DECLARATION

I, TSHEKEGA MPE (11601518), hereby declare that the dissertation titled "**Factors contributing to non-compliance with safety regulations among cleaners: A selected rural university in South Africa**" hereby submitted for the degree of Master of Public Health (MPH) at the University of Venda is my original work and has not been submitted for any degree at this university or any other institution; and that all citations, materials and sources used have been duly acknowledged by complete references.

Signature …… Date……

Mpe Tshekega

DEDICATION

I Mpe Tshekega (11601518), hereby dedicate this project to both my parents **Mrs, Phuti Jane Mpe** & **Mr Phologa Winston Mpe** for the support and love they gave me from birth and to this age throughout my studies.

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Abstract

Occupational Health and Safety has become one of the leading concerns throughout the cleaning industry. Compliance with safety regulations among cleaners of the University of Venda is still a challenge. The study aims to investigate factors contributing to non-compliance with safety regulations among cleaners: A selected rural university in South Africa.

The study was conducted at the University of Venda, South Africa. A quantitative approach using cross-sectional descriptive survey design was employed. A pre-test was carried out to determine the reliability of the researcher-developed questionnaire. A total population will be applied and all the 164 was included in the study. The data collected was analyzed using SPSS 23.0. Data was presented in the form of graphs, tables and charts. A self-administrated questionnaire was used to collect data.

Results: A total population of 164 cleaners took part in the research project, 119 (74%) were females and 45 (26%) were males. Among the participant 5%, n = 9 had no form of education background, 28%, n = 46 with a primary education background, 48%, n = 79 with a secondary education back and only 19%, n = 30 with a post-secondary background. Participants with a post-Matric back ground showed significant understanding (90%, n = 27) on the importance of complying with safety guidelines, as compared to those with no form of formal education (44%, n = 4). There was a significant relationship between gender and level of education with regards to the factors contributing to non-compliance with safety regulations among cleaners. The study revealed that the female participants are more likely to adhere to safety regulations (65%, n = 74) as compared to male participants (63%, n = 26). Majority of cleaners have a fair knowledge on the safety compliance within the working environment, however there is a need to put more effort on the safety regulations practice.

Conclusion: The study concludes that female participants are more cautious within the workplace as compared to the male participants and that the level of education also has significant relationship on the level of compliance with regards to safety regulations. **Recommendations**: There is a need to have a functional safety committee that will ensure that all safety protocols are being followed, the committee may also amend the existing policy on given period of time.

Key words: Occupational safety, Knowledge, Attitude and Practices

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EU-OSHA : European Agency for Safety and Health at Work.

ILO : International Labor Office.

KAP : Knowledge, Attitude and Practice.

NCPS : National Cleaner's Production Strategy.

OHS : occupational health and safety.

OHSMS : Occupational Health and Safety Management system.

OECD : Organization for Economic Co-operation and Development.

PPE : Personal Protective Equipment.

WHO : World Health Organization in association.

Chapter One

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1. Introduction.

Occupational safety refers to a diverse discipline concerned with the desired health practices and conditions within the workplace. It comprises of social, mental and physical well-being of workers. It is considered a dual concept that requires two actions; namely, collaboration and participation of both the employer and the employee (Republic Of South Africa Occupational Health and Safety Act 85 1993, World Health Organization 2013 lastly the International Labour Organization 2014). This section covers the background of the study, rationale, problem statement, signifance, purpose, objectives and the definition of terms.

1.2 Background of the study

The cleaning industry is one of the most hazardous occupations worldwide. Data from the International Labour Organization (ILO) estimates that 2.3 million people die weekly resulting from occupational accidents and diseases both in developing and developed countries. The cleaning industry is also one of the most hazardous occupations which contributes to the findings. Globally work-related hazards constitute most of the pre-mature deaths every year (Ajayi, Ogunfowokan, Olatubi, Ogunlade, & Faremi 2016). Although it is difficult to estimate the prevalence and incidence of occupational health in the cleaning industry a number of studies have shown that the cleaners are exposed to multiple workplace hazards (Siracusa, De Blay, Folletti, Olivier, Quirce, Raulf-Heimsoth, Sastre, Tarlo, Walusiak-Skorupa & Zack, 2013: Annan, Addai, Tulashie, 2015; Suleiman & Svendsen, 2015).

According to an epidemiological study conducted in Britain, it was confirmed that 10 to 25% of adult asthma among cleaners resulted from the prolonged exposure to chemical irritants (Suleiman & Svendsen, 2015). Similar results were reported in the United States of America, whereby the link between prolonged exposures to cleaning chemicals was related to the early development of work-related asthma (Lee, Nam, Harrison & Hong, 2014). Work-related skin diseases have also been a growing concern in the cleaning industry. A study conducted in Spain found that 81% of cleaners had symptoms of various skin conditions. Within a year it was discovered that 46% of the cleaners had certain skin diseases, and it has been estimated that 70% of cleaners have reported that their conditions have gradually worsen. The common skin

disease found among cleaners was hand eczema, which affects ranges 60 to 93% of the workers (Mirabelli, Vizcaya, Margarit, Arjona, Barreiro, Orriols, Gimenez-Arnau & Zock, 2012).

According to Lee, Nam, Harrison and Hong (2014), countries such as Europe, Australia and Canada have a high level of musculoskeletal conditions among cleaners which affects the shoulders, neck, elbows and hands. The conditions are normally the results of repetitive muscle activities involved in the cleaning environment. Activities such as disposal of rubbish bins, mopping, and swiping are the major causes of these work-related conditions. The cleaning demands do not only affect the cleaner's health on musculoskeletal conditions but also found the cardiorespiratory aspect. In Europe, a study conducted by Suleiman and Svendsen (2015) found that 74 % of cleaners reported to be experiencing muscle discomfort, while 23% were absent from work as a result of musculoskeletal conditions. Cruz and Huerta-Mercado (2015) also stated that in South America alone approximately 9000 cleaners are suffering from work-related conditions; 51% are experiencing shoulder pains and hands,43% reported to be having pain in the extremities while 39% had weekly pain on the lower back.

A study conducted in Nigeria showed that during the cleaning phase on wet surfaced areas there are a range of work-related hazards which may occur, such as the possibilities of falling, slipping and tripping. Furthermore cleaners work around life-threatening substances such as moulds or even human waste; however there are also risks such as possibilities of electric shocks from the cleaning equipment's used. Psychosocial issues such as occupational stress and the element of violence from bullying are some of the harsh conditions which cleaners face in their everyday working conditions (Lee, Nam, Harrison and Hong, 2014).

The cost of these injuries and occupational health problems both in financial terms to business and the economy as well as the personal cost caused by pain, loss of income and possible loss of employment, is a burden to developed and developing nations. For example a survey which was conducted in Australia also brought to light that work-related injuries, illnesses and deaths do not only bring financial burdens to the employers and employees, but also have a direct and indirect cost to the community at large. The Australian economy showed that within the 2000-2001 an all-time record of $34.3 billion was used to control this global outbreak (Safe Work Australia, 2012). Another historical ground breaking total of $60.6 billion was spent throughout the year 2008–09, which resulted in a 4.8% of the GDP for the same financial year.

A study conducted by Mrema, Ngowi & Mamuya (2015) found that in the African continent among countries such as Tanzania, 669 million was used to compensate workers for work-related injuries

and diseases in the year 2014. Therefore the financial record clearly highlights minimal occupational safety compliance.

In South Africa Sieberhagen, Rothmann and Pienaar (2009) conducted a similar study, which outlined the financial demands required to control work-related injuries and diseases during the year 2013 -2014. The figure in the Western Cape were R29 million and R23.4 million in Kwazulu-Natal. Although cleaners in professional cleaning companies are subject to occupational health and safety laws, compliance of them a number of them is poor. There is a direct relationship between knowledge and behaviour, since knowledge is one of the factors that influences practice (Launiala, 2009).

Similarly, Kaliyaperumal (2004) highlighted that knowledge influences attitude and hence practices of individuals. Furthermore it provides a platform for cleaners to adhere to work-related safety guidelines on a regular basis. Knowledge, Attitudes and Practices surveys are widely used to gather information for planning health programmes and awareness. Therefore understanding the level of knowledge, attitude and practice will enable a more efficient progress of awareness and a programme could be tailored more appropriately to the needs of the community (Launiala, 2009).

Compliance with occupational regulations normally is generalized from positive attitudes; the proper compliance with occupational safety within the cleaning industry is a key component in eradicating the adverse cleaning injuries and diseases throughout the world. According to Kaliyaperumal (2004), every initiative to improve health and safety practices of cleaners should take into consideration of their knowledge, attitude and practices within every cleaning industry. Magoro (2012) supports the notion that the level of knowledge, attitude and practice will result in the desired occupational safety compliance within the workplace.

The Minister of Labour in South Africa has, in terms of the Occupational Health and Safety Act, 1983 made the general safety regulations (1986). The regulations stipulate that:

“(1) Every employer and every user of machinery shall make an evaluation of the risk attached to any condition or situation which may arise from the activities of such employer or user, as the case may be, and to which person at a workplace or in the course of their employment or in connection with the use of machinery are exposed, and he shall take such steps as may under the circumstances be necessary to make such conditions or situation safe.”

“(2) Where it is not practicable to safeguard the condition or situation contemplated in sub regulation (1), the employer or user of machinery, as the case may be, shall take steps to reduce the risk as much as is practicable, and shall provide free of charge and maintain in a good and clean condition such safety equipment and facilities as may be necessary to ensure that any person exposed to any such condition or situation at a workplace or in the course of his employment or on premises where machinery is used is rendered safe.”

“(3) Taking into account the nature of the hazard that is to be countered, and without derogating from the general duties imposed on employers and users of machinery by sub regulations (1) and (2), The safety equipment and facilities contemplated in the sub regulation (2) shall include, as may be necessary:”

“(a) Suitable goggles, spectacles, face shields, welding shields, visor, hard hats, protective helmets, caps, gloves, gauntlets, aprons, jacket, capes, sleeves, leggings, spats, gaiters, protective footwear, protective overalls, or any similar safety equipment or facility of type that will effectively prevent bodily injury:”

“(b) Waterproof clothing, high-visibility clothing, chemical-resistant clothing, low temperature clothing, chain mail garments, waders, fire retardant or flame proof clothing, ice jackets, or any similar safety equipment of a type that will effectively protect the wearer thereof against harm:”

“(c) Belts, harnesses, nets, fall arresters, life lines, safety that will effectively prevent slipping, unsafe entry or unsafe conditions:”

“(e) Protective ointments, ear muffs, ear plugs, respirators, breathing apparatus, masks: air lines, hoods, helmets, or any similar safety equipment or facility of a type that will effectively protect against harm: “

“(f) Suitable insulating material underfoot where persons work on a floor made of metal stone, concrete or other similar material:”

“(g) Generally, such safety equipment or facilities as may be necessary to render the persons concerned safe.”

“(4) An employer or a user of machinery, as the case may be, shall take steps to ensure that no safety equipment or facility providing as required by this or any other regulation is removed from a workplace or from premises where machinery is used, except for purposes of cleaning, repair, maintenance, modification, mending or replacement, and no person shall remove any such safety

equipment or facility from a workplace or premises where machinery is used, except for the aforesaid purposes."

"(5) An employer shall instruct his employees in the proper use, maintenance and limitations of the safety equipment and facilities provided."

"(6) An employer shall not require or permit any employee to work unless such as employee uses the required safety equipment or facility provided in terms of this or any other regulation."

With regard to intoxication, the safety regulation stipulates that:

- "An employer or a user, as the case may be, shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace.
- No person at a workplace shall be under the influence of or have in his possession or partake of or offer any other person intoxicating liquor or drugs.
- An employer or a user, as the case may be, shall, in the case where a person is taking medicines, only allow such person to perform duties at the workplace if the side effects of such medicine do not constitute a threat to the health or safety of the person concern or other persons at such workplace."

With regard to display of substituted notices and signs, the safety regulation states that:

"If the provision of any regulation prescribe a particular notice or signs to be displayed by an employer or by a user at a workplace, the employer or user may, in lieu thereof, display a corresponding symbolic sign, as contained in a safety standard incorporated for the purpose into these regulations under section 44 of the act, in which case the employer or user or user shall be deemed to have complied with such provisions"

With regard to admittance of person, the safety regulation states that:

"An employer or user, as the case may be, shall not permit a person to enter a workplace where the health or safety of such person is at risk or may be at risk, unless such person enters such workplace with the express or implied permission of and subject to conditions laid down by such employer or user: Provided that such express or implied permission shall not apply in respect of a person entitled by law to enter such workplace or premises."

"An employer or user, as the case may be, shall, if he deems it necessary in the interests of health and safety, post up a notice at every entrance to a workplace prohibiting the entry of unauthorized persons such workplace and no person shall enter or remain at such without the permission of the employer or user, as the case may be."

With regard to offences and penalties the safety regulation stipulates that:

"Any person who contravenes or fails to comply with any provision of regulation shall be guilty of an offence and liable, on conviction, to a fine or to imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence continues, or to additional imprisonment of one day for each day on which the offence continues: provided that the period of such additional imprison shall in no case exceed 90 days."

1.3 Problem Statement

Despite the existence of the Occupational Health and Safety Act, No.181 of 1993 with its accompanying safety regulations (1986), compliance with the occupational health and safety guidelines within the cleaning industry at the University of Venda (UNIVEN) is still a challenge. The researcher observed that the University cleaners often make contact with harmful cleaning chemicals without any form of protective gear, such as gloves and boots. Over 75% of cleaners do not wear respiratory masks even when working with strong cleaning chemicals. Factors contributing to non-compliance with the safety guidelines among UNIVEN cleaners are not clear. The concern is that non-compliance might predispose cleaners to various diseases, conditions such as asthma and contact dermatitis (Lee, Nam, Harrison and Hong, 2014).

1.4 Rationale of the Study.

Much research has been conducted at the University of Venda in the school of Health Sciences. Most of the studies conducted at the University include sexual harassment, HIV/AIDS, teenage pregnancy and STI's as well as chronic diseases such as hypertension and diabetes. However, there is no known research study that focused on the occupational health and safety of cleaners. Thus, findings regarding factors contributing to non-compliance to safety regulations among UNIVEN cleaners is not available.

1.5 Purpose of the Study.

To investigate factors contributing to non-compliance with safety regulations among cleaners: A selected rural university in South Africa

1.6 Objectives of the study.

- To measure the level of cleaners' knowledge regarding safety guidelines at work.
- To describe the attitude of cleaners towards safety guidelines.
- To deternine the safety practices of cleaners at work.
- To describe challenges faced by cleaners regarding safety compliance.
- To explore the relationship between gender and level of education and the variables under study.

1.7. Significance of the study.

This research project might assist the cleaners, University cleaning managers and cleaning companies involved to realize the importance of cleaner's safety through the compliance with safety regulations. University cleaning managers and cleaning companies might realize the importance of supplying cleaners with protective gear. Cleaners might also realize the importance of always complying with safety guidelines during the cleaning phase. The study might serve as a baseline upon a training programme for cleaners to be developed at Universities.

1.8. Definition of terms (Operational)

A **Cleaner is defined as** a person employed to clean the interior of a building (Oxford English dictionary, 2015).

For the purposes of this research, a cleaner is an individual who cleans the University of Venda offices and student residential sites.

Knowledge refers to awareness or familiarity gained by experience or education of facts, information, and skills acquired by a person (Oxford English Dictionary, 2015).

For the purposes of this research, **knowledge** means awareness of facts regarding general safety guidelines prescribed by the General Safety Regulation 1986 of South Africa.

Practice means to carry out or perform a particular activity/method, or custom habitually or regularly (Oxford English Dictionary, 2015).

For the purposes of this research, practice the custom of cleaning adopted by UNIVEN cleaners.

Attitude Is a settled way of thinking or feeling about someone or something, typically one that is reflected in a person's behavior (Oxford English Dictionary, 2015).

For the purposes of this study, an attitude is a feeling about the safety regulations as prescribed by the General safety regulation (1986).

Challenges are obstacles faced by University cleaners preventing them from complying with the prescribed safety regulations.

1.9 Scope of the study.

This study is divided into five chapters as follows:

Chapter 1: This chapter introduces the study, gives the statement of the problem, aim and objectives of the study, significance, rational and definition of key terms.

Chapter 2: Outlines the literature review indicating the factors contributing to non-compliance with safety regulations among cleaners: A selected rural university in South Africa

Chapter 3 Summarizes research approaches that were used in data gathering, collection, presentation and analysis.

Chapter 4 outlines the study findings

Chapter 5: discussions based on the results of the study, conclusions and suggested recommendations.

1.10 Chapter Summary

Occupational safety is an important aspect within every working environment, more especially within the higher institution of learning. A deeper understanding of a desired working environment is of high importance more especially within the cleaning industry as most of the cleaners have limited knowledge. This chapter has highlighted most of the undesired working culture within the cleaners that may results in occupational incidents that may cause harm and also the safety

guidelines that needs to be emphasized when at work. The next chapter presents the literature review of this study.

Chapter Two

LITERATURE REVIEW

2.1. Introduction

The South African Occupational Forum has introduced the National Occupational Safety & Health to guide the occupational activities involved with the everyday aspect of the work surroundings in every sector, including the cleaning industry. The aim of the Policy is to act as a guideline to safety and desired hygiene practices in the workplace.

Quinn and Henneberger (2015) stated that there is a need to focus our attention on the efficacy of cleaning products used in the cleaning and disinfecting, with minimum effect on the overall health care surrounding. There is a gap of knowledge on the need to assess the impact of surface contamination in spreading infectious diseases among cleaners. Through continuous investigations which were conducted it was discovered that there is a need to monitor the assessment criteria when dealing with hazards which result from surface cleaning and disinfecting. Research objectives which will be of paramount importance will be toxicology assessment which will focus on the respiratory and dermatologic illness.

According to Öhrling (2014) there has been few findings on further alternatives besides the increased level of competition within the occupational cleaning industry, which would ultimately be economically important and also have an enormous influence on the cleaner's health, both positively and negatively.

In most countries there has been a repeated trend of outsourcing public occupational cleaning companies based on the influence of financial and political reasons. Countries such as Sweden have outsourced their cleaning services within the municipalities. The outsourcing trend has further affected the private site of the occupational cleaning services with the aim of increasing productivity. This has led to a growing number of cleaning companies resulting in worsening job conditions and work intensification for cleaners, along with insecure employment conditions, price war and abnormal competition among the increasing number of cleaning companies (Öhrling, 2014).

Siracusa *et al.,* (2013) stated that the aspects of work-related illnesses have always been a huge occupational problem. However the prevention strategies have not been fully explored and there have been limited efforts from the healthcare professionals, employers and policy makers to

minimize the outbreak. Therefore there is a need to put more emphasis on adverse effective prevention strategies that will be addresses to workers using cleaning products.

According to Bosmans *et al.,* (2016) cleaners are viewed as uneducated and cleaning is a job that everyone can do. In the years, and even in the present to some people their duty is associated with non-productive unpaid labour that has no set of values whatsoever.

It was highlighted that countries such as Europe have been rated as some of the leading contributors of work-related asthma ranging between 10 and 25%. Work-related asthma is normally caused by prolonged exposure of high molecular weight agents within the workplace. Cleaning products such as cleaning sprays, ammonia, bleach, disinfectants, mixture of products and other specific job tasks have been highlighted as some of the many causes of or exacerbation for asthma. However it was also stated that Low-volatility liquid cleaning products have been associated with less asthma (Siracusa et al., (2013).

According to Unnikrishnan, Iqbal, Singh and Nimkar (2015) cleaning companies are essential in every working industry, and the issue of minor accidents, outdated working machinery and ergonomic problems are making it hard for small and medium enterprises to work efficiently and productively. In addition the limited level of awareness has influenced a need for the implementation of safety compliance and practice within the occupational world. Therefore, the implementation of a desired safe and healthy working environment not only improves production but also develops social support among workers.

According to Van Dijk, Bubas and Smits (2015) the World Health Organization (WHO), in association with the International Labor Office (ILO), made an overview on the global occupational conditions, together with the adverse effects that transform into life-threatening determinants of health and safety. The conclusion reached was that fatalities in the occupational fields are within a high rate and are attributed to occupational-related illnesses and occupational injuries. Further studies have shown that only about 10-15% of the workers throughout the world have access to occupational health services. The greater the total number of uneducated personnel the harder the task of educating a large number of Occupational Safety & Health professionals being experts in OHS. It was also estimated that there is a global requirement outbreak of about 312,000 more Occupational Health & Safety experts to be educated, another task at hand that is more difficult is to try to educate Occupational Health & Safety professionals within developing countries.

According to Autenrieth, Brazile, Sandfort, Douphrate, Román-Muñiz and Reynoldsthe (2015) Occupational Safety And Health Administration is a federation which was established in the United States of America in 1975 with the aim of providing small occupational businesses with professional occupational health and safety (OHS) services to companies (consisting of a maximum of 250 employees) that cannot afford services provided by the Occupational Safety & Health Administration consultants. Occupational Health Safety consultants provide services ranging from compliance with regards to the Occupational Health & Safety regulations and the proper establishment of the Occupational Health and Safety Management system (OHSMS). Another fundamental key within the Occupational Health & Safety association is the occupational health and safety management system (OHSMS), which is a series of integrated procedures that highlights procedures on how companies should manage OHS issues within the workplace, guided by plans and adapted policies.

2.1.2 Knowledge of occupational safety among University cleaners.

It was reported that an estimated 41,000 cleaners within Norway have a limited educational background and, shockingly only 75% of the cleaners have a primary education or less. The issue of usage of language was put to question but it was later discovered that the communication methods have nothing to do with the high incidence rates, but they do not have proper and effective training (Abbas, 2015).

Van Dijk *et al.,* (2015) stated that most authors have highlighted that the working environment is always influenced by educated, trained workers whom in the long run will eventually become an integral part of occupational safety programmes. It has also been concluded that education and training alone cannot resolve all problems within the real-life occupational situation. Rather, it also requires passion and love to follow rules at all times and also respect for the people whom one is working with. An element of social cohesion within the workplace has also raised eye brows, as few others have taken it into consideration. It has been countlessly emphasized that just offering education and training cannot become a complex solution to all the matters that may arise in health and safety. This is particularly true when the implication of legislation, inspection and comprehensive advanced prevention programmes in which workers and employers cooperate, is not only in education but also in improving working conditions and social relationships. On the other hand, health risks and high job demands cannot always be eliminated.

Occupational awareness operates both on a cognitive and behavioral manner, and the concepts emphasize that the element of one's consciousness should trigger his/her operational safety

ability. An open field of communication also assists in the inspirational motivational skill, where communication would eventually motivate workers and by so doing lead them to a desired safe working and healthy environment, which would limit the level of fatalities and mobility rates. Another element that is used to foster safety and health within the workplace is the intellectual stimulation, in which one allows the employees to come up with innovative ways of practicing safer and more convenient ways adapting within the safety occupational culture (Unnikrishnan et al. 2015).

In African countries such as Ghana there have been multiple legal instruments that have been used in the hope of ensuring protection of workers from work-related illnesses and injuries and also in the quest to prevent further accidents in the occupational industries. Most Ghanaians are faced with a challenge of being exposed to the work-place physical, chemical, biological, and psychological stressors. It is therefore of paramount importance to have a comprehensive provision of Occupational Health & Safety standards with support from the national leadership and commitment. However, the situation in Ghana suggests otherwise looking at the OHS management gaps and incidents caused by the improper management the OHS. There are many Occupational Health & Safety issues in Ghana that are causing accidents and occupational accidents, the country does not have a comprehensive national Occupational Health & Safety policy because the importance of OHS in a later stage in time; hence they are facing some challenges in the implementation of Occupational Health & Safety practices. This outbreak was reported around the early months of 2007, and it was also emphasized that lack of National OHS policy also has a negative influence on OHS practices (Annan et al. 2015).

According to Van Dijk *et al.,* (2015) as much as it has been highlighted that education on its own cannot serve as a multi-complex remedy for all occupational health and safety incidents, it should also be acknowledged that education has become an essential component in the new developing Occupational Health & Safety interventions on instances such as safe ways of working while having chronic diseases or serious hearing loss without putting one's life at risk. Advanced Occupational Health & Safety components and procedures have also invaded the modified environmental workplace. Aspects such as health promotion, and acceptance of social responsibilities as well as the inclusion of training such as how to prevent obesity, cardiovascular diseases, or HIV/AIDS are being implemented.

According to Mrema *et al.,* (2015) there is little knowledge regarding work-related diseases and injuries on the African continent on how to facilitate the mandates of the occupational health and

safety in the workplace. An estimated 18,000 workers are involved in work related accidents or death in the Southern African region per year. Statistics also state that more than 13 million are injured in accidents, and 67,000 contract occupational diseases. Within the region of Tanzania there is no national system available for recording occupational accidents and diseases and that in itself will leave a gap on the needed information to assist in the intervention for improving occupational health and safety in the country.

Based on Annan *et al.,* (2015) findings Occupational Health & Safety policy issues in African countries such as Ghana were not visible, based on the poor OHS infrastructure and funding, limited number of qualified OHS practitioners, and lack of adequate information on the Occupational Health & Safety practices. Within Ghana fire outbreaks in both the private and public institutions have been on the rise without any practical Occupational Health & Safety intervention. It was reported that one of Ghana's biggest market Kumasi Central was burned to ashes. The fire destroyed a total number of 400 market stalls and a large amount of goods and cash.

According to Hens, Cabello-Eras, Sagastume-Gutierez, Garcia-Lorenzo and Cogollos-Martinez, Vandecasteele (2015) universities should provide assistance on elements such as research, services to society and the relevant training used to strengthen the cleaner's productivity. In addition, investments should be made on coming up with alternatives on the long-term goals in the use of bio-resources to limit pollution in such a way that the environment and human health are not harmed, while the quality of life improves. The intervention of universities is essential, more especially in developing countries. Their task is not only to produce knowledge for research but they also equally emphasize on the issues of environmental sustainability and literacy. Universities should also go through scientific universal knowledge from research journals and interpret it in their own way according to region, province, country or city. The major element that affects the quality of research on such matters is academic staff participating less in international networking through conference attendance which itself promotes a barrier for more knowledge and interactions with scientists.

2.1.3 Attitude towards occupational safety among University cleaners.

The reason behind the large number of young workers getting injured at work is mostly a result of inadequate experience; it has also been found that exposure of unfamiliar job requirements pose a much stronger risk to occupational injuries (Laberge *et al.,* 2014).

According to Unnikrishnan, Iqbal, Singh and Nimkar (2015) attitude is the number one aspect that needs to be reoriented if one needs to develop an onset-positive safety culture. This can be

concluded through adjustment in the work practices, continuous routine changes, good housekeeping and adopting desired safe practices. Being able to oversee potential accidents before they occur is an important within the occupational world. In addition, the prediction of accidents helps in the formation of counter developments of accident prevention policies and safety performance. Employees should learn to function as a unit. If one is within an accident zone, the others should be able to assist the one in danger ensuring that they are all safe from injuries and risk to health within the occupational health. Further studies have shown that the promotion of training and reinforcement within the safety and health practices have a significant contribution in preventing accidents. Safety consciousness is also of paramount importance because they focus on an individual's awareness with reference to safety issues.

According to Laberge *et al.,* (2014) young workers are the ones most at risk to occupational injuries at work.It has been found that education and awareness strategies to prevent injuries among workers are common but ineffective. Those multiple ineffective approaches focus primarily on teaching, rather than learning strategies. These researchers that highlighted that occupational accident mostly occur when one is performing an unusual task. It was also found that most of the safety curriculums are mostly on the assumption that the main cause of injuries is attitude and undesired behaviour.

Unnikrishnan *et al.,* (2015) further highlighted that safety culture involves members that have the best intentions on the occupational, safety and which are more concerned with the progress of the ongoing health and safety performance.

The establishment of the Master's degree in Cuba on aspects of Cleaning Production has made worldwide contribution on the dynamics of society. This was influenced by campus operations and also the changing of attitudes. The Implementation University of Cienfuegos is fair and feasible, transforming the international Cleaning Production and sustainable development dynamics. The evolution of Cleaning Production has made a significant impact in Cuba. After the transformation Cuba is one of the leading countries compared to the previous years, on the Cleaning Production aspects.The contribution on proper Cleaning Production has an important influence on the economy, more especially in places such as Europe or Vietnam. Finally, comparison on the aspect of involving academic Cleaning Production activities might emerge. (Hens *et al.,* 2015).

Van Dijk *et al.* (2015) highlighted this with reference to the workers' Health; the World Health Organization foundation committed itself to the Global Plan of Action to promote and encourage

the link between occupational health services and primary health care, where the target is to educate workers and employers as well as providing adequate training for occupational health practitioners so that they could be able to render advanced and desired services. It is part of the human constitutional and moral right to have a conducive working environment free from harm, illnesses or even injuries. The workers' health should be made top priority in all aspects: health education should be provided within the basic training. The issue of education in Occupational, Health and Safety (OHS) is a compulsory fundamental within all developed and still developing countries.

2.1.4 Practices towards occupational safety amongst universities cleaners.

In this competitive world, where key-performance has been the target occupational accidents have always been a disturbing factor within the workplace. Occupational accidents may generally lead to permanent disability or even death. The most common preventative measure that has been utilized within the occupational world in the quest to reduce accidents is the provision of personal protective equipment (PPE). In addition, there are optional methods that could be used such as hazard assessment, good housekeeping and training (Unnikrishnan et al., 2015).

Quinn *&* Henneberger (2015) believe that throughout the occupational Health & Safety industry, more especially within the cleaning department; there is a need to continuously conduct hazard assessment of products, application methods, and work practices. During any Occupational Health Evaluation there should be a need to assess the multiple nature of work which is displayed during every day work activities. The evaluation assessment of occupational methods and practices for the cleaning and disinfecting need to be conducted in order to make the occupational environment more conducive and free from injuries and poor health from the work outcomes. Another crucial element to enhance the Occupational Health & Safety within the cleaning industry is to make sure that all staff members, from workers, supervisors and administrators, are included in everyday training.

According to Unnikrishnan *et al.* (2015) the transformation in the increased interest invested on safety leadership is practical evidence that safety leadership will result in the development of organizational effectiveness when it comes to desired health and safety. The sustainability and development of safety leadership is a fundamental aspect within the occupational environment because it reduces the number of overall accidents. It also promotes safety among managers and the general employees. Leadership has always been an essential part within the workplace as examined by previous studies. Leaders generate a huge influence on their employees. In that manner they always find it less straining to convince and motivate their workers.

According to Van Dik *et al*. (2015), the new innovation of technology information is becoming closely associated with education in the form of the adaptation of online information offered by the Occupational Health and Safety in Canada. The United States National Institution for Occupational Safety and Health (HIOSH), together with the European Agency for Safety and Health at Work (EU-OSHA), have raised the bar on occupational health and safety by investing on an online interactive risk assessment and control tool kit. The International Labor Office (ILO) has also adopted the new innovation and decided to develop computer applications for the same reason. Occupational Safety & Health associates are now able to be trained in finding up-to-date OSH information and tools on the internet.

Unnikrishnan *et al. (*2015), has proposed an adaptable occupational Safety Culture Leadership Inventory consisting of six fundamental leadership practices for the following purposes: to make the case for change, to create a shared vision, to build trust and open communication, to develop capabilities, to monitor progress, and to recognize accomplishments.

Laberge *et al*. (2014) have followed the current transformation of education science which observed that the package of learning involves multiple components, which include skills development.

2.1.5 Challenges faced by University cleaners.

According to Cagno, Micheli and Perroti (2011) poor health and safety within a certain company will result in poor performance output. Therefore it is important for workers to practice good health and safety measure to maximize productivity. Through literature it was also found that there are more occupational accidents in small firms as compared to big ones (Arocena and Nunez, 2010).

In developing countries like Tanzania it has been found that most workers are exposed to occupational hazards which results in injuries and illness. Regardless of the problems faced, there is no provision of adequate occupational health services required in such cases. Throughout the occupational industry in Tanzania few enterprises can afford occupational health services. As a result the services are scanty and limited, and only cater for the advantaged few. The issue of occupational legislations is also a contentious matter as burning matter because the implementation part is weak and does not protect the workers (Mrema *et al.,* 2015).

Mrema *et al.,* (2015) study also concluded that the Tanzanians are unable to access occupational health services. This is because the occupational health & safety laws do not make provision for them. The current existing legal provision for occupational health and safety requires a total

reconstruction to meet international standards and requirements. Thus there is a need for an occupational health and safety service strategy which will consist of proper legislations and be supported by adequate resources such as financial and technology resources, as well as relevant competent experts.

Bosmans, Mousaid, Cuyper, Hardonk and Vanroelen (2016) point out that cleaners on many occasions are considered as dirty workers, mostly because of the dirt handling they do in their everyday duties, low occupational status and the tense relationship that they normally have with their employers. This outrageous stigma has contributed negatively on the cleaners self-esteem and caused a weak coping strategy in their occupational duties.

Based on the Mrema *et al.,* (2015) it was further highlighted that millions of occupational workers throughout the world are at risk of work-related diseases such as pneumoconiosis, which manifests itself when a person has inhaled one or more of a range of substances (often forms of dust). Mental and musculoskeletal disorders are also on the rise within the occupational diseases which are affecting workers, yet with no adequate preventative, protective and control measures.

According to Quinn & Henneberger (2015) occupational cleaning and disinfection are one of the most important components in any industry and they serve as an infection prevention strategy. The demands for those two components are growing. In addition, research has shown that cleaning and disinfection are associated with the development of respiratory illness, and lead to acute and chronic health effects. Most of the cleaning companies are now settling for less toxic or green cleaning and disinfecting products.

According to Bosmans *et al.* (2016) the issues of occupational identity is a crucial element in every work environment, and the concept is normally derived from the views of the outside world around them. The stigma which associates cleaners with dirty work reflects negatively on the workers and even their operation at work will be taken less serious in the long run leading to occupational accidents. A bad image of occupational identity normally results in the deterioration of personal traits, social roles, strength and relationships. It was further shown that the ongoing stigma about cleaners will impact badly on the cleaners, which will lead to poor mental well-being and even strain. The element of stigmatization affects individuals differently based on their coping strategies. It has also been highlighted that coping strategies can somehow be adaptive.

Quinn & Henneberger (2015) further highlighted that there has been a high level of work-related asthma within the cleaning industry which is associated with prolonged exposure to cleaning

agents and disinfectants. Other studies have also reported that chemicals used within the cleaning process not only pose a threat on the respiratory aspect but are also associated with skin disorders more especially hand dermatitis. Based on multiple studies which have been reviewed, it was confirmed that there has been an overwhelming increase in asthma risk among cleaners, as compared to other occupational employees. Laberge et al. (2014) further highlighted that learning about the Occupational Health and Safety technique as compared to being taught about Safe work, skills can be detrimental to the health of some workers within a working environment, resulting in injuries and even death. American and Canadian experts have also added their inputs with regards to the implementation of OHS techniques versus the skills. They also emphasized their ideal actual goal as being to embrace the socio-ecological approach of understanding the Occupational Health and Safety learning process in their actual situation in order to maintain the highest level of safety.

There have been many options which studies have shown on how to deal with occupational stigma within the workplace. One of them was an aspect of enhancing one's self-esteem through association with one of their own, relative to comparison groups. Intergroup comparism is known to be a key factor in dealing with occupational stigma because during this process one would develop confidence that he/she is more favorable than other groups (Quinn et al., 2015).

According to Bilge, Unluoglu, Son, Korkut and Unalacak (2013) in the occupational cleaning industry there is always a level of doubt that influences the question "How clean is clean enough?" In the cleaning field the question posed is always "How safe is cleaning?". There are serious multiple chemical outputs that result from the environmental workplace. The mentioned products can be detrimental to the environmental during their use when they are poured down the drains, especially when they circulate through building ventilation system or even disposed in the outdoors.

2.1.6 The contribution of the Occupational Health & Safety policies on proper occupational safety management in the workplace.

When it comes to occupational health and safety, South Africa is regulated by the Occupational Health and Safety Act 85 of 1993; the regulation provides guidelines on protecting health of workers in any workplace. The Act states that there should be an active health and safety policy which will protect the health and safety of both the employer and employee's (Occupational Health & Safety Act 85 of 1993 Regulation 7).

The elements of an effective Occupational Health & Safety Act has to always be guided by specific requirements such as continuous periodic reviews on each and every regulation within the Act, will be adopted and amended, hazard identification, employees involvement and participation and lastly management leadership. This is the international format of the revised OSHA Form 33 measures 58 (Autenrieth et al. 2015).

The Occupational Health and Safety Act 85 of 1993 focuses on General regulations which covers from explosives, construction, safety regulations and general administrative guidelines, from a health perspective. It is also concern with aspects such as asbestos regulations, environmental regulations for workplaces, and noise-induced hearing loss regulations. Mechanically the Act also stipulates guidelines such as the driven machinery regulations, lifts, escalators, and pressure equipment regulations.

According to Crus *et al.* (2015) within the South America continent the first country to establish an effective Safety and Health Law was Peru, during the last trimester of 2011. The law was titled the Safety & Health Law 29783, which was to meet the culture of preventative methods in eliminating occupational hazards within the workplace. A National System of Health and Safety at work legislation/regulation was established which consisted of the National Council for Safety and Health at Work. It was documented that regulations that are involved with labour rights in eliminating accidents and occupational diseases had never had a stable legal structure, hence the first established regulation regarding Safety and Health was established in the 1908.

Occupational Health and Safety policies are some of the most fundamental regulations within any workplace. As a result, the element of research on such aspects is very crucial, as it will save lives and provide solutions to health and safety problems. Research on occupational health and safety has a significant contribution within the identification and resolution of occupational hazards. However, within the African continent, in countries like Tanzania, there is no comprehensive nationally coordinated occupational health and safety research strategy in place. The Occupational Health and Safety research institution in Tanzania is non-effective, with inadequate capacity to conduct detailed investigation cases to accommodate the needs that may arise from day to day operations such as accident investigation and standard recommendation settings (Mremi et al, 2015).

According to Fan, Ching & Kan (2014) countries such as the USA invest a substantial amount of money, about US$583million, which is allocated annually for Occupational Health & Safety Administration to regulate the industries. However apart from the financial contributions which are made, there are still a large number of occupational injuries: studies have shown that nearly four million workers suffer injuries in the workplace. The United States firms lose about US$170billion annually due to occupational injuries.

The International Law on Safety and Health emphasizes equality when it comes to gender within the occupational health environment. The law promotes the protection of pregnant workers who have the right to be transferred to safer occupational environment, regardless of their category and remuneration. The work supervisor should always consider the element of gender in respective to the nature of work being given, more especially if it involves hazards. One of the guidelines in establishing an occupational committee is the emphasis on the number of workers that one has, the employer must have at least 20 employees. The issues of labour unions are also accepted only if they are within the company and normally an observer is appointed to join the committee and assist in the smooth arrangement of the running of the desired programmes. During investigations and insurance outcomes the union will inform the Department of Labor, compensation for injuries due to failure of the employer taking preventative measures that could result in an accident or occupational disease. Compensation will be directed to the employer for full payment. During and after working hours, it is the duty of the employer to ensure ultimate safety within the working environment (Crus et al., 2015).

According to Hadjimanolis and Boustras (2013) an improved safety policy and practices contribute positively towards the economy, motivation of workers, product quality, productivity and performance of firms in general. A well-documented traditional approach to safety management is the collaboration of authorities in the development of rules and ensuring compliance with those rules to ensure workplace safety.

Based on Crus *et al.,* (2015), it is the responsibility of the employer to take his/her employees for Safety & Health training and certificates should be awarded to all participants. One of the most undermined procedure within the workforce is the attachment of the risk map, which supposed to be drafted by the employer but include the input of the trade union. The risk map is supposed to be placed within the employees contracts.

In the United States the Occupational Health & Safety policy is considered one of the most vital legislation within the workplace, although the policy is now receiving less attention as compared

to the environmental management. The trend now is a global concern for which further research is said to be invested on this issue (Di Fan *et al.,* 2014).

Laberge, MacEachen and Calvet (2014) believe multiple research and development on the Occupational Health and Safety policies, adjustments have been made on the training and awareness approaches. These are now based on behavioral and cognitive education and are aimed at guiding the new entry worker's attitude and behaviour in linking them to the OHS rules and mandate. The approaches are central-oriented to and from the trainer and trainee on the emphysema of training rather than learning strategies.

According to Mrema et al, (2015) approximately two million workers die every year from occupational illnesses and the remainder are at risk. Most workers are covered by the Occupational Health and Safety law but do not have access to occupational health services. The evolving new occupational health and safety determinants, such as technology, have posed threats to a point where there is a need for more on-point legislation. African countries such as Tanzania have neglected their employees on the Occupational Safety and Health law and they do not access occupational health services. Tanzania is a country that requires a total transformation based on the current Occupational Safety and Health laws within the country. For example, there is a need to make adjustments that comply with international standards.

According to Laberge et al. (2014) from the National Cleaner's Production Strategy, the adopted draft has been enforced with reference to the recommendations of the Johannesburg Plan of Implementation for Sustainable Consumption and Production. The strategy has been labeled two sides of one coin. This is because its motive and mandate will never be separated. The aim of the National Cleaner's Production Strategy is based on the promotion of the desired practices on the usage of products which will not result in harm to the natural resources and toxic materials for the future generation. The cleaner's production also seeks to reduce the quality and toxicity of all emissions and waste being limited to air, land and water.

2.7 Summary

This chapter has reviewed multiple literature on the factors contributing to non-compliance with safety regulations among cleaners, research sites such as Science Direct, Google scholar, Sabinet, Ebcohost and Pudmed were the main sources used by the researcher. Throughout the literature review it has been concluded that the issue of occupational safety is not only a South African crisis but is also affecting developed countries throughout the world. Although there are

already policies in place, there are few countries that promote them. Research about safety more especially within the higher institution is very important as it also adds value within the academic world at large. The next chapter highlights the research methodology.

Chapter Three

3. RESEARCH METHODOLOGY

3.1 Study Design

The study adopted a quantitative approach in which a cross-sectional survey design was used. A Cross-sectional survey design was chosen to ensure that the researcher collected data at one point in time. For the purpose of this study a cross-sectional survey design was referred to the cleaner's knowledge, attitude and practices on occupational safety at the University of Venda.

3.2. Area of Study

The study was conducted at the University of Venda, situated 175 km north east of Polokwane the capital city of Limpopo Province in South Africa. The University is the second rural based institution which provides higher education within the region of Limpopo Province. The institution had an enrolment of 13693 students in the 2014 academic year divided among eight schools: and schools into departments. The institution offers certificates, under and postgraduate programmes within each school. The infrastructure of the university has also improved with time, having nine residences, each of the eight schools also having its own buildings, together with staff member sites like Maintenance, Finance, New Admin Block, Old Admin Block, that are cleaned on a daily basis.

3.3 Target Population

University of Venda has a total population of 164 cleaners. Both private companies and the University staffed cleaners were included in the research project. The cleaning duties are given to cleaners per term on every residential location and the same system is used on building offices for staff members. The main cleaners' control office is situated at the University of Venda Maintenance building office number 04.

The target population for this study was 164 University of Venda residential and office cleaners both from private companies and those employed by the University. The table below shows the population frame:

Table 1: Population Frame:

Cleaning Company	No. Of Females	No. Of Males	Total
University of Venda staffed hired cleaners.	27 (97%)	01 (3%)	28 (100%)
Lax Man Cleaning Services.	36 (77%)	11 (23%)	47 (100%)
Tingo Cleaning Services.	54 (62%)	33 (38%)	87 (100%)
Total	119	45	164

A total population sampling was adopted; according to Golafshani (2003) a total population sampling is part of the purposive method that involves the entire population with specific characteristics like specific attributes/traits, experience, knowledge, skills, exposure to an event.

3.4. Data collection Instrument.

The participants were required to complete a questionnaire which was developed following the research objectives and relevant literature. The questionnaire had five sections: In addition, the instrument was developed in English and translated into the dominant languages at UNIVEN; namely Tshivenda and Xitsonga, by a linguist specialist from the School of Human and Social Sciences at the University of Venda.

Section 1: Demography of the respondents, e.g. age and gender.

Section 2: Level of knowledge regarding safety guidelines at work;

Section 3: The cleaners' attitudes regarding safety guidelines;

Section 4: The safety practices of University cleaners;

Section 5: Challenges faced by cleaners regarding compliance with safety regulations.

3.5. Data Collection.

The questionnaire served as a guide when interviewing the cleaners. The participants were interviewed and given a questionnaire around lunch time, to complete. Each group of cleaners met at their allocated cleaning buildings or stations.

3.6 Validity and Reliability of the Data Collection Instrument.

3.6.1 Reliability

According to Golafshani, (2003) the continuous consistency of results over multiple testing in a research project is referred to as reliability. Reliability was ensured through the test-retest reliability method among the 10% from the sample size of 164. The reliability of the instrument was ensured by checking the similarity of responses from the 16 cleaners on two occasions.

3.6.2 Validity

Validity is a state of an instrument in measuring what it is truly supposed to measure and how consistent the research results are in a research study (Golafshani, 2003). The questionnaire's validity was assessed by consulting experts to verify the readability, clarity and comprehensiveness within the content to find out if it correlates with all the components of the literature. Ambiguous terms were omitted to ensure that the respondents are able to complete it with understanding, in addition, was present to give clarity where it is required.

3.7 Data collection Procedure.

A paper-pencil self-administrated questionnaire was used to collect data from the participants. Those who are illiterate were interviewed by the researcher using the same questionnaire as a guiding tool. However, those who can read were given the questionnaire to complete. The completed questionnaires were collected after an hour by the researcher during lunch time at the different station points.

3.7.1 Subject Recruitment.

The cleaning managers was asked to provide a list of cleaners as well as their cell phone contact details. Posters were made and posted at the cleaners' diverse assembly points, SMS's were also sent to the cleaners to make them aware of the date, venue and the importance of participating in the research study. The benefits of the research project was explained in detail.

3.7.2 Physical arrangements

The cleaners were accessed at their work appointed assembly point. Those who are literate were provided with the questionnaire to complete while those who are illiterate were interviewed privately in an enclosed office, where each would be free to point out matters that affect them in their everyday working environment.

3.8 Data analysis

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 23. Descriptive statistics distribution: Cross tabulation was employed to verify the relationship between the social biographic, result factors, participants' knowledge, attitudes and practices. Data was presented in the form of tables and charts to enhance clarity. The Chi-square analysis was employed to analyze the association between the cleaner's knowledge, attitude and practices with in the cleaning company. They study's significance level was set at 0.5.

3.9. Institutional Approval

The proposal was presented to the School of Health Sciences Higher degrees' committee, then presented to the University's Higher Degrees Committee. The researcher applied for ethical clearance certificate through the University's Research Ethics committee. After obtaining the ethical clearance certificate, a letter of permission was submitted to the Director of Facilities at UNIVEN before data collection commenced.

3.10 Ethical Considerations.

3.10.1 Confidentiality and Anonymity.

In order to maintain confidentiality and anonymity, the names of the participants or any form of identity did not appear on the instrument or any document where data was stored. Furthermore, the data collected was stored safely under lock and key and only the researcher and his supervisors had access to the data.

3.10.2 Informed Consent.

A formal letter which highlighted the expectations of the participants, significance of the study, how directly and indirectly the findings affected them was provided to the cleaners to sign. Only participants who agree to take part in the study were required to sign the form provided. The informed consent form was also attached on the questionnaire and the participants signed.

3.10.3 Beneficence

The principle of beneficence was applied in the study by ensuring that the information was not used against them in any way.

3.10.4 The principle of respect for human dignity

Participants were informed that they are allowed to withdraw from the study at any time they wished to. The full details of the study were explained to the participants and also the benefits associated in taking part in the study.

3.10.5 The principle of Justice

All participants were treated fairly and equally and questions and any inputs from the participants were welcomed at all time throw out the study. During the filling of the questionnaires regular monitoring was implemented in case of any questions.

3.11 Limitation of the study.

In this current study, it was difficult to obtain data through the use of the questionnaire as most of the cleaners are illiterate and that itself consumed most time as there was a need to explain on what is needed in most sections. Secondly the participants were also skeptical in giving their views on safety guidelines at work as most stated that they are afraid to lose their jobs.

3.12 Summary

The chapter outlined the research methodology which was used by the researcher, the data collection techniques, sampling methods. The instrument used to collect data was also discussed in this chapter, data analysis, plans for data collection and also the ethical consideration

Chapter Four

Presentation & Interpretation of Results

4.1 Introduction

This chapter presents the results of the study and interpretation of the findings based on the analysed data. The findings are statistically presented in the form of frequencies and percentages. Chi-square test and cross tabulation was used in presenting the association between the level of non-compliance on safety regulations among cleaners with relation to their knowledge, attitude and practices. The response rate was 94.5% with 164 participants successfully agreeing to take part in the study, and the rest of the 5.5% refused to take part in the study scared to lose their jobs.

4.2 Socio-demographic information of the participants.

This section highlights the distribution of the respondents which was outlined by gender, age, marital status and the level of education. A total of 164 participants took part in this research project, results from the study have shown that the majority 73. 5 % of the respondents were females aged 35 – 44 while only 8. 1 % were ≥ 55 years of age (Table 3). The study also illustrate that majority of the participants were single 41.3 % and 40. 6 % were married, while 47. 1 %, completed secondary level during their education background, only 5. 8 % were non literate.

Table 2: Socio-demographic information of the participants (N=155).

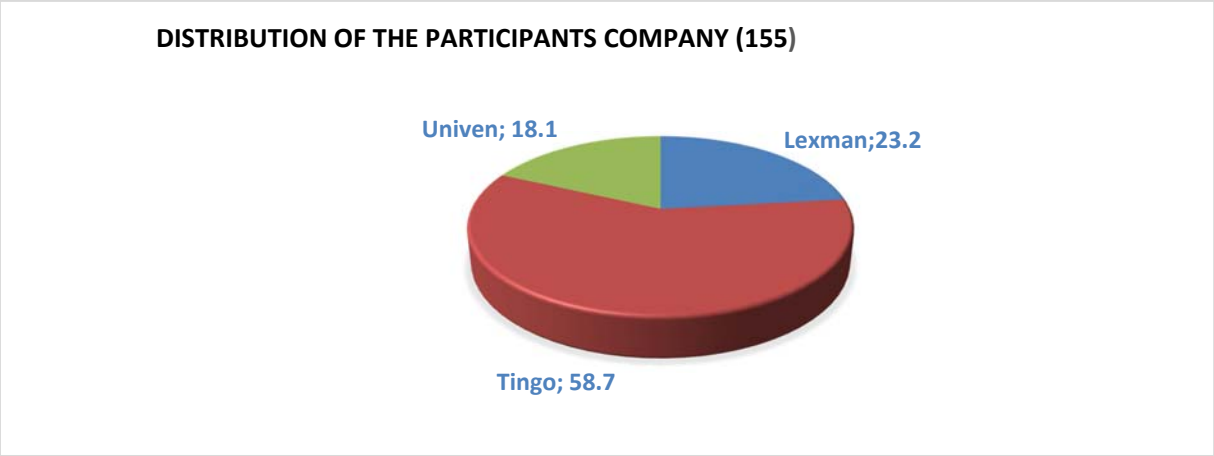
Characteristics	Frequency (N)	Percentage (%)
Age:		
26 - 34	43	26%
35 - 44	73	45%
45 – 54	35	21%
60+	13	8%
Total:		
	164	**100%**
Gender:		
Female	123	74%
Male	41	26%

Total:	**164**	**100%**
Marital Status:		
Single	76	46%
Married	60	37%
Divorced	20	12%
Widowed	8	5%
Total:	**164**	**100%**
Level of Education:		
Non Literate	18	11%
Primary Education	43	26%
Secondary Education	73	45%
Post-Matric Education	30	18%
Total	**164**	**100%**

4.2.1 Distribution of the respondents based on the companies.

Figure 1 highlights the distribution of the respondents by company with the majority of the participants being at 58.7 % from Tingo followed by Lexman having half of the population as compared to Tingo at 23.3%. The company with the least respondents was Univen with only 18.1% of the respondent's contribution to the research project.

Figure 1: Distribution of the respondents based on the companies (155).



4.3 Knowledge of cleaners regarding safety guidelines at work.

This part of the study section presents findings on the respondents' level of knowledge regarding the safety guidelines within the workplace.

4.3.1 Respondents' Knowledge regarding safety guidelines within the workplace.

Figure 2 illustrates that 42% of the male population understand the importance of washing hands with sanitary soaps after cleaning, however there is a 24% within the same gender who believe that they are only used to make them smell good. Most of the female (33%) participants believe that the sanitary soaps should only be used to impress the supervisors while 16% stated that the importance of the soap is to only to make them smell good.

The study findings revealed (**Table 3**) that 64.5% of the participants are aware that personal protective equipment's such as cleaning gloves need to be worn all the time during the cleaning phase: 18. 1% of the respondents' believe that they should only be worn when it is raining while a small portion of 10. 3 % stated that they are only worn in the presence of their supervisors. The study further pointed out that most (47.1%,) of the respondents' understand the importance of putting on respiratory oxygen masks while at work, and also the significance of erecting slippery warning signs (64.5%) when cleaning. A total number of 40.6% of the respondents were unable to list any three Personal Protective Equipment's they use within their workplace on a daily basis, although there were who were able to mention equipment's such as a mop (1.9 %) and broom (1.3 %) to be part of the PPE's at work.

Figure 2: Cross tabulation of gender and knowledge contributing to non-compliance with safety regulations among cleaners.

Table 3: Cross tabulation of gender, level of study and knowledge contributing to non-compliance with safety regulations among cleaners.

The best time to place slippery warning signs when cleaning:					
Gender	During rain	All the time when cleaning	Only when under supervision.	None	
Female	24 – 21%	74 – 65%	8 – 7%	8 – 7%	114 – 100%
Male	4 – 10%	26 – 63%	8 – 20%	3 – 7%	41 – 100%
Total	28 – 18%	110 – 65%	16 – 10%	11 – 7%	164
Level of education					
Illiterate	4 – 44%	2 – 22%	1 – 12%	2 – 22%	100%
Primary	10 – 23%	26 – 60%	5 – 12%	2 – 5%	100%
Secondary	14 – 19%	45 – 62%	8 – 11%	6 – 8%	100%
Post-Matric	0 – 0%	27 – 90%	2 – 7%	1 - 3	100%
Total	28 – 18%	110 – 65%	16 – 10%	11 – 7%	100%
Possible causes of flu and coughs within the cleaning surrounding					
	Not wearing warm clothes	Avoiding putting on respiratory masks	Lack of medicine	None	
Female	40 – 35%	53 – 46%	16 – 14%	5 – 4%	100%

Male	11 – 27%	20 – 49%	9 – 22%	1 – 2%	100%
Total	51 – 33%	73 – 47%	35 – 16%	6 – 4%	
Level of Education					
Illiterate	5 – 55%	1 – 11%	3 – 34%	0 – 0%	100%
Primary	15 – 35%	21 – 49%	5 – 12%	2 – 4%	100%
Secondary	24 – 33%	33 – 45%	13 – 18%	3 – 4%	100%
Post-Matric	7 – 23%	18 – 60%	4 – 13%	1 – 4%	100%
Total	51 – 33%	83 – 47%	25 – 16%	6 – 4%	

Best time to wear water boots					
	Every time when cleaning	Only when working in slippery places	When feeling cold	None	
Female	49 – 43%	18 – 16%	30 – 26%	17 – 15%	100%
Male	18 – 44%	10 – 25%	8 – 19%	5 – 12	100%
Total	67 – 43%	28 – 18%	38 – 25%	22– 14%	100%
Level of Education:					
Illiterate	2 – 22%	2 – 22%	3 – 34%	2 – 22%	100%
Primary	9 – 21%	14 – 33%	14 – 33%	6 – 13%	100%
Secondary	34 – 47%	9 – 12%	19 – 26%	11 – 15%	100%
Post-Matric	22 – 74%	3 – 10%	2 – 6%	3 – 10%	100%
Total	67 – 43%	28 – 18%	38 – 25%	22 – 14%	100%

List any of any Personal Protective Equipment's' (P.P.E's) needed at work.								
	Gloves	Water boots	Mask	Mop	Overalls	Gloves, Water boots &Mask	Broom	
Female	4 – 7%	8 – 14%	1 – 2%	1 - 2	5 – 8%	40 – 68%	0 – 0%	100%
Male	1 -3%	7 – 21%	3 – 3%	2 - 1%	1 – 3%	17 – 51%	2 – 6%	100%
Total	5 – 5%	15– 16%	4 – 4%	3 – 3%	6 – 6%	57 – 61%	2 – 2%	100%
Level of education:								

Illiterate	0 – 0%	2 – 40%	0 -0%	0-0%	0 – 0%	2 – 40%	1 – 20%	100%
Primary	2 - 9%	4 - 18%	0 - 0%	1 - 5%	1 - 5%	13 - 59%	1 - 5%	100%
Secondary	3 -7%	7 -15%	3 -7%	1 - 2%	2 -5%	28 -64%	0 - 0%	100%
Post-Matric	0 -0%	2 - 10%	1 -5%	1 - 5%	3 -14%	14 - 66%	0 -0%	100%

4.4 Attitude of cleaners regarding the contribution to non-compliance with safety regulations.

This section outlines the cross tabulations of demographic variables and the attitude contributing to non-compliance with safety regulations among cleaners.

4.4.1 Association between gender, level of study and attitude contributing to non-compliance with safety regulations among cleaners.

Figure 2 illustrated that majority (54%) of participants' with a secondary education background sated that their supervisors do not care about their safety while only 7% of those with a primary educational background agreed to it.

The study **(Table 4)** showed that most cleaners have a negative attitude towards safety regulations as the study showed that 51% of the respondents agreed that Personal Protective Equipment's should be worn only by new workers, while a small margin of 12% strongly disagreed to that. The cross tabulation with chi square test highlighted the significant association between level of education and attitude regarding the compliance on safety regulation, findings from the study summed up that the level of education is a contributing factor on the attitude with regards to compliance on safety regulations at work. The table below pointed out that 78% of respondents who never received basic education believe that PEE's need only to be worn by new cleaners however only 6% of those with post-matric background have disagreed with the statement although they only serve a small margin (19. 4%) of the total population.

The study further more revealed that 54% of those who received basic secondary level of education stated that supervisors do not care about their safety at work, and among that 54%: Male respondents where the dominant one.

Figure 3: Association between level of education and attitude contributing to non-compliance with safety regulations among cleaners

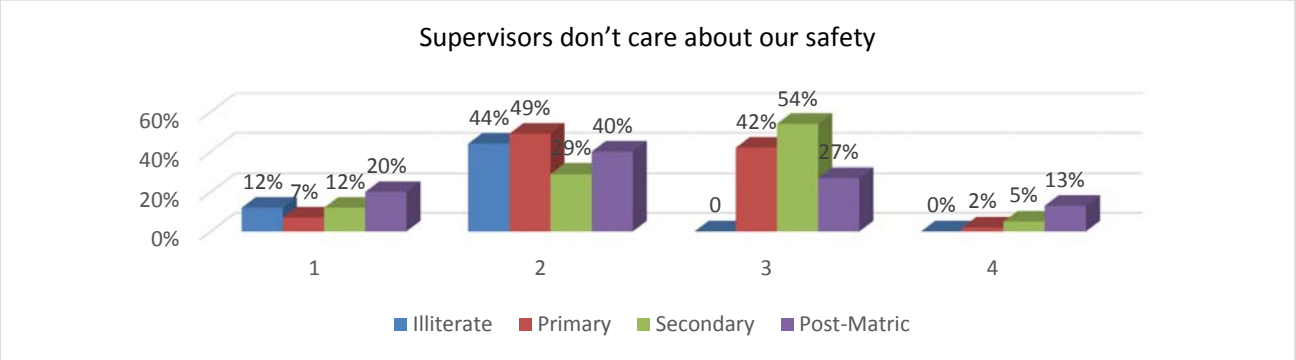


Table 4: Association between gender, level of study and attitude contributing to non-compliance with safety regulations among cleaners.

PPEs are worn by new cleaners					
	SD	D	A	SA	
Female	14 – 12%	42 – 37%	56 – 49%	2 – 2%	114
Male	4 – 10%	13 – 32%	23 – 57%	1 – 1%	41
Total	18 – 12%	55 – 35%	79 – 51%	3 – 2%	155
Level of Education:					
Illiterate	0 – 0%	1 - 11%	7 – 78%	1 – 11%	9
Primary	2 - 5%	18 - 42%	23 – 53%	0 – 0%	43
Secondary	8 -10%	25 - 34%	40 – 55%	0 – 0%	73
Post-Matric	8 -27 %	11- 37%	9- 30%	2 – 6%	30
Total	18- 12%	55 – 35%	79 – 51%	3 – 2%	155
Safety water boots are worn only when it's hot.					
	SD	D	A	SA	
Female	18 – 16%	45 – 39%	45 – 39%	6 – 6%	114
Male	3 – 7%	20 – 49%	17 – 42%	1 – 2%	41
Total	21 – 14%	65 - 42%	62 -40%	7 -4%	155

Level of Education:					
Illiterate	1 – 12%	4 – 44%	4 – 44%	0 – 0%	9
Primary	2 - 5%	21 - 49%	18 - 42%	2 - 4%	43
Secondary	9 - 12%	30 - 41%	30 -41%	4 -6%	73
Post-Matric	9 -30%	10 -33%	10 -33%	1 -4%	30
Total	21 – 14%	65 –42 %	62 -40 %	7 -4%	155
Clean fast so I can go home early:					
	SD	D	A	SA	
Female	7 -6%	46 -40%	51 -45%	10 -9%	114
Male	5 -13%	10 -23%	22 -54%	4 -10%	41
Total	12 -7%	56 -36%	73 -48%	14 -9%	155
Level of Education:					
Illiterate	0 -0%	5 -55%	3 -33%	1 -12%	9
Primary	2 -5%	9 -21%	27 -62%	5 -12%	43
Secondary	4 -6%	25 -34%	38 -52%	6 -8%	73
Post-Matric	6 -20%	17 -57%	5 -17%	2 -6%	30
Total	12 -8%	56 -36%	73 -47%	14 -9%	155

5.4 Practices of cleaners regarding the contribution to non-compliance with safety regulations.

This section outlines the cross tabulations of demographic variables and the practices contributing to non-compliance with safety regulations among cleaners.

5.5.1 Association between level of education and practices contributing to non-compliance with safety regulations among cleaners.

The study revealed that 29% of the total population from the female gender adhere to safety regulation in terms of reporting any unsafe condition while only 7% have stated that they never report them.

The study **(Figure 4)** illustrated that majority (64%) of the participants with a primary educational background have stated that they do sometimes report any unsafe conditions that they encounter within the workplace, however only 4% of those with a secondary educational background have

stated otherwise saying they never report any unsafe conditions they encounter. **Figure 5** further stated that 72% of those with a primary level educational background have pointed out that their supervisors sometimes provides them with PPE's (Personal Protective Equipment's) at work, however 5% of those with a primary education and 4% of those a secondary background pointed out that they never receive any form of PPE's at work. In contrary to those with a primary and secondary educational background there was also a 50% population of those with no form of educational background (Illiterate) who stated that they always receive PPE's at work, being supported by 26% primary, 38% secondary and 36 post – matric education background. **Figure 6** further illustrates the study findings on the association between level of education and practices contributing to non- compliance with safety regulations among cleaners, out of 115 participants of those with a primary educational background: 66% have stated that sometimes get first aid attention during injuries at work while 30% of those with no form of educational background stated that they never receive any first aid treatment at work.

Figure 4: **Association between level of education and practices contributing to non-compliance with safety regulations among cleaners.**

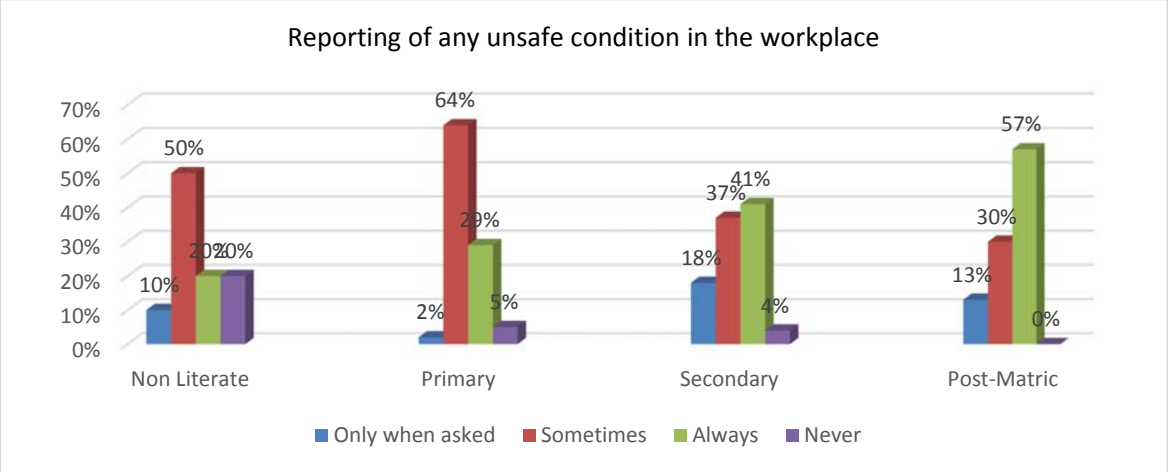


Figure 5: Association between level of education and practices contributing to non-compliance with safety regulations among cleaners.

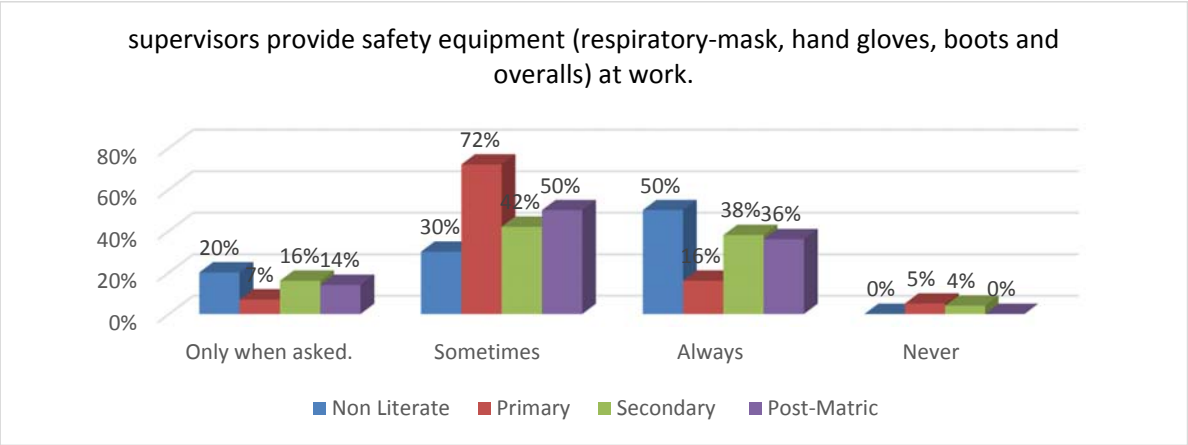
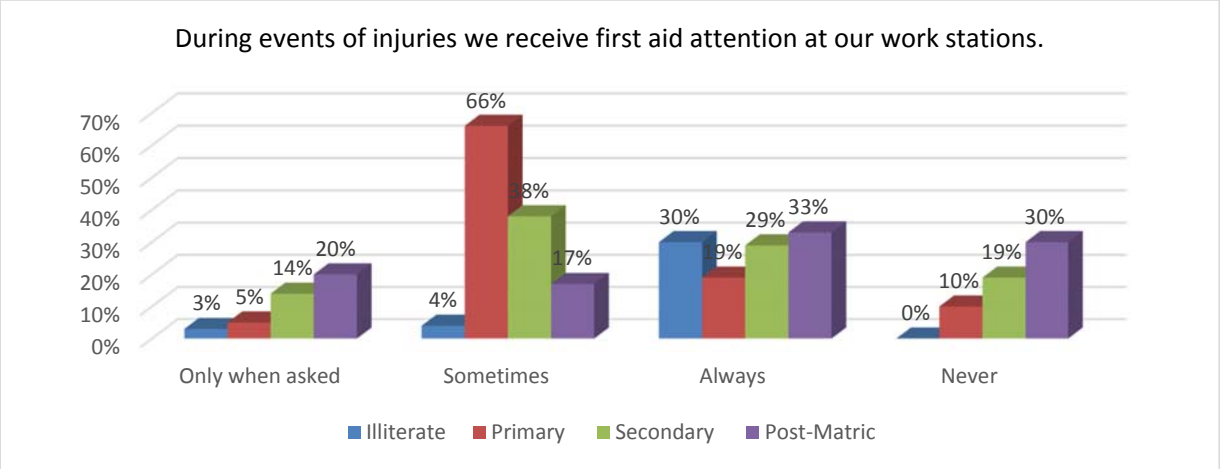


Figure 6: **Association between level of education and practices contributing to non-compliance with safety regulations among cleaners.**



6.4 Challenges of cleaners regarding the contribution to non-compliance with safety regulations.

This section outlines the cross tabulations of demographic variables and the practices contributing to non-compliance with safety regulations among cleaners.

6.6.1 Association between gender, level of study and challenges contributing to non-compliance with safety regulations among cleaners.

Figure 7 shows the study findings on the association between gender and challenges contributing to non-compliance with safety regulations, out of 155 participants 68% of the male gender disagreed with the notion that their supervisors don't care about safety rules at work and only a fraction of 26% of female participants agreed to it. The study further revealed that between the two genders, more females (16%) believe that their supervisors do monitor and care about safety conditions at work, contrary to the 17% of the male population who stated that indeed their supervisors do not care. In **figure 8** showed that 10% of those with no form of basic educational background (illiterate population) have highlighted that their supervisor do not care about the following of safety rules at work while on the other hand 23% of the post-matric thought otherwise. The study also revealed that majority of the participants believe that their supervisors do care about the adherence of safety regulations in the work place, from the total population within the cross tabulation of level of education and challenges contributing to non-compliance with safety regulation 76% of the participants agreed that their supervisors do care about safety. However 24% of the participants disagreed and stated that supervisors do not care about safety at work, within that 24% the majority were those with a Post-Matric educational back ground at 44%.

Figure 9 further highlighted that the majority of females (46%) have disagreed that their companies do not have safety regulations which they can abide to, while 34% of males agreed to the notion The study further revealed that 35% of the female participants agreed that their companies do not have safety regulations while only 12% of the male participants strongly disagreed with the statement. On the level of education aspect majority (48%) of the participants with only a primary education background also agreed that their company do not have any safety regulations policies which they can abide by however only 12% those with a secondary education background strongly disagreed to that. In figure 6e the study further states that majority of females at 53% highlighted that their cleaning companies do not provide them with safety equipment's there for leading to them adopting a mind-set of not complying to any safety regulations which are put in place. However contrary to the prior findings the study goes further beyond and showed that 41% of the male population have disagreed with the notion. The cross tabulation and the chi-square test was statistically significant, in the sense that gender does influence the outcomes on the compliance of safety regulations with a conclusion that females are more likely to adhere to safety regulation in most situations as compared to the male participants (P-0.000, x2150.967, df-12).

Figure 7. Cross tabulation of gender and challenges contributing to non-compliance with safety regulations among cleaners.

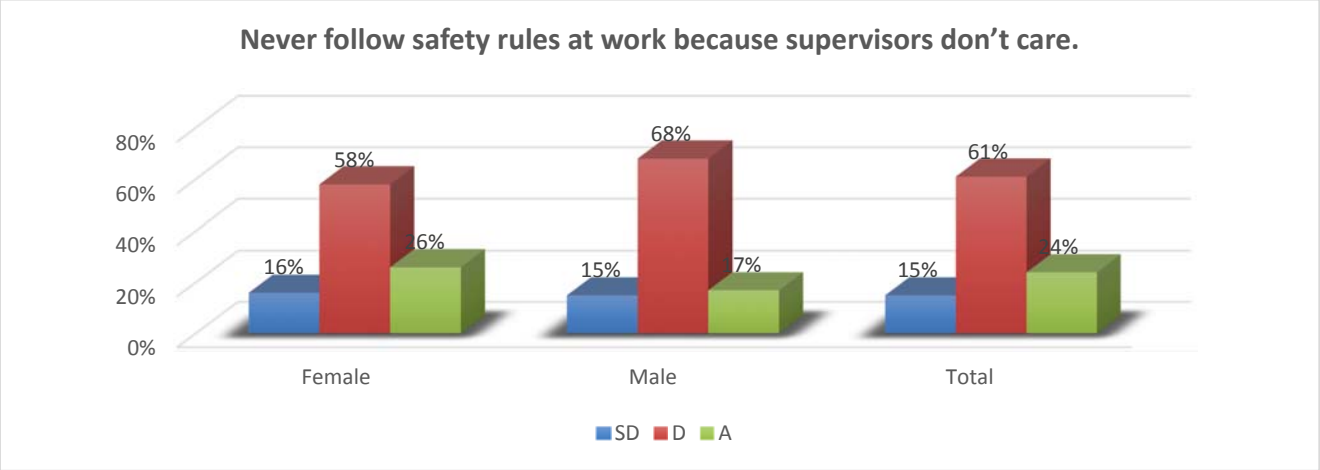


Figure 8. Cross tabulation of level of education and challenges contributing to non-compliance with safety regulations among cleaners.

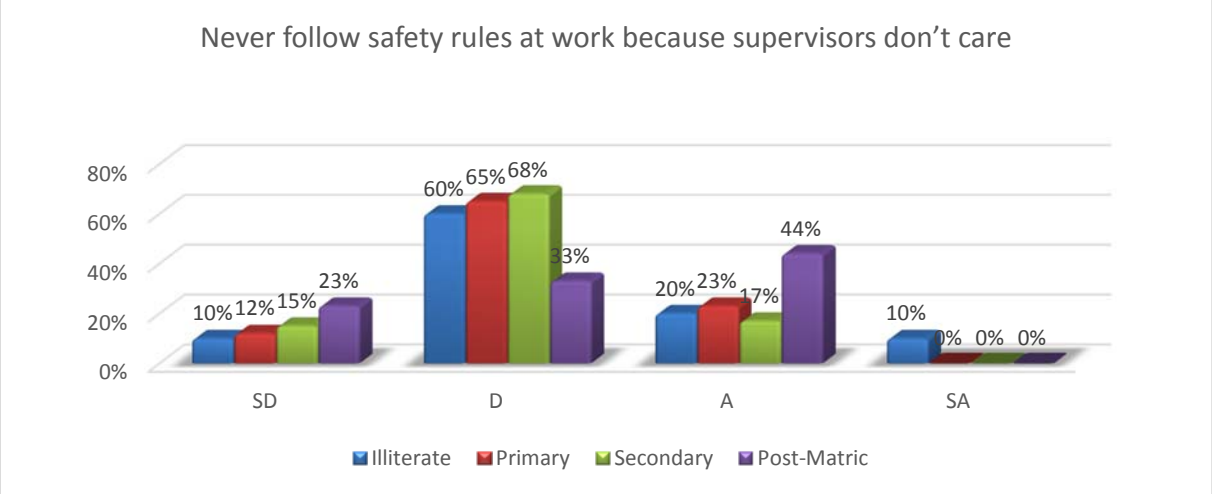


Figure 9. Cross tabulation of gender and challenges contributing to non-compliance with safety regulations among cleaners.

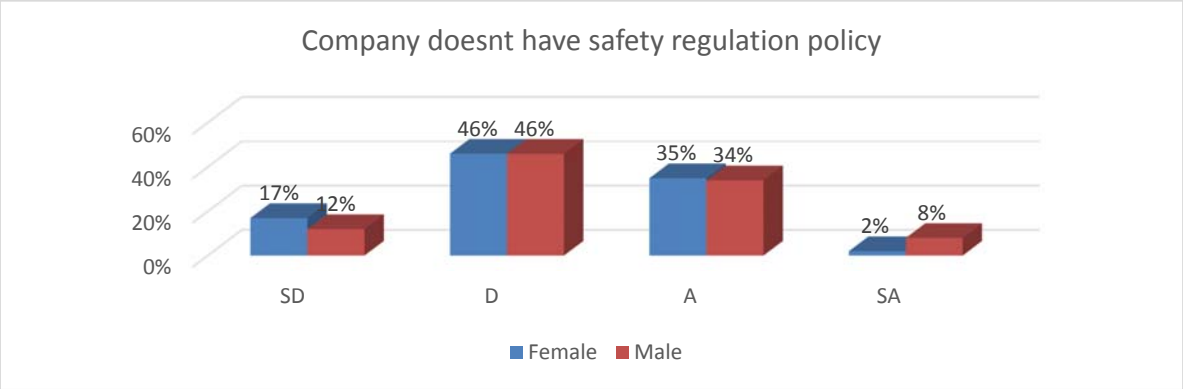


Figure 10. Cross tabulation of gender and challenges contributing to non-compliance with safety regulations among cleaners.

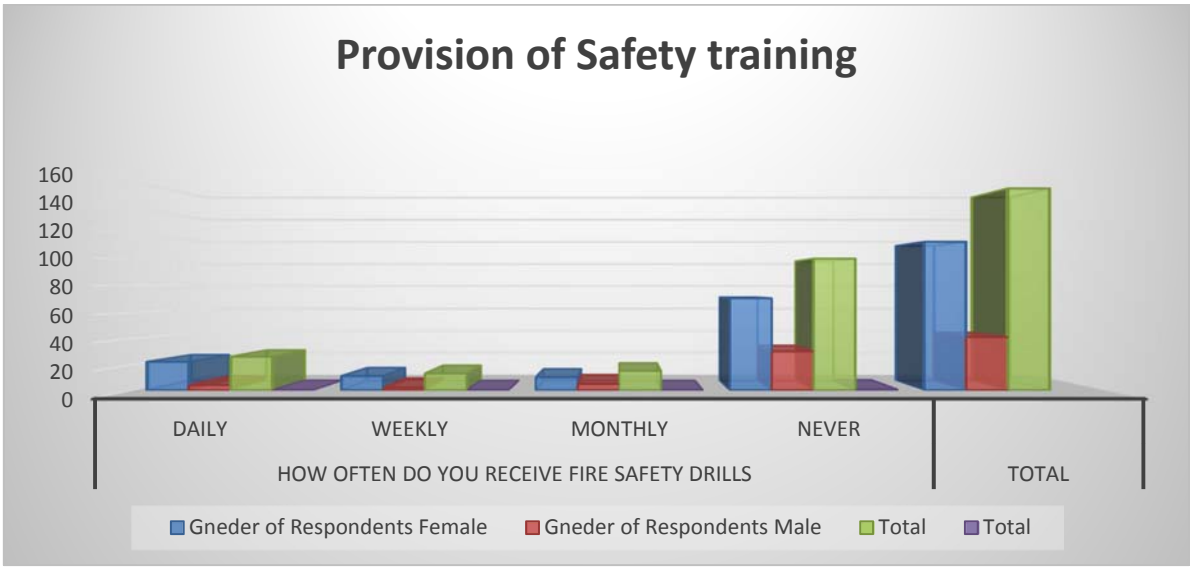


Figure 11. Cross tabulation of level of education and challenges contributing to non-compliance with safety regulations among cleaners.

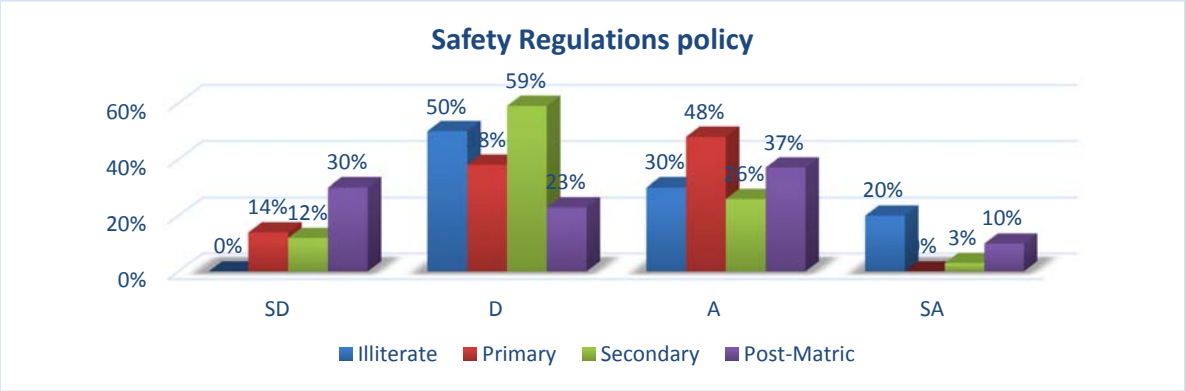
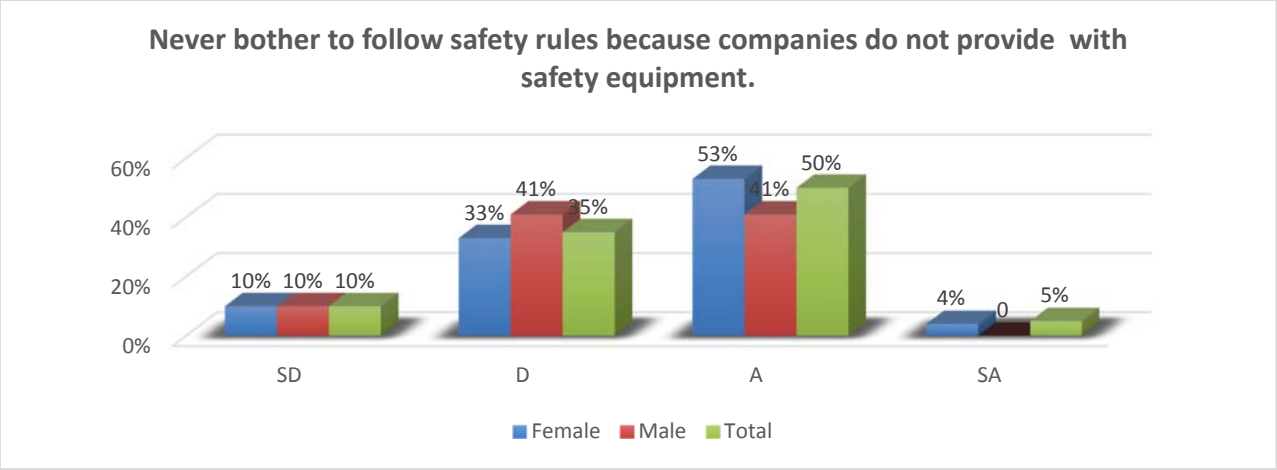


Figure 12. Cross tabulation of gender and challenges contributing to non-compliance with safety regulations among cleaners.



4.5.3 Summary

The chapter presented the results of the study and interpretation of the findings based on the analyzed data. The findings were statistically presented in the form of graphs indicating frequencies and percentages. The next chapter is focusing on the discussion of the study findings.

Chapter 5:

Discussion of study findings

5.1 Introduction

This section outlines the contradictions and similarities of the study findings based on the diverse literature reviews, the point of discussion are arranged similar to the format of the objectives of the study namely factors contributing to non-compliance with safety regulations among cleaners. The aim of the study was to assess the knowledge, attitudes and practices of cleaners regarding the factors contributing to non-compliance with safety regulations among cleaners at the University of Venda, South Africa.

The research project has found out that throughout the study females counterparts are the ones which are more likely to adhere to safety regulations as compared to males, and the majority of participants with a secondary education background are clearly vigilant with cleaning equipment's as compared to the illiterate participants. Education level has become a contributing factor throughout the study. The study further pointed out that those without a proper training and induction to the work principle have a negative attitude towards wearing and obeying the occupational and safety act, hence they stated that it is new to them. Looking at the study is has there for came to the attention that few affords have put to monitor the level of compliance within the cleaning field.

5.2 Knowledge of occupational safety among University cleaners.

Mrema et al (2015) stated that there is a low key dimension on the level of knowledge regarding safety regulation among workers and that itself might affect communication in the management systems in ensuring safety training. The current study also revealed similar results as it pointed out that participants believe that safety boots are supposed to be worn only when it is raining, while others stated that they only wear them when the supervisors is around.

According to Quinlan (2015) it has been revealed that the level of information and training is directly proportional to the level of knowledge and awareness, similar to the findings of the present study it has been discovered that a fraction of 65% understand the importance of applying warning signs when cleaning while only 10% of the respondents highlighted that they comply with the safety procedure only when the supervisor is around, however contrary to the findings from Quinlan (2015) the present study further pointed out that there were some participants with limited understanding on the importance of applying cleaning warning signs when working. However the Njeru (2014) further emphasized the importance of erecting wet floor signs when while cleaning

to warn others, and also the application of dry mopping instead of wet mopping to avoid slippery floor.

Based on Njeru's (2014) findings it was revealed that one of the fundamental method of initiating awareness on the occupational safety is to put more efforts on training employees and also arming them with relevant information needed to ensure safety at work. The present study has showed a fair work related adaptation skill as findings revealed that 64, 5% of the respondents' are aware of Personal Protective Equipment's such as cleaning gloves need to be worn all the time during the cleaning phase:

The current study also showed that 92% of the participants knew about the different PPE's needed when at work, however about 8% of the cleaners did not know. The study further revealed that the majority of the female's cleaners were the ones with more knowledge on PPE's as compared to males.

The study findings has highlighted that there is a need cleaners to be taken to annual safety workshops were there will be a review of what they already know about occupational safety and what needs to be worked on. The current study has shown that most of the cleaners rely on common sense when coming to the level of knowledge on cleaning regulations, limited knowledge has been a remote factor on most of the cleaners/.

5.3 Attitude towards occupational safety among University cleaners.

Quinlan (2015) stated that regardless of the type of occupational setting there is, it is of paramount important to have an individual who will be able to set down the rules, policies, principles and should also have knowledge on how to handle hazardous materials. However the present study revealed that majority (54%) of participants with a secondary education background feel like their supervisors do not take initiatives in ensuring safety at work.

According to Cheong, Chin, Neumeister-Kemp & Kemp. (2015) stated that the wearing of Personal Protective Equipment's may be voluntary of mandated to some of the workers, however based Occupational Health and Safety regulations it is a must for all workers within the working site. Despite the multiple national and international Occupational Health and Safety regulations with regards to Personal Protective Equipment's the present study revealed contradictory results, the study revealed that 53% of the participants believe that PPE's are only supposed to be worn by new cleaners. However, contrary to Cheong results the present study further revealed that 47% of the participants had a positive attitude towards occupational regulations: stating that all cleaners must wear PPE's regardless of whether new or old.

The current study has shown that there is a need to encourage a positive attitude towards the implication of occupational safety within the work place. Cleaners which showed a more positive attitude towards safety within the work place were more likely to take part in the research project as compared to those with a negative attitude.

5.4 Practices towards occupational safety amongst universities cleaners.

Mrema et al (2015) estimated that Occupational Safety and Health Act (OHSA) is supposed to highlight responsibilities of employer and employee, safety specifications of the work done. The present study pointed out an acceptable understanding on fair understanding of safety specification as it has been revealed that at most 64% of the participants do report unsafe condition they come across within the workload. The study further revealed that 72% of the participants stated that they do receive PPE's from their employers, taking us back to the notion understanding the employee's responsibilities.

Despite the understanding of the employers role in ensuring safety in the workplace the present study revealed that some participants highlighted that they never receive any PPE's and there has never been an effort to make sure that their safety is being put as first priority. The present study revealed that 30% of the participants have stated that they never receive first aid treatment after being involved in an accident within the workplace, the only medical treatment they usually receive is at the University student clinic Centre. While 66% of the participants have pointed out that they sometimes receive first aid treatment.

The present study revealed that there is no functional Occupational Safety and Health Policy within the cleaning companies involved except for one, within all the companies there is no safety programmes put into place. However contrary to the findings of the present study Njeru (2014) stated that within every working environment there should be a specialist that will ensure that safety programmes are being put into place and also be able to modify and adhere to them, it was also stated that compliance level in a study conducted in Universities of Kenya was found to be very low. Furthermore similar findings from Mwengi (2016) also emphasized that within every working environment there should be high safety compliance assessment to ensure that all the safety policies are being adhered to.

5.5 Challenges faced by University cleaners.

A study which was conducted within the Kenyan Universities revealed that normally in cases of occupational incidents there are high probability of psychological trauma which may lead to a low self-esteem and will eventually results in poor work performance. Furthermore, the current study

also showed similar results as it revealed that 59% of the participants experienced a self-esteem problem on their everyday work environment.

Njeru (2014) stated that it is the employer's duties to provide training for all the employees in their own preferred languages to ensure a depth understanding, furthermore it has also been highlighted that after every training there should be a need assessment to make sure that all work related safety priority needs have been catered for. However the present study revealed an opposite view in results on the provision of safety training at work, the present study revealed (Figure 6d) that 65% of the participants have never went through any safety related workshop or training.

5.6 Summary

The discussions of the present study are systematized according to the objectives of the study namely knowledge, attitudes, practices and challenges faced by cleaners which are contributing to non-compliance with safety regulations. Most of the cleaners have limited knowledge when coming to safety regulations, and have portrayed a negative attitude toward the efforts of their managers in promoting safety within the work place. The present study has also shown that safety compliance is mostly practiced whenever management is around and have also outlined that they are not aware of any existing safety policy within the work place. However the managers and supervisors stated that they always encourage the workers to practice and adhere to a good, desired and safe manner in their work. Most injuries on duty have occurred throughout the University but very little efforts have been implemented to tackle this matter. The present study has revealed that there is a need for more research on similar topic to enrich knowledge on both cleaners and managers to ensure that policy makers have an active policy system within the Universities.

Chapter 6

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter highlights the summary, conclusion and recommendations based on both the study findings with support to the literature review, all were prototyped research objectives. The research project has shared a light to the cleaning industry and has opened a platform for policy makers to be in a best position to focus on regulations which will protect both the employers and employees with the workplace.

6.2 Executive Summary

The aim of the study was to explore factors contributing to non-compliance with safety regulations among cleaners at the University of Venda. A self-administered questionnaire was formulated in line with study objectives in order to collect data. The data was captured using the Micro soft excel spread sheet and later transferred to Statistics Package for Social Sciences for further analysis. Throughout the analysis it has been discovered that knowledge, attitude, practices and challenges faced by cleaners are a contributing factor to the non-compliance with safety regulations. The present study will serve as a guarding tool for future comparative study hence there has also been few researchers who invested their time within the compliance of safety among the cleaning industry. Through different journal search hubs, previous studies were reviewed to establish academic gaps which the present study sought to bridge.

6.2.1 Level of Knowledge

The first objective was to measure the level of cleaners' knowledge regarding safety guidelines at work. The study findings revealed that females are less likely to be involved in occupational incidents as they are more compliant to the safety regulations as compared to males, the study further revealed that the level of education was also a huge factor in the compliance level. Cleaners who had no educational background at all seem to have limited if not no knowledge regarding the safety compliance at work as compared to those with secondary to tertiary education background. Therefore in conclusion gender and the level of study are the remote factors in the present research project.

6.2.2 Type of Attitude

The second objective was to describe the attitude of cleaners towards safety guidelines. The study revealed that over half of the participants have a negative attitude towards Personal Protective Equipment's, as the participants agreed that PPE's are only supposed to be worn by new cleaners. The study findings have revealed that most of the cleaners are not happy with the type of work they do, and which leads to a self-esteem problem resulting in a negative attitude at work. Workers are now practicing poor occupational safety habits based on their attitudes.

6.2.3 Practices

The third objective was to assess the safety practices of cleaners at work. The study revealed that there is an acceptable safety practice within the work place more especially when coming to reporting of unsafe acts or conditions, however yet again the level of education component was a contributing factor. Results showed that majority of those with a no education background agreed that they only make reports when they feel like it, while over half of those with a Post-Matric education background stated that they always report any unsafe conditions or acts. The study further revealed that majority of cleaners have agreed that they regularly receive PPE's and also First Aid attention when injured on duty, therefore in conclusion the results of the present study reflects a positive adherence on the a desired safety compliance practice at work on the managerial part.

6.2.4 Challenges faced

The third objective was to explore challenges faced by cleaners regarding safety compliance at the University of Venda. The major findings of the study was that majority of cleaners have stated that there are not aware of any existing regulation policy, in that regards they seldom practice good safety behaviour at work.

6.3 Summary of the study

The study found that there exists a positive association between gender, level of education, demographic factors and non-compliance with safety regulations among cleaners. Knowledge, attitude, practices and challenges faced by cleaner's influences the non-compliance with safety regulations at the University of Venda.

6.4 Conclusion of the study

It has been concluded that majority of female are more obedient to safety regulations as compared to the male cleaners, furthermore female cleaners have also shown an acceptable understanding on the compliance level and also on the type of PPE's required in a working environment. The level of study has also shown to be a contributing factor throughout the study, cleaners who Have deeper education background were more compliant with safety regulations as compared to those with limited or no educational background at all. The study further pointed out that there's a need for safety policies within the cleaning companies and more training should be provided as most cleaners stated that they never received any official orientation nor safety training.

6.5 Recommendations of the study.

On the basis of the above conclusions, the following recommendations were made about factors contributing to non-compliance with safety regulations among cleaners at the University of Venda.

6.5.1 Recommendations for policy makers.

- Cleaning companies should have strict regulations that ensure that cleaners who don't abide by the rules be penalized.
- Establishing regulations which will protect both the employers and employees of the cleaning companies.
- The University OHSA should ensure that before any awarding of any cleaning contract, all the short listed companies should have their own drafts of safety regulations that will protect the cleaners from occupational incidents.
- Provide training for cleaning staff about the importance of safety rules.

6.5.2 Recommendations for tertiary institution.

- The University of Venda as whole should have a functional Occupational Health Safety Committee that will ensure that practical OHSA regulations are being adhered to all the time.
- There should also be a need to make sure that there are random safety drills that should take place to make sure that both University community and the cleaners know what to do if an emergency occurs.
- First Aid should be made available within any floor, both within the offices, residential areas and also indoor leisure facilities.

- The University should ensure that fire extinguishers are constantly be assessed more their functionality and also on the expiry dates.

6.5.3 Recommendations for cleaners.

- Cleaners should also take initiatives in ensuring that their safety is being put as first priority, therefore it is important any unsafe acts and conditions be reported to their supervisors to make sure that no harm is done to no one.
- Personal Protective Equipment's need to be worn all the time regardless of supervisors being around or not.

6.5.4 Recommendations for cleaning companies.

- All cleaning companies involved should ensure that there is an active OHS policy that will guard both the supervisors and the cleaners.
- More efforts should be given in the provision PPE's for cleaners within a certain period of time to avoid the over use of some equipment's.
- First Aid training need to be as first priority for all cleaners, and a revised first aid training should also be provided to those who have already taken the initial training at first.
- Random checkups should be facilitated to ensure that all cleaners comply with the safety regulations even when supervised.
- A Safety Committee need to be established within all the cleaning companies that will be made up of one candidate from all the cleaning companies so that all matters arising from each particular company be addressed.
- Safety rewards should be given to those cleaners that exhibit a desirable form of practicing safety at work that at the end will also encourage other to practice safe working habits.

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APPENDIX 3: RESEARCH QUESTIONNAIRE

Dear: Participants

As part of my MPH (Masters In Public Health) degree research at the University of Venda, I am conducting a research survey that investigates factors contributing to non-compliance with safety regulations among cleaners at University of Venda cleaners at Thohoyandou: Limpopo (South Africa). Results of this study will be made available at the University of Venda library; I will appreciate it if you could complete the following questionnaire. Any information obtained in connection with this study that can be identified with you will remain confidential. In any written reports or publications no one will be identified and only group data will be presented. You are free to withdraw your participation at any time. If you have any questions about the research, please call Mr Tshekega Mpe (078 2061 069) or Email tshekega@gmail.com

Thank you very much for your cooperation.

MpeTshekega (Researcher)
University of Venda: Limpopo

Instructions:

a) Please give your unbiased opinion.

b) Read the questions and tick your answer against each column.

c) When specific answer is required please fill in your opinion below.

d) This correspondence is only for the purpose of my study and will be kept confidential.

Section 01: Demographic Information

1. Age _____

2. Gender

Female	1
Male	2

2. What is your marital status?

Single	1
Married	2
Divorced	3
Widowed	4

3. Level of Education/ Literacy level.

Non literate	1
Primary education	2
Secondary education	3
Post- Matric education	4

SECTION 02: Knowledge of cleaners regarding safety guidelines at work.

4 When is the best time to place on warning signs about slippery floors?

(1) When it is raining.
(2) All the time when cleaning.
(3) Only when the cleaning supervisor is around.
(4) None of the above.

5 What causes flu and coughs in the cleaning surrounding?

(1) Not wearing warm clothes.
(2) Avoiding putting on respiratory masks.
(3) Lack of medicine.
(4) None of the above.

6 What is the importance of wearing cleaning gloves?

(1) So we look alike so the Supervisor can notice us.
(2) To protect the skin from chemical substances.
(3) To be able to grip cleaning machinery.
(4) None of the above.

7 What is the importance of washing hands with sanitary soaps after cleaning?

(1) To smell good.
(2) To impress the Supervisor.
(3) Protection from pathogens (bacteria, germs & fungi).
(4) None of the Above.

8 When is the best moment to wear water boots in the work place?

(1) Every time when cleaning
(2) Only when working in slippery places.
(3) When feeling cold.
(4) None of the Above.

9 List any three personal protective equipment's' (P.P.E's) needed at work.

(1) ……
(2) ……
(3) ……

SECTION 03: Attitude of cleaners towards safety guidelines at work.

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

Description	SD	D	A	SA
10. Before using any cleaning machinery I evaluate the potential risks that may take place.	1	2	3	4
11. Personal Protective Equipment (respiratory-mask, hand gloves, boots and overalls) are only worn by new cleaners.	1	2	3	4
12. I put safety signs, or any similar facility that will effectively prevent slipping, unsafe entry or unsafe conditions only when my supervisor is around.	1	2	3	4
13. I believe boots should be worn when it's hot.	1	2	3	4
14. Our supervisor don't care about our safety.	1	2	3	4
15. I'm free to complain about safety when I realize that I'm at risk.	1	2	3	4
16. I only follow safety rules when my boss is coming to inspect us.	1	2	3	4
17. I get new protective gloves more than twice a year.	1	2	3	4
18. I'm afraid to complain when my health is at risk because as I might be fired.	1	2	3	4
19. I clean fast so that I can finish early and go home.	1	2	3	4

SECTION 04: Safety practices of the cleaners at work.

20 How often do you report any unsafe condition in the workplace?

(1) Only when asked.
(2) Sometimes
(3) Always
(4) Never

21 The supervisors provide safety equipment (respiratory-mask, hand gloves, boots and overalls) at work.

(1) Only when asked.
(2) Sometimes
(3) Always
(4) Never

22 During events of injuries we receive first aid attention at our work stations.

(1) Only when asked.
(2) Sometimes
(3) Always
(4) Never

23 How often do you have fire safety drills at work?

(1) Daily
(2) Weekly
(3) Monthly
(4) Never

24 We are expected to come to work even when we are drunk or we are under the influence of other substances (e.g. Drugs).

Yes……
……
……

No……
……
……

Description	**Always**	**Sometimes**	**Never**
25. I come to work even when I'm sick.	1	2	3
27. Our supervisor expects us to come to work even when we are drunk or we are under the influence of other substances (e.g. Drugs).	1	2	3

28. We are not allowed to start working unless the required safety equipment or facility is provided in terms of this or any other regulation.	1	2	3
29. I receive enough air when I'm working with spray cleaning equipment in closed rooms/offices.	1	2	3
30. I always wash my hands with sanitizers (i.e. soaps) when I I'm about to go for lunch.	1	2	3
31. We are not allowed to ask for new boots, air masks, gloves and any other safety equipment when the old one are lost or damaged.	1	2	3

SECTION 05: **Challenges faced by cleaners regarding safety compliance at work.**

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

Description	**SD**	**D**	**A**	**SA**
32. I don't follow rules because my supervisor doesn't care.	1	2	3	4
33. Cleaning is not taken seriously, so little attempt is made to ensure safety is enforced.	1	2	3	4
34. The bad image which people have of us as cleaners makes us lose self-esteem and not care about safety compliance.	1	2	3	4
35. Students/staff members show some respect to us when we are cleaning their toilets	1	2	3	4
36. I never bother to follow safety rules because my company doesn't provide us with safety equipment.	1	2	3	4
37. My company doesn't have safety regulations that I can abide by.	1	2	3	4
38. My job depresses me.	1	2	3	4
39. My company takes advantage of us because most of us are not educated, so safety compliance of safety is not important to them.	1	2	3	4
40. I have never heard my supervisor talking about safety.	1	2	3	4

41. Company owners consider us dirt-oriented people, so they don't provide us with safety equipment.	1	2	3	4

APPENDIX 4: REQUEST TO CONDUCT RESEARCH

P O BOX 16

Seshego

0742

Univesity of Venda

Private Bag x5050

Thohoyandou

0950

Dear Sir/Madam

RE: Request for permission to conduct a study concerning factors contributing to non-compliance with safety regulations among cleaners the University of Venda.

It has been observed that there is a high rate of accidents, and injuries as well as level of poor hygiene among University of Venda cleaners, of which most of these incidents can be prevented. Therefore I hereby ask for permission to conduct a study concerning the factors contributing to non-compliance with safety regulations among cleaners at the University of Venda. The objective is to come up with recommendations to reduce incidents and fatalities among the University of Venda cleaning sector.

We hope this study would assist in providing the necessary knowledge that would result in the desired attitude and practice within the University cleaning sector.

Thank you for your cooperation

Yours faithfully

Mpe T (11601518)

APPENDIX 5: CONSENT FORM

FACTORS CONTRIBUTING TO NON-COMPLIANCE WITH SAFETY REGULATIONS AMONG CLEANERS AT THE UNIVERSITY OF VENDA

I_____ have read through the content of the information form and understand the nature of the research study. I understand that my participation is voluntary and that I can withdraw from the study at any time without any negative impact on my life or health. I hereby voluntarily consent to participate in this study.

The findings of this study will assist in the development of safety programmes which will be guided by safety regulations.

N.B: Only participants who agree to take part in the study should sign the consent form.

Participants' signature _____ Date_____

Researcher's signature _____ Date_____