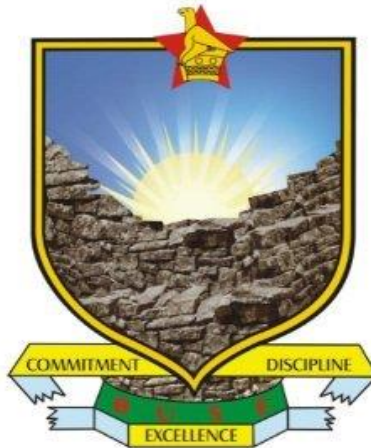


BINDURA UNIVERSITY OF SCIENCE EDUCATION

DEPARTMENT OF ENVIRONMENTAL SCIENCE

**OCCUPATIONAL HEALTH AND SAFETY HAZARDS AND RISKS ASSOCIATED
WITH BARBER AND HAIR SALON WORK.**



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*A DISSERATION SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS OF THE BACHELOR OF SCIENCE HONOURS DEGREE IN
SAFETY HEALTH AND ENVIRONMENTAL MANAGEMENT.*

MAY 2024

DEDICATION

I dedicate this research project to all those who encouraged me to persevere, especially my family who made this work possible.

DECLARATION

To be compiled by the student

Registration number B1954139

I Mandy Dzimbati do hereby declare that this work-related project is my work and has not been submitted before. All the information derived from other sources is indicated in the project.

Signature of the student:  Mandy Dzimbati.....

Date: 06/11/2024

To be compiled by the supervisor

This dissertation is suitable for submission to the faculty and has been checked for conformity with the faculty guidelines.

Signature of the supervisor: pp 

Date: 06/11/2024

Chairperson: Mr. T. Nyamugure

Date: 06/11/2024

Signature: 

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ABSTRACT

The barber and hair salon industry are a growing sector globally, employing a significant workforce but, it also presents various occupational health and safety risks to workers. Despite its importance, there is a lack of research on this industry in Zimbabwe. This study aims to identify the risks and hazards, including chemical, physical, biological, and psychosocial hazards, that barber and hair salon workers in Harare CBD, Zimbabwe face. The study employed a mixed-methods approach, collecting data through questionnaires from 60 self-employed and employed barber and hair salon workers between October 2023 and June 2024. The data were analysed using SPSS version 25. The findings reveal a substantial presence of hazards and risks, including exposure to chemicals and biological agents, inadequate use of personal protective equipment, and poor safety practices. The study found a significant association between long working hours (8-10 hours) and an increased risk of musculoskeletal disorders, with lower back pain and hand/wrist issues being the most prevalent symptoms. Additionally, 81.4% of participants reported using chemicals that pose a significant risk of skin rashes. Inadequate sterilization practices, including the use of ultraviolet sterilization, were observed, facilitating the transmission of biological diseases to both customers and workers. Workers were also at risk of heat stress due to inadequate ventilation. The study highlights the urgent need for policymakers to conduct further research and develop policies to mitigate the occupational health and safety risks faced by barber and hair salon workers. It also suggests providing training programs on hazards and risks and promoting the use of personal protective equipment.

Keywords: occupational health and safety, barber and hair salon, hazards, risks

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LIST of ACRONYMS

ACD	Allergic Contact Dermatitis
BUSE	Bindura University of Science Education
CBD	Central Business District
ILO	International Labour Organisation
ICD	Irritant Contact Dermatitis
HBV	Hepatitis B Virus
HIV	Human Immune-deficiency Virus
OSHA	Occupational Safety and Health Administration
SHEM	Safety Health and Environmental Management
WHO	World Health Organization
MSDs	Musculoskeletal disorders
PPE	Personal Protective Equipment
UV	Ultra Violet

CHAPTER 1: INTRODUCTION

1.0 Background of the Study

Work-related health and safety hazards and risks are significant concerns in the global workplace, affecting various industries, and the barber and hair salon sector is no exception (Mohammad et al., 2008). Hairdressers and barbers are an important occupational group in the informal sector whose numbers are increasing at a rate faster than the average for all occupations (Khafagey et al., 2023). According to a study by Senthong and Wittayasilp (2021) on employment situations and well-being risk valuation in hair salons done for Thailand, employment increased by 85% between 2010 and 2017. Additionally, at the time of the study, it was approximated that there was one hairdresser for every 300 persons in the general public (National Statistical Office, 2018) This group is crucial to meeting people's needs for appearance, and as the population and need for individual care services rise, their numbers will likely increase also (Khafagey et al., 2023).

Barber and hair salon professionals are persons trained and skilled in changing or maintaining a person's image by designing and cutting hair, colouring it, and using various skills to achieve the desired look (Kose & Mandiracioglu, 2019). The profession is female-dominated with 80% of workers being female (Daka, 2019). The workforce is relatively young, with many people entering the profession at a relatively young age (Khalaf et al., 2020).

The health and well-being of barbers and hair salon employees can be negatively impacted by a variety of work-related health and safety risks and hazards. These challenges include chemical exposures, ergonomic issues, biological hazards, and psychosocial factors (Elsayed et al., 2023). Significant job-related health risks for these people include mechanical stress on joints, extended standing with bad posture, long workdays without breaks, and exposure to environmental conditions like heat and noise. (Demir et al., 2020).

People devote most of their time indoors, making indoor air pollution the most important environmental risk factor in the world (Pratali et. al, 2019). According to estimates, around four million and five hundred thousand people die due to causes related to indoor air pollution such as lung cancer, stroke, pneumonia, obstructive pulmonary disease, and ischemic heart disease (Kapoor et al., 2024).

Hairdressers may come into contact with their clients' blood during cutting or styling either accidentally or as a result of unsafe practices which by chance may transmit these infections to their succeeding clients (Hakim & Hamid, 2019). The repeated use of the same scissors, blades, trimmers, clothes, and neck protection without the required sanitation or disinfection is how diseases are disseminated (Chand et al., 2022). Patients may be at risk for blood-borne infections like HIV, hepatitis B, and hepatitis C as a result of this.

Work-related skin diseases can be a significant risk for coiffeurs (Pesonen et. al, 2021). According to recent studies Rubins et al., (2020), allergic and irritant dermatitis are the most prevalent skin conditions, often triggered by chemicals found in personal care products such as detergents, fragrances in shampoos, and colourants in hair preparations. Persulphate salts, which are commonly used as oxidizing agents in hair bleaches and colorants, can also make these skin issues worse (Verdugo et al., 2024). Hair colouring preparations with concentrations up to 60% have been linked to both irritant and allergic dermatitis, as well as asthma (Karim et al., 2023).

Although worldwide standards and recommendations have been set by international organizations like the World Health Organization (WHO) and the International Labor Organization (ILO) to protect workers' health and safety (ILO, 2021; WHO, 2020), the implementation and enforcement of these standards may vary at national and regional levels, leading to gaps in protection for workers. Employees who are exposed to these hazards to their health at work may have serious repercussions, such as early retirement, absenteeism, and even applications for social security benefits at an early age (Occupational Safety and Health Administration (OSHA), 2020).

In Zimbabwe, national policies and regulations control work-related health and safety practices. Despite efforts to align with international standards, challenges in translating these standards into effective worker protection may persist (Miaz et al., 2024). Small-scale hair salons and barbers in Harare city often lack the knowledge and resources to develop effective workplace safety guidelines which is concerning given the potential health risks associated with risks associated with long-term and frequent exposure to chemicals used in salons. The chemicals used in hair salons and barber such as hair shampoos, dyes, sprays, and perm material which enter the body through inhalation and dermal absorption Rondel, (2023) have been linked to respiratory tract responses, asthma, dermatitis, rhinitis, ophthalmic illnesses, and problems with reproductive health are among the many health issues even cancer (Chen et al., n.d). These chemicals have also

been shown to contribute to indoor air pollution which can have negative health effects for workers and customers equally.

It has been identified that hairdressers may not be adequately protected from workplace hazards due to a lack of protective clothing. Despite the potential for skin and respiratory system exposure to dangerous chemicals, recent research suggests that gloves are not typically used when performing tasks like cleaning customers' hair (Symanzik, 2022).

Some research in Zimbabwe for the informal sector was completed but was exclusive of the barber and hair salon work. Specific research focusing on the hazards and risks faced by barbers and hair salon workers in Zimbabwe is limited. Identifying these hazards, assessing the risks, and exposing any gaps are crucial steps in developing targeted interventions to improve workplace safety for these workers. Therefore, the study seeks to assess the hazards and risks related to barber and hair salons using Harare City as a case study.

1.1 Problem Statement

Barber and hair salon work is associated with a range of health risks, including skin and respiratory diseases (Senthong & Wittayasip, 2021). However, there is currently no existing literature on work-related health and safety issues in the barber and hair salon sector within Harare City, Zimbabwe. As a result, the specific hazards and risks faced by workers in this industry in the local context remain unaddressed. This knowledge gap hinders the development and implementation of effective interventions to tackle the occupational health and safety challenges faced by barber and hair salon workers in Harare. Without a clear understanding of the unique risks present in this industry within the local setting, it is difficult to implement targeted measures to protect the well-being of these workers.

1.2 Justification

Hazards and risks associated with hairdressing and barbers are well-known in developed countries, but there is still a need for additional study to comprehend the particular health risks and hazards in developing countries and develop effective prevention strategies specific to them. By conducting a comprehensive assessment, results from this study may assist policymakers, legislation, and barber and hair salon workers by identifying potential risks that will help develop effective preventive measures.

1.3 Aim

The main objective of this study is to identify the occupational hazards and risks related to barber and hair salon work.

1.3.1 Specific Objectives

- To assess hazards associated with barber and hair saloon work.
- To assess occupational risks associated with barber and hair saloon work
- To explore possible ways of reducing exposure to the identified hazards and risks.

1.4 Research Questions

To achieve the stated objectives, this study will address the following research questions:

1. What are the hazards and risks that come with working in a barbershop or hair salon?
2. What are the most common injuries sustained by workers in these settings?
3. How can hazards and risks be controlled or eliminated in these settings?

1.5 Limitations of the Study

This study has several important limitations that should be considered when interpreting the findings. First, the scope of the study is limited to Harare CBD Zimbabwe, and the results may not fully represent the occupational health and safety landscape in other regions or countries. Second, the conclusions drawn from the study data, collected over a limited period, may not accurately predict future changes to work-related health and safety policies and practices. Third, the study relied on self-reported data from participants, which could be subject to response bias. Lastly, the study lacks a more comprehensive discussion of the broader socioeconomic factors that could impact occupational health and safety in the barber and hair salon industry.

CHAPTER 2: LITERATURE REVIEW

2.1 Overview

With increasing urban expansion and population growth, there has been a rise in unprofessional barbers and hair salon workers (Chebet, 2020). These individuals often lack the necessary training and skills to safely and effectively use chemicals, colors, and techniques in their work (Kose and Mandwaclogu, 2019). In Zimbabwe, the barber and hair salon profession fall under the informal sector without proper regulations or standards in place to protect workers. This omission can lead to increased occupational hazards and risks.

2.2 Occupational Hazards and Risks

Barbers and hair salon workers are vulnerable to various occupational diseases and hazards (CA & MA, 2019). The nature of their work, such as exposure to solvents, vapors, perfumes, and noise, along with long working hours and poor postures, can contribute to conditions like arthritis, tendonitis, work-related asthma, and musculoskeletal disorders (Mussi and Gonvein, 2018). The use of electrical equipment and sharp tools like scissors, razors, and clippers also poses risks of cuts, lacerations, and accidental injuries.

2.2.1 Biological Hazards and Infections

Hair salon professionals are exposed to biological hazards, particularly blood-borne pathogens and fungal infections. Organizational IL (2019) defines biological hazards as microorganisms like viruses, bacteria, protozoa, and parasites that can pose a threat to workers' health. Workers may be exposed to blood or bodily fluids through cuts, abrasions, or accidental needle sticks from the use of sharp objects (Bun, 2024). This can lead to the transmission of blood-borne illnesses between clients and hair salon workers, particularly when poor hygiene practices are present (Hakim and Abdel, 2019). Accidental grazes or wounds from improperly sterilized tools can facilitate the transmission of these transmissible agents between customers (Agi et al., 2023). Additionally, the handling of contaminated tools, such as razors and scissors, increases the risk of transmitting or contracting infectious diseases (Al-Hasan et al., 2020). HIV can be spread through several means including, the unsafe injecting practices and some aesthetic procedures like pedicures, and shaving in a barbershop using unsterilized equipment (Zahid et al., 2023). Recent research indicates that the rate of hepatitis B virus (HBV) transmission within healthcare settings

has generally been declining. This is because of increased observance to improved infection prevention and control procedures (Hayashi et al., 2019). In contrast, HBV spread outside of healthcare facilities remains high. About fifty percent of individuals sick from HBV infection in developing countries do not have identifiable risk factors (Alharbi et al., 2021). A contributing factor to this trend is the increasing acceptance of barber and hair salon shops in emerging regions. The shared use of contaminated tools for services like shaving, tattooing, body piercing, and manicures has significantly facilitated the horizontal spread of HBV in these sets (Bashir et al., 2022).

2.2.2 Chemical Hazards

In Europe and the United States, approximately one-third of women aged 18 and above, as well as over 10% of men aged 40 and above, choose to colour their hair (Gera, 2018). Chemical hazards are evident in the barber and hair salon industry due to the use of hair dyes, bleaches, shampoos, and hair care products (He et al., 2022). Hair care professionals are frequently exposed to harmful chemicals, with known or assumed allergens, cancer-causing agents, and biological solvents (Mphaga, 2021). These substances may contain potentially hazardous substances including ammonia, formaldehyde, and volatile organic compounds (VOCs) (Makuvara et al., 2023). Prolonged exposure to these substances without proper ventilation and protective measures can lead to respiratory difficulties, and dermatitis, and can increase the risk of reproductive disorders and small birth mass in babies (Makuvara et al., 2019). Work-related exposure to these chemicals can also raise the possibility of long-term health effects.

One specific chemical of concern is formaldehyde, which is often found in hair straighteners and hair smoothening products. Formaldehyde is categorized as a human cancer-causing agent, a potent skin sensitizer (IARC, 2004) and mutagen. According to Scranton's 2008 study, the use of formaldehyde-containing hair straighteners has increased. Research done by Monakhova et al. in 2013, found that several hair treatment products had higher levels of formaldehyde than the recommended safe limits. The use of formaldehyde producing equipment or products has been banned by the European Union although they are still in use.

Several studies have highlighted the dangers of chemical exposure in the hair salon and barbershop industries. Makuvara et al. (2019) researched hairdressers and discovered that prolonged exposure to hair dyes and other hair care products increased the likelihood of getting contact dermatitis in

comparison to workers in other industries (Chang et al, 2018). Prolonged and continuous exposure to chemicals and wet work contribute to this increased risk (Behroozy & Keegel, 2014). According to Usatine (2009), allergens or irritants that come into close contact with the skin can cause contact dermatitis, an inflammatory skin disorder. There are two kinds of this condition: irritant contact dermatitis (ICD) and allergic contact dermatitis (ACD).

Although dermatitis may be caused by bacterial infections and chemical burns, the nature of the hairdressing profession makes workers more susceptible. Early studies conducted in the UK by Bradshaw et al (2011) revealed a significant prevalence of dermatitis among hairdressers, particularly on their hands, fingers, arms, face, and neck.

The study by Khalaf et al. (2020) emphasized the importance of adequate ventilation and the use of personal protective equipment to reduce the likelihood of respiratory issues related to chemical exposure among workers. Nail technicians also face health risks due to their work with glues, adhesives, and strengtheners (Bansal & Grover, 2024). These substances can cause burns, mucous membrane irritation, dermatitis, coughing, and airway irritation either through skin contact or inhalation (Scranton, 2014).

2.2.3 Psychosocial Hazards

Psychosocial hazards in the barber and hair salon industry arise from high levels of customer interaction. Hair professionals often experience stress, bullying, sexual harassment, intimidation, verbal abuse, threats, and, in severe cases, physical assault (ILO, 2022). These factors can negatively impact their mental well-being, job satisfaction, and overall work environment. Psychosocial hazards, including high work demands, long working hours, and customer-related stress, can negatively impact the mental and emotional well-being of barbers and hair salon workers (Gong, 2024). The nature of the job, such as the need for constant attention to detail and customer satisfaction, can lead to burnout, anxiety, and depression (McCann, 2024).

2.2.4 Musculoskeletal Disorders and Ergonomic Issues

Hairstylists have a likelihood of developing musculoskeletal illnesses due to the physical demands of their work. Based on a report, 75% of hairdressers experience musculoskeletal disorders (MSDs) which impact various parts of their body including hands, fingers, wrists, shoulders, necks, backs, and legs (Chebet, 2022). Research has shown that MSDs give to twenty-one percent

of the total years lived with disability (Koskei et al., 2024). Poor posture, the joints' mechanical strain, extended periods spent upright, extended working days, skipped mealtimes, and failure to take breaks while working are all examples of psychosocial hazards (Demir et. al, 2020). Long hours, awkward postures, and repetitive motions can contribute to conditions such as lower back pain, carpal tunnel syndrome, and tendonitis (Bradshaw et al, 2011).

2.2.5 Physical hazards

Hairdressers and barbers are subjected to a range of physical hazards and risks within their place of employment which can result in injuries, illnesses, and even long-term health problems. These physical hazards include noise exposure (Elsayed et al, 2023). Hair salons can be noisy environments due to the use of hairdryers, clippers, and other equipment, which can contribute to noise-induced hearing loss over time (Flanagan, 2023). Hairdressing work often involves prolonged periods of standing, repetitive movements, and awkward postures, which can lead to musculoskeletal disorders, including back pain, neck strain, shoulder injuries, and hand-arm vibration syndrome (Mishra & Sarkar, 2021). Hairdressers and barbers are exposed to safety hazards. Hair salons may have slippery surfaces due to spilled liquids or hair clippings, increasing the risk of falls and injuries, sharp objects that can lead to cutting, and the use of hot equipment resulting in burns (OSHA, 2020). These professionals are also exposed to thermal hazards. The use of heated styling tools and chemicals can expose hair professionals to thermal hazards, such as burns or scalds (Smit et al., 2017). According to Ohio Estheticians in 2023, the recommended temperature for a hair salon is 70 degrees Fahrenheit, which is equivalent to approximately 21.11^o C.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Description of study area

Harare Central Business District (CBD) is the central business district of Harare, the capital city of Zimbabwe. Located at coordinates 17.8252° S latitude and 31.0335° E longitude, it is a busy urban area that serves as a major commercial and administrative hub. Harare has a rich history as it evolved from a small British colonial settlement in the late 19th century to become Zimbabwe's capital city in 1980. Originally known as Salisbury, the city was founded in 1890 and served as the administrative center during the colonial era. After gaining freedom, the city was renamed Harare in 1982. Over the years, Harare has experienced significant urban development and population growth.

The United Nations - World Population Prospects (2024), claims that the approximate population of Harare is around one million six hundred and three thousand. However, the population within the CBD is much smaller than the overall city population because the CBD represents a commercial and administrative center rather than a residential area. The CBD is characterized by a wide range of businesses, including numerous barber shops and hair salons catering to a diverse clientele. The CBD houses corporate offices, government institutions, banks, shopping centers, markets, restaurants, and entertainment venues. These economic activities contribute to the city's economic growth and employment opportunities.

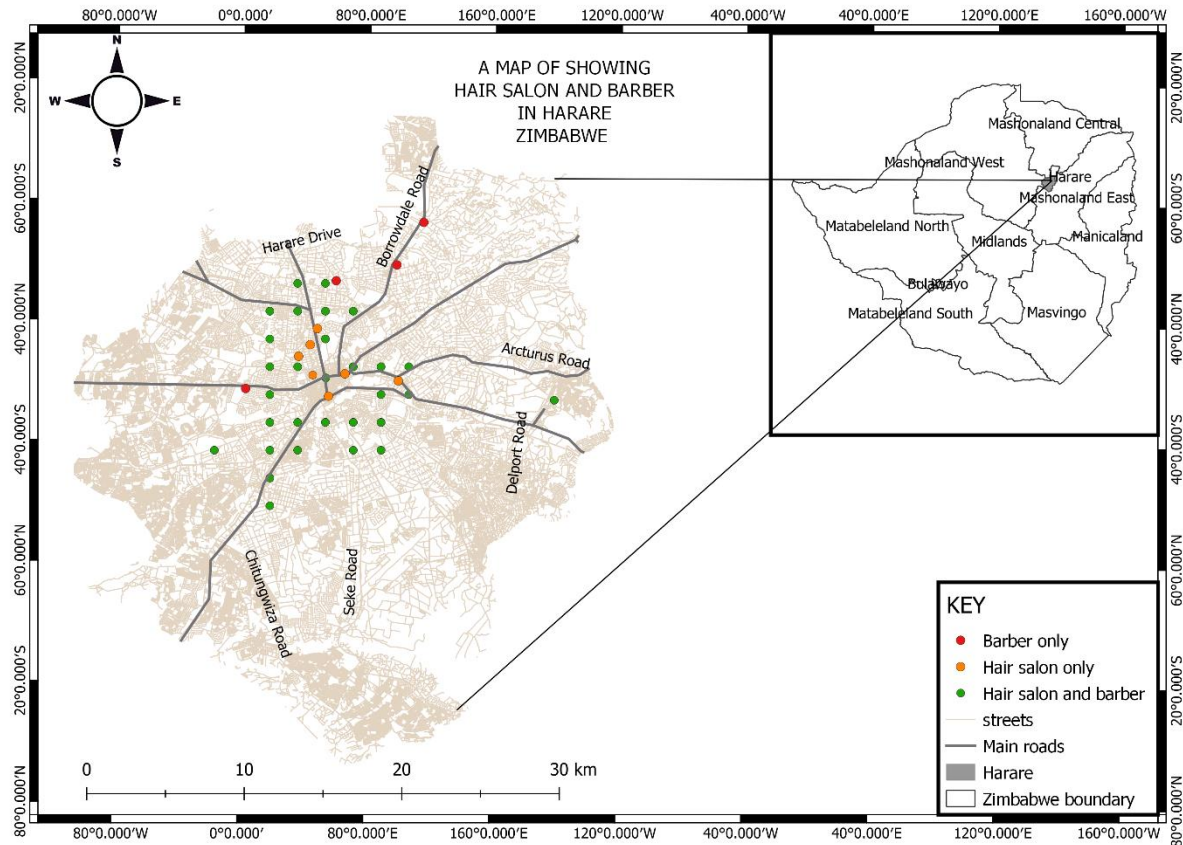


Figure 3.1 1: Study map Harare CBD

3.2 Research Design

The study utilized a descriptive cross-sectional research design. This approach allowed the researcher to identify the prevailing hazards and risks present in the barber and hair salon industry, as well as the factors associated with these hazards and risks. The cross-sectional design provided a comprehensive snapshot of the current occupational health and safety landscape in this industry at the time of the study. This enabled the researcher to gain a thorough understanding of the workplace health and safety issues experienced by workers, without the need to track changes over an extended period.

3.3 Sample and Sampling Procedures

3.3.1 Study Population

The study focused on a section of 60 barber and hair salon workers in the Harare Central Business District Council (CBD) who met the following **inclusion benchmark**:

- Aged 18 years or older

- Either male or female
- Were available at the time of the study
- Willing to participate

Purposive sampling was used to identify and select specific salons and barbershops from various locations within Harare CBD. Convenience sampling entailed choosing study participants who were willing and able to participate.

3.3.2 Sample size

The following parameters were used to compute the sample size:

n is the sample size

Z = Z score, at 95% confidence of certainty, equals 1.96 for the specified confidence level.

α = 0.5 population standard deviation

The margin of error = 0.1 (10% of the mean)

Therefore $n = (1.96^2 * 0.5^2) / 0.1^2$
 $= 60.48$

3.3.3 Exclusion

- Under the age of 18 years
- Preexisting medical conditions unrelated to occupational health and safety
- Non-CBD location

3.4 Data Collection

Through the distribution of questionnaires to professionals in hair salons and barbershops, information was gathered. The researcher also observed the professional's occupational workplace and their execution of work.

3.4.1 Data Collection Instrument: Questionnaire Structure

Data gathering was primarily conducted using a questionnaire designed to obtain complete information from the participants. The questionnaire was broken into four sections to address the research questions and objectives effectively.

Part 1: Demographic Information

The questionnaire's first part focused on collecting demographic information from the participants. This included variables such as age, gender, education level, and any other relevant background details. Capturing demographic data provided background information that could be analyzed concerning the participant's responses, allowing for a deeper understanding of the study findings.

Part 2: Information on Work Activities and Practices

The second section aimed to gather data on work activities and practices that might have implications for health and safety. Participants were asked questions related to the use of sterilized aprons, proper disposal of sharps, haircuts, and the use of chemicals such as dyes and shampoos. This section intended to shed light into the participants' work-related practices to identify potential risk factors that could impact their health and safety.

Part 3: Availability of Health Problems in the Past Year

The third section of the questionnaire focused on assessing the participants' health status. Participants were asked about any health problems they might have experienced in the past year, specifically targeting musculoskeletal disorders (MSDS), chest problems, or any other health issues relevant to the study. This section aimed to identify the prevalence of health problems and their potential relationship with work activities and practices.

Part 4: Proposed Prevention Measures

The final section of the questionnaire explored the participants' proposed prevention measures against health and safety risks. Participants were encouraged to provide their insights, suggestions, and strategies to mitigate the identified risks and enhance overall workplace health and safety. This section aimed to gather valuable recommendations for implementing effective preventive measures based on the participant's own experiences and views.

3.5 Data Analysis

After being imported into SPSS version 25, the gathered data was checked for mistakes and coded. Descriptive tables and charts were used in the analysis.

3.6 Ethical considerations

The research proposal was submitted to the researcher's academic department for review and authorization. Under the guidance of the supervisor, the department examined the proposed research methodology and objectives. After obtaining the necessary approvals, the study was initiated. The researcher ensured that the principle of voluntary participation was respected throughout the data collection process. The objectives of the study, the participants' rights, and the confidentiality and anonymity of their responses were all clearly communicated to the participants. It was emphasized that participation in the study was completely voluntary and that there would be no consequences if the participants chose to withdraw from the study at any point. This demonstrates the researcher's commitment to upholding ethical standards in the conduct of the research.

CHAPTER 4: PRESENTATION AND INTERPRETATION OF RESULTS

4.1 Demographic detail of respondents

Table 4.1.1 Showing the Demographic Data of Participants

Variable		Frequency	Percentage
Gender of Participant	Unmentioned	1	1.7%
	Male	28	47.5%
	Female	30	50.8%
Age of Participants	Unmentioned	1	1.8%
	18-25	20	36.4%
	26-30	17	30.9%
	31-40	13	23.6%
	41-50	3	5.5%
	Above 50	1	1.8%
Marital status of participants	Unmentioned	1	1.7%
	Married	28	47.5%
	Single	27	45.8%
	Divorced	2	3.4%
	Separated	1	1.7%
Highest academic qualification	No Qualification	17	28.8%
	Primary	4	6.8%
	Secondary	23	39.0%
	Tertiary	15	25.4%

A total of 60 questionnaires were distributed for participation and only one questionnaire was spoiled. The results above show that the study has slightly more females (50.8%) with the

participants entering the profession at a relatively young age i.e. the range between 18-25 years taking the larger percentage (36.4%). It was found that the participants' mean age was 29 years. Additionally, on the age range with the highest percentage, 16 of the participants were male and had a higher level of education (69.6%) compared to their counterparts, 7 females having (30.4%) level of education. This profession is equally represented i.e. married professionals (47,5%) and (45,8%) single participants.

4.2 The hazards associated with work activities and practices

Table 4.2.1 Showing the Information on Work Activities and Practices

Variable		Frequency	Percentage
Number of Customers Per Day	Less than 7	25	42.4%
	7 to 10	16	27.1%
	More than 10	18	30.5%

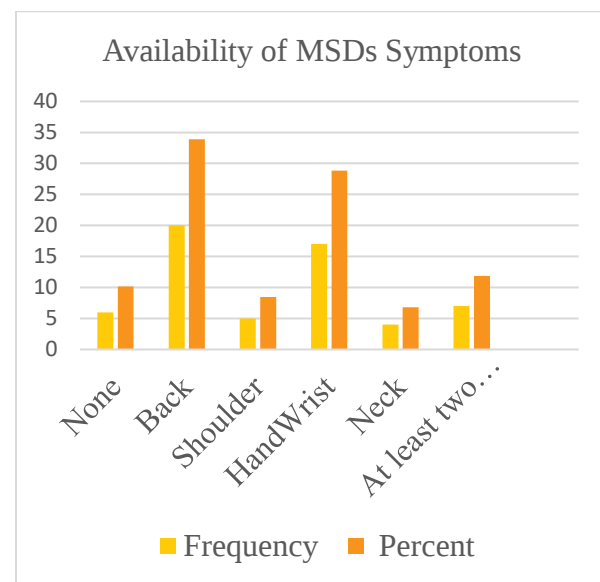
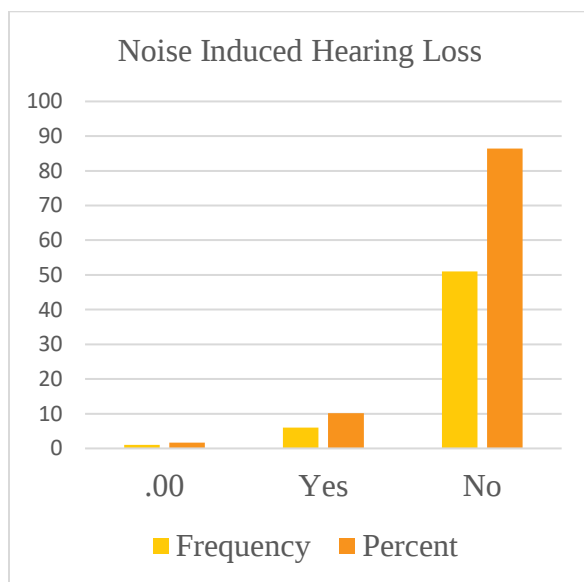
Number of Fans in the Shop	One or less	35	59.3%
	2-5	17	28.8%
	More than 5	7	11.9%
Exposure Time of Participants	Less than 8 Hours	18	30.5%
	8-10hrs	27	4.85%
	More than 10 hours	14	23.7%
Towel Sterilization	Yes	26	44.1%
	No	33	55.9%
UV Sterilization	Yes	27	46.6%
	No	31	53.4%
Any form of formal training	Yes	24	40.7%
	No	35	59.3%
Disinfection after use	None	1	1.7%
	Yes	37	62.7%
	No	21	35.6%
Wearing of Protective Devices	None	1	1.7%
	Yes	26	44.1%
	No	32	54.2%
Hand Wash After Each Customer	No response	1	1.7%
	Yes	30	50.8%
	No	26	44.1%
Use of Municipal Bins	No response	1	1.7%
	Yes	33	55.9%
	No	25	42.4%
Covering of wounds	No response	1	1.7%
	Yes	43	72.9%
	No	15	25.4%
Use of hair chemicals	No response	1	1.7%
	Yes	48	81.4%
	No	10	16.9%

The results show that 27 participants who worked between (8-10hours) had a percentage exposure of (45.8%) whilst participants who worked longer hours more than 10 hours had a percentage exposure of (23.7%). It was observed and reported that most of the entities were not ventilated with a greater percentage having just one or less fan (42.4%) while accommodating several professionals. The researcher observed that in one entity there were more than 30 professionals without a single fan.

The use of hair chemicals was very common among the participants with a frequency of 48 equating to (81.4%), although the number of participants without any form of training was not

particularly high (59.3%). Only 44.1% of workers reported wearing gloves or aprons while at work. After handling chemicals or each customer, participants frequently neglected to wash their hands before eating or attending to the next customer (44.1%). Only 33 participants (55.9%) carried out towel sterilization, while a mere 27 participants (46.6%) Ultra Violet. A few of the participants (55.9%) disposed of sharp objects in municipal bins.

4.3 Risk factors for availability of health problems suffered by participants in the previous year



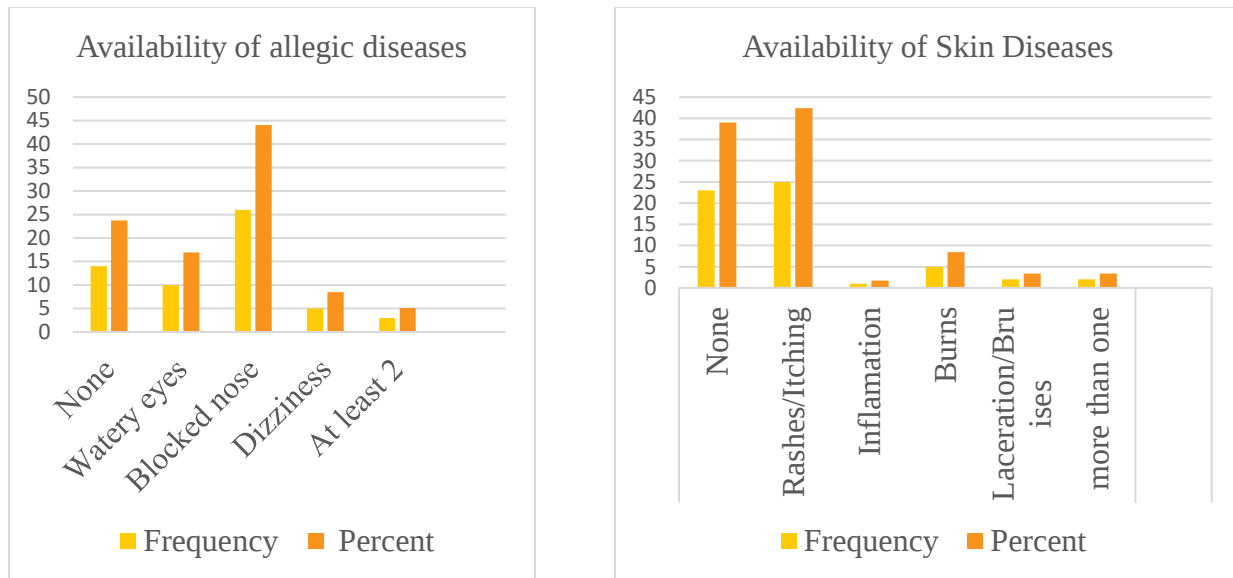


Figure 4.3 1: The risk factors for diseases suffered from the previous year

Results show that lower back pain (33.9%) and hand/wrist (28.8%) were prevalent among the participants. Electrical injuries were very uncommon in this profession with 83.1% reporting none. Skin diseases were present among the study participants, with skin rashes (42.4%) being the most common. Blocked or runny nose (44.1%) was a very common allergy among the study participants as well as heat disorders. Noise-induced hearing loss had a relatively low participation rate, with only 10% of participants reporting yes. No study participants reported suffering from cancer. Heat stress was also common among participants.

4.4 Proposed controls

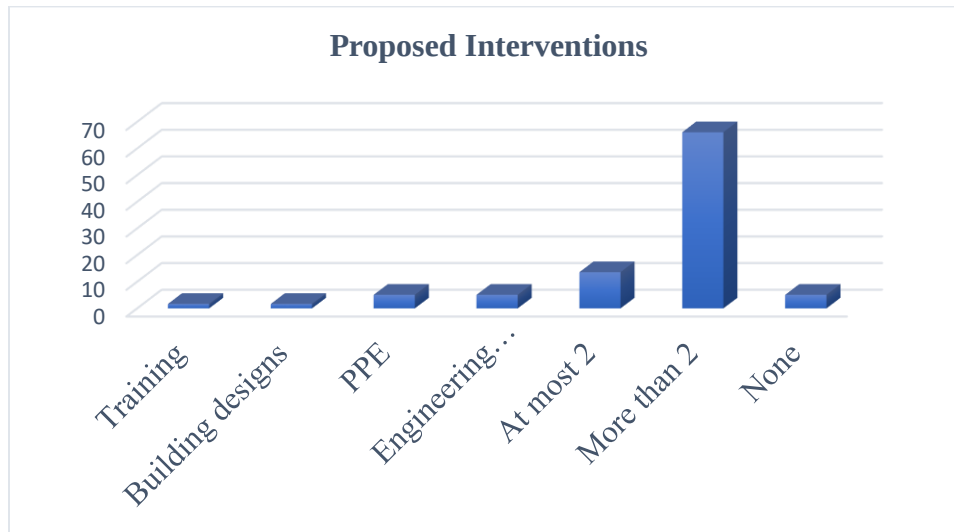


Figure 4.4 1: Control measures for health and safety risks

The control measures implemented to address the occupational health and safety risks in the barber and hair salon industry are based on the established hierarchy of controls. The least effective controls are building designs and training, which account for only 1.7% of the total controls. Controls with a maximum of two measures account for 13.6% of the total controls. Engineering controls and personal protective equipment (PPE) make up 5.1% of the controls. The most dominant controls are those with more than two measures, which account for the majority at 66.1% of the total controls.

CHAPTER 5: DISCUSSION OF RESULTS

5.0 Introduction

This chapter provides an in-depth examination of the research results on the work-related risks and hazards encountered by barber and hair salon workers in the Harare CBD, as detailed in the previous chapter (Chapter Four).

5.1 The hazards associated with work practices

The findings of the study show that an overwhelming majority use chemicals, yet a considerable percentage have not received any form of training on their safe handling. This finding contradicts that of Ashraf et al., (2019), who investigated barbers' behaviors and awareness of hepatitis in Islamabad. Their results showed that the popular hairdressers have a satisfactory understanding of chemical hazards and transmissible diseases linked to their line of work. The inconsistent use of towel sterilization as well as UV sterilization, poses the risk of blood-borne pathogen transmission between clients and professionals. This lack of training combined with the uncommon use of protective clothing including gloves increases the risk of skin dermatitis. The study findings aligned with Moore et al., (2017) investigation on infections of the skin, hair, and other body parts linked to barbershop and hair salon visits which showed that the huge popularity of hairdressers had poor working practices for safety measures to control risks for hazards.

Furthermore, the study participants neglected hand hygiene practices, including failing to wash their hands before attending to the next customer or handling food, worsening the risk of infection transmission. This is in support of Ferreira's study from (2021) which established that the majority of hairdressers could not use the toilet or wash their hands during the execution of work.

The results show that barber and hair professionals have prolonged standing with the range working between eight to ten hours having the greater exposure time supporting the study by De Smet et al, (2019) on the worsening of musculoskeletal disorders by prolonged standing and repetitive tasks. Additionally, the majority of barbers and hair salons have inadequate ventilation, with only one or fewer fans, despite accommodating multiple professionals increasing the incidence of heat stress among workers.

5.3 Risk Factors Among Study Participants

The study results reveal a significant correlation between the number of customers served and the duration of exposure, with the prevalence of musculoskeletal disorder symptoms among barber and hair salon workers. Participants who worked for 8-10 hours showed that lower back pain and hand/wrist were prevalent among the participants. The study results were consistent with those of Deeksha and Ganavi (2024) who showed that a large clientele makes hairdressers spend most of their time standing and perform duties in awkward postures, for example, when washing hair, increasing the risk of developing MSDs. Additionally, Tolera & Kabeto (2020) observed that barber and hair salon workers who worked for more than eight hours developed MSDs of the lower back, whereas Khalaf et al., (2020) found that hand/wrist was the most frequent MSDs. Conditions including carpal tunnel syndrome, tendinitis, and lower back discomfort can be exacerbated by long hours, bad postures, and repeated motions.

The study results show that skin diseases were prevalent among the barber and hair salon workers surveyed, with skin rashes being the most commonly observed condition. These findings are consistent with the results reported by Linda et al., (2020) in their related research. Furthermore, the study's findings align with the results of a study conducted by Barbic et al., (2024), which examined skin conditions among hairdressing and beautician trainees. Their findings indicated that hairdressing trainees had a significantly higher prevalence rate of hand/wrist eczema and urticaria, at 35%, compared to the 25% prevalence rate observed among beautician trainees.

Blocked or runny nose was a very common allergy among the study participants as well as heat disorders agreeing with a study published by the “BMC Public Health” which found that hairdressers reported considerably more dripping nose and headache, eczema coming next and stuffed nose, cough and uneasiness with strong odours.

Noise-induced hearing loss had a relatively low participation rate, with only a small percentage of participants indicating yes. The results contradict those of Fattah et al., (2023) who found a significant prevalence of noise-induced hearing loss and even went further to differentiate the noise into two groups “70% of the workers had serious sensorineural hearing loss, and 40% had conductive hearing loss.” The results of the research were dependent on self-reported data without performing audiometric tests for authenticity thus contradicting previous studies which show that barber and hair salons are noisy environments because of the equipment used in them.

5.4 Proposed Interventions

The study findings indicate that workers in barbershops and hair salons encounter a diverse array of risks, some of which are unrelated to one another. As such, relying solely on a single control method may not be an effective approach, as supported by the study results. Previous research has provided valuable insights into the types of controls that can be implemented to address these occupational health and safety hazards. For instance, a study by Gehad et al. in 2023 references the work of Daka (2019), which recommends that hairdressers should utilize PPE such as aprons, gloves, as well as goggles to prevent infection. Additionally, they should make it a practice to wash their hands immediately after handling chemicals. Daka also advises hairdressers to wear non-slip shoes and avoid using treatments containing recognized sensitizers, like hair dyes, to mitigate the risk of skin-related issues. Furthermore, Daka suggests rotating work responsibilities to stave off the development of musculoskeletal problems and frequently hydrating the hands to prevent cracking, which can serve as an entry point for chemicals and accelerate the formation of skin dermatitis.

Separately, the study by Al Siddiqui et al. (2018) states that to prevent and manage risks, it is critical to conduct risk assessments and increase awareness. They recommend that employees should be trained on how to handle chemicals and beauty products, as well as their toxicity. Expanding on the importance of addressing environmental factors, a study by Khalaf et al. (2020) emphasizes the need for appropriately maintaining air conditioning systems to prevent heat stress, which is a crucial consideration in avoiding heat-related health concerns among workers in this industry.

CHAPTER 6: CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Findings lead us to the conclusion that working in barbershops and hair salons contains several risks, including biological, chemical, physical, ergonomic, and psychosocial risks. The use of chemicals in hair treatments and dyes can lead to skin rashes and allergic reactions such as a blocked nose, while the physical demands of the job put workers at risk of developing MSDs such as back pain and hand/wrist injuries. The lack of personal protective equipment and inadequate UV sterilization of sharp tools can lead to the transmission of biological diseases. Since there are a few specially built barbershops or hair salons in the Harare CBD area, administrative controls such as training and personal protective equipment (PPE) are the most effective.

6.2 Recommendations

Policymakers

- Develop and implement policies addressing occupational health hazards and risks in the barber and hair salon industry.
- Provide funding for research and education programs to raise awareness about these hazards and risks.
- Mandate regular inspections and monitoring to ensure compliance with health and safety standards.
- Establish regulations requiring employers to provide safe working, proper ventilation, sterilization, and use of PPE.
- Provide training, resources, and support to self-employed barbers and hair salon workers to enable them to:
 - identify and assess hazards and risks in their workplace
 - implement effective controls measures to mitigate the hazards and risks
 - access personal protective equipment and ergonomic tools
 - prioritize their wellbeing by taking breaks, eating and washing hands regularly.

Legislation

- Craft and enact laws and regulations on work-related health and safety in the barber and hair salon trade including mandatory training, regular inspections, and enforcement of standards.

Industry stakeholders

Employer

1. Chemical use:
 - Ensure the provision of adequate PPE is available and used correctly.
 - Provide education and training on safe handling and use of chemicals for all employees.
2. MSDs
 - Provide training on ergonomics
 - Ensure regular breaks to reduce prolonged standing and awkward postures
 - Implement ergonomic adjustments to workstations and equipment.
3. Physical hazards
 - Recommend audiometric testing for all employees
 - Monthly noise monitoring
 - Ensure proper ventilation in all working areas
 - Provide hydration systems to reduce heat stress
 - Install air cons as they don't blow up hair which can be breathed in or swallowed.
4. Biological hazards
 - Ensure proper sterilization and disinfection procedures are in place.
 - Provide training on proper handling and disposal of sharps.
5. Psychosocial hazards
 - Provide training on stress management and customer interaction techniques

- Encourage open communication and support among employees
- Implement stress reduction measures such as flexible scheduling or employee wellness programs

Employees

- Participate in training programs on chemical handling, ergonomics, and stress management.
- Use PPE
- Follow procedures for using chemicals and sharps
- Take regular breaks to reduce prolonged standing and awkward postures
- Stay hydrated.

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APPENDIX

Appendix A: Copy of the Questionnaire used in the Study



Barber and saloon
study Questionnaire