guidelines on Occupational Safety and Health Management Systems ILO-OSH 2001)

8.3 APPLICATION OF THE ILO-OSH 2001 FRAMEWORK TO THE DEVELOPMENT OF THE GUIDELINES

The central basis of the ILO-OSH 2001 framework is for employers to adopt occupational health and safety management systems in order to gain a platform for a continuous systematic management and improvement of OHS plans, policies, programmes and projects (Taderera 2012:116). Therefore, to comply with the amended OHS Act (85 of 1993) requirements and relevant regulations, the employer should put in

place an occupational health and safety management system consisting of inter-related elements that function as a whole to ensure that the environment is healthy and enables safe work (ILO 2001:5).

8.3.1 Why employers need to use the ILO-OSH 2001 as a framework to assist them comply with the requirements of the OHS Act

The basis for managing health and safety at work is the reality that each workplace will always have its own hazards and risks. As a result, this requires a proactive management which will identify and control the hazards and risks before they cause injuries or ill-health to workers and others who may be present at work or damage to property and the environment.

An employer, whether a small or large business entity, will always derive legal, moral and above all economic benefits from investing in good standards of health and safety in its organisation. An occupational health and safety management system will enable employers to comply with the requirements of the OHS Act 1993 and avoid enforcement actions, improve the working environment and well-being of their employees, ensure job satisfaction, increased productivity, as well as reduce sickness absence and medical costs. Visible commitment to the health and safety of employees and customers demonstrates that the employer cares about the workers' welfare and also improves customer perceptions about the quality of the organisation's products.

The ILO-OSH 2001 framework is a requirement for the establishment of an occupational health and safety management system at work for compliance with national health and safety legislation and regulations. Unlike OHSAS 18001, employers do not have to pay any proprietary license fees or undergo lengthy and often very expensive process of certification to implement ILO-OSH 2001. An enterprise can implement ILO-OSH 2001 as a separate system tailored to its specific needs, whereas propriety models, such as OHSAS 18001, are complex and best implemented as integrated systems with other standards, such as the quality management standard ISO 9001 and Environmental Management standard ISO 14001:2004. This is complex, and it requires expertise and may be expensive for smaller organisations.

In addition, ILO-OSH 2001 international standards such as Occupational Safety and Health Convention, 1981 (No. 155) and the Occupational Health Services Convention, 1985 (No. 161), which lay down the general principles that should be implemented to protect the health and safety of employees at work. Workplaces in South Africa are more likely to be audited or inspected by the Regulator (DoL) based on these principles.

The ILO-OSH framework is best implemented as an integral part of any organisation's business in which health and safety is given equal priority with production in order to ensure effective OHS system performance and enhance productivity. If implemented effectively, the ILO-OSH 2001 framework assists the organisation to control its health and safety hazards and improve its overall performance by:

- Ensuring that the employer has the capacity to anticipate and address health and safety problems before they lead to an incident, accident or ill-health;
- Ensuring that the employer has the ability to effectively deal with near misses and accidents, learn from these failures and apply the lessons learned to improve health and safety and overall efficiency of the organisation.

8.3.2 What the employer needs in order to implement the ILO-OSH 2001 framework

- Senior management commitment in which leaders of the organisation do not give priority to operational and commercial pressures at the expense of safety but give equal importance to health and safety to ensure its effectiveness.
- Leaders who understand the nature and principles of managing health and safety at work.
- A competent workforce that is trained to ensure that the health and safety policy, programmes and procedures are appropriate and understood by all and properly applied at all levels of the workplace.

Table 8.1 below illustrates how the key areas arising from the study findings concerning compliance with health and safety legislation are linked to aspects of the framework. The table also shows the present study's findings on key areas challenging the food and beverage industry. In addition, the purpose of each aspect of the framework is presented in the table. The major reason for developing the guidelines is for employers in the food and beverage industry of South Africa to comply with the amended OHS Act (No. 85 of 1993) requirements and relevant regulations.

Table 8.1 Tabular presentation of guidelines for health and safety management in the food and beverage industry in South Africa

1 Key areas challenging the food and beverage industry	Findings arising from the study	Relevant aspects of the framework	Purpose of the OHS policy
OHS policy and compliance with the requirements of health and safety legislation.	1 Most employers had not adequately complied with the requirements of the South African health and safety legislation. For example, a majority of the employers did not meet the requirements of having a written and conspicuously placed health and safety policy and the OHS Act No. 85 of 1993 in their organisations. 2 A majority of employers showed less commitment to ensuring that the health and safety of employees is a company priority.	OHS Policy 1 Implementing the ILO-OSH 2001 OHS management framework requires employers to use a systematic process of formulating and adopting a Health and Safety Policy in consultation with their employees. 2 The health and safety policy states an organisation's vision for health and safety at work should reflect its commitment to protect its employees from work-related injuries and illness as well as prevent damage to property, equipment and the environment.	The health and safety policy is the employer's principal document which sets the vision and goals of the company's health and safety programme and states senior management's commitment to protecting the health and safety of its employees as well as to preventing damage to property and the environment.

2 Key areas challenging the food and beverage industry	Findings arising from the study	Relevant aspects of the framework	Purpose of organising
Demographic characteristics of employees ……. *Communication of health and safety information* ……. *Employees' perceptions on compliance with the requirements of health and safety legislation* ……. *Employee involvement in health and safety matters* ……. *Employee consultation*	Most workers in the study sites were young and therefore needed to be competent at entry or be provided with regular supervision, information, instruction and training to promote safe work and reduce injury and diseases. …….. There was general lack of communication of health and safety matters between the employers and the employees. …….. Employees lacked awareness of health and safety including their rights and obligations regarding health and safety in the workplace. …….. There is no democratic process for employees to elect their health and safety representatives. Employees did not actively participate in decision-making in matters concerning their own health and safety. ……. There was general lack of employers' consultation of employees which resulted in employers issuing employees with wrong sized PPE leading to a high	Organising The employer needs to take two important steps to put in place a suitable structure that will manage health and safety at work and in: 1 Appointing personnel and allocating them roles and responsibilities, as well as providing adequate resources for them to carry out their duties. 2 Building a positive health and safety culture by focusing on: Health and safety control that establishes clear lines of accountability and delegation of duties. 3 Communicating the health and safety message by using notice boards, newsletters, toolbox talks, health and safety committee meetings, etc. 4 Cooperating with all parties to achieve agreed health and safety objectives.	The "Organising" component of the ILO-OSH 2001 model is meant for the employer to put in place structures that will assume responsibility in managing health and safety at work.

	rate of exposure to hazards.	5 Ensuring competence of workers and those responsible for health and safety by meeting their knowledge, skills and training needs. 6 Adhering to ILO-OSH 2001 requirements that the employer should have employees who are competent and well trained in Occupational health and safety issues.	
3 Key areas challenging the food and beverage industry	**Findings arising from the study**	**Relevant aspects of the framework**	**Purpose of planning and Implementation**
Demographic characteristics of employees	The specific needs of the fewer women employees were not adequately addressed, leaving them at increased risk for injury and illness from their work, particularly due to unsuitable PPE.	Planning and Implementation Planning and Implementation involves conducting a baseline review, identifying Occupational Health and Safety hazards, assessing the risks and setting objectives.	Planning and implementation is aimed at creating an OSH management system that supports compliance with national laws and regulations. The management system should also support the continual improvement of occupational health and safety performance.

Incidents of occupational injuries and illnesses	Workers were placed at increased risk of injury and disease. There is lack of regular and in some cases baseline risk assessments. Most employers in this study did not provide their employees with adequate health surveillance coverage.		
4 Key areas challenging the food and beverage industry	**Findings arising from the study**	**Relevant aspects of the framework**	**Purpose of evaluation**
Incidents of occupational injuries and illnesses	Most employers did not conduct periodic employee medical examinations to detect early signs of disease. Most employers could not produce their incident reports for review, which implies that there is no monitoring, measuring and recording of occupational health and safety performance on a regular basis.	**Evaluation** The ILO-OHS 2001 emphasises that: Results from a performance measurement can be used to review health and safety controls and procedures e.g. safe systems of work such as permit-to-work and method statements.	The purpose of this stage is to provide the employer with an estimate of the extent to which the company is achieving its health and safety objectives. In concrete terms it indicates where the company is, where they want to be; what the difference is and why.
5 Key areas challenging the food and beverage industry	**Findings arising from the study**	**Relevant aspects of the framework**	**Purpose of Action for improvement**
Employees' awareness of health and safety matters …… PPE use	Most employers did not ensure that their employees are adequately aware of health and safety issues concerning the employees. …….. Most employees were provided with incorrect sizes of PPE and did not receive any instruction on how their PPE is worn, maintained and stored.	**Action for improvement** The ILO-OSH 2001 emphasises that: 1. Corrective action for improvements may entail a review of the OHS Policy or elements thereof (e.g. management commitment) in order to ensure effective performance of the other components in the continuum.	Action for improvement is aimed at taking appropriate responsive measures to improve health and safety management, where inadequacies or the need for changes were identified, as a result of performance measurement and management review.

…… *Unsafe workplace environment* …… *Common hazards confronted by employees*	…… There was a lack of appropriate safety practices, as well as poor housekeeping and inadequate signage for the safe management of workplace transport, fire safety, welfare and first aid. …… Employees performed tasks that required repetitive movements, twisting and bending or adopting various awkward postures but employers did not generally conduct ergonomic risk assessments and were therefore short of the required control measures. This left the workers exposed to musculoskeletal disorders.		

8.4 RECOMMENDATIONS FOR THE IMPLEMENTATION OF THE GUIDELINES

8.4.1 Recommendations for the adoption and implementation of the guidelines regarding the "OHS policy"

Most companies in the food and beverage industry need to develop and communicate their health and safety policy. To develop, implement and maintain the policy, the employer should ensure that the following minimum principles are reflected in the policy:

- The policy is specific to the nature and size of the organisation
- The policy is written and in a clear and concise language
- It is signed by senior management to make it authentic
- It is communicated and made accessible to all, including stakeholders
- The policy is continually assessed for its suitability and reviewed when required

Furthermore, the employer should include the following requirements in the policy document:

- Indicate the Company's vision for health and safety or the direction it is striving for (e.g. incorporate the Zero injury or Zero Harm vision).
- Indicate that the health and safety of employees will be protected and how the employer intends to achieve this. This can be achieved by preventing injuries, ill-health, diseases and incidents at work as well as by protecting property and the environment.
- Indicate that the employer will comply with all health and safety legislation and regulations and the OHS Act No. 85 of 1993.
- Indicate that the employer will involve workers and their representatives in health and safety matters by consulting them and ensuring that they participate in all aspects of workplace health and safety management.
- Indicate that employers will ensure that health and safety is integrated in all business management activities of the organisation and given equal priority just as production.

- Indicate that employers will continually improve their health and safety management system to ensure the attainment of the health and safety objectives they would have set.

8.4.2 Recommendations for the adoption and implementation of the guidelines regarding "Organising"

Organising for health and safety should be directed towards the creation of a framework of accountability and responsibilities as well as good communication of the health and safety issues between the employees and their employers. The food and beverage employers in South Africa should have competent and well trained employees who support all aspects of the organisational OSH management system. There should also be specific responsibility to provide effective supervision to ensure the protection of the health and safety of employees and to establish prevention and health promotion programmes. In addition, the employees should have access to records such as accident and monitoring records (Hughes & Ferret 2009:530).

8.4.3 Recommendations for the adoption and implementation of the guidelines regarding "Planning and Implementation"

The employer should:

- Establish practical procedures for conducting the hazard identification and risk assessments (HIRAs) and those for putting in place controls as a continuous or on-going process. Furthermore, procedures should specify how hazards will be identified and listed. For example, hazards may include those reported by manufacturers of materials, equipment and tools, such as band saws and conveyors used by the organisation. The hazards can also include those reported by workers or identified following incidents or accidents as well as non-conformance to health and safety standards, regulations or other requirements.
- Adopt a SMART objective method approach to implement the policy. Objectives should be specific on what needs to be done to meet the desired outcome, and be measurable because progress can easily be mapped and hindrances identified. The objectives also need to be attainable and easily achievable because an easily attainable objective can motivate the employees, and should

be relevant and clearly understood. Finally, objectives should be time-based because time lines encourage employees to complete their tasks and it is easier to organise what needs to be done and when with objectives that have deadlines.

- The employer needs to put in place an effective health and safety programme. The important elements of an effective health and safety programme are hazard prevention and control programmes, management of change, purchasing policies, management of contractors, safe systems of work, emergency preparedness and evacuation, investigation of accidents and other incidents that have the potential to cause an injury or illness, etc. It is also important to investigate and identify the root cause of accidents and illnesses and to take action and prevent similar incidents from happening again.

8.4.4 Recommendations for the adoption and implementation of the guidelines regarding "Evaluation"

The measurement of performance requires that the employer develop SMART performance indicators that can be measured using active and reactive monitoring strategies. The employer can proactively monitor performance by using strategies aimed at identifying problems before they lead to incidents, accidents or ill-health. This can be achieved by carrying out planned periodic workplace inspections; walk-through surveys; conducting workers' health surveillance; engaging in planned preventive maintenance of plant and equipment and carrying out audits. These will ensure that the set standards are being implemented and check whether the controls would be working. In addition, when incidents occur, the employer would use reactive monitoring strategies to learn from mistakes or failures. For example, that should investigate accidents to identify the root causes and put in place corrective actions to prevent reoccurrence; undertake breakdown maintenance and analyse records of reported employees concerns.

The employer should make arrangements to conduct periodic audits. These should determine whether the corrective measures that are in place are suitable, in terms of strengths and weaknesses, and consider recommendations for improvements in the safety and health of workers.

It is a legal requirement for the company to review its health and safety management system or components thereof, especially when inadequacies have been identified during performance monitoring. Employers should analyse the reasons for performing poorly and take corrective action and strengthen areas where good performance is recorded.

To review the effectiveness of the OHSMS, the following indicators of areas that may require improvements should be considered:

- The degree of the company's compliance with health and safety standards.
- Areas where standards are inadequate or non-existent.
- Extent of achievement of set objectives with the stated time scales.
- Injury, incident and illness data to analyse the immediate and root causes, and establish trends and common features as the basis for making improvements.

8.4.5 Recommendations for the adoption and implementation of the guidelines regarding "Action for Improvement"

The employer should:

- Take corrective measures to prevent, eliminate, control or minimise the risks, and also review and modify them where necessary and on a regular basis.
- Establish and maintain a plan to respond to any emergency.

8.5 IMPLEMENTATION OF THE FRAMEWORK

An implementation of the ILO-OHS framework by the employers in the South African food and beverage industry enables them to view occupational health and safety as consisting of a body of interrelated components of the entire management system with the same priority as production and thus deserving equal funding. The framework was initiated by the ILO and developed to provide a unique international model compatible with other management system standards towards promoting occupational health and safety in a systematic manner.

8.5.1 What the enterprises need to do to implement the framework effectively

Employers must demonstrate their commitment to improving health and safety in the workplace. They must also communicate their commitment and document health and safety performance. In addition, they must assure employees that their health and safety is the organisation's top priority and provide resources to ensure that the model is implemented without any impediments.

Employers should build a positive health and safety culture by encouraging worker participation and ensuring that workers are competent and trained in health and safety. Employers should also encourage employees to communicate openly with management regarding health and safety issues, either individually or through their representatives and health and safety committees.

The employers should ensure that workplace hazards are prevented and controlled to achieve company health and safety objectives.

The employers should provide employees and their representatives with education and training on hazard recognition and control. This ensures that the employees have the knowledge and skills needed to work safely and that they can avoid creating hazards that could place them or others at risk.

The employer should establish processes to monitor the performance of the model, verify its implementation, and identify deficiencies and opportunities for improvement. In addition, if its implementation is not effective, action needs to be taken to improve the model and the health and safety performance of the company.

8.5.2 Government role

The government is responsible for the formulation, implementation and periodic review of coherent national policy and legislation regarding OHS management.

The government, through the DoL, should also elaborate and provide general OHS guidelines in line with the ILO-OHS guidelines and national law and practice.

The DoL inspectors could play a decisive role in enforcing health and safety and ensuring that the employers conform to national laws and regulations. They can achieve this by increasing the number of workplace inspections and ensuring that targets are met through increasing the budget for capacity building.

Government should also provide advisory support to the employers of the food and beverage industry in South Africa on issues related to health and safety in the workplace.

8.6 GUIDELINES DISSEMINATION PLAN

The guidelines will be made accessible to all stakeholders. This will include the food and beverage industry enterprises that participated in the study as well as their employees. The guidelines will also be accessed from university libraries, publications in accredited journals and the UNISA library website. The dissemination will be through presentations at occupational health and safety seminars, workshops, and national and international conferences. A research paper of the guidelines will also be published in a relevant local peer reviewed scientific journal.

8.7 CONCLUSION

This chapter explained the ILO framework for managing health and safety in the food and beverage industry of South Africa. The framework highlights the importance of having a working environment where worker participation is encouraged. In addition, it is clear that the adoption and adherence to this framework would contribute to the enhancement of an occupational health and safety culture in the South African food and beverage industry as well as to the continuous improvement of the occupational health and safety process. In addition, adoption of this framework, in order to overcome the problem of non-compliance with the occupational health and safety legislation in the food and beverage industry, will enable the organisations to be systematic, comprehensive and effective in eliminating or minimising workplace injuries and illnesses. Above all, this framework will serve as an important resource material for the development of inclusive policies that are in line with ILO standards and the national occupational health and safety legislation.

LIST OF REFERENCES

Actionaid. 2012. *Young women: life choices and livelihoods in poor urban areas.* India, South Africa, Ghana. October 2012.

Aliyu, A & Saidu, S. 2011. Pattern of occupational hazards and provisions of occupational health services among workers of Kaduna refinery and petrochemical company Ltd, Kaduna, Nigeria. *Continental Journal Tropical Medicine* 5(1):1-5.

Allen, P and Sachs, C. 2007. Women and food chains: the gendered politics of food. *International Journal of Sociology of food and Agriculture* 15(1):1-23.

Allie, BO. 2008. *Fundamental principles of occupational health and safety.* Geneva: ILO Publications.

Amin, ME. 2005. *Social science research: conception, methodology and analysis.* Kampala: Makerere University Press.

Anderson, VP, Schulte, PA, Sestito, J, Linn, H & Nguyen, LS. 2010. Occupational fatalities, injuries, illnesses, and related economic loss in the wholesale and retail trade sector. *American Journal of Industrial Medicine* 53(7):673-685.

Arfah, A & Pudjihardjo, M. 2013. Analysis of female workers productivity among Buginese, Makassarese and Torajanese ethnic groups in small industry sector in Makassar city, south Sulawesi. Study in food and beverage industry. *10SR Journal of Business and Management* 9(4):1-11.

Australian Government. 2005. *The principles of effective OHS risk management.* Australia**:** Commonwealth of Australia Publications.

Babbie, E. 2007.*The practice of social research.* 11th edition. Belmont, CA: Wadsworth.

Babbie, E. 2010.*The practice of social research.* 12th edition. Belmont, CA: Wadsworth.

Bankole, AR & Ibrahim, LO. 2012. Perceived influence of health education on occupational health of factory workers in Lagos State, Nigeria. *British Journal of Arts and Social Sciences* 8(1):57-65.

Blaug, R, Kenyon, A & Lekhi, R. 2007. *Stress at work. The Work Foundation*. From: http://www.theworkfoundation.com/downloadpublication/report/69_69_stress_at_work.pdf (accessed 11 November 2015).

Bless, C, Higson-Smith, C & Kagee, A. 2006. *Fundamentals of social research methods. An African perspective.* 4th edition. Cape Town: Juta.

Bourke, J, Coulson, I & English, J. 2009. Guidelines for the management of contact dermatitis: an update. *British Journal of Dermatology* 160:946-954.

British Meat Processors Association. 2011. *Health and safety guidance notes for the meat industry.* Revision 1.

British Meat Processors Association. 2014. *Health and safety guidance notes for the meat industry.* London: BMPA Publishers.

Buhlungu, S. 2006. *Trade unions and democracy.* Cape Town: HSRC Press.

Bureau of Labour Statistics. 2008. *US Department of Labour career guide to industries. Food manufacturing.* US department of commerce industry report. NAICS 311. From: http://ita.doc.gov/td/ocg/outlook10_food.pdf (accessed 3 March 2015).

Burns, N & Grove, SK. 2005. *The practice of nursing research: conduct, critique, and utilization.* 5th edition. St Louis: Elsevier/Saunders.

Burns, N & Grove, SK. 2009. The practice of nursing research: Appraisal, synthesis, and generation of evidence. 6th edition. Missouri: Saunders Elsevier.

Burstyn, I, Jonasi, L & Wild, TC. 2010. Obtaining compliance with occupational health and safety regulations. A multilevel study using self-determination theory. *Journal of Environmental Health Research* 20(4):271-287.

Burton, J. 2010. *WHO healthy workplace framework and model*: Background and supporting literature and practice. Geneva, Switzerland: WHO.

California Department of Industrial Relations. 2003. *Ergonomics in action: a guide to best practices for the food-processing industry.* California: USA.

California Occupational Safety and Health Administration. 2010. *Guide to restaurant safety. Research and Education Unit.* California: USA.

California Occupational Safety and Health Administration (OSHA). 2012. *Guide to restaurant safety.* July 2012 Research and Education Unit. California: USA.

Christians, A & Brauner, Y. 2011. *The meaning of 'enterprise', 'business' and 'business profits' under tax treaties and domestic tax law.* US report (8 June 2011).University of Wisconsin Legal Studies Research paper No. 1161. From: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1860344 (accessed 20 August 2015).

City of Tshwane. 2008. *Hazard identification and risk assessment (HIRA) policy.* From the mayoral committee cluster: Corporate and shared services department (strategic human resources division). Economic development*:* 15 April 2008 and the Portfolio Committee: Corporate and Shared Services: 8 May 2008:239-258. From: http://www.tshwane.gov.za/sites/Council/Ofiice-Of-The-Executive-Mayor/Occupational%20Health%20and%20Safety/2.%20Hazard%20identification%20and%20Risk%20Assessment%20Policy.pdf (accessed 7 May 2015).

Clarke, J. 2013. *Consultation doesn't happen by accident.* A report to SafeWork South Australia on successful consultation about work, health and safety. University of South Australia: Centre for Work + Life Publishers.

Corbel, MJ. 2006. *Brucellosis in humans and animals.* World Health Organization. From: http://www.who.int/csr/resources/publications/Brucellosis.pdf (accessed 16 September 2014).

Crawford, A, Hubbard, SS, O'Neill, M & Guarino, A. 2010. Does core self-evaluation have a place among restaurant employees? *Journal of Human Resources in Hospitality and Tourism* (9):300-317.

Culp, K, Brooks, M, Rupe, K & Zwerling, C. 2008. Traumatic injury rates in meatpacking plant workers*. Journal of Agromedicine* 13(1):7-16.

Davidson, A, Jaine T & Davidson, J (ed). 2006. *A definition of the word "food".* The oxford companion to food. 2nd edition. UK .Oxford Universal Press.

Davies, T & Konisky, DM. 2000. *Environmental implications of the food service and food retail industries.* RFF Discussion Paper 00-11 March 2000.

Davies, HW, Louie, A, Nahid, M & Shoveller, J. 2012. Potential barriers to engineered noise control in food and beverage manufacturing in British Columbia, Canada: a qualitative study. *International Journal of Audiology* 51(1):43-45.

Delport, CSL & Roestenburg, WJH. 2011. Quantitative data collection methods: questionnaires, checklists, structured observation and unstructured interview schedules, in *Research at grass roots for the social sciences and human service professions,* edited by De Vos, AS, Strydom, H, Fouche, CB & Delport CSL. Pretoria: Van Schaik.

Denzin, NK & Lincoln, YS. 2011. *The Sage handbook of qualitative research* 4th edition. Thousand Oaks, CA: Sage.

Department of Health. 2003. *Occupational health services for health care workers in the national health service of South Africa*. *A guideline booklet*. Republic of South Africa. Pretoria. From: http://www.kznhealth.gov.za/occhealth/OHmanual.pdf (accessed 7 April 2015).

Department of Labour. *Occupational Health and Safety Act (OHS) 1985 of 1993*. Republic of South Africa. Pretoria: Government Printer.

Department of Labour. 1999. *Annual report.* Pretoria: Government Printer.

Department of Labour. 2010a. *A guide to the health and safety in the wholesale and retail industry:1-17.* Pretoria: Government Printer.
From:
file:///C:/Users/user/Documents/BOIKY%20MAMPURU%20A%20guide%20to%20health%20and%20safety%20in%20the%20retail%20sector%20(1).pdf (accessed 20 March 2015).

Department of Labour. 2010b. *Compensation for occupational injuries and diseases Act. As amended by Compensation for Occupational Injuries and diseases amendment Act, No, 61 of 1997*. Pretoria: Government Printer.
From: http://www.labour.gov.za/DOL/downloads/legislation/acts/compensation-for-occupational-injuries-and-diseases/amendments/Amended%20Act%20-%20Compensation%20for%20Occupational%20Injuries%20and%20Diseases.pdf (accessed 10 April 2015).

Department of Labour. 2011. *Performance evaluation on strategic objectives 3 & 4,* IES Analysis: 2004–2011, 17 May 2011 Presentation. Pretoria: Government Printer. From: http://www.labour.gov.za/DOL/downloads/documents/useful-documents/occupational-health-and-safety/iesanalysis_mampuru.pdf (accessed 5 June 2015).

Department of Labour. 2013. *Health and safety in the food and beverage industry.* Pretoria: Government Printer. From:
http://www.labour.gov.za/DOL/downloads/documents/useful-documents/occupational-health-and-safety/Useful%20Document%20-%20OHS%20-%20Occupational%20Health%20and%20Safety%20in%20the%20food%20and%20beverage%20industry.pdf (accessed 17 October 2013).

Department of Labour. 2014. *A guide to health and safety in the wholesale and retail industry.* Pretoria: Government Printer.
From: http://www.labour.gov.za/DOL/downloads/documents/useful-documents/occupational-health-and-safety/A%20guide%20to%20health%20and%20safety%20in%20the%20retail%20sector.pdf (accessed 15 November 2014).

Department of Labour. 2015. *Hospitality. A guide to health and safety.* Pretoria: Government Printer.
From: http://www.labour.gov.za/DOL/downloads/documents/useful-documents/occupational-health-and-safety/Hospitality%20OHS%20guide.pdf (accessed 3 March 2015).

Dillard, J. 2007. A slaughterhouse nightmare: psychological harm suffered by slaughterhouse employees and the possibility of redress through legal reform. *Georgetown Journal on Poverty law and policy:* 1-18.

Eltayeb-Yassin, K & Elsadig, N. 2013. Industrial hygiene and occupational safety assessment in Khartoum North: a case study of food and beverage industry. *University of Khartoum Engineering Journal* 3(1):26-30.

Embley, DW & Thalheim, B (eds). 2011. Model-driven software development. *Handbook of conceptual modeling.* Theory, practice and research Challenges. Berlin: Springer.

European Agency for Safety and Health at Work. 2008. *Protecting workers in hotels, restaurants and catering. Working Environment information*.
From: https://osha.europa.eu/en/tools-and-publications/publications/reports/TE7007132ENC_horeca (accessed 2 September 2011).

European Agency for Safety and Health at Work. 2013. *Safe maintenance. Food and drink manufacturing.* From:
https://osha.europa.eu/en/publications/e-facts/efact52 (accessed 20 June 2013).

European Parliament. 2011. *Occupational health and safety risks for the most vulnerable workers:* Directorate general for internal policies. Policy department. An economic and scientific policy. Employment and social affairs.
From: http://www.europarl.europa.eu/RegData/etudes/etudes/join/2011/464436/IPOL-EMPL_ET%282011%29464436_EN.pdf (accessed 25 January 2015).

FoodBev SETA. 2011. *Sector skills plan for the food and beverages manufacturing sector 2011/12-2015/16.* January 2011. From: http://www.foodbev.co.za/wp-content/uploads/2015/03/FoodBev-SSP-15-16-update-2011.pdf (accessed 20 March 2011).

Food Drink Europe. 2011. *Data and trends of the European food and drink industry*. From: http://www.fooddrinkeurope.eu/uploads/publications_documents/Final_DT_2012_04.06.pdf (accessed 22 November 2015).

Foley, A. 2008. *The economic contribution of the drinks industry.* Dublin: Drinks Industry Group of Ireland Publishers.

Gaydos, M, Bhatia, R, Morales, A, Lee, PT, Liu, SS, Chang, C, Salvatore, AL, Krause, N & Minkler, M. 2011. Promoting health and safety in San Francisco's Chinatown restaurants: findings and lessons learned from a pilot observational checklist*. Public Health Reports* 126(3):62-69.

Glanz, ZK, Rimer, BK & Viswanath, K. 2008. Health behaviour and health education. *Theory, Research and Practice.* San Francisco: John Wiley & Sons.

Government of Western Australia. 2010. *Understanding the safety and needs of your workplace. Older workers and safety.* A guide for employers, workers, safety and health representatives and committees,
From: https://www.commerce.wa.gov.au/sites/default/files/atoms/files/older_workers_guide_.pdf (accessed 4 February 2015).

Govindjee, A. 2012. *The role of occupational health and safety in sustaining human capital.* 25th Annual Labour Law Conference 2012: *01 August* to *03 August 2012.* Sandton Convention Centre. Johannesburg: South Africa.

Green, J & Thorogood, N. 2009. *Qualitative methods for health research.* 2nd edition. London: Sage.

Grove, SK, Burns, N, & Gray, JR. 2013. *The practice of nursing research: appraisal, synthesis and generation of evidence*. 7th edition. Elsevier Saunders.

Hattingh, S & Acutt, J. 2003. *Occupational health. Management and practice for health practitioners* 3rd edition. Cape Town: Juta.

Hassan, E, Austin, C, Celia, C, Disley, E, Hunt, P, Marjanovic, S, Shehabi, A, Villalba-Van-Dijk, L & Van Stolk, C. 2009. *Health and wellbeing at work in the United Kingdom.* London: The Work Foundation.

Hayes, WS. 2011. *Glossary of research terms.* Transforming healthcare with evidence. From: https://www.hayesinc.com/hayes/wp-content/uploads/2011/07/Glossary-of-Research-Terms-7-25-2011-FINAL.pdf (accessed 5 September 2015).

Health and Safety Authority. 2007a. *Guide to the safety, health and welfare at work (general application), regulations 2007. Chapter 1 of part 2: workplace.* From: http://www.hsa.ie/eng/Publications_and_Forms/Publications/General_Application_Regulations/gen_apps_workplace.pdf (accessed 2 June 2015).

Health and Safety Authority. 2007b. *The costs and effects of workplace accidents. Twenty case studies from Ireland.* Health and Safety Authority Research Series 02/2007.
From:
http://www.hsa.ie/eng/Publications_and_Forms/Publications/Research_Publications/The_costs_and_effects_of_workplace_accidents_-_Twenty_case_studies_from_Ireland.pdf (accessed 20 June 2013).

Health and Safety Executive. 2001. *A guide to measuring health and safety performance.* From: http://www.hse.gov.uk/opsunit/perfmeas.pdf (accessed 11 January 2013).

Health and Safety Executive. 2005. *A recipe for safety. Health and safety in food and drink manufacture* 1st edition. London: HSE Publishers.

Health and Safety Executive. 2013. *Ergonomics and human factors at work.* A brief guide. From: http://www.hse.gov.uk/pubns/indg90.pdf (accessed 20 April 2013).

Hedlund, FH. 2013. Recorded fatal and permanently disabling injuries in South African manufacturing industry. Overview, analysis and reflection. From: http://orbit.dtu.dk/files/52351707/New%20SA%20Accident%20stats-24-sent%20w%20corrections.pdf (accessed 6 December 2015).

Henning, E, Van Rensburg, W & Smit, B. 2004. *Finding your way in qualitative research.* Pretoria: Van Schaik.

Hughes, P & Ferret, E. 2011. *Introduction to health and safety at work.* New York: Routledge.

Hughes, P & Ferret, E. 2013. *International health and safety at work.* NEBOSH. International General Certificate. New York: Taylor & Francis Group.

Industrial Accident Prevention Association. 2007. *Glossary of occupational health and safety terms.* From: http://www.iapa.ca/pdf/iapa_glossary.pdf (accessed 5 May 2015)

International Labor Organization. 2001. *Guidelines on occupational safety and health management systems.* Geneva: ILO Publishers.

International Labor Organization. 2008. *Guide to international labor standards.* From: http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---normes/documents/publication/wcms_086223.pdf (accessed 6 September 2015).

International Labor Organization. 2009. *World day for safety and health at work 2009. Facts on safety and health at work.*
From:
http://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/publication/wcms_105146.pdf (accessed 4 August 2015).

International Labor Organization. 2010a. *Republic of South Africa decent work country programme 2010 to 2014*. Memorandum of understanding between the government of the Republic of South Africa and representative workers' employers' and community organizations and the International Labor Organization, 29 September 2010. Pretoria: South Africa.

International Labor Organization. 2010b. *The role of worker representation and consultation in managing health and safety in the construction industry*. Geneva: ILO Publications.

International Labor Organization. 2010c. *The role of worker representation and consultation in managing health and safety in the construction industry.* Sectoral Activities Department. Geneva, Switzerland: ILO Publications.
From: http://embargo.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_160793.pdf (accessed 12 April 2015).

International Labor Organization. 2011. *Occupational safety and health management system: a tool for continual improvement.* World day for Safety and Health at work 28 April 2011. Geneva: ILO Publications.

International Labor Organization. 2012. *Women workers and gender issues on occupational safety and health.* SafeWork, International Programme on Safety Health and the Environment. Geneva: ILO Publications.

International Labor Organization. 2014. *Safety and health at work. A vision for sustainable prevention.* XX World Congress on safety and health at work 2014. Global forum for prevention 24-27 August 2014. Frankfurt: Germany.

International Labor Organization-Occupational Safety and Health. 2001. Guidelines on occupational safety and health management systems. From: www.ilo.org/wcmsp5/groups/public/@ed_protect/.../wcm_107727.pdf (accessed 10 February 2015).

Jacinto, C, Canoa, M & Guedes Soares, C. 2009. Workplace and organisational factors in accident analysis within the food industry*. Safety Science Journal* 47:626-635*.*

Jacobi, J. 2012. The compliance trap. Too much focus on regulations will short-change your people and profits. *Professional Safety Journal*: 69-70.

Jeebhay, MF, Robins, TG, Miller, ME, Bateman, E, Smuts, M, Baatjies, R & Lopata, AL. 2008. Occupational allergy and asthma among salt water fish processing workers. *American Journal of Industrial Medicine* 51(12):899-910.

Kaipio, H & Leppanen, S. 2005. *Distribution systems of the food sector in Russia: the perspective of Finnish food industry.* Helsinki School of Economics Publications, B-61. Helsinki: HeSE Print.

Kanchanaraksa, S & Diener-West, M. 2008. *Biostatistics and epidemiology within the paradigm of public health.* Johns Hopkins School of Public Health. USA: Johns Hopkins University Press.

Katzenellenbogen, J & Karim, SA. 2007. *Epidemiology: a research manual for South Africa.* Cape Town: Oxford University Press.

Kelly, M. 2012. *Worker equity in food and agriculture.* USA: Tellus Institute and Sustainalytics.

Kelly, A. 2013. *Occupational noise exposure in amplified music venues in Leinster: an exploratory risk analysis.* Published Doctoral thesis. Dublin, Ireland: Dublin Institute of Technology.

Krauss, SE. 2005. Research paradigms and meaning making: a primer. *The qualitative report* 10(4):758-770.

Kukanja, M. 2013. Influence of demographic characteristics on employee motivation in catering companies. *Tourism and Hospitality Management* 19(1):97-107.

LaTourrette, T & Mendeloff, J. 2008. *Mandatory workplace safety and health programs: implementation, effectiveness, and benefit-cost trade-offs.* Center for Health and Safety in the workplace. USA: RAND Publication.

Lebeau, M & Duguay, P. 2013. *The cost of occupational injuries: a* review of the literature. Studies and Research Projects. IRSST Report R-787. Montreal, Quebec.

LeBlanc, MM & Barling, J. 2005. Understanding the many faces of workplace violence. In: *Counterproductive Work behaviour: Investigations of actors and targets*, edited by Fox, S & Spector, PE. Washington, DC. American Psychological Association.

Lehtola, CJ, Brown, CM & Becker, WJ. 2009. *Preventing injuries from slips, trips and falls.* The Institute of Food and Agricultural Sciences. University of Florida Circular. Gainesville: Florida.

Leka, S & Cox, T. 2008 (eds). *The European framework for psychosocial risk management.* PRIMA-EF. Nottingham: I-WHO Publications.

Leka, S & Jain, A. 2010. *Health impact of psychosocial hazards at work: An overview.* Geneva: WHO.

Loewenson, R. 2001. Globalization and occupational health: A perspective from Southern Africa. *Bulletin of the World Health Organization* 79:863-868

Lund, F & Ardington, L. 2006. *Employment status, security and management risk: a study of workers in Kwamsane, KwaZulu-Natal.* A South African Labour and Development Research Unit Working Paper Number 06/02. Cape Town: SALDRU, University of Cape Town.

MacCarron, C. 2006. *Confined space fatalities.* Published Doctoral thesis. Perth, Western Australia: Edith Cowan University.

Machabe, AP & Indermun, V. 2013. An overview of the Occupational Health and Safety Act: a theoretical and practical global perspective. *Arabian Journal of Business and Management Review* 3(5):13-33.

Marriott, A. 2008. *Extending health and safety protection to informal workers: an analysis of small scale mining in KwaZulu-Natal.* Research report No. 76. Durban: KwaZulu-Natal University.

Maseko, MM. 2008. *Pattern of work-related injuries among Pick 'n Pay employees in Gauteng province.* Published Master's thesis. Pretoria: University of Limpopo, Medunsa Campus.

Mastrangelo, G, Zanibellato, R, Fedeli, U, Fadda, E & Lange, JH. 2005. Exposure to hydrogen peroxide at TLV level does not induce lung function changes: A longitudinal study. *International Journal of Environmental Health Research* 15(4):313-317.

Meswani, HR. 2008. Safety and Occupational Health Challenges and Opportunities in Emerging Economies. *Journal of Occupational and Environmental Medicine* 12(1):2-9.

Methodological Center for Vocational Education and Training. 2008. *Study of food products and beverages industry.* Research report on skill needs. From: http://www.kpmpc.lt/Skelbimai/SEK_EN/EN-Maist.%20sekt08.07.30.pdf (accessed 31 May 2014).

Mhazo, N, Mvumi, BM, Nyakudya, E & Nazare, RM. 2012. The status of the agro-processing industry in Zimbabwe with particular reference to small and medium scale enterprises. *African Journal of Agricultural Research* 7(11):1607-1622.

Ministry of Social Affairs and Health Department for Occupational Safety and Health. 2011. *Workplace risk assessment 4 January 2011.*
From: http://www.ttk.fi/files/1875/hazard_descriptions.pdf (accessed 17 April 2015).

Mouton, J. 2006. *Understanding social research.* 4th edition. Pretoria: Van Schaik.

Mouton, J & Marais, HC. 2009. *Basic concepts in the methodology of the social sciences.* 6th edition. Cape Town: HSRC Press.

Nathai-Balkissoon, M. 2011. Towards compliance with the OSH Act of Trinidad and Tobago: gap analysis of a food and beverage manufacturing enterprise. *The Journal of the Association of Professional Engineers of Trinidad and Tobago* 40(1):34-43.

National Institute of Occupational Safety and Health. 2012. *Restaurant and food services: advancing priorities through research and partnership.* Occupational safety and health priorities for the second decade of NORA. DHHS (NIOSH) Publication No. 2012-105. USA.

Nawaz, SK & Hasnain, S. 2013. Occupational noise exposure may induce oxidative DNA damage*. Polish Journal of Environmental Studies* 22(5):1547-1551.

New Zealand Tourism Research Institute. 2007. *Food and beverage service sector productivity study.* The Workplace Group. New Zealand Department of Labor.

Nielsen, ML, Dyreborg, J, Kines, P, Nielsen, KJ & Rasmussen, K. 2013. Exploring and expanding the category of young workers according to situated ways of doing risk and safety: a case study in the retail industry. *Nordic Journal of Working Life Studies* 3(3):219-243.

Notta, O & Vlachvei, A. 2011. *Competitiveness in food and beverage manufacturing industries.* International Conference on Applied Economics - ICOAE 2011:437-442.

Nuwayhid, IA. 2004. Occupational health research in developing countries: a partner for social justice. *American Journal of Public Health* 94(11):1916-1921.

Occupational Safety and Health Administration (OSHA). 2012. *Injury and illness prevention programs.* United States Department White Paper. United States Department of Labor.

O'Neill, M & Albin, T.2011. *Holistic ergonomics for the evolving nature of work.* Knoll Workplace Research.
From: http://www.knoll.com/media/11/529/wp_HolisticErgonomics.pdf (accessed 29 December 2013).

Othman, AAE. 2012. A study of the causes and effects of contractors' non-compliance with health and safety regulations in the South African construction industry. *Architectural Engineering and Design Management* 8(3):180-191.

Oxford Mini Dictionary and Thesaurus. 2008. 2nd edition. New York: Oxford University Press.

Pan American Health Organisation (PAHO). 2006. *Health and safety of workers in the health sector.* A manual for managers and administrators. Washington: DC.

Pearce, N, Dryson, E, Feyer, AM & Gander, P McCracken S, & Wagstaffe, M. 2004. *The burden of occupational disease and injury in New Zealand.* National occupational health and safety advisory committee. Report to the Associate Minister of Labour. NOHSAC: Wellington.

Pearson, K. 2009. *The causes of incidence of occupational accidents and ill-health across the globe.* British Safety Council. From: https://www.britsafe.org/sites/default/files/editor/The_Causes_and_Incidence_of_Occupational_Accidents_and_Ill-Health_Across_the_Globe.sflb.pdf (accessed 7 March 2013).

Permana, H. 2012. Risk assessment as a strategy to prevent mine accidents in Indonesian mining. *Revista Minelor/Mining Revenue* 18(4):43-49.

Petrovich, J. 2011. *Exiting responsibly: best donor practices in ending field support.* A study for the Robert Wood Johnson Foundation. Princeton: New Jersey.

Pietersen, J & Maree, K. 2007. Surveys and the use of questionnaires. In: *First steps in research*, edited by Maree, K. (ed). Pretoria: Van Schaik:183-196.

Polit, DF & Beck, CT. 2004. *Nursing research: principles and methods* 7th edition. Philadelphia: Lippincott Williams & Wilkins.

Polit, DF & Beck, CT. 2006. *Essentials of nursing research: methods, appraisal and utilization* 6th edition. Philadelphia: Lippincott Williams and Wilkins.

Polit, DF & Beck, CT. 2008. *Generating and assessing evidence for nursing practice* 8th edition. Lippincott: Williams and Wilkins.

Polit, DF & Beck, CT. 2010. *Essentials of nursing research: appraisal evidence of nursing practice.* 7th edition. Philadelphia: Lippincott Williams and Wilkins.

Pouliakas, K & Theodossiou, I. 2010. *An inquiry into the theory, causes and consequences of monitoring indicators of health and safety at work.* Discussion paper No. 4734.January 2010. Bonn: Germany.

Powell, C. 2003. The Delphi technique: myths and realities*. Journal of Advanced Nursing* 41(4):376-382.

Republic of South Africa. 1996. *Constitution of the Republic of South Africa No. 108 of 1996.* Date of promulgation 18 December 1996. Date of commencement 4 February 1997.

Republic of South Africa. 2010. *Decent work country programme 2010-2014,* 29 September 2010.

Republic of South Africa. Department of Labour. 2012. *Occupational health and safety Act (No. 85 of 1993) as amended by Occupational Health and Safety Amendment Act, (No.181 of 1993).* Pretoria: Government Printer.

Restaurant Association of South Africa. 2012. *RASA newsletter February 2012.* From: http://www.restaurant.org.za/pdf/rasa_newsletter_feb_2012.pdf (accessed 7 August 2014).

Robert Wood Johnson Foundation. 2008. *Commission to build a healthier America.* Work matters for health. From: http://www.commissiononhealth.org/PDF/0e8ca13d-6fb8-451d-bac8-7d15343aacff/Issue%20Brief%204%20Dec%2008%20-20Work%20and%20Health.pdf (accessed 26 September 2014).

Robson, LS, Clarke, JA, Cullen, K, Bielecky, A, Severn, C, Bigelow, PL, Irvin, E, Culyer, A & Mahood. 2007. The effectiveness of occupational health and safety management system interventions: a systematic review. *Safety Science* 45:329-353.

Rodacki, ALF, Vieira, JEA, Okimoto, MLLR, Fowler, NE & Rodacki, CLN. 2006. The effects of handling products of different weights on trunk kinematics of supermarket cashiers. *International Journal of Industrial Ergonomics* 36(2):129-134.

Rogge, CBE & Becker, TC. 2008. *Consumer information in the food service industry vs. food retailing.* 12th Congress of the European Association of Agricultural Economics. EAAE 2008.

Roquelaure, Y, Cren, S, Rousseau, F, Touranchet, A, Dano, C, Fanello, S, & Penneau-Fontbonne, D. 2004. Work status after worker's compensation claims for upper limb musculoskeletal disorders*. Occupational Environment Medicine* (61):79-81.

Rosenstock, L, Cullen, MR & Fingerhut, M. 2005. Advancing worker health and safety in the developing world. *Journal of Occupational and Environmental Medicine* 47(2):132-136

Rosenstock, L, Cullen, M & Fingerhut, M. 2006. *Disease control priorities in developing countries* 2nd edition in Jamison D.T., Breman J.G., Measham. A.R.,(editors). The International bank for Reconstruction and Development.. Washington, DC: Oxford University Press & The World Bank.

Rubin, A & Babbie, E. 2010. *Essential research methods for social work.* 2nd edition. Belmont, CA: Brooks/Cole.

Ruseckaite, R & Collie, A. 2011. Repeat workers' compensation claims: risks factors, costs and work disability. *BMC Public Health*: 1-9.

Ruser, JW and Wiatrowski, WJ.2013. Restricted work due to workplace injuries: a historical perspective. *Monthly Labor Review* 136(3): 31-43.

SafeWork Australia. 2011. *How to manage work health and safety risks.* Code of practice. Australia.

Saha, A, Nag, A & Nag, PK. 2006. Occupational injury proneness in Indian women: a survey in fish processing industries. *Journal of Occupational Medicine and Toxicology* 1:23.

Salaria, N. 2012. Meaning of the term − descriptive survey research method. *International Journal of Transformations in Business Management* 1(6):1-7.

Schmit, TM, Park, KS, Henehan, BM & Hall, J. 2012. *A study of food and beverage manufacturing in New York State. New York.*
From: http://publications.dyson.cornell.edu/outreach/extensionpdf/2012/Cornell-Dyson-eb1207.pdf (accessed 3 June 2014).

Schmitt, J & Jones, J. 2013. *Slow progress for fast food workers.* Center for Economic and Policy Research. Issue Brief: Washington, DC.

Schutt, RK. 2012. *Investigating the social world: the process and practice of research* 7th edition: 135-170. Los Angeles: Sage.

Sekheta, MA, Sahtout, AH, Sekheta, NF, Kapkovic, M & Pantovic, N. 2013. The HACCP implementation and the mental illness of food handlers as the 4th eventual hazard. *Internet Journal of Food Safety* (6):5-10.

Smallwood, J, Haupt, T & Shakantu, W. 2009. *Construction health and safety in South Africa.* Status & Recommendations (CIDB Report). From: http://www.asocsa.org/documents/ConstructionHandSReport_June2009.pdf (accessed 28 April 2014).

Smit, S. 2012. *Employment of people with disabilities in the hospitality sector: a multiple case study.* Published Master's thesis. Cape Town: University of Stellenbosch.

Southern Poverty Law Centre. 2010. Injustice on our plates. Immigrant women in the US food industry. From: https://www.splcenter.org/sites/default/files/d6_legacy_files/downloads/publication/Injustice_on_Our_Plates.pdf (accessed 12 December 2015)

Spee, T. 2006. Occupational health in Africa. *Annals of Occupational Hygiene* 50(5):431-435.

Spellman, FR & Bieber, RM. 2008. *Occupational safety and health simplified for the food manufacturing industry.* Maryland: The Scarecrow Press.

Stanford Linear Accelerator Center (SLAC). 2014. *Environment, safety a health division. National Accelerator Laboratory.* Chapter 12. Fire and Life Safety. Exit path requirement. California: USA.

Stanton, DW, Kielblock, J, Schoeman, JJ & Johnston JR. 2007. A definition of the word 'hazard'. *Handbook on mine occupational hygiene measurements*. 1st edition. Braamfontein: Mine Health and Safety Council (MHSC):370-391.

Statistics Canada. 2006. *The demographic profile of tourism sector employees.* Canadian tourism human resource council. From: http://www.otec.org/Files/pdf/resources/Demopro_LabourPro_Disabled_Persons.aspx (accessed 10 December 2015).

Statistics South Africa. 2009. *Food and beverage industry, 2007.* Statistical release P6421. Embargoed until 23 February 2009, 08:00.

Stoia, M & Oancea, S. 2008. Occupational risk assessment in a bakery unit from the district of Sibiu. *Food Technology* 12(2):11-16.

Sosenko, F. 2013. *Part 2 analysis of industry statements on skills needs and shortages.* Edinburgh, UK: Heriot-Watt University.

Sundstrup, E, Jakobsen, MD, Andersen, CH, Jay, K, Persson, R, Aagaard, P & Andersen, LL. 2013. Participatory ergonomic intervention versus strength training on chronic pain and work disability in slaughterhouse workers: study protocol for a single-blind, randomized controlled trial. *BMC Musculoskeletal Disorders* 14(1):1-9.

Szana, T. 2007. Occupational health and safety: construction safety and health. In: TC Haupt. 4th edition South African construction health and safety conference. Professionalism and leadership in construction health and safety, Cape Town 14-16 October 2007*. Association of Construction Health and Safety Management:*100-136.

Taderera, H. 2012. Occupational health and safety management systems: Institutional and regulatory frameworks in Zimbabwe. *International Journal of Human Resource Studies* 2(4):99-117.

The Food and Beverage Industry Global Report. 2010. *A definition of "food and beverage industry":* An IMAP Consumer Staples Report.
From:
http://www.proman.fi/sites/default/files/Food%20%26%20beverage%20global%20report%202010_0.pdf (accessed 4 September 2013).

Tishman, FM, Van Looy, S & Bruyere, SM. 2012. *Employer strategies for responding to an aging workforce.* The NTAR Leadership Center. Rutgers: The State University of New Jersey.

Tsai, JHC. 2009. Chinese immigrant restaurant worker's injury and illness experiences. *Archives of Environmental and Occupational Health* 64(2):107-114.

Tshoose, IC. 2011. Employer's duty to provide a safe working environment: a South African perspective. *Journal of International Commercial Law and Technology* 6(3):165-175.

Umeokafor, N, Umeadi, B & Jones, K. 2014. *Compliance with occupational safety and health regulations: a review of Nigeria's construction industry:*1-13. Proceedings of the 3rd International Conference on Infrastructure Development in Africa 17th–19th March 2014. Abeokuta: Nigeria.

United States Government Accountability Office (GAO-05-96). 2005. *Safety in the meat and poultry industry, while improving could be further strengthened.* Workplace safety and health. Washington, DC.

VanDeCruze, D & Wiggins, M. 2008. *Poverty and injustice in the food system.* Report for Oxfam America. Student Action with farmworkers. Durham, NC.

Vanderstoep, SW & Johnston, DD. 2009. *Research methods for everyday life: blending qualitative and quantitative approaches.* San Fransisco: John Wiley and Sons.

Vecchio-Sadus, AM. 2007. Reproduced from: *Enhancing safety culture through effective communication.* Safety Science Monitor Article 2. Australia: CSIRO.

Viljoen, A, Kruger, S & Saayman, M. 2014. Understanding the role that quality of work life of food and beverage employees plays in perceived service delivery and production. *Southern African Business Review* 18(1):27-52.

Wamundila, S. 2008. *Developing guideline for a knowledge management policy to enhance knowledge retention at the University of Zambia*. Published Master's thesis. Pretoria: University of South Africa.

Webster's II New College Dictionary. 1995. Houghton Mifflin Company, Boston, MA.

Wolfenden, F & Phan, T. 2013. *Workplace ergonomics.*
From: http://sydney.edu.au/arts/downloads/documents/workplace_ergonomics1.pdf
(accessed 28 December 2013).

Wolska, L & Namies'nik, J. 2007. Quality and environmental management systems in Polish shipbuilding industry. Methods of implementation. *Polish Journal of Environmental Studies* 16(3):459-465.

WorkSafe *BC.* 2006. *Hazards of confined spaces for food and beverage industries.* From: http://www.worksafebc.com/publications/high_resolution_publications/assets/pdf/bk82.pdf (accessed 10 September 2014).

WorkSafe BC. 2013a. *How to implement a formal occupational health and safety program.* From: http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/howtoimplement_ohs.pdf (accessed June 2013).

WorkSafe BC. 2013b. *Watch your step. An employer's guide to preventing slips, trips and falls in the food and beverage industry.* From: https://www.go2hr.ca/sites/default/files/legacy/ohs/F&B_STF_Watch-Your-Step.pdf (accessed 29 December 2013).

WorkSafe Tasmania. 2014. *Managing health and safety in food retail.* A handbook for the franchise industry. Workplace Standards Tasmania. From: http://worksafe.tas.gov.au/__data/assets/pdf_file/0006/166974/nhp002.pdf (accessed 2 August 2015).

World Health Organization. 2005. *Occupational health. A double burden of occupational risks.* From: http://www.who.int/occupational_health/publications/occupationalhealthbrochure.pdf (accessed 20 August 2015).

World Health Organization. 2006. *Brucellosis in humans and animals.* From: http://www.who.int/csr/resources/publications/Brucellosis.pdf (accessed 4 September 2014).

World Health Organization. 2009. *Global health risks. Mortality and burden of disease attributable to selected major risks.*
From:
http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf
(accessed 6 August 2015).

Youakim, S. 2006. Occupational health risks of wine industry workers. *BC Medical Journal* 48(8):386-391.

Zachou, K, Papamichalis, PA & Dalekos, GN. 2008. Severe pharyngitis in stockbreeders: an unusual presentation of brucellosis. *Society of Occupational Medicine* 58:305-307.

Zungu, LI & Maseko, MM. 2011. Work-related injuries in a Gauteng food retail industry: a review from 2005 to 2007. Peer reviewed. *Occupational Health Southern Africa Journal:* 23-28.

ANNEXURES

ANNEXURE A

Inspection Checklist

ANNEXURE A: Inspection Checklist

A checklist to obtain information about "COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (85 OF 1993) IN THE FOOD AND BEVERAGE INDUSTRY, SOUTH AFRICA".

The company's right to confidentiality and privacy will be highly protected. No company identifying information will be written on this checklist.

SECTION A

Profile of the study sites

1. Which of the following sector best describes the company?

Food and beverage manufacturing sector	
Food and beverage distributing sector	
Food and beverage service sector	
Meat industry	

2. In what province of the country is the company situated?

---

3. What is the total number of employees?

---

4. How many male employees and how many female employees?

5. What is the total number of disabled employees?

---

6. How many males and females are disabled?

7. Which of the following describes ownership of the company?

Sole proprietor	Partnership	PTY Limited

8. What products are produced in the organization?

……

SECTION B

Employer obligations and responsibilities with regards to health and safety

9. Is there a copy of the OHS Act (85 of 1993) as amended in a conspicuous and accessible place?

Yes□ No□

10. Is there a health and safety policy in writing and prominently displaced?

Yes□ No□

11. Does the policy protect the health and safety of the staff?

Yes□ No□

12. Has risk assessment been conducted in the past 12 months?

Yes□ No□

13. Is PPE provided free of charge?

Yes□ No□

14. Is the PPE compliant with the recognized standards?

Yes□ No□

15. Has an ergonomic assessment been done to assess risks of injuries resulting from manual handling such as lifting/pushing/pulling/twisting and carrying?

Yes□ No□

16. Is there a health and safety compliance model/guidelines and management system designed to ensure compliance with the OHS Act (85 of 1993)?

Yes□ No□

17. Are initial medical examinations carried out before commencement of work?

Yes□ No□

18. Are the physical examinations and any other essential medical examinations carried out on 2-yearly basis?

Yes□ No□

19. Are there employees under medical surveillance who are recommended by an occupational health practitioner to undergo medical surveillance?

Yes□ No□

20. Are there health and safety representatives (where there are more than 20 employees) as required by section 17(1) of OHS Act (85 of 1993)?

Yes□ No□ N/A□

21. Are the health and safety representatives nominated and selected by workers?

Yes□ No□ N/A□

22. Are health and safety representatives informed about the occurrence of incidents?

Yes□ No□

23. Has a health and safety committee been established?

Yes□ No□

24. Are workers trained on general workplace safety?

Yes□ No□

25. Have employees received training on how to use PPE appropriately?

Yes□ No□

26. Are the employees trained on the use of machinery and equipment?

Yes□ No□

SECTION C

Physical work environment (work premises and means of egress)

27. Are floors in good condition, skid free, free of obstacles and other tripping hazards?

Yes □ No□

28. Are work stations clear of falling objects?

Yes □ No□

29. Are adequate precautions taken to protect all persons on the premises from the risks of injury from collision with vehicles?

Yes□ No □

30. Are emergency exits free of obstacles?

Yes□ No□

31. Are walkways wide enough to allow staff to pass safely?

Yes□ No□

32. Are appropriate handrails and barriers in place?

Yes□ No□

33. Are sufficient signs displayed for safe management of workplace transport, fire safety, welfare and first aid arrangements?

Yes□ No□

SECTION D

Common health and safety hazards

Physical hazards

34. Are workers exposed to extreme temperatures in the workplace?

Yes□ No□

35. Is the noise level in the workplace within normal standards?

Yes□ No□

36. Is there suitable ventilation?

Yes□ No□

37. Is there suitable and sufficient lighting provided to all parts of the premises to provide safe working environment?

Yes□ No□

Chemical hazards

38. Are workers exposed to chemical factors such as:

	YES	NO
Fumes		
Dust (e.g food dust)		
Fluids		

Biological hazards

39. Are workers exposed to biological hazards such as bacterial contamination? (e.g. in wet conditions)

Yes□ No□

Ergonomic hazards

40. Are workers at a risk of exposure to static work posture?

Yes□ No □

41. Are workers at a risk of exposure to frequent bending and twisting of the trunk?

Yes□ No□

42. Do workers perform their duties in an awkward posture?

Yes□ No□

Psychological hazards

43. Are workers exposed to work related stress?

Yes□ No□

44. Are workers exposed to psychological risks factors related to time pressure?

Yes□ No□

45. Are workers exposed to psychological risk factors related to antisocial long working hours during night shifts?

Yes□ No□

46. Are night shift workers exposed to violence?

Yes□ No□

General equipment safety

47. Is the PPE being used in cases where employees are at a risk of being in contact with sharp edges?

Yes□ No□

48. Are workers at a risk of being injured by unstable materials and moving objects?

Yes□ No□

49. Are moving parts of machinery guarded?

Yes□ No□

50. Are electrical cords appropriately secured to prevent trips and falls?

Yes□ No□

SECTION E

Work-related injuries and illnesses

51. Does the employer keep a completed record of incidents in the form of injury registers, investigation reports of work related injuries and illnesses?

Yes□ No□

52. Does the company experience employee absenteeism related to work related illnesses or injuries?

Yes□ No□

53. Which work related injuries are common in the company?

Injury	**Source**

54. Which work related illnesses are common in the company?

Illness	**Source**

55. What is the total number of sick leave in days?

Illness or injury	Duration of sick leave in days (per annum)

SECTION F

Training of employees and the health and safety representatives

56. Are the workers trained on workplace safety?

Yes□ No□

57. Have employees received training on how to use PPE appropriately?

Yes□ No□

58. Are the employees trained on the use of machinery and equipment?

Yes□ No□

SECTION G

Emergency preparedness

59. Is there a written procedure for fire evacuation?

Yes□ No□

60. Is all staff trained on what to do in the event of fire?

Yes□ No□

61. Are fire extinguishers accessible and marked?

Yes□ No□

62. Are fire extinguishers serviced regularly?

Yes□ No□

63. Are medical treatments for recorded incidents carried out on the premises? (onsite clinic)

Yes□ No□

64. Additional information and comments:

……
……
……
……
……
……
……
……
……

ANNEXURE B

Department of Labour Basic Inspection Checklist

ANNEXURE B DEPARTMENT OF LABOUR BASIC INSPECTION CHECKLIST

Ref No:.....

PART1-EMPLOYER DETAILS

1.1 REGISTERED NAME OF EMPLOYER:.....

1.2 TRADING NAME OF EMP LOYER:.....

1.3 CONTACT PERSON ....DESIGNATION.....

1.4 ACCOMPANIED BY:.....

1.5 PHYSICAL ADDRESS: .....

1.6 POSTAL ADDRESS .....

1.7 TEL NO: .....FAX NO:.....

1.8 APPLICABLE LEGISLATION: .....

1.9 NUMBER OF EMPLOYEE'S .....

PART 2 – DOCUMENT AUDIT

	YES	NO	N/A
1. COPY OF ACT			
1.1 A copy of the Occupational Health and Safety Act and regulations – GAR 4 (5 or more in workplace- copy of act required.)			
Comments:.....			
2. HEALTH & SAFETY REPS. – Section 17 read with GAR 6			
2.1 Letter of designation of: (more than 20 employees appoint a safet y rep.)			
2.2 Health and safety representative(s) accomp anied inspector on the inspection. (If not why not)			
2.3 Shopsteward(s) accompanied inspector on the inspection. (I f not, why?)			
2.4 Is ratio correct- section17 (5) (Shops & offices minimum of 1 Rep for every100 emplo yees, other workplaces a minimum of 1 for every 50.)?			
2.5 Are representatives nominated and elected b y workers?			
Have they been trained- section 18(3) read with GAR 6(1)(e)?			
Comments:.....			

	YES	NO	N/
3.HEALTH AND SAFETY COMMITTEE - Section 19(3) read with GAR 5			
3.1 Are all members designated in writing?			
3.2 Are all H/S representatives members of the committee?			
3.3 Are minutes kept of Health and Safety committee meetings?			
3.4 Are meetings held at least once every 3 months?			

Comments:.....			
.....			
4. COMPETENT PERSON			
4.1 Maximum power demand .....kW			
4.2 The competent person – GMR 2(1):			
1200kW and less -Competent person			
1201kW - 2999 kW -Definition b, c or d			
3000kW or more -Definition c or d			
Comments:.....			
....			
5. CONSTRUCTION WORKS SUPERVISOR			
5.1 Construction Works Supervisor – CR 6(1)			
Comments:.....			
.....			
6. VESSELS UNDER PRESSURE			
6.1 Registered person of vessels under pressure – VUP 13(1)(b)(Inspect appointment in writing of registered person)			
6.2 Inspections & tests (every 36 months) VUP 13(1)(b)			
6.3 Records of inspections & tests VUP 14			
Comments:.....			
.....			
7. FIRST AIDERS			
7.1 Certificate of competency of first -aider (s) – GSR 3(4) (More than 10 employees)			
7.2 Is ratio correct- (1 for every100 employees for Shops & Offices or part thereof and 1 for every 50 employees for other workplaces)?			
7.3 Are all first aid certificates still valid? (Expires after 3 years)			
7.3 Training authority			
7.4 Accreditation number			
Comments:.....			
.....			
8. RECORDS, REPORTS AND FORMS	**YES**	**NO**	**N/A**
8.1 Are Inspections conducted by H/S representatives? - section 18(1)(g)			
8.2 Are records kept of recommendations from health and safety committee? – section 20(2) read with GAR 5(b)			
8.3 Are incident records kept in the form of Annexure 1? – (GAR 9)			
8.4 Is a goods hoist record book kept? – DMR 17(2)			
8.5 Are lifting machines (including forklift trucks) and lifting tackle record books kept? – DMR18(7)			
8.6 Logbooks or written records for pressure vess els? – VUP 14			
8.7 Boiler certificate and record book – **Note** Registration no. – VUP 5(4)			
8.8 Copies of valid certificates of training of forklift and Jib crane operators available – DMR 18(11)			
8.9 Is diving work performed ?			

8.10 Is a diving supervisor available during diving operations? – DR 5			
8.11 Is an operations manual compiled for each operation? – DR 6			
8.12 Certificate of compliance for electrical installation – EIR 3(1)			
Medical and Biological surveillance records;			
ÿ Does the diver have a valid medical certificate of fitness – DR 4(4)			
ÿ HBA REG 8			
ÿ HCSREG 7			
ÿ Asbestos – AR 9			
ÿ Lead – LR 8			
ÿ Audio-metric reports (normal and baseline) – NIHL REG 8			
8.11 Risk assessment records;			
ÿ In terms of Section 8 (2)d for any hazards to the health and safety of persons			
ÿ Asbestos assessment - AR 7(1)			
ÿ Construction site risk assessment - CR 7(1)			
ÿ Lead assessment – LR 6(1)			
ÿ HBA REG 6			
ÿ HCSR 5(1)			
ÿ Major Hazard Installation – MHI 5 (1)			
8.12 Air monitoring reports – HCSR 6(3)(c)			
ÿ Asbestos Measurement Records – AR 7(5) + AR 8			
ÿ Lead Air monitoring – LR 7(3)(d)			
ÿ HCSR 6(3)(c)			
Comments:.....			
9. COMPENSATION FOR OCCUPATIONAL I NJURIES AND DISEASE ACT			
9.1 (COIDA)Reg number :			
9.2 Number of claims submitted to the Compensation Commissioner for the last year.....			
ÿ Accidents (WCL 2)			
ÿ Diseases (WCL 1)			
9.3 Proof of last payment: Date ..... Amount			
9.4 Date of last Wage Return submitted.....			
9.5 Inspector to share information of process and procedure (WCL 1,2,etc)			
Comments:.....			
10. INFORMING EMPLOYEES OF THEIR RIGHTS			
10.1 Statement of the employee's rights as prescribed in terms of section 8 & 14 of the Occupational Health And Safety Act of 1993			
10.2 Make sure it complies with the provision in the Act			
Comments:.....			

PART 3 – WALK THROUGH INSPECTION

1. ENVIRONMENTAL STRESS FACTORS			
1.1 In your opinion is there a stress factor present on the premises with reference to:			
Physical factors			
ÿ Noise			
ÿ Heat			
ÿ Lighting			
Chemical factors			
ÿ Dust			
ÿ Fumes			
ÿ Fluids			
Ergonomic factors			
ÿ Static work posture			
ÿ Frequent bending and twisting			
ÿ Awkward posture			
Biological factors			
ÿ Fungi and bacterial contamination			
Other			
1.2 Action required?			
1.3 Was an assessment done?			
1.4 Obtain copy of the report.			
Comments:.....			
2. HAZARDOUS SUBSTANCES (Chemicals)			
2.1 Are hazardous chemicals used in the workplace			
2.2 If yes, obtain copy of the risk assessment report.			
2.3 If no, serve notice [HCS 5(1)]			
Comments:..... .... **NOTE: Presence of chemicals in workplace: Automatic Referral to level 2 inspector.**			
3. GENERAL SAFETY			
3.1 Are passageways clear? – ER6			
3.2 Are appropriate handrails and barriers in place			
3.3 Are emergency exists – ER9;			
ÿ Clearly marked			
ÿ Free of obstacles			
3.4 Are Fire extinguishers provided? – ER9(2)			
ÿ Are these accessible and marked?			
ÿ Serviced regularly			
3.5 Is PPE provided free of charge and being used?			
ÿ Is training on the use of PPE provided – Section 8			
ÿ Are PPE being maintained – GSR 2(2)			
3.6 Are floors skid free, free of obstacles and other hazards – ER6			
3.7 Is the First Aid Box:			
- Accessible			
- Locked			

- Does content comply to prescribed list – (Ann 1-6 – SR 3)			
3.8 Are flammable liquids used – (GSR 4)			
3.9 Are they stored in a flammable liquid store?			
Comments:			
4. ELECTRICAL SAFETY			
4.1 Are conductors insulation intact? EIR 2 (1)			
4.2 Are plugs and socket-outlets appropriately covered?			
4.3 Are circuit breakers and panel boards labelled?			
4.4 Are they enclosed to prevent contact with live conductors (covers in position)?			
Comments:.....			
5. FACILITIES REGULATIONS			
5.1 Is suitable seating provided? - FR 4(2)(b), 5(2)(a), 8(a)			
5.2 Clean sanitary facilities available? – FR 2			
Are separate male and female ablution facilities provided and are they demarcated male and female? – FR 4			
Do the toilets have seats? – FR 2(3)(b)			
Is there soap and toilet paper provided? – FR 2(3)(a)			
Are there facilities for the workers to dry their hands? – FR 2(3)(c)			
Do employees have facilities for safekeeping of personal goods–FR 3			
Comments:.....			
6. MACHINERY			
6.1 Are moving parts of machinery guarded? GMR 3			
6.2 Are lifting machinery clearly marked - showing maximum load – DMR 18			
Comments:.....			
7. BUILDING WORK AND CONSTRUCTION			
7.1 Is there construction work being carried out on the premises?			
7.2 Has the employer notified the Department of Labour (for construction work that will continue for more than 30 days and is either at a depth of more than 1m or at a height of more than 3m)? – CR 3			
Comments:..... ..... **Note: Automatic referral to level 2 inspector.**			
8. EMPLOYEES INTERVIEWED			
8.1 Have you had contact with worker representative regarding COIDA & OHS?			
8.2 Does the employer consistently provide information regarding above legislations?			
8.3 Is there adequate accommodation for interviewing personnel?			

Employee Name	Occupation	Experience/Categories	Prescribed Wage	Paid

Inspector's Comments/Recommendations:

....

....

Follow up date:..... ..... .

PLEASE INDICATE WHAT NOTICE WAS SERVED ON THE EMPLOYER (IF ANY):

.....

.....

Inspectors Name: ..... Inspectors Signature: .....
(please print)

Date: ..... Employer's Signature: .....

INSTRUCTIONS BY SUPERVISOR:

.....

....

Team Leader's Signature: ..... Date: .....

Abbreviation Index

AR	Asbestos Regulations	GMR	General Machinery Regulations
CR	Construction Regulations	HBAR	Hazardous Biological Agents Regulations
DMR	Driven Machinery Regulations	HCSR	Hazardous Chemical Substance Regulations
EIR	Electrical Installation Regulations	LR	Lead regulations
EMR	Electrical Machinery Regulations	MHI	Major Hazard Installation Regulation
ER	Environmental Regulations for workplaces	VUP	Vessels under Pressure Regulations
FR	Facilities Regulations	NIHLR	Noise Induced Hearing Loss Regulations
GAR	General Administrative Regulations	VUP	Vessels under Pressure Regulations

ANNEXURE C

Participants Questionnaire

ANNEXURE C: PARTICIPANTS QUESTIONNAIRE

EMPLOYEES QUESTIONNAIRE

Questionnaire Number:

Date completed:

SECTION A: DEMOGRAPHIC INFORMATION

	QUESTIONS	CODING CATEGORIES	OBSERVATIONS
Q101	Please circle the respondent's sex	Male..... 1 Female..... 2	
Q 102	What is your age (in complete years)?	I_____I_____I	
Q 103	What is your current marital status?	Married.....1 Single.....2 Living together.....3 Separated.....4 Divorced.....5 Widowed.....6	
Q104	What is the highest level of education completed?	Did not attend school.....1 Non-formal.....2 Primary.....3 Secondary.....4 Technikon.....5 University.....6	
Q 105	What is your job/title?		
Q 106	For how long have you been working here?	I____I____I	

SECTION B: EMPLOYEE AWARENESS OF HEALTH AND SAFETY RULES AND RESPONSIBILITIES

	QUESTIONS	CODING CATEGORIES	OBSERVATIONS
Q 107	Are you aware of the health and safety policy of the company?	Yes.....1 No.....2	
Q 108	If yes, do you understand the policy?	Yes.....1 No.....2	

Q 109	Are you aware of the Occupational health and Safety Act requiring the employer to maintain health and safety at work?	Yes.....1 No.....2	
Q 110	Where did you see or hear about the policy and the Act?	On one of our notice boards.....1 On the Company's intranet.....2 During Induction training.....3 From co-workers.....4 Other source.....please specify	
Q 111	What are your responsibilities for health and safety at work?	To be familiar with all proper health and safety practices.....1 To ensure my own safety and the safety of others at work.....2 To use the proper personal Protective equipment & devices...3 To report immediately unsafe Conditions/acts, accidents and Injuries.....4 To cooperate with employer and Participate in safety matters.....5	
Q112	What are the responsibilities to you of your employer in health and safety? Please select all that applies	Provide a healthy and safe work environment.....1 Provide work equipment that are safe and well maintained.....2 Provide workers PPE free of Charge.....3 Consult workers in health and safety matters.....4 Conduct risk assessments and communicate results to Workers.....5 Inform workers of the hazards at work, the control measures in place and how they are used.....6 Investigate accidents/illness and report to Department of Labour...7 Provide first aid and treatment.....8 Ensure evacuation of workers in Case of emergency.....9	

SECTION C: EMPLOYEE CONSULTATION AND PARTICIPATION			
	QUESTIONS	**CODING CATEGORIES**	**OBSERVATIONS**
Q 113	Does your employer inform workers about results of risk assessments?	Yes.....1 No.....2	
Q114	Do you or your representative take part in risk assessments or workplace inspections to identify hazards and unsafe conditions and take control measures?	Yes.....3 No.....4	
Q115	Do you or your representative take part in investigating accidents or incidents that occur in the workplace	Yes.....1 No.....2	
Q116	Do you report any hazards, unsafe conditions or acts that come to your notice at work so they can be addressed?	Yes.....1 No.....2	
Q117	Please state how many instances you remember having reported an accident, incident or unsafe condition	I____I____I	
Q118	Do you have a health and safety representative at work?	Yes.....2 No.....3	
Q119	Do you have a health and safety committee at work?	Yes.....1 No.....2	
Q120	Did you participate in electing your representative or member of the health and safety committee?	Yes.....1 No.....2	
Q121	If no, please explain why		
Q122	Do you receive feedback from the work of your rep or safety committee?	Yes.....1 No.....2	
Q123	Are workers motivated for good health and safety behaviour	Yes.....1 No.....2	

SECTION D: EMPLOYEE TRAINING IN HEALTH AND SAFETY

	QUESTIONS	CODING CATEGORIES	OBSERVATIONS
Q124	Have you received induction training on the general workplace health and safety rules and practices you must follow at work?	Yes.....1 No.....2	
Q125	Has this training helped you to work safely and without risk of harming others at work?	Yes.....1 No.....2 Not applicable……3	
Q126	Have you been trained on the specific hazards and risks of your job and the measures you must observe to prevent or reduce them?	Yes.....1 No.....2	
Q127	Who trained you?	My supervisor.....1 The foreman.....2 The SHEQ Officer.....3 Consultant from outside.....4 Other..... Please specify.....	
Q128	Have you received training such as evacuation drills so you know what to do in case there is a fire or other emergency?	Yes.....1 No.....2	
Q 129	Do you know your Fire Warden?	Yes.....1 No.....2	
Q 130	Have you received instruction on how to wear, maintain and store any personal protective equipment given to you for your work?	Yes.....1 No.....2	
Q131	Does your PPE fit you and is suitable for your work?	Yes.....1 No.....2	
Q132	If no, please explain why		
Q 133	Has your employer kept a record of your training?	Yes.....1 No.....2 Don't know.....3	

SECTION E: WORK-RELATED INJURIES AND ILLNESS

Q 134	Have you had any work-related injury or injuries or illness during the past 12 months?	Yes.....1 No.....2	
Q 135	Where on the body did you sustain the last injury?	Foot.....1 Leg.....2 Body.....3 Hand/finger.....4 Arm.....5 Eyes.....6 Head.....7 Other..... Specify.....8. Not applicable……9	
Q 136	What immediately caused the injury?	Struck by an object.....1 Handling and lifting heavy load.....2 Contact with sharp edge.....3 Slips or trips, falls.....4 Machinery e.g. band saws, Conveyors, skinning machines.....5 Lift truck, vehicle.....6 An animal.....7 Other... Specify.....8 Not applicable…… 9	
Q137	How severe was your injury	Minor injury requiring first aid.....1 Required absence for one or more days.....2 Required shortened job hours.....3 Required temporary job change or transfer.....4 Required restrictions from Certain job duties.....5 Combination of 3, 4, 5.....6 Not applicable…… 7	
Q138	Did you report the injury to your supervisor or Foreman? If No, why not reported?	Yes.....1 No.....2 Not	

	Briefly explain below: …… …… ……	applicable……3	
Q139	Was the accident investigated and if necessary reported to Department of Labour?	Yes.....1 No.....2 Don't know.....3 Not applicable……4	
Q 140	If it was investigated, did you receive feedback?	Yes.....1 No.....2 Not applicable……3	
Q 141	Did you apply for compensation to relevant authorities?	Yes.....1 No.....2 Not applicable……3	
Q 142	Do you know when to apply for compensation?	Yes…… …….1 No ……. .2	
Q 143	In the past 12 months have you experienced health problems that you think may be related to your work here?	Yes.....1 No.....2	
Q 144	If yes, which best describe your condition	Back pain.....1 Shoulder and neck pain.....2 General body pain.....3 Respiratory problem.....4 Problem related to cold.....5 Hearing problems.....6 Dermatitis (skin problems).....7 Animal disease.....8 Not applicable……9	
Q 145	Does your company provide healthcare facility e.g. clinic?	Yes.....1 No.....2	
Q146	If no, where do you go for treatment?		

Q147	Did you undergo a medical exam before commencing work here?	Yes.....1 No.....2	
Q148	Does your company have a programme for you to undergo periodic examinations to check your condition of health?	Yes.....1 No.....2	

ANNEXURE D

Informed Consent Form

ANNEXURE D: Informed Consent Form

Name of Study:

EFFECTS OF NON-COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (NO. 85 OF 1993) AMONG THE FOOD AND BEVERAGE INDUSTRIES IN SELECTED PROVINCES OF SOUTH AFRICA

To all study participants

The aim of this study is to investigate compliance with occupational health and safety requirements and to develop guidelines for managing health and safety in the food and beverage industry in South Africa. These guidelines would address measures that may be adopted as best practices to create a culture of safety and a healthier working environment in the South African food and beverage industry.

The objectives of this study are to determine the demographic characteristics of employees in the food and beverage industry; to assess compliance with the requirements of health and safety legislation within the targeted food and beverage industry; describe the common hazards confronted by workers at the targeted food and beverage industries in South Africa as well as to determine the incidents of occupational injuries and illnesses at the targeted food and beverage industry.

As a participant in this study:

I have read the information on the anticipated study and the researcher provided me with the opportunity to ask questions and gave me sufficient time to rethink the matter. I fully understand the aim and objectives of the study. I have not been coerced to participate in any way. The researcher has explained to me that participation in this study is completely voluntary and that I may withdraw from it at any time and without providing any reasons.

I have been assured that my daily working routine will not be interrupted. The researcher has informed me that the interview will take approximately 30 to 45 minutes of my time. I was further informed that this study has been approved by the Research and Ethics Committee of the University of South Africa (UNISA) and that my employer has granted permission that the study should be conducted during my break time. I have been assured that the information that I am about to share with the researcher

would be suppressed in the final write up of this thesis so that the reader would not easily figure out who participated in this study. Finally, I am fully aware that the results of this study will be used for scientific purposes only and may be published and that the information given by me will be treated with anonymity and confidentiality. I therefore agree to participate in this study only if my privacy is guaranteed.

I hereby give consent to participate in this study.

Place …….. Date…….

Statement by the Research project leader

The study will be conducted in accordance with the requirements of Doctor of Literature and Philosophy in Health Studies at the University of South Africa. I therefore commit myself to abide by the ethical principles expected of me. The information that will be collected during the research study will be kept confidential and anonymous.

Name of research project leader…….....……..…

Signature……Date……..

Place……

Project leader Contact Number: 082 8964237

Email Address: maudma@mweb.co.ca

ANNEXURE E

UNISA Health Studies Research and Ethics Committee Clearance Certificate

ANNEXURE E: UNISA Health Studies Research and Ethics Committee Clearance Certificate

UNISA university of south africa

UNIVERSITY OF SOUTH AFRICA
Health Studies Research & Ethics Committee
(HSREC)
College of Human Sciences

CLEARANCE CERTIFICATE

Date of meeting: 19 April 2010 Project No: **46305750**

Project Title: **The effects of non-compliance with the Occupational Health and Safety Act (no. 85 of 1993) in the food and beverage industry, South Africa**

Researcher: **Maseko MM**

Supervisor/Promoter: **Prof LI Zungu**

Joint Supervisor/Joint Promoter:

Department: **Health Studies**

Degree: **D Litt Et Phil**

DECISION OF COMMITTEE

Approved [√] **Conditionally Approved** [ ]

Date: 19 April 2010

Prof ON Makhubela-Nkondo
RESEARCH COORDINATOR: DEPARTMENT OF HEALTH STUDIES

Prof MC Bezuidenhout
ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

ANNEXURE F

Letter of Request for Permission to Conduct a Study

ANNEXURE F: Letter of Request for Permission to Conduct the Study

To whom it may concern Date: ……..

Dear Madam/Sir

REQUEST FOR PERMISION TO CONDUCT A RESEARCH STUDY IN YOUR - ORGANIZATION

I hereby request permission to conduct a research study in your organization as part of fulfilment for the requirements of a Doctoral Degree in the Department of Health Studies at the University of South Africa. The title of my study is "**The effects of non-compliance with the Occupational Health and Safety Act (no. 85 of 1993) in the food and beverage industry, South Africa.**"

The aim of the study is "to develop an intervention/practical model or guidelines for promoting compliance to the Occupational Health and Safety Act in the food and beverage industry in South Africa". The research work plan and other details about the study are contained in the research proposal, which is attached to this letter. The proposal has been approved by the University of South Africa's Research Ethics Committee, and a copy of the ethical clearance certificate is also herewith attached.

Furthermore, the study will be conducted in accordance with the requirements of Doctor of Literature and Philosophy in Health Studies at the University of South Africa. I therefore commit myself to abide by the ethical principles expected of me. The information that will be collected during the research study will be kept confidential and anonymous (which means that it cannot be linked to any organization).

I hope that my request will be acceptable to you.

Please do not hesitate to contact me for further information if required.

Yours Faithfully

Maud Maseko (Doctoral Student)

Cell: 082 896 4237, Fax: 0865539561 or 011 616 0427, Email: maudma@mweb.co.za

ANNEXURE G

Approval letters to Conduct the Study

ANNEXURE G: Approval Letters to Conduct the Study

labour
Department:
Labour
REPUBLIC OF SOUTH AFRICA

Private Bag X117, PRETORIA, 0001. Laboria House, 215 Schoeman Street, PRETORIA
Tel: (012) 309 4000, Fax: (012) 320 5129, www.labour.gov.za

Mrs Maud Maseko

P.O. Box 75009
Gardenview
2047

Enquiries.: Ms. M Ruiters
Tel. Direct: 012-309 4407

Dear Madam,

PERMISSION TO CONDUCT A RESEARCH STUDY FOR PhD

The above matter refers.

Kindly note that the Department of Labour grants you permission to conduct research on Occupational Health & Safety in the food & beverage industry, you are also granted permission to utilise the Department's information for your research study.

Please be aware that you are not allowed to publish such information in any book or journal without the permission of the Department.

Should you wish to clarify any matter in regard to this, please do not hesitate to contact Ms M Ruiters – Executive Manager: Occupational Health & Hygiene at milly.ruiters@labour.gov.za.

Yours sincerely,

MS S ZONDEKI
DEPUTY DIRECTOR – GENERAL: IES

DATE: 25. 10. 2010.

Rooivleis Red Meat Abattoir
Vereniging - Association

WNNR / CSIR
Building 4
Meiring Naude Rd
Brummeria
Pretoria
35889, Menlopark, 0102
+ 27 12 349 1237 / 8/ 9
+ 27 12 349 1240

Maud Maseko

142 Leicester Road,

Kensington,

Johannesburg,

2049

P.O Box 75009,

Gardenview,2047

maudma@mweb.co.za

Home: (011) 616 3934

Fax: (011) 616 0427

Work/Cell: (082) 896 4237

June 2011

Dear Maud,

Research Food Sector OSH (Red Meat Abattoirs)

With reference to the meeting held on 6 June 2011 at the offices of the Red Meat Abattoir Association. We would like to confirm the following outcomes:

1. The Association will assist you with your research and may join some of the visits undertaken
2. A list of possible abattoirs were identified for the research and sent to you
3. Recognition will be given to the RMAA for our assistance
4. The research results will be made available to the RMAA
5. Confidentiality letters will be signed with each abattoir once the final abattoirs are confirmed
6. The project is envisaged to be completed by the end of 2011.

Please contact us should you have any questions

_____

Mariana Du Toit (Manager: Support Services RMAA)

Rooivleis Red Meat Abattoir
Vereniging - Association

WNNR / CSIR
Building 4
Meiring Naude Rd
Brummeria
Pretoria

Hi Robbie,

Hoe gaan dit?

Maud Maseko het so twee jaar terug by julle n besoek afgele ivm haar PHD studies.

Sy het laat weet dat haar lecturer wil he dat sy nog n besoek moet afle.

Sal dit moontlik wees dat sy weer die abattoir kan kom besoek?

En indien wel, kan sy alleen kom en met wie kan sy kontak maak vir finale reelings.

Ek waardeer jou hulp opreg en hoop om gou van jou te hoor

Baie dankie

Mariana Du Toit

Manager: Support Services RMAA

Tel: (012) 349 1237

Fax: (012) 349 1240

Cell: (071) 279 0030 E-mail: mariana@rvav.co.za Website: www.rvav.co.za

Pick n Pay
Inspired by you

01 June 2011

Dear Ms. Maud Maseko

This serves to confirm that permission is granted for you to enter all our Hypermarkets and Supermarkets in the Gauteng province until 31st August 2011, for the purposes of conducting your Doctoral Thesis Research on our Compliance with Occupational Health and Safety standards.

Our store managers will assist you to access the necessary information in the best possible way that they can.

Please do not hesitate to contact me should you have any queries.

Kind Regards,

Vincent Mazibuko
General Manager
Organisational Development

Pick n Pay Office Park, 2 Allum Road, Kensington, 2094
P.O. Box 908, Bedfordview, 2008

Office: +27 (0)11 856 7845
Fax: +27 (0)11 856 8732
Email: vmazibuko@pnp.co.za
Web site: www.picknpay.co.za

Milling Division

30 May 2011

Maud Maseko

Dear Maud,

Student Research

I hereby give permission for you to do your research at Foodcorp Milling.

Yours sincerely

p.p. .....
C.J. Kritzinger
Executive Finance

Foodcorp (Proprietary) Limited Reg. no. 2004/000743/07
Directors: AJ Williamson (Group Chief Executive), OJ Janse van Rensburg, MSG Mareletse, J Morrison, ET Pienaar, CB Sampson
Divisional Directors of Foodcorp Consumer Brands (Proprietary) Limited Reg. no. 2008/026802/07
PJ Coetzer, ~~MDA Lowe~~, P Lowe, GJ Nel, WJ Oosthuizen, F Roetz, JA van Niekerk
6 President Burgers Street, Pretoria West 0183, South Africa T +27 12 308 3000 F +27 12 308 3128
www.foodcorp.co.za

From: Ian.Schwartz@za.sabmiller.com
Sent: 2011-05-25 19:14:29
To: maudma@mweb.co.za
Cc:
Subject: FW:

Dear Maud,
In principle I have no problem, what we will need to do is agree which sites you would like to visit so we can ensure we communicate with the relevant management, as a matter of interest why have you not considered the SAB (Beer Operations) as well in your sample?
I suggest you give me a call so we can discuss and see how we can assist you.
We also would require you to sign a company confidentiality agreement, if you could also please advise as to where you are currently employed.
Regards,
Ian.

Ian Schwartz
Corporate Risk Manager

The South African Breweries Limited
Tel: +27 11 881 8317
Fax: +27 86 681 4156
Mobile: +27 82 921 7557
Email: Ian.Schwartz@za.sabmiller.com

DRINK & DRIVE AND YOU WILL GET CAUGHT.
A reality check from SAB

From: Helga Jivhuho - COF
Sent: 24 July 2012 12:06
To: Johan Bornman - DVL; Anell Earle - DVL
Subject: Hosting a Doctoral Student

Good day

Maud is a UNISA doctoral student and has requested to conduct research study for the beverage industry and her thesis is "The effects of non-compliance with the Occupational Health and Safety Act (no. 85 of 1993) in the food and beverage industry, South Africa." She would like to visit the sites for a plant walkabout and look at the SHE Management system. Could I kindly check your diary and let me know when you can be available to host Maud. She needs at least 3 hours for both manufacturing and S&D walkabout.

Your help in this regard will be greatly appreciated.
Kind regards

Helga Jivhuho Corporate Health and Safety Manager
Tel: +27 11 881 8598 **Cell:** +27 82 924 2209 **Fax:** +27 86 681 4619 **Email:** Helga.Jivhuho@za.sabmiller.com
Website | Facebook | Twitter | SAB Reality Check

ANNEXURE H

Thesis Proof-reading Certificate

ANNEXURE H: Thesis Proof-reading Certificate

University of the Free State

Bloemfontein

Date : 26 January 2016

To : Whom it may concern

Confirmation of English language editing: Ms. Maud M Maseko's PhD thesis titled, *Effects of Non-compliance with the Occupational Health and Safety Act (No. 85 of 1993) Among the Food and Beverage Industry, South Africa*

This serves to confirm that I proofread and edited Ms. Maud M Maseko's above noted PhD thesis. I am confident that the suggested language and grammatical construction errors have been thoroughly attended to and the thesis can be submitted for examination.

Sincerely,

Dr. I. Manase

Email: imanase@yahoo.com / Manasel@ufs.ac.za

Cell: 082 298 6137