BINDURA UNIVERSITY OF SCIENCE EDUCATION

DEPARTMENT OF ENVIRONMENTAL SCIENCE

KNOWLEDGE, ATITUDES AND PRACTICES ON OCCUPATIONAL HEALTH AND SAFETY ISSUES IN THE MINING INDUSTRY. A CASE STUDY OF FREDA AND REBECCA GOLD MINE.

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE BACHELOR OF ENVIRONMENTAL SCIENCE HONORS DEGREE IN SAFETY, HEALTH AND ENVIRONMENTAL MANAGEMENT.

DECLARATION

To be compiled by the student

Registration number B1953789

I Mitchel N Chaparadza do hereby declare that this work is entirely the product of my own findings and has never been presented with any academic award. Any reference to previously published work has been clearly indicated.

Signature of the student……Date……

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……Date…….

DEDICATION

This research is dedicated to my parents Mr. and Mrs. Chaparadza and my entire family and friends.

ACKNOWLEDGEMENTS

Firstly and foremost thank God for granting me the strength to carry on even during hard times. Secondly, I thank my loving parents for their never-ending support and encouragement. My appreciation also goes to my siblings, Mimi and Mica. My utmost gratitude to my supervisor Mr. Nyamugure for all his support, intellectual guidance, and encouragement throughout the course of the study. I appreciate the amount of dialogue that he allowed between us during which I was able to profit from his experience and knowledge of research. Special thanks to my friend Svodai and Innocent for their support.

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ABSTRACT

Background

The incapability to trail occupational safety and health standards typically results in accidents that place severe financial burdens on both employees as well as organisations. The aim of this study is to explore the knowledge, attitude and practices of employees in the mine industry towards occupational health and safety issues in the mine industry in Zimbabwe

Materials and methods

A survey was conducted with a structured questionnaire which was allocated to a purposive sample of 60 employees employed by a large scale mine in Bindura. 48 were responded to. This gave a response rate of 78%. The collected statistics were analyzed using SPSS (Version 22.0). A combination of descriptive statistics and analysis of mean scores was applied to meet the aim of the study. The data analysis completed that level of knowledge, attitude and practice of occupational safety and health issues among main plant housekeepers' employees at Freda and Rebecca Gold Mine is high.

Results

From the study, the respondents had a good knowledge of OHS issues (74.2%).The mean (74.2%) level of knowledge regarding occupational health and safety in the study group is acceptable. average attitude score was 6.4577 divided by 9 questions meaning 71.6%. The average score of practices towards OHS issues was 7.084 out of 10 which make up 70.84%.

Conclusion

In conclusion, knowledge, attitude and practices of OSH issues were sightseen, and positive associations were recorded. OHS training, safety culture, and follow up approaches need to be developed in order to ensure observance to safety measures. This study should be extended to other mines of Zimbabwe in order to improve OHS compliance.

CHAPTER I: INTRODUCTION

1.0 BACKGROUND OF THE STUDY

Occupational Health and Safety is one of the most crucial features in ensuring a safe and healthy workplace. It deals with the health and safety of employees in the work setting and it mainly focuses on preventing hazards. In Zimbabwe, legislation with regards to safety and welfare of workers in the mining sector is covered under Mines and Minerals Act 21:05. Despite playing a significant role in the economy, the mining industry is listed as one of the most dangerous sectors. In Zimbabwe, the poor safety performances of the mining industry are evidenced by the accident statistics reported by Occupational Health and Safety reports by National Social Security Authority (NSSA). Occupational health and safety (OHS) policies survives to warranty the wellbeing and health of all workforces. These issues are regularly disregarded in Zimbabwe and has led to 20,541 severe injuries amongst employees and over 300 fatality from injuries in the years between 2018 and 2019. Employees contribute over 40% of the global people and significantly add to socio-economic expansion and their wellbeing is greatly decided by the level of working health services rendered to them at their administrations (WHO, 2007). Occupational safety health comprises providing of suitable healthiness to workforces by preventing and curing actions so as to promote their life quality (Macdonald, 2005). It can also be described as the outcome of working surroundings in addition it works on the health of the employees and in twist workers effects on health status. (Jacob, 2018). Knowledge, Attitude and Practice (KAP) as one form the system of life (Kumar, 2010). The surveys serves as an educational study of the public (Solomon et al, 2004). KAP assessments are mostly used to examine safety performance and health-seeking exercises for promoting effective occupational safety and health (Kalu, 2013). Required safety training was considered in the past a cost face by administrations. Improved administration as well as workers relations, developed worker self-esteem, improved production and lower employees reimbursement insurance expenses can be accomplished (Tavakoli, et al 2009). Other causes for not applying the enough safety procedures by most rising nations are shortage of data and precise records of occupational accidents, absence of effective implementation system and lack of basic skilled guidance in occupational safety and health (World Bank, 2017). According to Masara, (2014), Freda Rebecca is an organization that mines and processes gold. It mines gold ore through using underground and open pit mining

techniques. The ore is then processed by leaching, milling, and the crushing of fresh ore adsorption plus elution, electro winning, smelting process and the associated tailings disposal. These processes involve, dust, noise, heavy machinery and hazardous chemicals which have the potential to cause harm (Chen *et al*., 2012). For that reason, both the employees and the employer of FRGM must exercise proactive approach, which comprises reacting to health and safety issues before they arise or before the accident has happened.

1.2 Statement of the Problem

Workplace accidents constitute one of the challenges at FRGM, despite having an OHS management system and a zero-harm vision, workplace accidents continue to occur. The organization is committed for zero harm in line with the vision zero launched by NSSA where there should be no accidents occurring. In 2020, the organization recorded 1 fatality which was above the limit of 0 fatality. Hence this study investigated more on the impact of main plant workers behaviors and practices on safety and health issues at the Gold Mine.

Objectives of the Study

1.3.0 Aim

To examine the knowledge, attitudes and behaviors of main plant workers on safety and health issues at Freda Rebecca Gold Mine.

1.3.1 Specific objectives

1.3.2.1 To determine main plant workers level of knowledge on safety and health issues at FRGM.

1.3.2.2 To examine main plant workers attitudes towards safety and health issues at FRGM.

1.3.2.3 To determine the workers practices on safety and health issues at FRGM.

To relate KAP to socio-economic factors

1. 4.0 Research Questions

1.4.1. What are the levels of knowledge which workers have on safety and health issues at FRGM?

1.4.2. What are the attitudes of workers practices on safety and health issues at FRGM?

What are the workers' practices towards safety and health issues at FRGM?

1.4.3. Is there any relationship between knowledge, attitudes and practices on safety and health issues?

1.5 Significance of the Study

The Zimbabwe mining segment structures the core of the economy, giving 15.7% to the Gross Domestic Product (GDP), provide work for 45 800 people (Zimbabwe Chamber of Mines, 2019). Basing on this, there is need for an evaluation on escalation in mining accidents for the advantage of the country and mines. Understanding roots of accidents is important in decision making which aims to accomplish zero harm at Freda Rebecca Gold Mine. Findings of the study would be implemented by the organization to support in improving the production, lessen monetary losses through reimbursement as well as better health and safety of its workforces through assessing awareness, approach and practices on OHS issues.

This research would also add significance to the mining industry with awareness in accident prevention and control through plant workers induction and training. This study will add to literature in the research of knowledge, attitudes and practices of workers in the mining industry by introducing literature less commonly explored. To the best knowledge of the author, there has not been any structured study analyzing significance of contract workers knowledge, attitudes and practices at Freda Rebecca Gold Mine.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The study was carried out in order to find out information on K.A.P of workers and which societal and demographic variables had an influence on OHS in the plant as well as how much of a bearing this had on the OHS performance of the plant.

2.1 Survey of KAP studies on the occupational health and safety.

STUDY PARTICIPANTS	KEY FINDINGS	REFERENCES
Knowledge, attitude and practice associated to chemical hazards and personal protective equipment between particleboard employees in Ethiopia: a cross-sectional research	• Permanent employees had significantly good knowledge than temporary employees. A high degree of the permanent employees had knowledge of chemical risks (87%), health consequences (80%) and applicable PPE (100%). • Greater percentage of permanent employees had significantly positive feedback than temporal. A higher level of temporary (82%) than permanent employees (38%) believed that all PPE has the similar protection.	Asgedom, et al (2019).

	• Provision of PPE, as perceived by the permanent employees varied from monthly to annually. From the total (66%) were using at least 1 type of PPE during work. All permanent employees responded that the factory provides PPE and (81%) employees reported they used at least one PPE during work regardless of its quality. Among temporary employees, (7.9%) reported that the factory management provides PPE, while the remaining (92.1%) did not get PPE from the factory.	
Knowledge, attitudes and perceptions of occupational hazards and safety practices in Nigerian healthcare employees	• The outcomes revealed that over half of the participants were registered nurses, female, married (61.7 %) with 5 years median job experience (70.3 %). Most workers (89 %) were knowledgeable about hazards in HCFs, identified recapping used needles as a risky practice (70 %) and accepted that effective hand washing after every clinical practice in avoiding cross infection (100 %). Also, most employees (96.2 %) believed they were at risk of work-related hazards while about two-thirds perceived the risk as high. In addition, only 64.2 and	Olufemi et al 2016

	87.2 % had accomplished Hepatitis B and Tetanus immunizations, respectively. Only 52.1 % complied with standard procedures and most (93.8 %) practice safe disposal of sharps (93.8 %) while those that did not (40 %) generally implicated shortage of basic safety equipment. In this research, the practice of hand washing by participants was not inclined by profession and education.	
Assessment of knowledge, attitude and practice toward COVID-19 and allied factors among health care employees in Silte Zone, Southern Ethiopia	• This study found high knowledge of 74.9% towards Corona virus. • 84.2% positive attitude among the health care workers. • And 68.9% prevalence good practice respectively toward the virus.	Nurul et al 2021
Assessment of Knowledge, Attitude, and Practice on Safe Working in Confined Space among Male Water Services Workers in the Central Region of Malaysia	• 67.1% of respondents had fair knowledge in working in confined spaces. • While 65.7% had a positive attitude. • 60.4%) were found to follow safe operating practices • Out of the total 264 workers engaged in the study, 207 employees were able to take part in the survey, giving a	Hamiza et al 20

	response rate of 79.6%.	
Assessment of Knowledge, Attitude and Practice on Occupational Safety and Health Among Laboratory Employees in OSHMS Certified and Non-Certified Public Universities in Malaysia	• About 76% of employees in certified universities have great knowledge, • 94% have a encouraging attitude, and • 88% have good practice in OSH. In non-certified universities, • 70% have high knowledge, • 97.1% have a positive attitude and • 81.4% have good practice in OSH. Good practice degree was significantly greater in certified universities. Knowledge, in general, was allied with younger age and advanced education level while attitude was linked to gender.	Eugenia et al 20
Knowledge, attitude and practice on occupational safety and health among medical laboratory personnel in hospital Raja impact of intervention	• Knowledge on OSH was good with mean score before intervention 79 % • Attitude towards OSH found to be good and remain unchanged with mean score before intervention 97% • Practice of OSH showed a satisfactory result where mean score before intervention 70% increased to 72%	Suresh Narayanan 2017
An Investigation of Knowledge, Attitude and Practice of	• Knowledge 55.9% toward safety	Nuruzzakiyah et al 2018

Occupational Safety and Health (OSH) on Safety Climate at Workplace in Manufacturing Industry	climate when performing work. • Fair Attitudes of 64% on safety climate • 63.05% were found to be practicing good safety climate	
Knowledge, attitude and practice on occupational safety and health among workers in petrochemical companies	• 95.7% of the respondents had high knowledge on occupational safety and health • The result of this study showed that most of the workers had positive attitude (70.0%) • Majority of the workers had fair practices (50.0%) in their working places.	Mohd et al 2020

CHAPTER 3

3.0 INTRODUCTION

This chapter outlines the research area, tools, and techniques that will be used to evaluate the knowledge, attitudes, and practices of employees at FRGM. The study design, the people with particular expertise, the sample size, and the sampling techniques are all outlined. The chapter proceeds by outlining the study tools; research reliability; research validity; research ethics; and finally, data analysis methods

3.1 Description of the study area

The research study was carried out at Freda Rebecca gold mine sited in the town of Bindura Mashonaland Central Zimbabwe, 90km north-east of Harare.

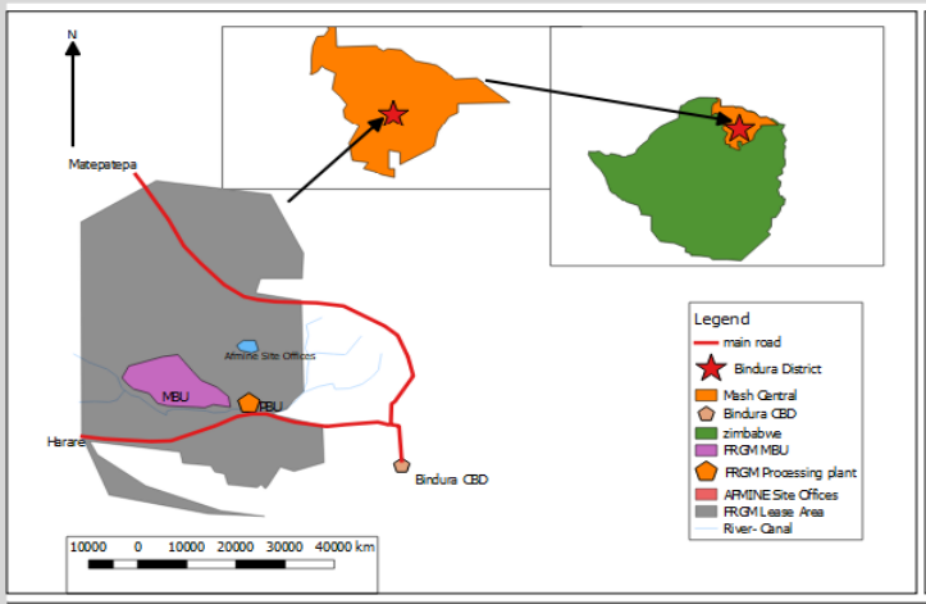

Figure 1: Location of FRGM

3.2 RESEARCH DESIGN

A case study KAP survey was done. KAP assessment is a descriptive study of a particular population to gather data on what is known, understood and done in relation to a certain subject (WHO, 2008). Cross-sectional study design was used in this study. A cross-sectional research is a kind of study technique were you collect data from a big sum of people all at once. A questionnaires was used to gather this data. The questions were tailor made for a KAP survey.

3.3 TARGET POPULATION

Target population is the totality of the individuals concerning to which implications were made in test group (Wilson 2013). Guided by the research objectives, the study population comprised

of only plant housekeepers. The researcher chose plant business unit workers to collect and analyses data from. The researcher had 60 respondents.

3.4 PILOT STUDY

Prior to use, the questionnaires were given to 10 randomly selected fellow students in order to find out if the questions were exhaustive as well as suitable and easy to comprehend. All mistakes and shortcomings were fixed and the questionnaire altered.

3.5 DATA COLLECTION

The information will be collected through the use of pre-designed questionnaire. Primary and secondary data collection techniques were used in information collection. Non-participatory observation was also used for data collection. Safety practices that were studied include employee behaviour, employee responsibility and employer responsibility, employee awareness of occupational health issues, and personal protective equipment. The OHS knowledge, attitude and practice sectors included questions largely focused on risk assessment, ergonomics as well as PPE use in the workplace.

3.6 RESEARCH TOOLS

The researcher uses questionnaires as study tool. A questionnaire is a study tool that comprises of a group of questions used to collect information from participants. It can also be defined as a collection instrument comprising a chain of questions and other prompts for the determination of collecting data from respondents (Paul, 2013). The researcher will use semi structured open ended and closed questions which will be easy for participates to complete as well as easy for the investigator to examine the findings To test for the validity and reliability of these data collection, a pilot study will be undertaken among 10 randomly selected employees. It is subdivided into units namely section A for Socio-demographic features, section B will be used to determine employee knowledge towards OHS issues. Section C will assess workers attitudes on OHS and D will assess the practices.

3.6 RELIABILITY AND VALIDITY OF STUDY TOOLS.

To improve validity and reliability of the information collected, the researcher pre-tested the questionnaires before running the actual data to determine whether they were acceptable or not to the respondents and to also ensure that only relevant information was incorporated in the questionnaire.

3.7 CHALLENGES

- The participants may have withheld data of the facts surrounding their attitudes and knowledge and practices in the plant
- The participants were incapable to find many state statistics with which to relate our findings.
- This research was prone to reporting bias, as individual data were collected by the use of a questionnaire

3.8 DATA ANALYSIS

To quantity the levels of several aspects of Knowledge, Attitude and Practice, the questionnaire was divided into four different sections. In each section, significant questions were tested of the participants. In the Knowledge section, the emphasis was given to evaluating the level of knowledge of workers in OHS. To assess knowledge, attitude and practices, 14, 9 and 10 questions were asked in each section respectively. There were 24 questions in the questionnaire. Data were entered into SPSS and analysed. Total of 60 questionnaires were distributed, and 48 were responded to. This gave a response rate of 78%. A score of 1 was given for each correct answer and a score of 0 for each wrong and neutral/don't know answer. The average score for each character was calculated, and if the percentage score was above 70% the response was categorized as 'good', from 51–69% as 'fair', and less than 50% as 'poor. The scores were combined to come up with total KAP scores. Total KAP score is used to rank the level of knowledge, attitude, and practice, of the participants towards OHS issues. Binary logistic analysis was used to analyse factors affecting the knowledge, attitudes and practices towards OHS among the Workers at FRGM. The analysed data were presented in tables. Statistical analysis was done at 5%, significance, and 95% confidence intervals.

CHAPTER 4

4.0 Socio demographic characteristics

A sum of 60 questionnaires were given to workers and 48 were responded to. Response rate was 78%. All the respondents were males (100%). Regarding demography, it was found that the main plant workers ranged between 20–55 years. The age group with majority of workers was 20-

30years (50%). Regarding of job experience, many of participants had less than 10 years. The highest level of education obtained by the housekeepers is vocational training. The respondents were housekeepers. Majority of the workers have 0-10years experience. The demographic variables are presented on table below.

SOCIO-DEMOGRAPHIC VARIABLE	POSSIBLE RESPONSES	FREQUENCY	PECENTAGE
Sex	Male	48	100 %
	Female	0	0%
Age	20-30years	24	50%
	31-40years	11	22.92%
	41-50 years	9	18.75%
	51+	4	8.33%
Highest educational level	Vocational Training	48	100%
	On the job training	0	0%
Occupation	Main plant housekeeper	48	100%
Experience in years	0-5	18	37.5%
	6-10	25	52.08%
	11-15	5	10.42%
	16 and above	0	0%

4.2 KNOWLEDGE OF WORKERS TOWARDS OCCUPATIONAL HEALTH AND SAFETY ISSUES.

KNOWLEDGE VARIABLES	PARTICIPANT RESPONSE			SCORE
		N	%	
K1.What is a hazard	Anything with potential harm or danger	48	100%	**1**
	Answered wrongly	0	0	
K2.Who is responsible for your safety	Supervisor	12	25%	
	Myself	28	58.3%	**0.583**
	Top management	8	16.7%	
K3.What should be done before you start work?	Safety talk	48	100%	**1**
	wearing my work suit	0	0	
	I do not know	0	0	
K4. What are the 5 hierarchy of control in order	Elimination	4	8.3%	**0.83**
	Substitution			
	Engineering			
	Administration			
	PPE			
	I do not know	44	91.7%	

K5.What are the mandatory PPE for entering the plant	Wear reflective overall,/work suit ,steel toe gumshoe/safety shoe, hardhat ,earplugs ,google, gloves	43	89.58%	**0.8958**
	I do not know	5	10.42%	
K6.Which diseases are caused by dust	Pneumoconiosis	39	81.25%	**0.8125**
	Influenza	9	18.75%	
K7.Name one lifting technique you use	Squat lifting	3	6.25%	**0.0625**
	Knee bend			
	I do not know	45	93.75%	
K8.Maximum load you should carry when doing manual lifting	25kg	33	68.75%	**0.6875**
	I do not know	15	13.25%	
K9.What is the noise level limit at Freda Rebecca Gold Mine	90	18	37.5%	**0.375**
	85	24	50%	
	I do not know	6	12.5%	
K10. Who distributes Personal Protective Equipment?	Supervisor	45	93.75%	**0.9375**
	I do not know	3	6.25%	
K11.How often do you do	Thrice a week	7	14.58%	

housekeeping?				
	Once a month	0	0%	
	Everyday	41	85.42%	**0.8542**
	Never	0	0%	
K12.In your opinion what is the major reason of not wearing dust masks in the workplace?	Protecting the respiratory system	40	83.4%	**0.834**
	I do not know	8	16.6%	
K13.How often should workers go for medical check-ups on the job	After every 6 months	36	75%	**0.75**
	I don't know	12	25%	
Total knowledge score				**9.6416**

Average score =74.2%

From table 4.2 above average knowledge score was 9.6416 divided by 14 questions meaning 74.2%. Total average score for knowledge was 74.2%. Amongst the knowledge questions regarding OHS issues the least score was 8.3% and the highest was 100%. Participants had more knowledge on what a hazard is. They scored 100%. On safety responsibilities the score was fair, 53.8% answered correctly. This indicates the ne for more OHS training. It was noticed that 100% of the respondents knowledge on what to be done before work. The average knowledge score K4 (8.3%) was bad. Majority of the workers had no idea on the hierarchy of control. 89.58% of the workers had knowledge on the mandatory Ppe. According to table 4.2, more than half of the total participants (81.25%) knew that the disease caused by dust is pneumoconiosis. From the study 6.25 % was aware of the lifting techniques. 93.75% said they know any lifting techniques. Less than half of the participants 37.5. % knew noise levels limit at Freda and Rebecca gold mine. 83.4% was aware of the major reason for wearing ppe and 16.6% had no knowledge. According

to the study 93.75% had knowledge on who distribute their ppe. 75% knew when they should get their medical checks up. 13.35% were not aware of the maximum load they should lift during manual lifting.

4.3 ATITUDE OF WORKERS TOWARDS OCCUPATIONAL HEALTH AND SAFETY ISSUES.

ATTITUDE VARIABLES	PARTICIPANT RESPONSE	N	Preferred %	SCORE
A.1.I believe workers and company owners are fully accountable for the safety of employees in the workplace	Yes	36	75%	**0.75**
	No	12	25%	
	I don't know	0	0%	
A.2.1I believe work-related health and safety campaigns are a successful way to foster and educate employee	Yes	29	60.42%	**0.6042**
	No	11	16.67%	
	I don't know	8	22.91%	
A.3. Working health and safety are my highest priority when I do my job	Yes	18	37.5%	**0.375**
	No	30	62.5%	
	I don't know	0	0 %	
A.4. I think the health check-ups should be done periodically	Yes	12	25%	**0.25**
	No	36	75%	
	I don't know	0	0%	
A.5. My job highly risky	Yes	40	83.3%	**0.833**

	No	8	16.7%	
	I don't know	0	0%	
A.6. Do you believe that consistent use PPE gives a guarantee of safety	Yes	41	85.42%	**0.8542**
	No	7	14.58%	
	I don't know	0	0%	
A.7. Occupational safety must be prioritized	Yes	46	95.83%	**0.9583**
	No	2	4.17%	
	I don't know	0	0%	
A.8.I always use Personal Protective Clothing.	Yes	40	83.3%	**0.833**
	No	8	16.7%	
A.9. Prevention of occupational hazard is a joint responsibility of the Mine management and the staff	Yes	48	100%	**1**
	No	0	0%	
	I don't know	0	0%	
Total attitude score				**6.4577**

Average score =71.6%

From table 4.3 above average attitude score was 6.4577 divided by 9 questions meaning 71.6%. Which is good. The attitude towards OHS issues was evaluated by asking the participants 9 questions. According to the study 75% believe that workers and owners are completely accountable for the safety of employees in the place of work. 25% believed only employers were responsible. 60.42% had fair attitude of the efficiency of occupational health and safety

campaigns in supporting and educating employees. More than half of the respondents (62.5%) had bad attitude at taking safety first as their priority during work. They didn't believe that. According to the table bad attitude of 25% was portrayed by workers in periodically taking health checks up. Favorable attitude (83.3%) towards OHS by seeing their job as risky was recorded. 85. 42% have positive attitude on OHS issues because they believed that using ppe gave a consistent guarantee of safety. 83.3% always use their ppe during their work which is favorable attitude.

4.4 PRACTICES OF WORKERS TOWARDS OCCUPATIONAL HEALTH AND SAFETY ISSUES.

PRACTICES VARIABLES	PARTICIPANT RESPONSE	N	%	SCORE
P1.I do my daily risk assessment every day before l start my work	Yes	32	66.7%	**0.667**
	No	16	33.3%	
P2.Did you take any occupational pre-employment training	Yes	48	100%	**1**
	No	0	0%	
P3.I inspect all safety tools and work tools are in a harmless state to use	Yes	39	81.25%	**0.8125**
	No	9	18.75%	
P4.I always use personal protective equipment?	Yes	33	68.75%	**0.6875**
	No	15	31.25%	
P.5.I report to the supervisor if the safety tools to do my job is incomplete	Yes	32	66.7%	**0.667**
	N**o**	16	33.3%	

P.6. I attend safety talks every day	Yes	39	81.25%1	**0.8125**
	No	9	8.75%	
P.7. There is signage in the plant that speaks of safety, work behaviour and work instructions	Yes	48	100%	**1**
	No	0	0%	
P.8. Have you ever been injured at work	Yes	9	18.75%	**0.1875**
	No	39	81.25%	
P.9 Safety issues are given priority during work	Yes	37	77.08%	**0.7708**
	No	11		
P.10. I report any safety and health incident at the mine	Yes	23	47.92%	**0.4792**
	No	25	52.08%	
Total practice score				**7.084**

Average score =70.84%

Table 4.4 shows that the average score of practices towards OHS issues was 7.084 out of 10 which make up 70.84%. 66.6% of the workers answered yes on doing their daily risk assessments every day. 100 %of the workers had pre-employment training. Which is a good practice. 39(81.25%) of the total participants assess all safety equipment and work equipment are in good condition to use before work. 68.85% always use personal protective equipment. According to the study 81.25% of the respondent attend their safety talks every day. 100% of the workers agreed that there is signage in the plant that speaks of safety, work behavior and work instructions. 81.25% of the participants has never been injured at work which shows goop OHS practices. 49.92% practices incident reporting which is poor performance.

4.5 THE INFLUENCING FACTORS OF OHS ISSUES ON KNOWLEDGE, ATTITUDES AND PRACTICE

Variables		OR(95% CI)	P-values
Gender	Male	1.78(0.624-2.873)	0.732
	Female	**Reference**	
Age	20-30 years	0.21(0.06-7.67)	0.036*
	31-40 years	0.39(0.006-7.16)	
	41-50years	0.84(0.010-69.08)	
	51+	**Reference**	
Highest level of education	Vocational training	3.05(1.40-1.31)	0.001*
	On the Job trading	**Reference**	
Occupation	Plant house keeper	0.409(0.04-3.73)	0.965
	Other	**Reference**	
Experience	0-5years	0.82(0.512-1.28)	
	6 - 10years	0.88(0.54-1.44)	
	11-15 years	1.62(1.05-2.51)	0.030*

Table above shows the logistic regression analysis output of aspects connected with the knowledge, attitude and practices of participants towards OHS issues .Factors affecting OHS issues were tested at 5%, significance, and 95% confidence interval. From the table, only 3 variables that are **age, highest education level and experience** had significant good KAP scores

at 5 % significance level. Accordingly, high good KAP which were found to be significantly associated with gender in which males were about 1.78 times more likely to have a higher good KAP than females (OR=1.78, CI=0.624-2.873 p=0.032).

4.6 CONCLUSION

The chapter presented research results. As the focus group discussion did not produce any meaningful data, focus of the analysis above was on data generated from questionnaires and observation. The following chapter is discussion of results

CHAPTER 5

5.0 KNOWLEDGE OF WORKERS TOWARDS OCCUPATIONAL HEALTH AND SAFETY ISSUES

According the study, the respondents had a good knowledge of OHS issues (74.2%).The mean (74.2%) degree of knowledge concerning occupational health and safety in the research collection is tolerable. The findings from the study were consistent with a research that was conducted in Bangladeshi on the knowledge, attitudes and perception. In the current research, highest number employees were aware of the must for risk assessment before doing their work. Risk assessment comprises of hazard monitoring, identifying and control, which is initial action comprising the occupational health and safety managing structure. It should be directed primarily to sustenance the decision-making procedure concerning work safety and health. Question 4 on knowledge showed that about 8.3% of the partakers did not know the hierarchy of controls. A major proportion of them were not knowledgeable. This research revealed that the many of the workers had poor knowledge regarding ergonomics at work. Many of participants appropriately answered nearly each question on the knowledge questionnaire excluding questions regarding

ergonomics Ergonomic practices were not commonly applied during work. 6. 25% of the workers managed to name one lifting technique you use. It is significant to use ergonomics at work to avoid Musculoskeletal Disorders, hence, ergonomic values should be involved in the employees' health prospectus for all plant house keepers to emphasize the practice of ergonomics in their routine mine work (Coggon et al 2007. The outcomes also showed that correct ergonomics practices were not implemented. In this study even though the employees had high knowledge on work-related safety and health, but they need to have good practice based on their management procedure. However, a different study in Malaysia found that employees' safety knowledge was connected to their safety significance that inspire their safety performs. 89.58% of the workers had knowledge about the mandatory ppe in the plant. These results was consistent with the study which was carried out in Ethiopia where they found that 100% of the participants knew their mandatory PPE (Asgedom, et al 2019). According to the study 93.75% had knowledge on who distribute their PPE. The findings are similar to survey in Nigeria were every permanent employee answered that the factory is responsible for providing PPE (Olufemi et al 2016).

5.1 ATTITUDE OF WORKERS TOWARDS OCCUPATIONAL HEALTH AND SAFETY ISSUES

Attitude on work safety priority is created from risk-taking actions of employees (John, 2005). Table 4.3 describes the outcomes on usefulness of health and safety campaign in encouraging and educating workforces on health and safety actions. More than half of the participants, 60.42% who approved. This research indicated 77.08% of workers gave high priority to safety and health when carrying out their work, comparable to the result of Obina (2013), however in this research, straight observation revealed that such attitude was lacking in few important situations. Responsibility from the management and workers is an important improvement towards strengthening health and management procedures. Clear safety guidelines and independent guidance are able to form a firm organization (Peter et al, 2008). This research indicated that 95% of the workers believe that management-worker collaboration was important for the achievement of safety programs. Many of the housekeepers approved that work safety is every person accountability. Manager and employee collaboration stimulates workers participation is safety and health programs, builds trusts, transparency and reduces compensation

costs on injuries. Work safety comprises things like making sure that working health and safety remains the topmost priority when doing tasks, episodic health observations for every mine employee, and working health and safety campaigns at the place of work. 83.3% of the workers approved that their job was very risky. This high level of attitude towards OSH issues indicates that a few respondents had negative attitudes. Most of the workers with negativity are likely to have complacency in bridging safe operating procedures when performing their tasks which makes them prone to work related injuries at work.

5.2 PRACTICES OF WORKERS TOWARDS OCCUPATIONAL HEALTH AND SAFETY ISSUES

Table 4.4 demonstrates that 47.92% displayed a poor answer concerning the practice of incidence reporting. Incident rate is a detailed pointer for shortage of correct management in health and safety tool. Recordable occurrences can be injury, diseases or fatalities (Kunal, et al 2008). In this research 47.93% of workers claimed that they report all injuries irrespective of severity. In this study, workers 68.75% used PPE during work. In contrast through researches carried in Western nations, the use of PPE in our population was observed to be lower. It has been established that awareness of the use of PPE rises when there is a sense of accountability for their workers' welfare and safety in the place of work. The willingness and commitment of the executive to give PPE teaching, safety training, orientation before starting work, as well as the existence of supervision, may all add to the effective use of PPE (Gabriel, 2013). Variances in PPE usage can partially be attributed to a absence of awareness and when provision of PPE is obligatory, what tool is required and which PPE they should most highly use. The average score of practices towards OHS issues was 7.084 out of 10 which make up 70.84% which is a good result. The results are consistent with another survey were practice of OSH showed a satisfactory result where mean score before involvement 70% increased to 72% (Suresh Narayanan 2017). There is a relationship between age and injuries of the workers. Young workers have high levels of injuries in the workplace. They are prone to injuries due carelessness which caused by the lack of experience. Therefore they need more experience (Nabesh et al 2013).

CHAPTER 6

6.0 CONCLUSION

In conclusion, knowledge, attitude and practices of OSH issues were sightseen, and positive associations were recorded. OHS training, safety culture, and follow up approaches need to be developed in order to ensure observance to safety measures. This study should be extended to other mines of Zimbabwe in order to improve OHS compliance. Many of the employees had good knowledge, encouraging attitude and fair practice that benefit in decreasing the hazards at work. This research established that there is a relation among the knowledge degree and attitude towards safety and health. It is essential to apply ergonomics at work to avoid musculoskeletal disorders.

6.1 RECOMMENDATION

- Enforcing reward systems to motivate workers to participate in OHS programs.
- Ergonomics training for all the workers.

- Conducting pre tasks risk assessments and on the face risk assessments.
- Periodic OHS trainings on both new and old employees.
- Improving workers participation in decision making.
- Encouraging workers to report all the incidents.
- Acknowledging good OHS practices done by workers
- Providing adequate PPE

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APPENDICES

Appendix 1: Research Questionnaire

Questionnaire of the study

EVALUATION OF KNOWLEDGE, ATTITUDE AND PRACTICES OF OCCUPATIONAL HEALTH AND SAFETY ISSUES AMONG MINE WORKERS

My name is Mitchel Nyasha Chaparadza, Registration Number B1953789 from the Faculty of Agriculture and Environmental Science at Bindura University Science Education. I would like to conduct a study survey at Freda Rebecca Gold Mine. The study is for learning purposes and seeks to evaluate the knowledge, attitude and practices of workers towards occupational health and safety issues. Your voluntary cooperation will be greatly appreciated. All ethical consideration are observed. Feel free to answer.

INSTRUCTIONS TO PARTICIPANTS

1 *Tick on the appropriate answer and fill were ever possible.*

2 *Do not write your name on any part of the paper.*

SECTION A: SOCIO- DEMOGRAPHICS CHARACTERISTICS

1. Age (years): 20-30 ☐ 31-40 ☐ 41-50 ☐ 51+☐
2. Sex: Male ☐ Female ☐
3. Occupation ……
4. Work experience: 0-5 years ☐ 6-10years☐ 11-15years☐ 16 and above ☐

SECTION B: KNOWLEDGE ON OCCUPATIONAL HEALTH AND SAFETY

1. What is a hazard……
2. Who is responsible for your safety……
3. What should be done before you start work?

   Safety talk ☐ wearing my work suit ☐ I do not know☐

4. What are the 5 hierarchy of control in order……
   ……
   ……I do not know☐
5. What are the mandatory PPE for entering the plant ……
   ……..…
   ……I do not know☐
6. Which diseases are caused by dust
   Pneumoconiosis☐ Influenza ☐
7. Name one lifting technique you use…….. I do not know☐
8. Maximum load you should carry when doing manual lifting…….I do not know☐
9. What is the noise level limit at Freda Rebecca Gold Mine

   90 Decibels ☐ 85 decibels☐ I don't know☐

10. Who distributes Personal Protective Equipment? I do not know☐ Supervisor ☐
11. How often do you do housekeeping assessments? Thrice a week☐ Once a month ☐ Everyday ☐ Never ☐

12. In your opinion what is the major reason of wearing dust masks?

……..... I do not know☐

13. How often should workers go for medical check-ups on the job……...

……I do not know ☐

14. What are the 5 priority risks at FRGM? …….....

……

……

	SECTION C:ATTITUDES ON OCCUPATIONAL HEALTH AND SAFETY	
1.	I believe workers and workers are fully accountable for the safety of employees in the workplace	Yes ☐ No ☐ Do not know☐
2.	I believe work-related health and safety campaigns are a successful way to foster and educate employee	Yes ☐ No ☐ Do not know☐
3.	Working health and safety are my highest priority when I do my job.	Yes ☐ No ☐ Do not know☐
4.	I think the health check-ups should be done periodically	Yes ☐ No ☐ Do not know☐
5.	My job highly risky	Yes ☐ No☐ Do not know☐
6.	Do you believe that consistent use PPE gives a guarantee of safety	Yes ☐ No ☐ Do not know☐
7.	Occupational safety must be prioritized	Yes ☐ No ☐ Do not know☐
8.	I always use Personal Protective Equipment	Yes ☐ No ☐ Do not know ☐

9.	Prevention of occupational hazard is a joint responsibility of the Mine management and the staff	Yes ☐ No ☐ Do not know ☐
	SECTION D: PRACTICES	
1.	I do my daily risk assessment every day before l start my work	Yes ☐ No ☐
2.	Did you take any occupational pre-employment training?	Yes ☐ No ☐
3.	I inspect all safety tools and work tools are in harmless condition to use	Yes ☐ No ☐
4.	Do you use personal protective equipment?	Yes ☐ No ☐
5.	I report to the supervisor if the safety tools to do my are is incomplete	Yes ☐ No ☐
6.	I attend safety talks every day	Yes ☐ No ☐
7.	There is signage in the plant that speaks of safety, work behaviour and work instructions	Yes ☐ No ☐
8.	Have you ever been injured at work	Yes ☐ No ☐
9.	Safety issues are given priority during work	Yes ☐ No ☐
10.	I report any safety and health incident at the mine	Yes ☐ No ☐