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Employee Safety Measures as a Means for Enhancing Occupational Health among Casual Laborers in the Manufacturing Industries of Lira City, Uganda

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Abstract

Purpose: Occupational health remains a public health concern worldwide and given that occupational health hazards are disproportionately high among casual workers in the manufacturing industry, this study aimed to assess the efficacy of employee safety measures on the occupational health of casual workers in the manufacturing industries of Lira City.

Methodology: This study employed a descriptive cross-sectional research design using quantitative methods to assess and describe the efficacy of employee safety measures on occupation health of casual workers in Mt. Meru Millers, which is an Agri-processing company dealing mainly in processing of Soya, Sunflower, among other agricultural products into oil, soap, fuel and animal feeds. A sample size of 58 respondents was reached using semi-structured questionnaires. Also, a univariate logistic regression test was used to estimate the bivariate level of association between the dependent and independent variables.

Findings: The results revealed that majority of the respondents (60.8%) reported to have experienced work-related accidents caused by chemical reactions (49.0%), machines (33.3%), sharp objects and falls. The overall occupation health of casual workers in Mt. Meru millers was poor with the biggest occupational health problem being disruption of social relationships as well as violation of workers' ethical, moral and cultural values.

Unique contribution to theory, practice and policy: This study contributes to the understanding of occupational health risks and hazards affecting majorly the low-level laborers who contribute much to the global manufacturing industry (especially those that are still relying on crude methods of production) despite being less-valued by a number of industrialists.

Keywords: *Employee Safety, Occupational Health, Casual Laborers, Manufacturing Industry, Mt. Meru*

1. Introduction

Occupational health remains a public health concern worldwide. Globally, over 2.9 million workers die annually due to occupational accidents and diseases and at least 402 million people suffer from nonfatal occupational injuries. Additionally, over 317 million accidents occur on the job annually (ILO, 2021). Over 95% of these occurrences happen in developing countries (Guidotti & Ivanov, 2020). Additionally, the direct costs of accidents, including sick leave, workers compensation benefits, workplace disruptions, and damaged machinery tremendously affect the progress of the organizations (Premji, Begum, & Medley, 2023).

Occupational health is a branch of public health that focuses on the physical and mental well-being of employees in the work place. It involves identifying and mitigating work place hazards, promoting safe working conditions and addressing health issues that may arise due to work related factors (Gorgenyi-Hegyes, Nathan, & Fekete-Farkas, 2021). Occupational health aims to protect workers from injuries, illness and stress associated with their jobs while also enhancing overall productivity and job satisfaction (Nyaruai, 2019). Occupational health professionals must collaborate with employers to develop and implement safety protocols, conduct safety inspections and provide training to employees on safe work practices (Olutende, Wamukoya, Wanzala, & Wabuyabo, 2021).

The manufacturing sector in Uganda is rapidly growing with a large number of industries and occupations involved. According to Suri and Das (2016) Different industries, owing to their using a diversified range of raw-materials and processes, predispose workers to a variety of risks of differing severity**.** The sector employs permanent workers and temporary workforce (Casual workers) to perform different operations and tasks during different times of the production chain. According to Schminke and Fridell (2021) the manufacturing sector in Uganda has a big bulk of casual workers hired for informal manual labor during different seasons throughout the year . Due to the nature of their hiring with no contracts and appointment with the organizations, their occupational health is thus widely neglected by the employers rendering them vulnerable to the hazardous working environments (Macchi & Stalder, 2023).

The international labor organization (ILO) through the recent convention R207 on safe and health working environment recommendations 2023 has put in place principles to guide and evaluate, the safety of working environment, employee safety and occupational health in organizations (International Labour Organisation, 2023). Additionally, the international and regional agendas including the sustainable development goals (SDGs), Africa's Agenda 2063 and East Africa's Vision 2050 together are in line with promotion of decent work (Pereira, dos Santos, & Pais, 2019). In Uganda, the ministry of gender labor and social development through the Department of Occupational Safety and Health (OSH) is mandated to set policies and laws on occupational safety and regularly evaluate and control physical, chemical, biological, technical and psychosocial factors that affect a person at work and the working environment (DEVELOPMENT, 2021).

Despite all the interventions put in place, the occupational health of casual workers remain neglected in manufacturing sector in Uganda owing to the nature of their hiring with no contracts and appointment with the organizations (Mapira, 2022). This has rendered them disproportionately vulnerable to the hazardous working environments (Macchi & Stalder, 2023). Additionally, there is a paucity of literature that ascertains the occupational health of casual workers in the manufacturing industry as most recent studies in Uganda have focused on other industries like construction, and agriculture. Additionally, there is no study conducted in Northern Uganda to evaluate the occupational health of workers in agri-processing industry. Thus, the purpose of this study was to assess the efficacy of employee safety measures on the occupational health of casual workers in the manufacturing industries of Lira City.

1.1 Problem Statement

The occupational health hazards are disproportionately high among casual workers in the manufacturing industry (Mapira, 2022). The ministry of works, labor and gender formulated clear labor laws and policies to protect all employees'' occupational health and safety (GOU, 2006). In addition, organizations put in place measures to ensure a safe working environment including training the workers and providing them with work guiding manuals and protective gears to protect them from occupational health risks and safety hazards (Olutende et al., 2021). Despite the above measures, the casual workers remain disproportionately facing high employee health hazards and occupation health risks. These are due to organizations not prioritizing casual workers, noncompliance of laws, poor inspection and law enforcement by ministry of works labor and gender. Additionally, ignorance among casual workers about their rights, harassment of worker, cruel managers, long working hours, discriminative work distribution, risky working environment (Mahfirah'eni & Suhardi; Nyaruai, 2019). This has resulted into; loss of lives body disabilities and inability to provide for family, low morale at work, low productivity, and destroying organizational reputation (Mapira, 2022). This study thus sought to assess the Efficacy of employee safety measure on improving occupation health of casual workers in Mt. Meru millers. The study findings would inform the employees, organization administration, Ministry of works, and Non-Government Organizations advocating for rights of employees for effective design of policies and implementation of employee safety measure to protect casual workers in manufacturing industry. Consequently, this study aimed to assess the efficacy of employee safety measures on occupation health of casual workers in Mt. Meru Millers, Lira City. Specifically, we assessed: (a) the employee safety risks among casual workers in Mt. Meru Millers, Lira City. (b) the efficacy of protective gears in improving the occupational health of casual workers in Mt. Meru Millers, Lira City. And (c) the level of effectiveness of regular work place inspections in improving the occupational health of casual workers in Mt. Meru Millers, Lira City.

2.0 Review of related literature

Occupational health refers to the state of complete physical, psychological and social wellbeing of workers in relation to safety and working environment in an organization (Gorgenyi-Hegyes et al., 2021). It is a branch of public health that focuses on the physical and mental well-being of employees in the work place. The discipline of Occupational health has numerous branches such as Ergonomics, toxicology, mental health, hygiene and sanitation at workplace among others. Ergonomics focuses on designing and optimizing work environment, tools and equipment to fit the capabilities and limitations of human body. Toxicology focusses on assessing and managing exposure to hazardous chemicals and other harmful agents (Lindholm, Reiman, & Väyrynen, 2020). Employee safety refers to deliberate act of anticipating, recognition and control of hazards arising in or from work place that could impair the health and wellbeing of workers (Abd Rahman & Kamil, 2022). Employee safety is a legal right to all workers in organizations. The primary objective of employee safety management measures is to prevent or reduce injury and disease burden to a worker and employer as a result of work. Maintaining a health workforce is essential for productivity and efficiency in an organization (Gorgenyi-Hegyes et al., 2021).

In Uganda, the ministry of Gender, Labour and social development designs policies and guidelines to promote a safe and health working environment and protect all workers. These guidelines are a resource for managers, supervisors, procurement officers and all stake holders with a range of information based on risk management approach. The approach involves assessing the risks and control them as far as possible through implementation of mitigation measures (Atusingwize et al., 2019). According to Kelly et al. (2021) the employee Safety measure include; designing a safe working environment with safety equipment like fire extinguishers, ventilators; safety training, creation and enforcement of safety rules, safety investigations and audits among others.

2.1 Manufacturing Industries and Causal Workers

The manufacturing sector in Uganda is rapidly growing with a large number of industries and occupations involved. Prominent among these are agri-processing industries, textile and apparels, leather, paper, chemicals and petrochemicals, glass, metals, pharmaceuticals, food and beverages, computers and electricals, motor vehicles and machinery, mining (gold, ores, petrol and gas, etc.), etc. (African Development Bank, 2022). As stated by Suri and Das (2016), different industries, owing to their using a diversified range of raw-materials and processes, predispose workers to a variety of risks of differing severity**.** The sector employs permanent workers and temporary workforce (Casual workers) to perform different operations and tasks during different times of the production chain. The casual workers are individuals who are hired by an employer when the employer requires them to do work (Murtough & Waite, 2000). According to Schminke and Fridell (2021) In the manufacturing sector in Uganda, a big bulk of casual workers are hired for informal manual labor during different seasons throughout the year. Due to the nature of their hiring with no contracts and appointment with the organizations, their occupational health is thus widely

neglected by the employers rendering them vulnerable to the hazardous working environments (Macchi & Stalder, 2023). Additionally, due to temporary employment, the casual workers commonly have little experience and expertise in safely performing the tasks.

2.2 Employee safety risks among casual workers

According to International Labor Organization report, ILO (2021); over 2.9 million workers die annually due to occupational accidents and diseases and at least 402 million people suffer from nonfatal occupational injuries. Additionally, over 317 million accidents occur on the job annually. And many of these result in extended absence from work. Additionally direct costs of accidents, including sick leave, workers compensation benefits, workplace disruptions, and damaged machinery tremendously affect the progress of the organization (Premji et al., 2023). Casual workers are disproportionately exposed to hazards such as; Fatigue, falls, heat, fumes, bullying, workplace stress, noise, sexual harassment, work place violence (Guidotti & Ivanov, 2020). These could lead to injuries and ill health such as soft tissue injuries, sleep/anxiety disorders, paralysis, deafness, and infections, among other consequences (JD, 2023). Recent reports from ministry of gender, labor and social development highlight that, most casual workers are not conscious of the effect of the environmental factors such as humidity, ventilation, temperature, lighting on their performance and health (Uganda, 2021). In Uganda, the Occupational Health and Safety (OHS) Act Number 9 of 2006 requires all employers to provide a safe working environment and safety measures to employees and employees to comply with safety measures in place (DEVELOPMENT, 2021). However, nonemployees like casual workers who work without contracts or formal appointment letters are not protected by this law. The absence of contracts or formal appointments means they cannot sue employers for compensation in the event of injury, accident, or death (Macchi & Stalder, 2023). This further put the casual workers in the manufacturing sector at a high risk of poor occupational health outcomes.

2.3 Use of protective gears and occupational health of casual workers

Protective gears are equipment or protective clothing used by workers while executing their tasks to protect them from injuries (Olutende et al., 2021). Protective gears including; gloves, hardhats, overalls, safety boots, ear plugs, face shield are critical in reducing the risk of injury and death. For examples the face shields (such as nose masks, safety glasses, and safety googles) protect the face and eye, well as work shoes (gumboots) with slip and puncture resistant soles protect the foot from cuts, sharps and chemicals. Hard work hats protect the head and face, earplugs (earmuffs) protect the ears from damage from noisy operations, and hand gloves of the right size (preferably heavy-duty rubber gloves) protect the hand among other (Olutende et al., 2021). Thus appropriate use of protective gears is a key safety measure requiring compliance by both the workers and the employer (Izudi et al., 2017). Recent studies show low use of Personal Protective Equipment (PPEs) among casual workers in a wide range of industries especially in low resource countries owing to their negligence by the organizations, low level of knowledge of safety measures (Izudi

et al., 2017). According to Munyua (2017), in a study entitled "factors influencing the use of personal protective equipment by motor vehicle repair workers in Kagandaini, Thika" found out that, PPEs were not used by workers for a variety of reasons, such as their unavailability due to cost concerns, their inability to accommodate comfort and speed requirements, their need to conform with other employees, and their false belief that PPEs were not required at work, which may indicate that the employees were unaware of the risks associated with their jobs. These reasons can as well be a hindrance to the use of PPEs among casual workers in manufacturing sector.

According to Wong, Man, and Chan (2020) in a study on "Critical factors for the use or non-use of personal protective equipment amongst construction workers." Suggested that use and non-use of PPE amongst workers are affected by factors related to personal, technological and environmental contexts. These factors included previous accident experience, attitude towards using PPE, habituation, risk perception, safety consciousness, safety knowledge, outcome expectations, perceived ease of use, perceived usefulness, social influence, safety management system (e.g. safety incentives, safety–offence points system, safety rules, safety supervision and safety training), time pressure and workplace conditions (i.e. PPE availability and workplace limitation). These research findings thus suggest that, the determinants of use of protective gears are not only personal factors, rather go beyond the workers' control to include the organizational management and policies. These findings are consistent with the findings of several other researchers on the subject (Munyua, 2017; Olutende et al., 2021; Ramitha, Ankitha, Alankrutha, & Anitha, 2021).

2.4 Regular Work Place Inspections and Occupational Health of Casual Workers

The international labor organization (ILO) through the recent convention R207 on safe and health working environment recommendations 2023 has put in place principles to guide and evaluate, the safety of working environment, employee safety and occupational health in organizations (International Labour Organisation, 2023). Additionally, the international and regional agendas including the sustainable development goals (SDGs), Africa's Agenda 2063 and East Africa's Vision 2050 together are in line with promotion of decent work (Pereira et al., 2019). The ministry of gender labor and social development through the Department of Occupational Safety and Health (OSH) is mandated to regularly evaluate and control physical, chemical, biological, technical and psychosocial factors that affect a person at work and the working environment (DEVELOPMENT, 2021). The OSH Act, 2006 operationalizes article 40(1) of the constitution by making provision for health, safety and welfare of all persons at work. This Act also supports decent employment opportunities and labor productivity in the workplaces in Uganda (GOU, 2006).

Recent studies in Uganda suggest that, there is generally low compliance by the organizations to the occupational safety regulations and the recommendations by inspectors in most sectors (Aurice Wekoye, Nyaora Moturi, & Makindi, 2020; Bagonza et al., 2020). Furthermore, many studies in Uganda have suggested improvements need to be made to facilitate effective workplace inspection

and compliancy of organizations to the recommended standard including; improving the inspection checklist, including psychological workplace factors in legislation, upskill and staffing levels of the inspectorate, technical and financial support to businesses, and continuous engagement with all stakeholders (Karanikas & Hasan, 2022). However, due to seasonal and temporary nature of the employment of casual workers, they are often neglected during the regular inspection by the ministry (Farooqui & Pandey, 2020). Additionally organizations use this gap to off-lay the casual workers on inspection days thus giving an excellent occupational health picture to the inspectors while doing otherwise (Izudi et al., 2017).

There is thus a paucity of literature that ascertains the occupational health of casual workers in the manufacturing industry as most recent studies have focused on other industries like construction, and agriculture. Additionally, there is no study conducted in Northern Uganda to evaluate the occupational health of workers in agri-processing industry. Thus, the purpose of this study was to assess the efficacy of employee safety measures on occupation health of casual workers in Mt. Meru Millers, Lira City.

2. Methods and design

2.1 Research Design

We employed a descriptive cross-sectional research design with quantitative methods to assess and describe the the efficacy of employee safety measures on occupation health of casual workers in Mt. Meru Millers, Lira City. This design was found to be most appropriate as it would elaborate the health risks, employee safety measures and occupational health of casual workers.

2.2 Study Area

This study was conducted at Mt. Meru millers located in the industrial area of Lira City, Lango Sub-region in Northern Uganda. Mt. Meru millers is an Agri-processing company dealing mainly in processing of Soya, Sunflower, among other agricultural products into oil, soap, fuel and animal feeds. Established in 1981, Mt. Meru is one of the leading players in the agricultural sector in Northern Uganda.

2.3 Study Population

This study targeted all casual workers in manufacturing industries in Mt. Meru millers at work during the time of data collection. The study population was 60 casual workers. All casual workers of Mt. Meru millers at work during the time of data collection were included in the study except the Casual workers who were critically ill and thus unable to participate in the study. We employed a simple random sampling to recruit study participants. The sample size was determined using the Yamane (1967) formula. The following assumption were made as follows; n = N / (1 + Ne^2). The total sample size was 58 respondents after the sample size was expanded by 10% due to the non-response rate.

2.4 *Data Collection*

The Semi Structured questionnaire contained the questions generated by the researcher depending on the study objectives and aim. The questionnaires mainly focused on the socio-demographic factors (sex, age, religion, education level and marital status among others), the employee safety risks (like previous experience of work-related accident, tasks executed, health risks exposure, access to first aid among others).

2.5 Data Processing and Analysis

A univariate logistic regression test was used to estimate the bivariate level of association between the dependent and independent variables. The results were summarized into odds ratios at 95% confidence intervals, and p-values. A p-value of ≤0.05 was considered statistically significant at the bivariate level of analysis.

3. Results

This study presents the results on the efficacy of employee safety measures on occupation health of casual workers in Mt. Meru Millers, Lira City.

3.1 Response rate

As shown in the table 1, out of the 58 questionnaires distributed to the respondents, we registered 87.9% response rate. As argued by Mugenda and Mugenda (2005), any response above 50% is sufficient for the study results to be scientifically considered valid.

3.2 Work related Accidents

The prevalence of work-related accidents among casual workers in Mt Meru millers was determined and the results revealed that, majority of the respondents (60.8%) reported to have experienced work-related accidents. The cause of the accidents was ascertained and the results summarized in the table 4.3 below. From the table, the leading cause of accidents among casual workers of Mt. Meru millers was Chemical (49.0%) followed by machines (33.3%) as well as the least cause of accidents was fights (21.6%).

Table 1: Cause of accidents in Mt. Meru industry

Variable	Frequency	Percentage
Fire	12	23.5
Sharp Objects	12	23.5
Falls	13	25.5
Chemicals	25	49.0

Machines	17	33.3
Electricity	15	29.4
Fights	11	21.6

Source: Primary data (2024)

3.3 Risk of health hazards and accidents

The risk of health hazards and accidents was also investigated and the results of the mean and standard deviation of the responses summarized in the table 4.4 below. As shown the table 4.3 below, there is moderate overall average risk of health hazards and accidents 3.392(1.588). Respondents reported high risk of accidents and health hazards due to sharp objects mean (Standard deviation) of 4.1176(1.54463) followed by falls and trips 3.9216(1.36884) well as the fights at workplace was the least risk of health hazards and accidents 2.0588(1.27140).

Table 2: Risk of health hazards

Variable	**Mean**	**SD**
Sharp objects are among the common hazard in my daily work.	4.1176	1.54463
Electric Shocks are a common cause if accidents in Mt. Meru millers.	3.5490	1.78117
The cases of Fire outbreak are common in Mt. Meru millers.	3.0784	1.89571
I am exposed to the injuries by Acids and other chemicals while at work.	3.2353	1.72729
In my work I am exposed to Falls and trips often.	3.9216	1.36884
Falling objects are a common cause of accidents in Mt. Meru millers	3.7843	1.52727
Fights among colleagues and or administrators are a common cause of injuries to casual workers.	2.0588	1.27140
Average Risk	**3.392**	**1.588**

Source: Primary data (2024)

3.4 Occupation health of Casual Workers of Mt. Meru millers

The Occupational health of the respondents (casual workers) was investigated with questions. The results reveal poor overall occupation health of casual workers in Mt. Meru millers mean (Standard deviation) of 2.09412(1.224775). The biggest Occupational health problem reported was

"disruption of social relationships with mean (standard deviation) of 1.8824(1.30609), well as the least reported occupation health problem was "Violation workers' ethical, moral and cultural values" with mean (Standard deviation) of 2.3529(0.98975).

3.5 Use of protective gears

The use of protective gears among casual workers of Mt. Meru millers was investigated using questions with responses graded using 5-point Likert Scale ranging from Strongly Disagree (1) to Strongly Agree (5) and the results of the responses were summarized in the table 4.6 below using mean and standard deviation. The results in the table depict that the overall use of protective gears among casual workers in Mt. Meru is poor mean (Standard deviation) of 1.85686(0.560625). The least used protective gear included the use of head helmet to protect the head mean (Standard deviation) of 1.3922(0.49309) followed by use of ear pads to protect the ears from noise 1.4706(0.57803) and use of protective goggles to protect eyes 1.4902(0.57871). Well as the most used protective gear was the overall used while executing physical work 2.3333(0.55377).

Table 3: Variation in protective gears available at Mt. Meru

Variable	Mean	SD
I use the head helmet to protect my head all the time I am on work	2.7059	1.00764
I am trained and reminded at work on how to use protective gears when i am executing my work	2.5686	1.04412
I use gloves whenever i am handling chemicals or my hands coming in contact with dirty, hazardous materials or risky surfaces	2.7059	1.06384
When i am in field, dirty or risky places; I wear protective foot ware like gumboots.	2.5490	1.00625
There is access to the fire extinguishing gadgets and fire alarms in case of fire outbreak	2.6275	1.07630
Whenever i am exposed to bright light at the workplace, i use protective goggles to protect my eyes from injury	2.0588	1.22330
I use ear pads to protect my ears from the noise at workplace	2.7255	0.91823

I wear overalls when i am executing physical work to protect me from injuries like bruises	2.2549	1.38337
I put on a respirator or face mask when i am working in dusty or smoky environment to protect my lungs	2.1765	1.22810
The organization requires me to put on the protective gears and I am regularly supervised and reminded of safety while at workplace	2.0196	1.22458
Average level of use of protective gears	**2.43922**	**1.117573**

Source: Primary data (2024)

3.5 Regular workplace inspection

The workplace inspection was also ascertained using questions of 5-point Likert scale with responses ranging from Strongly Disagree (1) to Strongly Agree (5). The results of the responses were summarized in form of mean and standard deviation in the table 4.7 below. The results in the table showed that, the overall regular work place inspection in Mt. Meru millers was poor mean (Standard deviation) of 2.07452(0.64045). The worst aspects of inspection reported by the respondents included "the inspectors take information from both administrators as well as the workers" 1.6078(0.66569) followed by "Inspectors regularly visit and inspect our workplace and working conditions of workers" 2.1569(0.67446) and "The previous inspections all proved this organization is a safe working place" 2.1569(0.67446). The bivariate level of analysis was performed using the Chi-Square tests to determine the existence of nature and the degree the relationship between the dependent and independent variables. The results were summarized using the study objectives as follows below.

3.6 Efficacy of protective gears in improving the occupational health of casual workers in Mt. Meru Millers

The Chi-Square test was used to assess the efficacy of use of protective gears in improving the occupational health of casual workers in Mt. Meru millers. This was done after recoding the mean values of the 5-point Likert Scale responses on both Occupational health and use of protective gears to Categorical Variables with the following condition "If mean less than or equal to 3.5, the response was regarded poor well as if the mean response was greater than or equal to 3.60, the mean response was regarded as good." The results revealed a significant relationship at 5% significance level between use of protective gear and occupation health of casual workers (x^2=0.33277, df=1, p<0.05). implying that the use of protective gears is responsible for a third of the changes in the occupation health of casual workers, and since the relationship is positive;

therefore, improving the use of protective gears tremendously improves the occupational health of casual workers.

Table 4: Cross tabulation

		Occupational health		Total
		Good	Poor	
Use of protective gears.	Good	8	2	10
	Poor	1	40	41
Total		9	42	51

Source: Primary Data (2024)

Table 4: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	33.277[a]	1	.000		
Continuity Correction[b]	28.154	1	.000		
Likelihood Ratio	28.121	1	.000		
Fisher's Exact Test				.000	.000
N of Valid Cases	51				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 1.76.

b. Computed only for a 2x2 table

3.7 Effectiveness of Regular Work Place Inspections in Improving the Occupational Health of Casual Workers in Mt. Meru

To ascertain the of relationship between Regular workplace inspection and occupational health of casual workers, a Chi-Square test was performed and the results revealed a significant relationship at 5% significance level between regular workplace inspection and occupation health of casual workers (x^2=0.23459, df=1, $p<0.05$). Hence, regular workplace inspection is responsible for almost a quarter of the changes in occupational health of casual workers and the positive

relationship implies that improving the workplace inspection tremendously improves the occupation health of casual workers.

Table 5: Tabulations

		Occupational health of respondents		Total
		Good	Poor	
Regular workplace inspection.	Good	7	3	10
	Poor	2	39	41
Total		9	42	51

Source: Primary Source (2024)

Table 6: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	23.459[a]	1	.000		
Continuity Correction[b]	19.192	1	.000		
Likelihood Ratio	19.332	1	.000		
Fisher's Exact Test				.000	.000
N of Valid Cases	51				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 1.76.

b. Computed only for a 2x2 table

We examined the efficacy of employee safety measures on occupation health of casual workers in Mt. Meru Millers, Lira City. The study specifically looked at; the employee safety risks, use of protective gears, regular work place inspection and their relationship with the occupational health of casual workers in Mt. Meru Millers, Lira City. We examined the efficacy of employee safety measures on occupation health of casual workers in Mt. Meru Millers, Lira City. The study adopted

a cross section study design to carry out the research with quantitative research approaches. The study looked at the employee safety risks, use of protective gears, regular work place inspection and the occupational health of casual workers in Mt. Meru Millers, Lira City. Below is the summary of findings presented according to the objectives of the study.

Further, we assessed the employee safety risks among casual workers in Mt. Meru millers. The findings reveal that the overall safety risks among casual workers is high, well as the prevalence of work-related accidents is high at 60.8% with the leading causes of accidents including sharps, chemicals, machines among others.

The findings revealed a positive significant relationship between use of protective gear and occupation health of casual workers at 5% significance level (x^2=0.33277, df=1, p<0.05). This means that when the use of protective gears among casual workers in the manufacturing industry improves, their occupation health improves tremendously. Also, we found a positive significant relationship between regular workplace inspection and occupation health of casual workers at 5% significance level (x^2=0.23459, df =1, p<0.05). Therefore, in situations where regular workplace inspection is effectively done and the recommendations met by the Organization, the occupation health of employee including casual workers tremendously improves in the long run.

3.7 The employee safety risks among casual workers in Mt. Meru Millers

The findings revealed that the overall safety risks among casual workers in Mt. Meru millers in Lira City Northern Uganda is high, with a high prevalence of work related accidents at 60.8% which is consistent with the finding by Kiconco et al. (2019) who conducted a study on determinants of occupational injuries among casual workers in building construction in Kampala City, Uganda who also found a high prevalence of 55.7% occupational accidents and injuries. Due to similar study setting, the casual workers in such risky workplaces in Uganda are often illiterate and desperate youth who have little or no experience at executing or handling the machines and chemicals at the workplace. Additionally, there is little monitoring and workplace inspection which simultaneously contribute to the highly risky working conditions at the work place and thus a high resultant prevalence of work related accidents (Kiconco et al., 2019). However, the result is highly above the findings by Rommel, Varnaccia, Lahmann, Kottner, and Kroll (2016) who conducted a study on occupational injuries among casual workers in Germany who found a prevalence of only 7%. The low risk among casual workers in Germany and other developed countries was due to high standards of licensure and monitoring systems by the government and high literacy levels of the workforce. The governments in these countries strictly monitors the workplace environment and issue strict guidelines on how the workers must execute their work including evaluating compensation, use of protective gears, and ensuring a safe work environment (Rommel et al., 2016). Additionally the findings revealed the sharps, chemicals and machines as leading causes of occupational accidents among casual workers in Mt. Meru millers, these findings are consistent with the four leading causes of the occupational accidents ranked by international labor

organization (ILO) worldwide which include sharps, machines, chemicals and falls (Organization, 2021).

3.8 The efficacy of protective gears in improving the occupational health of casual workers in Mt. Meru Millers

The study findings revealed a positive significant relationship between the use of protective gear and the occupational health of casual workers. This finding is consistent with (Sánchez, Rodriguez, & Manuel, 2020; Sehsah, El-Gilany, & Ibrahim, 2020) who said that the use of protective gears by workers doing manual labour such as open field workers, construction workers, cleaners among others, offers them safety and protection from potential accidents from the health hazards in the working environment and from the equipment used while executing their work. Additionally, when the worker is protected from injuries, their confidence and efficiency while executing worker increase leading to a more satisfying working experience and thus improve the overall occupational health of the workers (Sánchez et al., 2020). The results from the bivariate analysis using Chi-Square Test in this study indicates 33.3% of the variation in occupational health of casual workers is a result of use of protective gears. Therefore, improvement in use of protective gears by casual workers would significantly improve their overall occupational health. These findings are consistent with the results from the related studies on the subject such as Sehsah et al. (2020) whose study revealed 39.2% significant association between use of protective gears and occupational health.

3.9 The level of effectiveness of regular work place inspections in improving the occupational health of casual workers in Mt. Meru Millers

There was a positive significant relationship between regular workplace inspection and occupation health of casual workers. This indicates that in instances where regular workplace inspection is effectively handled in terms of regularity and implementation of the recommendations by the inspectors, the occupational health of all workers including casual workers will significantly improve in the long run. The Study findings relates with Adamopoulos and Syrou (2023) who explained that during inspection, workplace inspectors regularly evaluate and control physical, chemical, biological, technical and psychosocial factors that affect a person at work and the working environment. The inspectors therefore make recommendations and demand that the organisation implements these recommendations to ensure safe and healthy work environments. Safe working environment and work schedules that result from the compliance of the organisation to the recommendations and standards by the inspectors minimise the safety risks, and risk of work related accidents and eventually improves the overall occupational health of all workers including casual workers (Adamopoulos & Syrou, 2023). The results from the Chi-Square Test in this study indicate 23.5% of the variation in occupational health of casual workers is explained by workplace inspection. This indicates that nearly a quarter of the changes in occupational health of casual workers is explained by regular workplace inspection. Therefore, any changes in regular workplace

inspection would significantly affect the occupational health of casual workers. This finding is slightly below that of Suleiman (2022) whose study indicated 32.1% level of association. In their study, Suleiman (2022) they explained that, the workplace inspection by public health officials put pressure on organizations to put in place health safety measure and train their workforce so as to minimise the risk of occupational injuries (Suleiman, 2022).

4. Conclusion

From the study findings, the overall risk of health hazards in Mt. Meru millers is high and the prevalence of work-related accidents is high at 60.8% among casual workers. Also, the use of protective gears significantly influences the occupational health of casual workers. However, the use of protective gears among casual workers in Mt. Meru millers is poor. This exposes the casual workers to a very high risk of health hazards in the work environment leading to a high prevalence of work-related accidents and the poor overall occupational health among casual workers. And that the overall work place inspection of Mt. Meru millers by the authorities and implementation of the recommendations was poor. This significantly explains the high the risk of accidents and poor the occupational health of the workers particularly the casual workers in Mt. Meru Millers in Lira City Northern Uganda.

5. Recommendations

From the study findings and conclusions, the following recommendations were made:

a) The Organization should plan to install risk management equipment like fire extinguishers, insulate all electricity wires among others, and train the casual workers on how to prevent the potential sources of accidents while at worker.
b) The Organization should train all the employees including casual workers on the use of protective gears, design policies that require casual workers to use personal protective gears and regularly supervise the casual workers to ensure that always use protective gears while at work.
c) The local government and management of the Mt. Meru Millers as other manufacturing organizations must coordinate and conduct standard and regular workplace inspections and implement the recommendations by improving the areas of weakness in order to enhance the optimum occupational health of casual workers.

References

1. Abd Rahman, N. H., & Kamil, N. L. M. (2022). Strengthening occupational safety and health policy in Malaysia: Exploring the awareness of civil servants. *Public Policy and Administration, 21*(1), 38-54.

2. Adamopoulos, I., & Syrou, N. (2023). *Occupational Hazards Associated with the Quality and Training Needs of Public Health Inspectors in Greece.* Paper presented at the Medical Sciences Forum.
3. African Development Bank, A. (2022). *Eastern Africa's Manufacturing Sector: Promoting Technology, Innovation, Productivity And Linkages.*: AFRICAN DEVELOPMENT BANK GROUP Retrieved from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Eastern_Africa%E2%80%99s_Manufacturing_Sector_-_Promoting_Technology_-Uganda_country_report_November_2022.pdf.
4. Atusingwize, E., Musinguzi, G., Ndejjo, R., Buregyeya, E., Kayongo, B., Mubeezi, R., . . . Bazeyo, W. (2019). Occupational safety and health regulations and implementation challenges in Uganda. *Archives of environmental & occupational health, 74*(1-2), 58-65.
5. Aurice Wekoye, S., Nyaora Moturi, W., & Makindi, S. (2020). Factors influencing non-compliance to occupational safety and health practices in the informal non-food manufacturing sector in Kampala city, Uganda. *Current Journal of Applied Science and Technology, 38*(6), 1-12.
6. Bagonza, A., Peterson, S., Mårtensson, A., Wamani, H., Awor, P., Mutto, M., . . . Kitutu, F. E. (2020). Regulatory inspection of registered private drug shops in East-Central Uganda—what it is versus what it should be: a qualitative study. *Journal of Pharmaceutical Policy and Practice, 13*(1), 1-11.
7. DEVELOPMENT, M. O. G. L. A. S. (2021). *OCCUPATIONAL SAFETY AND HEALTH GUIDELINES FOR OFFICE WORK ENVIRONMENT*. Kampala, Uganda: Retrieved from https://mglsd.go.ug/wp-content/uploads/2021/05/3-OSH-GUIDELINES-IN-AN-OFFICE-2021.pdf.
8. Farooqui, M., & Pandey, S. (2020). Social security for informal workers in India. *CPR ISBN, Available at: Brief_SocialSecurity_InformalWorkers_21Nov2020. pdf*.
9. Gorgenyi-Hegyes, E., Nathan, R. J., & Fekete-Farkas, M. (2021). Workplace health promotion, employee wellbeing and loyalty during COVID-19 Pandemic—Large scale empirical evidence from Hungary. *Economies, 9*(2), 55.
10. GOU. (2006). *THE OCCUPATIONAL SAFETY AND HEALTH ACT, 2006*. Government Of Uganda Retrieved from https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/74417/127312/F-422679778/UGA74417.pdf.
11. Guidotti, T. L., & Ivanov, I. D. (2020). Global Occupational Health: Burden, Strategies, and Challenges. *Handbook of Global Health*, 1-36.

12. ILO, W. a. (2021). *WHO/ILO joint estimates of the work-related burden of disease and injury, 2000-2016: global monitoring report*. Geneva: World Health Organisation, WHO Retrieved from https://www.who.int/publications/i/item/9789240034945.

13. International Labour Organisation, I. (2023). *R207 - Safe and Healthy Working Environment (Consequential Amendments) Recommendation, 2023*. Retrieved from https://www.ilo.org/dyn/normlex/en/f?p=1000:12100::::12100:P12100_INSTRUMENT_ID:4347186.

14. Izudi, J., Ninsiima, V., & Alege, J. B. (2017). Use of personal protective equipment among building construction workers in Kampala, Uganda. *Journal of environmental and public health, 2017*.

15. JD, D. (2023). Sustainability and Human Rights Standards and Instruments Relating to Labor Practices. *Available at SSRN 4551042*.

16. Karanikas, N., & Hasan, S. M. T. (2022). Occupational Health & Safety and other worker wellbeing areas: Results from labour inspections in the Bangladesh textile industry. *Safety science, 146*, 105533.

17. Kelly, F., Bailey, C., Aldridge, P., Brennan, P., Hardy, R., Henrys, P., . . . McGuire, N. (2021). Fire safety and emergency evacuation guidelines for intensive care units and operating theatres: For use in the event of fire, flood, power cut, oxygen supply failure, noxious gas, structural collapse or other critical incidents: Guidelines from the Association of Anaesthetists and the Intensive Care Society. *Anaesthesia, 76*(10), 1377-1391.

18. Kiconco, A., Ruhinda, N., Halage, A. A., Watya, S., Bazeyo, W., Ssempebwa, J. C., & Byonanebye, J. (2019). Determinants of occupational injuries among building construction workers in Kampala City, Uganda. *BMC Public Health, 19*, 1-11.

19. Lindholm, M., Reiman, A., & Väyrynen, S. (2020). On Future Occupational Safety and Health Challenges: A Systematic Literature Review. *International Journal of Occupational and Environmental Safety, 4*(1), 108-127.

20. Macchi, E., & Stalder, J. (2023). Work Rather than Just Cash: Informal Redistribution Among Employers and Workers in Kampala, Uganda.

21. Mahfirah'eni, R., & Suhardi, B. Correlation Overview between Knowledge and Attitudes towards Occupational Safety and Health (K3) with Occupational Accidents.

22. Mapira, N. (2022). *Exploring the lived experiences of casualised workers at a transnational manufacturing firm in Zimbambwe.* University of Johannesburg.

23. Munyua, F. W. (2017). *Factors influencing use of personal protective equipment (PPE's) by motor vehicle repair workers in Kigandaini, Thika.* University of Nairobi.

24. Murtough, G., & Waite, M. (2000). The diversity of casual contract employment.

25. Nyaruai, M. (2019). *Investigation of factors affecting occupational health and safety management practices in the Building Construction Industry in Nakuru County, Kenya.* JKUAT-COHES.

26. Olutende, M., Wamukoya, E. K., Wanzala, M., & Wabuyabo, I. K. (2021). Predictors of Occupational Health and Safety Managementpractices in the Building Construction Industry, Kakamega Kenya. *Journal of Nursinng and Health Science, 10*(2), 43-57.

27. Organization, W. H. (2021). WHO/ILO joint estimates of the work-related burden of disease and injury, 2000-2016: technical report with data sources and methods.

28. Pereira, S., dos Santos, N. R., & Pais, L. (2019). Empirical research on decent work: A literature review.

29. Premji, S., Begum, M., & Medley, A. (2023). Systemic barriers to reporting work injuries and illnesses in contexts of language barriers. *American journal of industrial medicine, 66*(2), 122-131.

30. Ramitha, K., Ankitha, T., Alankrutha, R. V., & Anitha, C. (2021). A cross-sectional study on occupational health and safety of municipal solid waste workers in Telangana, India. *Indian Journal of Occupational and Environmental Medicine, 25*(3), 169.

31. Rommel, A., Varnaccia, G., Lahmann, N., Kottner, J., & Kroll, L. E. (2016). Occupational injuries in Germany: population-wide national survey data emphasize the importance of work-related factors. *PloS one, 11*(2), e0148798.

32. Sánchez, M., Rodriguez, C., & Manuel, J. (2020). *Smart Protective Protection Equipment for an accessible work environment and occupational hazard prevention.* Paper presented at the 2020 10th International Conference on Cloud Computing, Data Science & Engineering (Confluence).

33. Schminke, T. G., & Fridell, G. (2021). Trade Union Transformation and Informal Sector Organising in Uganda: The Prospects and Challenges for Promoting Labour-led Development. *Global Labour Journal, 12*(2).

34. Sehsah, R., El-Gilany, A.-H., & Ibrahim, A. M. (2020). Personal protective equipment (PPE) use and its relation to accidents among construction workers. *La Medicina del lavoro, 111*(4), 285.

35. Suleiman, A. M. (2022). Determining the prerequisites for effective workplace inspection by the occupational safety and health regulatory authority using cognitive work analysis. *International Journal of Occupational Safety and Ergonomics, 28*(3), 1403-1418.

36. Suri, S., & Das, R. (2016). Occupational health profile of workers employed in the manufacturing sector of India. *National Medical Journal of India, 29*(5).

37. Uganda, T. E. O. C. (2021). *ANNUAL REPORT ON THE STATE OF EQUALOPPORTUNITIES IN UGANDA FY 2020/2021; "Promoting equal opportunities and equitable access to social services for inclusive growth and sustainable development".* Kampala, Uganda: The Equal Opportunities Commission Uganda Retrieved from https://mglsd.go.ug/wp-content/uploads/2021/09/ANNUAL-REPORT-2021-23_09_2021-FINAL-pdf-222222222222222222.pdf.

38. Wong, T. K. M., Man, S. S., & Chan, A. H. S. (2020). Critical factors for the use or non-use of personal protective equipment amongst construction workers. *Safety science, 126*, 104663.