CLINICAL WASTE MANAGEMENT IN HEALTH FACILITIES: KNOWLEDGE, ATTITUDE AND PRACTICES IN MULAGO NATIONAL REFERRAL HOSPITAL PEDIATRIC WARDS

BY

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A RESEARCH DISSERTATION SUBMITTED TO THE DEPARTMENT OF NURSING IN PARTIAL FULFILLMENT OF THE REQUIREMENTS TO THE AWARD OF A BACHELOR OF SCIENCE IN NURSING OF KING CEASOR UNIVERSITY

MARCH, 2024

DECLARATION

I, **NIGHT CLARE,** hereby declare that this research dissertation on "**clinical waste management in health facilities: knowledge, attitude and practices in Mulago hospital pediatric wards"** is my original work and has never been submitted before any school, or institution of learning for any academic award of any qualification. Theories, ideas and materials obtained from existing literature and other sources have been fully acknowledged and referenced.

Signed……..…..……. Date……..……

NIGHT CLARE

APPROVAL

I hereby accept this research dissertation by **NIGHT CLAIRE** on **"clinical waste management in health facilities: knowledge, attitude and practices in Mulago national referral hospital pediatric wards"** and approve it for submission to the Department of Nursing of King Ceasor University

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DEDICATION

This research is dedicated with love and gratitude to my family

ACKNOWLEDGEMENT

I am grateful to the Almighty God for having enabled me to complete this research work. This work has not been easy but with his guidance, it has been rendered possible. I would like to express my sincere appreciation to my supervisor Dr. Martin Odoki whose patience, guidance and encouragement made me succeed in producing this work. I also want to thank the health workers from Mulago Hospital Pediatric Wards who agreed to take part in this study. I appreciate.

Special thanks to my family, my colleagues, my friends especially those who encouraged and pushed me to go on and study. I acknowledge them for the moral and physical support. May the Almighty God bless all these people.

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LIST OF ABBREVIATIONS

BMW	**:**	Bio-Medical Waste Management
HIV/AIDS	**:**	Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome
MOH	**:**	Ministry of Health
NSA	**:**	Needle stick accident
WHO	**:**	World Health Organization
SOPs	**:**	Standard operating procedures

DEFINITIONS OF KEY TERMS

Clinical waste is commonly defined as a type of waste that has the potential to cause infection or disease. It is healthcare waste that that may be contaminated by blood, body fluids or other potentially infectious materials and is often referred to as regulated medical waste.

Healthcare workers are those who delivers care and services to the sick and ailing either directly as doctors and nurses or indirectly as aides, helpers, laboratory technicians, or even medical waste handlers. There are approximately 59 million healthcare workers worldwide.

An attitude is a settled way of thinking or feeling about something.

Knowledge is facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject.

ABSTRACT

The study investigated the health workers' knowledge, attitude and practices about clinical waste management in Mulago hospital pediatric ward. The specific Objectives of the Study were; to examine workers' knowledge about clinical waste management in Mulago hospital pediatric ward and to determine attitudes of health care workers about clinical management in Mulago hospital pediatric ward and to identify health workers' practice about clinical management in Mulago hospital pediatric ward. The research employed a descriptive, cross-sectional design with quantitative research approaches. Data collection methods include questionnaires, and key informant interviews. The sample size comprises 52 participants, including health workers at Mulago National Referral Hospital. The study revealed that the respondents demonstrate a strong understanding of key aspects such as standards and regulations, waste categorization, and proper segregation and disposal practices. However, there are areas where knowledge could be improved, particularly in responding to blood exposure accidents and segregating sharp clinical waste. The findings revealed that a significant proportion of respondents expressed agreement with the importance of proper waste handling. For example, 56% believed that waste management in the pediatric ward is proper, indicating confidence in current practices. Additionally, 60% affirmed that waste management is their duty, reflecting a strong sense of responsibility. Respondents also demonstrated awareness of safety measures in waste management, with 77% agreeing that waste must be collected carefully. Moreover, 62% advocated for consistent glove usage to prevent exposure-related risks. The study findings also revealed that there is a mixed level of adherence to recommended practices. A significant proportion consistently use rubber gloves during medical services, indicating a positive approach to protecting against exposure to hazardous materials. Additionally, there is strong compliance with proper disposal practices for sharp clinical waste, with a majority consistently using hard containers. Respondents also demonstrate proactive behavior in promptly addressing spills of liquid clinical waste. However, areas for improvement exist, particularly regarding consistent use of personal protective equipment when picking up trash and ensuring thorough hand hygiene after contact with medical waste. Finally, it was recommended that the hospital administration should ensure that adequate resources, including personal protective equipment (PPE), waste disposal containers, and signage, are readily available to support safe waste management practices. Investing in these resources not only enhances safety but also reinforces the positive attitudes observed among healthcare workers towards waste management.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

This chapter presents the introduction, background, statement of the problem, purpose, objectives of the study, the questions to be answered in the study and scope of the study and significance of study.

1.2 Background to the Study

Clinic wastes are considered the second most hazardous wastes globally after radiation waste (Moran et al., 2019). Health- care wastes encompass various forms of waste such as sharps, human body parts, blood, chemical wastes, pharmaceutical wastes, and medical devices (Roy & Robillard, 2018). These wastes are majorly generated from hospitals and primary care facilities, laboratories, mortuaries, autopsy centers, laboratories, blood banks, nursing homes among others. Healthcare wastes can have devastating effects on human health if not properly handled. Mismanagement of "clinical wastes" can result into various hospital-acquired infections, occupational health hazards and food contamination. In addition, mismanaged wastes such as sharps contaminated with blood facilitates transmission of infections such as hepatitis B, hepatitis C, HIV/AIDs and other viral infections (Marsh et al., 2018). Health care workers, patients, workers in support services, visitors to health facilities, waste handlers, scavengers, fetuses in the wombs, and the general public are susceptible to these infections.

Globally, WHO (2015) stated that 30 to 50% of all needle stick accidents occur during clinical procedures (WHO, 2015). The determinants of needle stick accidents includes; over use of injections, lack of supplies, poor disposal of syringes, safer needle devices and disposal containers, lack of access to and failure to use sharp containers immediately after injection, inadequate staffing, recapping of needles after use, lack of engineering controls such as safer needle devices,

passing instruments from hand to hand in the operating suite, lack of awareness of hazards and lack of training. This was associated with clinical waste management practices, attitude and knowledge in the health facilities.

Clinical waste among chemical waste, radioactive waste, cytotoxic waste, pharmaceutical waste and general waste is classified under hospital waste. Medical waste includes sharps, laboratory and associated waste, human tissue and carcasses used for research purposes. Each classification must be disposed according to the prescribed guidelines (Chertier et al., 2014). Methods of disposal of waste are incineration, sterilization, chemical disinfection and secured landfill. Segregation of medical waste must be done at the point of generation. This should be done by discarding the medical waste in color coded containers. Incineration, chemical disinfection and microwaving are methods of disposing sharps. Radioactive waste must be handled, stored and disposed in accordance with the prescribed legislature (Moran et al., 2019). Laboratory and associated waste directly involved in specimen processing can be disposed either through incineration or chemical disinfection. Human tissue must be disposed through incineration. Disposal of pharmaceutical waste depends on the composition of the materials. It must be stored in non-reactive containers and disposed through incineration.

In developing countries especially in Africa, healthcare waste has not received the much needed attention that it deserves (Abor, 2020). This is because of the inadequate resources in these countries resulting into low priority for clinical waste management. In many countries, there is limited segregation of hazardous and medical wastes and usually mixed with non-infectious waste. Inadequate knowledge and unsatisfactory management practices among the health care workers are major challenges in the management of clinical waste. Previous research indicate that clinical

waste management may be affected by lack of formal training, lack of knowledge on clinical waste management, limited interest from hospital administration.

1.3 Problem Statement

In Uganda, the clinical waste generated is averaged at 92 Kilo- grams (Kg) per day in hospital while primary health care facilities (Level IV health centers, level III health Centre and level II Health Centre) generate about 42Kg, 25 kg and 20 kg respectively on daily basis. Moreover, most of these primary health care facilities lack proper clinical waste management facilities (Masagazia and Nimwesiga, 2022).

Despite the policy guidelines on injection and clinical waste management developed by the Ministry of Health, Uganda, there is sufficient evidence that clinical waste including in Kampala health facilities is not properly handled. Although health care workers are routinely involved in managing clinical waste at their workstations, there is little published data on clinical waste management among health workers and more especially in primary health care facilities. Previous studies on clinical waste management in East Africa were mainly conducted in high level health facilities (hospitals) and not primary health care facilities. These studies also explored more on at facility management level and did not explore clinical waste management among health workers. There is paucity of studies conducted to assess the management of clinical waste among health workers in primary health care facilities and factors that may influence it. This study therefore seeks to understand clinical waste management practices among health workers in at Mulago Hospital Pediatric Ward.

1.3 Objectives of the Study

1.3.1 Purpose of the study

To examine assess health workers' knowledge, attitude and practices about clinical waste management in Mulago hospital pediatric ward.

1.3.2 Specific objectives

i. To examine workers' knowledge about clinical waste management in Mulago hospital pediatric ward
ii. To determine attitudes of health care workers about clinical management in Mulago hospital pediatric ward
iii. To identify health workers' practice about clinical management in Mulago hospital pediatric ward

1.4 Research Questions

i. What is the health workers' knowledge about clinical waste management in Mulago hospital pediatric ward?
ii. What are attitudes of health care workers about clinical management in Mulago hospital pediatric ward?
iii. What are health workers' practices about clinical management in Mulago hospital pediatric ward?

1.5 Scope of the Study

The scope of the study was categorized into the following;

1.5.1 Content Scope

The study mainly focused on determining the health workers' knowledge, attitude and practices about clinical waste management. The study specially focussed on assessing health workers' knowledge about clinical waste management, determining attitudes of health care workers about clinical management and identifying health workers' practice about clinical management.

1.5.2 Geographical Scope

The study was conducted at Mulago Hospital Pediatric Ward. Mulago Hospital is located in Kampala, in the central region of Uganda.

1.5.3 Time Scope

The research considered a period of 5 years as a basis for getting enough, relevant and justified information related to clinical waste management, knowledge, attitude and practices.

1.6 Significances of the Study

Medical services have many risk factors that adversely affect the health of hospital personnel in particular. Therefore the findings of this study may be beneficial to;

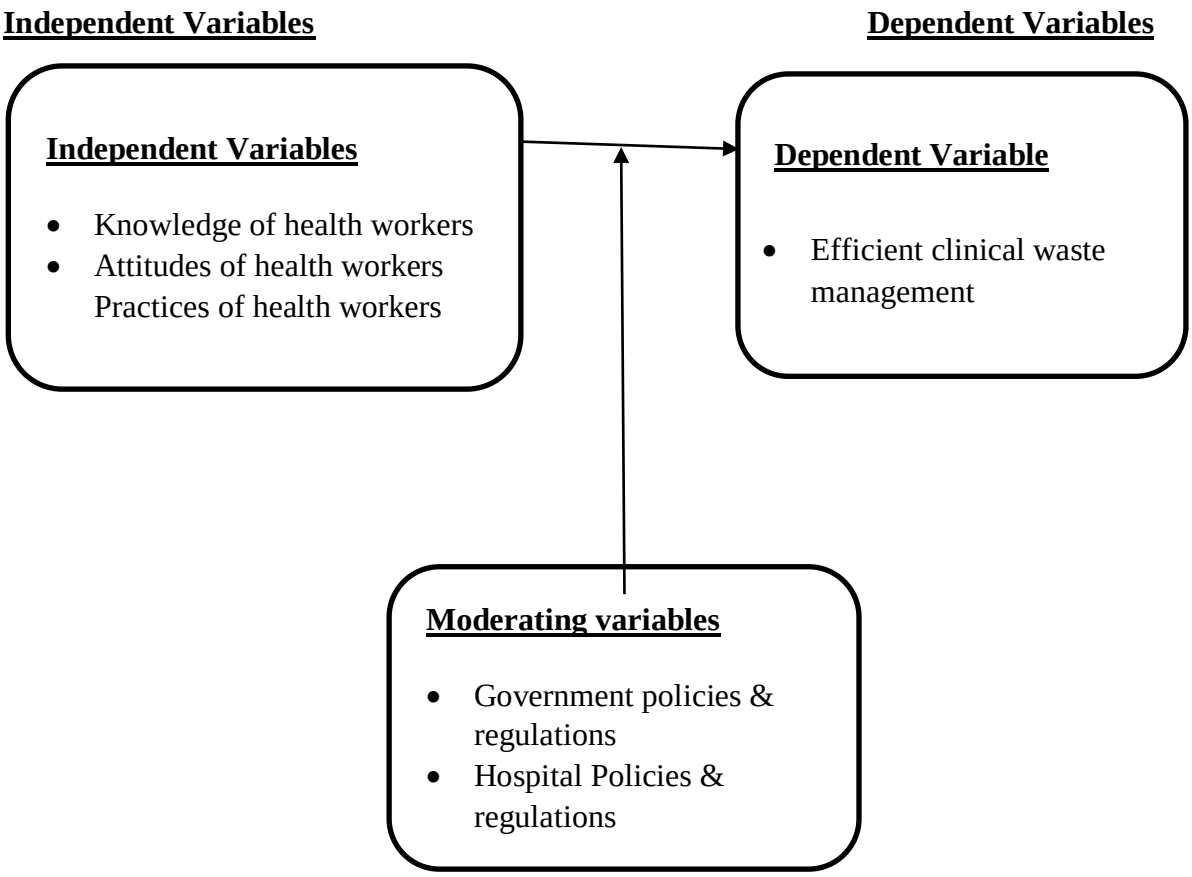
Nursing practice in terms become active participants of safety campaigns through health education about adherence to universal precautions.

The study findings may be incorporated in the nursing curriculum to enhance teaching and learning of student nurses about knowledge, attitude and practices towards prevention and management of clinical waste.

The study findings may be used as a reference by other researchers with similar interest in assessing knowledge, attitudes and practices about clinical waste management.

1.7 Conceptual Framework

Figure 1: Conceptual Framework health workers' knowledge, attitude and practices about clinical waste management in Mulago hospital pediatric ward.



Source: Adopted from Marsh et al., (2018) and modified by the researcher

The Independent Variable encompassing the Knowledge, Attitude, and Practices of Healthcare Workers towards Clinical Waste Management, is considered the influencing factor affecting the Dependent Variable, which is the Clinical Waste Management specifically within Mulago

Hospital's Pediatric Wards. Knowledge of Healthcare Workers encompasses the understanding and awareness of healthcare workers regarding proper clinical waste segregation, disposal, and safety measures in pediatric wards. Attitudes of Healthcare Workers include disposition, beliefs, and emotional responses of healthcare workers towards clinical waste management. It includes their perceived importance of waste management, responsibility, and commitment to proper disposal practices. Practices of Healthcare Workers Encompasses the actual behaviors and actions of healthcare workers regarding clinical waste handling, including segregation, storage, and disposal methods implemented in the pediatric wards**.**

Efficient clinical waste management practices involve the effective handling, segregation, disposal, and monitoring of waste generated in healthcare settings. These practices aim to ensure the safe, hygienic, and environmentally responsible management of various types of waste, including potentially hazardous materials like used sharps, infectious materials, and other medical waste.

Both government and hospital policies serve as moderating variables by establishing frameworks that influence the extent to which clinical waste management practices are enforced and followed within healthcare facilities. Their roles in setting standards, outlining procedures, and ensuring compliance significantly impact the overall effectiveness and consistency of waste management efforts, ultimately contributing to a safer and more environmentally responsible healthcare environment.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the review of literature related to the clinical waste management in health facilities: knowledge, attitude and practices in Mulago hospital pediatric ward.

2.2 Health workers' knowledge about clinical waste management

A cross sectional study conducted in southern England to know the knowledge of health care workers regarding glove techniques and precautions followed in needle stick injury at a teaching hospital showed knowledge was low in relation to standard precautions to be taken to avoid needle stick injury despite a 70% level of awareness (Scoular et al., 2017).

In a study conducted in Nigeria, most of the health care workers had knowledge about the diseases transmitted by contaminated sharp objects. Most of the health workers acquired knowledge of blood borne disease mainly from the lectures 98.3%, books 90.8% and informally 81.6% (Roy and Robillard, 2018). In a related study in Ethiopia all of the participants (n = 250, 93%) identified blood as the most infectious body fluid that can transmit infections through NSA and therefore considered gloving as a precautionary measure to prevent NSA (Gilbert et al., 2017).

Mujeeb et al. (2018) revealed in a study about the knowledge of nursing staff in a rural hospital of Cameroon that most of the respondents had poor level of knowledge about the prevention and management of needle stick accidents as Post Exposure Prophylaxis following needle stick accident.

Knowledge of health care workers with regard to medical waste disposal management also plays a role in its improvement. A study conducted among hospitals of Allahabad City in India onm knowledge about medical waste revealed that doctors, nurses and laboratory technicians had better knowledge than general assistants regarding disposal of medical waste (Mathur, Dwivedi, Hassan & Misra, 2019).

A study conducted in Gondar Town, North West Ethiopia in 2018, on medical waste disposal practices among health care workers indicated that the majority of health care workers had a low level of knowledge on the existence of manuals on medical waste, types of medical waste, color coding of containers for waste and the importance of waste segregation (Yenesew, Moges, Woldeyohannes, 2018).

Another study conducted at Iganga general hospital about knowledge, attitude and practice of health workers on medical management showed the respondents' had generally good knowledge, a fairly keen attitude on the subject and somewhat fair practice on medical waste management (Babrye, Josephine, 2017).

Medical students being the future health workers there is need to equip them with sufficient knowledge on medical waste management. A study conducted among the final year students of the Lahore Medical & Dental College, Lahore, It was surprising that only 8(8%) final year

Medical students had excellent knowledge about infectious waste generated from a health care facility, while 92(92%) of students had poor knowledge about it (Humayun mirza, et al, 2016). A study on Knowledge, Attitude and Practices of Bio-Medical Waste Management Amongst Staff of Institutional Trauma Center Level II of a medical teaching institute in Northern India, It was

found that medical had inadequate knowledge regarding biomedical waste management (Singh Ajai, 2017).

It is important that health care workers right away from medical school access and have knowledge of policies and guidelines for medical waste disposal to enable them to practice safe disposal methods. A study conducted an analysis among health care workers on medical waste disposal in Agra indicated a deficiency in knowledge of health care workers regarding legislation associated with medical waste disposal(Lakshmi and Kumar ,2018).

A study which was conducted at Johannesburg hospital in South Africa in 2018 on knowledge and practices of doctors and nurses about management of medical waste revealed that there was a significant association between knowledge and access to documents. Health care workers who had access to documents related to medical waste were reported to have good medical waste practices (Ramokate & Basu, 2019).

Most medical doctors in practice possess sufficient knowledge on waste management than other health workers though they lag in its practice. The study to assess knowledge, attitudes, and practice of health care providers towards waste management at Ain shams university hospital Cairo, Egypt showed the percentage of physicians with satisfactory knowledge score (68.3%) on waste management was significantly nurses (60.9%).however in practice, the percentage of nurses showing satisfactory practice scores (84.8%) was significantly higher that of physicians (S.A. Hakim et al, 2017).

It is therefore important to equip future health workers is enough knowledge about hospital waste management in addition to bachelors of medicine curriculum. in a study conducted among the final

year students of the Lahore Medical & Dental College, Lahore, (46%) students agreed that hospital waste management course in community medicine was sufficient to practice / handle waste in hospitals, however 34(34%) did not agreed to it and 20(20%) were on neither side. 62(62%) of the students have emphasized that college should organize separate classes or continue medical education program to upgrade knowledge about hospital waste management (Humayun mirza, et al ,2016)

2.3 Attitudes of health care workers about clinical management

In a study conducted in Pakistan, 47% of health workers strongly disagreed with the statement that "If health care workers get infected with HIV infection due to NSA, they should resign from their profession" Maupome et al., (2017). In Indonesia study by Mekenzie et al., (2019), the lack of Post Exposure Prophylaxis was a motivating factor for observing safety precaution for prevention of NSA in more than 60% of health workers interviewed thus they had positive attitudes towards standard operating procedures for prevention of NSA.

Nsubuga et al., (2018) documented about a study on Needle Stick Injuries among nurses in sub-Saharan Africa that most respondents not only had poor level of knowledge about the prevention and management of needle stick accidents but also had negative attitudes towards patients with known infectious diseases, thus rendering inadequate health care services.

A study by Reis et al. (2019) in Nigeria showed that majority of the health workers (68.3%) perceived themselves to be at a very high risk of acquiring HIV infection during their medical career and were not willing to go for psychological counselling. The common reasons for perceived risk of acquiring HIV infection were due to needle pricks/cuts during surgical

procedures (32.4%), frequent exposure to the blood/ secretions of patients (28.5%) and insufficient availability of gloves (17.6%).

A study in Tanzania by Dement et al., (2015), revealed that most health workers (65%) expressed fear of stigma from NSA and were skeptical about protection from Needle stick injuries as they considered it inevitable due to understaffing (45%) and poor working conditions (55%) such as lack of safety boxes. In Kenya study by Supapvanich et al., (2020), 23.2% of the respondents were of the opinion that health workers in future might lose interest in the medical profession due to the increasing risk of HIV infection and few (3.1%) were even considering to leave the medical profession for fear of NSA.

In study in Uganda, by Nanyunja et al., (2019), 81.1% of health workers strongly agreed to the statement, that "Reporting after needle stick injury is not much useful" but in a study by Mekenzie et al., (2019), it was identified that the common reasons for not reporting of NSIs that warrant attention and there is little perceived benefit to reporting occupational exposure, especially when reporting can result in punishment, blame or even job loss.

Though in real situation good knowledge should translate to attitudes and practices in regards to medical waste management, a study in kothamangalam among dental health care personnel about their knowledge, attitudes and practices on biomedical waste concluded that although the attitude regarding biomedical waste management among faculty members and students of the institution was high. (Sanjeev et al, 2014).

Medical doctors despite being the heads of the health sector have a very low attitude towards medical waste than other health care workers .A study on Knowledge, Attitude and Practices of

Bio-Medical Waste Management Amongst Staff of Institutional Trauma Center Level II of a medical teaching institute in Northern India, Nursing professionals had an upper hand over the clinicians as far as attitude and practice of BMW management is concerned, although their depth of knowledge on the subject was relatively low,(Singh Ajai, 2017).

Students had a positive attitude towards biomedical waste management according to a study on knowledge and attitude of students regarding biomedical waste management among students of shaheed karta singh sarabha group of colleges. (Gursangeet sidhu, 2015).

2.4 Health workers' practice about clinical management

Orji et al., (2017), in a study investigating occupational health hazards among health care workers in an obstetrics and gynecology unit of a Nigerian teaching hospital found out that nearly half of the staff had poor practices towards the prevention and management of needle stick accidents as they were recapping used needles.

In a related study in Zambia, Mittal et al., (2015), found out that 70% of the nurses were not adhering to the Standard Operating Procedures (SOPs) despite charts on the wards on walls to guide health workers on SOPs such as hand washing and gloving.

Studies in Kenya by Naumanen, (2020), showed that a greater percentage of doctors (90%) compared to nurses (54%), midwives (51%) and ward orderlies (32%) used safety precautions such as gloves, face masks and aprons. All the staff employed regular hand washing after various procedures. However no category of staff adopted regular proper disposal of needles and sharps into separate puncture-resistant containers and about 59% of the staff recapped used needles.

Babajide, (2017) in a study about the management of occupational exposure to the human immunodeficiency virus among health workers in Uganda showed that there were poor practices towards the prevention and management of needle stick accidents.

It was also noted in the study that nurses and midwives did not avoid risky practices such as recapping used needles as well as hand to hand passage of sharp tools and equipment. Chan, (2019), documented in a study in a teaching hospital in Uganda that the majority of health care workers had poor practices towards the prevention and management of needle stick accidents as they recapped used needles, collected, segregated and disposed sharps.

In contrast to the above, Naumanen, (2020), revealed in a study about Finnish occupational health nurses' work and expertise that the majority of health workers interviewed had good practices towards the prevention and management of needle stick accidents as they strictly followed the recommended safety measures for prevention of occupational health.

It is the responsibility of each hospital to ensure that waste generated is disposed safely to prevent harm to the people and the environment. All health care workers are expected to follow the policies and guidelines for waste disposal. Teaching hospitals must involve students in waste management program. Each hospital must develop a waste management strategy to ensure that all relevant regulatory requirements are met. Waste management plans should also be developed as part of the overall strategy. A designated waste officer or committee must ensure that the waste management plan is implemented.

2.5 Summary of Literature review

The review of existing literature underscores the significance of healthcare workers' knowledge in clinical waste management. Studies emphasize the crucial role of comprehensive training

programs and ongoing education in enhancing healthcare workers' understanding of proper waste segregation, disposal methods, and safety measures. Research highlights the correlation between knowledge levels and adherence to waste management protocols, suggesting that a strong knowledge base among healthcare workers is pivotal for effective clinical waste management.

Attitudes among healthcare workers play a vital role in influencing their behaviours towards clinical waste management. The literature emphasizes the importance of positive attitudes, such as a sense of responsibility, commitment to safety, and belief in the significance of proper waste handling. Conversely, negative attitudes, such as indifference or lack of perceived importance, can hinder adherence to waste management protocols. Understanding and addressing factors shaping attitudes are crucial for fostering a culture of responsible waste management among healthcare workers.

Healthcare workers' practices in clinical waste management are influenced by various factors, including institutional protocols, resource availability, and individual behaviours. Studies reveal that practical challenges, such as inadequate resources or infrastructure, can hinder optimal waste disposal practices. Moreover, the influence of peer behaviours and institutional culture significantly impacts individual practices. Research emphasizes the need to assess current practices comprehensively while identifying barriers and facilitators to promote adherence to best waste management practices in paediatric wards.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter includes the methods and instruments the researcher used in the process of data collection and analysis. It describes the research design that was used by the researcher, data sources and collection tools, processing and analyzing of data and limitations of the study.

3.2 Research Design

The study used cross-sectional research design. Cross-sectional study design is a type of study that uses different groups of respondents who differ in the variable of interest but who share other characteristics such as socioeconomic status, educational background among others. The study also adopted a quantitative research approach. The quantitative approach aimed to gather measurable data concerning observable individual behaviors within the sample, permitting statistical analysis

3.3 Study Population

The population of the study consisted of 60 respondents including health workers and support staff, at Mulago hospital pediatric ward.

3.4 Sample Size

The researcher used a sample size of 52 respondents from a total of 60 respondents who were selected based on Krejcie and Morgan (1970) sampling guidelines using who were selected based on Krejcie and Morgan (1970) sampling guidelines using the following formula to determine sampling size:

$$S = X^2NP\ (1-P)/\ d^2\ (N-1) + X^2P(1-P)$$

S = required sample size

X^2 = the table value of chi-square for one degree of freedom at the desired confidence level

N = the population size

P = the population proportion (assumed to be .50 since this would provide the maximum sample size)

d = the degree of accuracy expressed as a proportion (.05)

3.5 Sampling Techniques

The study used convenience sampling technique. This involved selecting participants based on their ease of access and availability, which can be practical in certain research settings. In the context of selecting healthcare workers and support staff for a study on clinical waste management in Mulago National Referral Hospital, convenience sampling involved identifying and approaching healthcare workers and support staff who are readily available and accessible within Mulago hospital pediatric ward.

3.6 Eligibility criteria

3.6.1 Inclusion Criteria

- Health workers and support staff currently working in pediatric ward at Mulago National Referral Hospital, Kampala District.

- Health workers and support staff who were willing to participate in the study and provide informed consent was included in the study.

3.6.2 Exclusion Criteria

Health workers and support staff at Mulago National Referral Hospital but not working in pediatric ward were excluded from the study.

3.7 Data Collection Procedure

The process of gathering data for this research began by seeking permission from the head of pediatric ward at Mulago National referral hospital. Upon receiving approval, the researcher conveniently selected a group of Health workers and support staff from the ward. These chosen respondents were briefed about the aims and methods of the study, and their voluntary involvement was requested by obtaining informed consent.

3.8 Data collection methods and tools

3.8.1 Questionnaire

A self-administered questionnaire (SAQ) was exclusively crafted for respondents to complete autonomously, without the researcher's involvement in data collection. Attention was given to crafting precise questions and formatting the questionnaire to prevent any potential measurement errors. A designed structured survey questionnaire containing closed-ended questions was developed to gather quantitative data for this research. This method of data collection was preferred as it offers a high level of assurance in maintaining respondent anonymity and confidence. Additionally, it allowed for dissemination to a larger participant pool, saving both time and resources for the researcher. The questionnaire was distributed among health workers and support staff in pediatric ward at at Mulago National Referral Hospital, Kampala District.

3.9 Validity and Reliability

3.9.1 Validity

For the study to be valid, the supervisor validated the instrument. Given the study problems, theory and literature. CVI of the alpha coefficient of 0.70 is good to validate the tools.

$$CVI = \frac{\text{Relevant Items X 100}}{\text{Total Items}}$$

3.9.2 Reliability

Ensuring reliability in research involves maintaining the consistency and stability of the tools used to measure specific aspects. It essentially determines how reliably a set of variables can generate consistent and repeatable outcomes. This study prioritized reliability by employing diverse techniques, including testing and pre-testing methods in other organizational settings. Furthermore, the questionnaire itself underwent evaluation to confirm its capacity for delivering accurate results. The Cronbach Alpha Index, gauging internal consistency, was also applied using SPSS software to assess the reliability of the instruments. A Cronbach Alpha Index value of at least 0.7 is recommended.

3.10 Data Analysis

The data collected was compiled, sorted, edited, classified and coded into a coding sheet and analyzed using SPSS version 23. The quantitative data obtained from the survey questionnaire was analyzed using descriptive statistics to summarize the data, to make broader conclusions about the population based on the sample. The analysis was conducted using suitable statistical software such as SPSS Data was presented using Frequency tables, pie charts and graphs.

3.11 Ethical Considerations

Informed Consent: Prior to their participation, individuals received comprehensive information about the study's purpose and their involvement. Their consent, provided in writing, was sought before their engagement.

Confidentiality and Anonymity. Collected data was kept confidential, stored securely, and any reports or publications arising from the study omited participants' names and identifiable information.

Respect for Participants: Throughout the study, utmost respect, dignity, and sensitivity was maintained towards the participants. They did not face any form of harm, exploitation, or discrimination. Their perspectives and opinions were valued and carefully considered in the analysis of the data.

CHAPTER FOUR: DATA PRESENTATION, AND DISCUSSION OF FINDINGS

4.0. Introduction

This chapter highlights the teaching characteristics of the respondents and presents the findings that were generated from interactions on to clinical waste management in health facilities: knowledge, attitude and practices in Mulago Hospital Pediatric Ward. The study was based on the study objectives which included; To examine workers' knowledge about clinical waste management in Mulago hospital pediatric ward; To determine attitudes of health care workers about clinical management in Mulago hospital pediatric ward and to identify health workers' practice about clinical management in Mulago hospital pediatric ward.

4.1 Response Rate

Table 1: **Showing Response rate**

Instrument	Issued out (F)	Filled	Percent (%)
Questionnaire	**52**	**52**	100%

Table 3 shows the distribution of the respondents according to the instruments used by the researcher that, all the targeted respondents (100.0%) participated by answering the questionnaires.

4.2 Demographic characteristics of the Respondents

4.2.1 Gender

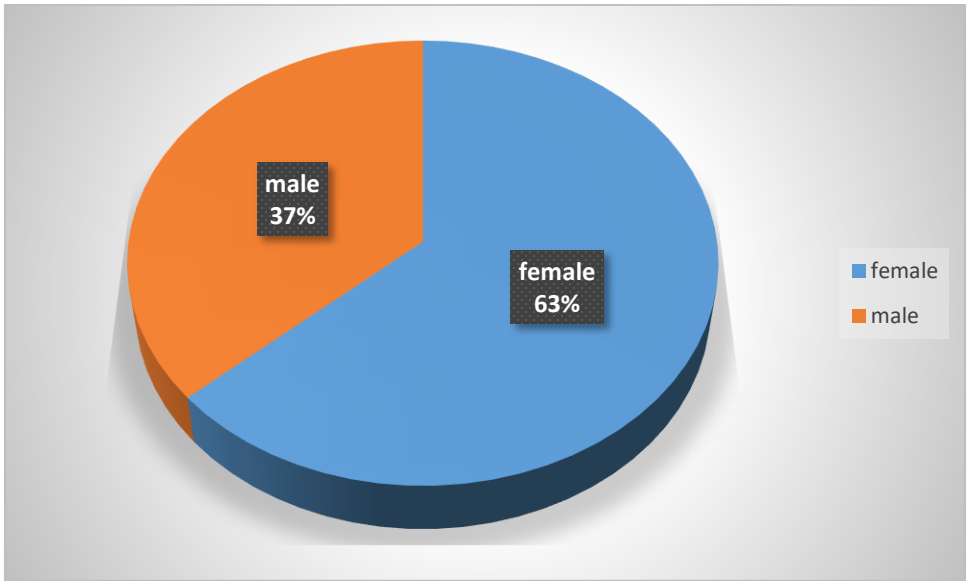


Figure 2 Education status

The findings suggest that within the studied population, females comprise 63.5%, while males make up 36.5%. This indicates a significant gender disparity, with a higher proportion of females represented compared to males. Further analysis may explore the reasons behind this imbalance and its implications within the context of the study or population under investigation.

4.2.2 Gender of the Respondents

Table 2: Age group

Age group	Frequency	Percent
Below 20 years	0	0.0%
20 – 25	5	9.6%
26 – 30	16	30.8%
31 – 35	14	26.9%
36 - 40	11	21.2%
Above 40	6	11.5%
Total	52	100.0

The findings revealed that the age group with the highest representation among the participants in this study was the 26 – 30 years category, comprising 30.8% of the total sample and the 31 – 35

years age group accounted for 26.9% of the participants. There were no participants below 20 years of age, indicating a potential limitation in capturing perspectives from younger individuals in the study. It is notable that the distribution of participants skewed towards younger adults, with individuals aged 26 to 35 years collectively representing over half (57.7%) of the total sample.

4.2.3 Level of Education Qualification

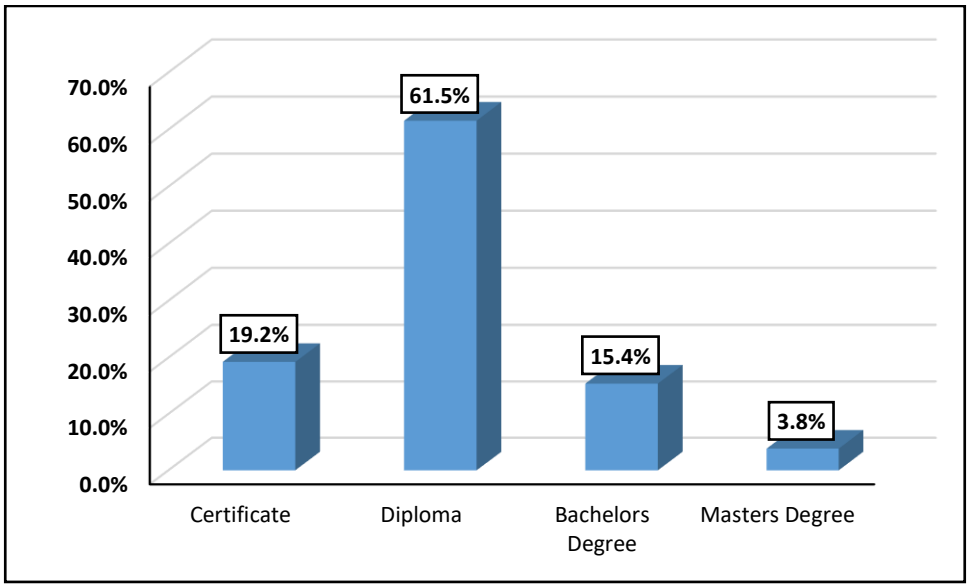


Figure 3: Level of education Qualification

The data reveals the educational qualifications of the participants in the study. Specifically, 61.5% of the participants held diplomas, while 19.2% possessed certificates. Additionally, 15.4% of the participants had obtained bachelor's degrees, and a smaller proportion, 3.8%, had attained master's degrees. This distribution highlights a predominant presence of individuals with diplomas, followed by those with certificates and bachelor's degrees. Conversely, individuals with master's degrees were least represented in the sample. Understanding the educational background of the participants is crucial for contextualizing their perspectives and expertise in clinical waste management in health facilities: knowledge, attitude and practices in Mulago Hospital Pediatric Ward.

4.3 Health workers' knowledge about clinical waste management in Mulago hospital pediatric ward.

The first objective was to assess Health workers' knowledge about clinical waste management in Mulago hospital pediatric ward are as below using a 5-point Likert scale SD=strongly disagree, D=disagree, NS=not sure, A=agree, SA= strongly agree)

Table 3: Knowledge of Health workers' knowledge about clinical waste management in Mulago hospital pediatric ward

Knowledge	SD		D		NS		A		SA	
	F	%	F	%	F	%	F	%	F	%
I know the standards and regulations on clinical waste management	32	62%	15	28.8%	5	9.6%	0	0.0%	0	0.0%
I know the best course of action for blood exposure accident	25	48%	27	51.9%	0	0.0%	0	0.0%	0	0.0%
Waste generated from healthcare activities is clinical waste	31	60%	21	40.4%	0	0.0%	0	0.0%	0	0.0%
Clinical waste should not be mixed with general waste	26	50%	26	50.0%	0	0.0%	0	0.0%	0	0.0%
Clinical waste should be segregated immediately	33	63%	19	36.5%	0	0.0%	0	0.0%	0	0.0%
Liquid clinical waste should not be disposed into toilet bowl	29	56%	23	44.2%	0	0.0%	0	0.0%	0	0.0%
Sharp clinical waste should be separated from other wastes	23	44%	29	55.8%	0	0.0%	0	0.0%	0	0.0%

The data from Table 3 provides insights into the knowledge levels of healthcare workers regarding clinical waste management in the pediatric ward of Mulago Hospital. Across various aspects of clinical waste management, a significant proportion of respondents demonstrated awareness and understanding. Firstly, regarding knowledge of standards and regulations on clinical waste management, a substantial majority of respondents (62%) reported being familiar with these guidelines, while 28.8% indicated partial knowledge. Similarly, a considerable number of

respondents (60%) recognized that waste generated from healthcare activities constitutes clinical waste, with only 9.6% reporting no knowledge.

Furthermore, the majority of respondents acknowledged the importance of proper segregation and disposal practices for clinical waste. For instance, 63% of participants affirmed that clinical waste should be segregated immediately, and 50% recognized the necessity of not mixing clinical waste with general waste. Additionally, a significant proportion (56%) understood the prohibition of disposing of liquid clinical waste into toilet bowls.

However, there were some areas of potential improvement in knowledge levels. Notably, regarding the best course of action for blood exposure accidents, only 48% of respondents reported awareness, suggesting a need for further education or training in this aspect. Similarly, while a majority recognized the need to separate sharp clinical waste from other wastes (55.8%), a notable proportion (44%) still lacked this understanding.

4.4 Health workers' Attitudes about clinical waste management in Mulago hospital pediatric ward.

Table 4: Attitudes of health care workers about clinical management in Mulago hospital pediatric ward

Attitudes	SD		D		NS		A		SA	
	F	%	F	%	F	%	F	%	F	%
Clinical waste generated from clinics must be handled properly	25	48%	27	51.9%	0	0.0%	0	0.0%	0	0.0%
Clinical waste containers should be marked with a biohazard symbol	22	42%	30	57.7%	0	0.0%	0	0.0%	0	0.0%
Clinical waste management in Mulago hospital pediatric ward is proper	29	56%	23	44.2%	0	0.0%	0	0.0%	0	0.0%
Clinical waste management is my duty	31	60%	21	40.4%	0	0.0%	0	0.0%	0	0.0%
Clinical waste must be collected more	40	77%	12	23.1%	0	0.0%	0	0.0%	0	0.0%

carefully										
Gloves should always be used during medical services to prevent the hazards associated with exposure	32	62%	20	38.5%	0	0.0%	0	0.0%	0	0.0%

Table 4 provides insights into the attitudes of healthcare workers regarding clinical waste management practices in the pediatric ward of Mulago Hospital. The data reveals a generally positive attitude among respondents towards various aspects of clinical waste management.

It was revealed that a significant proportion of respondents expressed agreement with the importance of proper handling and management of clinical waste. For instance, 56% of respondents believed that clinical waste management in the pediatric ward of Mulago Hospital is proper, indicating a sense of confidence in current practices. Additionally, the majority of respondents (60%) affirmed that clinical waste management is their duty, reflecting a strong sense of responsibility towards waste management practices.

Furthermore, respondents displayed a high level of awareness regarding the importance of safety measures in clinical waste management. For instance, the vast majority (77%) agreed that clinical waste must be collected more carefully, highlighting a recognition of the potential hazards associated with improper waste handling. Similarly, a significant proportion (62%) advocated for the consistent use of gloves during medical services to prevent exposure-related risks, indicating a commitment to safety protocols. Moreover, respondents demonstrated a positive attitude towards implementing visual cues for identifying clinical waste. Over half of the respondents (57.7%) believed that clinical waste containers should be marked with a biohazard symbol, emphasizing the importance of clear labeling for safety and awareness purposes.

4.5 Health workers' practices about clinical management in Mulago hospital pediatric ward.

Table 5: Health workers' practices about clinical management in Mulago hospital pediatric ward

Practices	SD		D		NS		A		SA	
	F	%	F	%	F	%	F	%	F	%
I always wear rubber gloves during medical services	23	44%	28	53.8%	0	0.0%	1	1.9%	0	0.0%
I usually put sharp clinical waste into a hard container	31	60%	21	40.4%	0	0.0%	0	0.0%	0	0.0%
I always clean spills of liquid clinical waste immediately with proper procedure	33	63%	16	30.8%	0	0.0%	3	5.8%	0	0.0%
I usually wear rubber glove when pick up trash that falls on the ground	37	71%	14	26.9%	0	0.0%	1	1.9%	0	0.0%
I wash my hands thoroughly after contact with MW, even if I had worn gloves	20	38%	32	61.5%	0	0.0%	0	0.0%	0	0.0%
I always put sharp clinical waster into a hard container	37	71%	13	25.0%	0	0.0%	2	3.8%	0	0.0%

Table 5 provides valuable insights into the practices of healthcare workers concerning clinical waste management in the pediatric ward of Mulago Hospital. The data indicates varied levels of adherence to recommended practices, with some areas demonstrating strong compliance while others may require improvement. Regarding personal protective equipment (PPE) usage, a significant proportion of respondents reported consistent use of rubber gloves during medical services. Specifically, 53.8% indicated that they "usually" wear rubber gloves, while 44% reported "always" doing so. This suggests a generally positive practice in terms of protecting against potential exposure to hazardous materials.

Furthermore, respondents exhibited strong adherence to proper disposal practices for sharp clinical waste. The majority (60%) indicated that they usually put sharp clinical waste into a hard container, with an even higher proportion (71%) reporting always doing so. This indicates a high level of awareness and compliance with safety protocols concerning sharp waste disposal. Similarly, respondents demonstrated proactive behavior in promptly addressing spills of liquid clinical waste. A significant majority (63%) reported always cleaning spills immediately with proper procedures, indicating a strong commitment to maintaining a clean and safe environment.

However, there are areas for improvement in certain practices. For instance, while a majority reported wearing rubber gloves when picking up trash that falls on the ground, a notable proportion (26.9%) indicated not usually doing so. This suggests a potential gap in consistent PPE usage in specific situations. Additionally, while the majority of respondents reported washing their hands thoroughly after contact with medical waste, a sizeable proportion (38%) indicated not always doing so. This highlights a need for reinforcing hand hygiene practices to minimize the risk of cross-contamination and infection transmission.

4.6. Discussion of findings

4.6.1 Knowledge about clinical waste management in Mulago hospital pediatric ward

The findings provide valuable insights into the knowledge levels of healthcare workers concerning clinical waste management in the pediatric ward of Mulago Hospital. These findings align with existing research highlighting the importance of comprehensive knowledge in ensuring effective waste management practices. For example, a study by Moran et al., (2019) emphasized the significance of healthcare workers' awareness of regulations and guidelines governing waste management to promote compliance and reduce environmental and health risks.

Moreover, the recognition among respondents that waste generated from healthcare activities constitutes clinical waste echoes findings from previous studies. Research by Marsh et al., (2018) found that proper identification and segregation of clinical waste are crucial steps in preventing contamination and ensuring safe disposal. The understanding among respondents regarding the importance of proper segregation and disposal practices resonates with the recommendations outlined in the World Health Organization's guidelines on healthcare waste management (WHO, 2018). These guidelines stress the necessity of segregating different types of waste at the point of generation to minimize risks and facilitate safe disposal.

However, the identified areas of potential improvement in knowledge levels, such as the best course of action for blood exposure accidents and the separation of sharp clinical waste, underscore the need for targeted educational interventions. Studies by Lakshmi and Kumar, (2018) and Ramokate and Basu (2019) similarly emphasized the importance of ongoing training and education programs to address gaps in healthcare workers' knowledge and promote adherence to best practices in clinical waste management.

4.6.2 Attitudes of health care workers about clinical management in Mulago hospital pediatric ward

The findings of the study shed light on the attitudes of healthcare workers towards clinical waste management practices in the pediatric ward of Mulago Hospital. These findings are consistent with existing research emphasizing the importance of positive attitudes in fostering adherence to waste management protocols. For example, a study by Mekenzie et al., (2019) highlighted the role of healthcare workers' attitudes in promoting effective waste handling practices and reducing environmental and health risks. Moreover, the recognition among respondents that clinical waste

management is their duty reflects a strong sense of accountability and ownership towards maintaining a safe healthcare environment. This sense of responsibility is essential for fostering a culture of compliance and continuous improvement in waste management practices.

The awareness demonstrated by respondents regarding safety measures, such as the careful collection of clinical waste and the consistent use of gloves, is crucial for mitigating risks associated with exposure to hazardous materials. This aligns with findings from studies by Nsubuga et al., (2018) and Reis et al. (2019), which emphasized the importance of safety protocols in protecting healthcare workers and patients from potential harm. Furthermore, the positive attitude towards implementing visual cues, such as marking clinical waste containers with biohazard symbols, underscores the role of clear communication and visual reminders in enhancing awareness and adherence to waste management guidelines.

4.6.3 Health workers' practices about clinical management in Mulago hospital pediatric ward

The findings provide valuable insights into the practices of healthcare workers concerning clinical waste management in Mulago Hospital's pediatric ward. These findings align with existing research highlighting the importance of adherence to recommended practices for ensuring a safe healthcare environment. For instance, a study by Naumanen (2020), emphasized the significance of consistent personal protective equipment (PPE) usage in protecting healthcare workers from exposure to hazardous materials.

The strong adherence demonstrated by respondents to proper disposal practices for sharp clinical waste reflects a commitment to safety protocols. This aligns with recommendations outlined in international guidelines, such as those provided by the World Health Organization which stress

the importance of sharp waste segregation to minimize the risk of injuries and infections as noted by Chan, (2019).

Similarly, the proactive behavior exhibited by respondents in promptly addressing spills of liquid clinical waste underscores the importance of maintaining a clean and safe environment. Research by Masagazia and Nimwesiga (2022). highlighted the role of prompt spill response in preventing contamination and reducing the risk of adverse health outcomes. However, the identified areas for improvement in certain practices, such as inconsistent PPE usage and hand hygiene practices, highlight the need for targeted interventions. Studies by Roy and Robillard (2018) and Mujeeb et al. (2018) emphasized the importance of ongoing education and training programs to reinforce proper waste management practices and promote adherence to safety protocols among healthcare workers.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter brings forth the summary of the findings and conclusions drawn from the study based on the findings presented in data analysis and the study objectives. The chapter also advances the recommendations, as well as identifying the areas for further studies.

5.1 Summary of findings

5.1.1 Knowledge of Health workers' knowledge about clinical waste management in Mulago hospital pediatric ward

The findings highlight the knowledge levels of healthcare workers regarding clinical waste management in Mulago Hospital's pediatric ward. Overall, respondents demonstrate a strong understanding of key aspects such as standards and regulations, waste categorization, and proper segregation and disposal practices. A majority are familiar with guidelines governing waste management, recognize clinical waste generated from healthcare activities, and understand the importance of immediate segregation and proper disposal methods. This finding is comparable with previous reports on knowledge about Medical Waste Management an how do healthcare professionals learn and practice (Werlang & Linden, 2023). However, there are areas where knowledge could be improved, particularly in responding to blood exposure accidents and segregating sharp clinical waste. Strengthening education and training efforts in these areas could enhance adherence to best practices and contribute to a safer healthcare environment.

5.1.2 Attitudes of health care workers about clinical management in Mulago hospital pediatric ward

The findings present insights into the attitudes of healthcare workers towards clinical waste management in Mulago Hospital's pediatric ward. Overall, respondents exhibited a positive attitude towards various aspects of waste management. A significant proportion of respondents expressed agreement with the importance of proper waste handling. For example, 56% believed that waste management in the pediatric ward is proper, indicating confidence in current practices. Additionally, 60% affirmed that waste management is their duty, reflecting a strong sense of responsibility. Respondents also demonstrated awareness of safety measures in waste management, with 77% agreeing that waste must be collected carefully. Moreover, 62% advocated for consistent glove usage to prevent exposure-related risks. Additionally, over half (57.7%) believed that waste containers should be marked with a biohazard symbol, highlighting the importance of clear labeling for safety and awareness.

These findings might emphasize how important it is to pinpoint effective teaching methods in order to reframe the subjects for real-world application. "Healthcare professionals noted that continued education to keep in touch with the most updated information and evidence played a very important role in their professional life," according to Bordoloi and Islam (2012). Clearly, one of the best ways to manage medical waste is to fund the education and training of healthcare professionals. Nonetheless, certain research indicates that a primary obstacle to implementing appropriate and ecologically sustainable medical waste management practices is a lack of knowledge. Lattanzio et al., 2022; Wu & Cerceo, 2021). Establishing "an 'environmental greening team' to increase knowledge, improve attitudes, and facilitate the success of green initiatives" is one of the recommendations (Lattanzio et al., 2022).

5.1.3 Health Workers' practices about clinical management in Mulago Hospital Pediatric Ward

The findings revealed insights into healthcare workers' practices regarding clinical waste management in Mulago Hospital's pediatric ward. Overall, there is a mixed level of adherence to recommended practices. A significant proportion consistently use rubber gloves during medical services, indicating a positive approach to protecting against exposure to hazardous materials. Additionally, there is strong compliance with proper disposal practices for sharp clinical waste, with a majority consistently using hard containers. Respondents also demonstrate proactive behavior in promptly addressing spills of liquid clinical waste. However, areas for improvement exist, particularly regarding consistent use of personal protective equipment when picking up trash and ensuring thorough hand hygiene after contact with medical waste. Strengthening adherence to these practices through continued education and reinforcement efforts is recommended to minimize risks of contamination and infection transmission.

5.2 Conclusion of Findings

5.2.1 Knowledge of Health workers' knowledge about clinical waste management in Mulago Hospital Pediatric Ward

In conclusion, the study provides valuable insights into the knowledge levels of healthcare workers regarding clinical waste management in Mulago Hospital's pediatric ward. Overall, the findings indicate a robust understanding among respondents of key principles and practices related to waste management. The majority of healthcare workers are well-versed in standards and regulations governing waste disposal, recognize clinical waste, and appreciate the importance of proper

segregation and disposal procedures. However, areas requiring improvement, such as responding to blood exposure accidents and segregating sharp waste, have been identified**.**

5.2.2 Attitudes of Health Care Workers About Clinical Management in Mulago Hospital Pediatric Ward

In conclusion, the findings have a positive attitude among healthcare workers towards clinical waste management practices in Mulago Hospital's pediatric ward. The data indicates a strong sense of responsibility and commitment among respondents towards ensuring proper handling and management of clinical waste. A significant proportion of healthcare workers expressed confidence in current waste management practices, indicating a belief that protocols are being effectively implemented. Moreover, there is a clear recognition of the importance of safety measures, with a majority advocating for careful waste collection and consistent glove usage to mitigate exposure-related risks. Furthermore, respondents demonstrated an understanding of the significance of clear labeling for waste containers, suggesting a proactive approach towards promoting safety and awareness in waste management practices.

5.2.3 Health Workers' Practices about Clinical Management in Mulago Hospital Pediatric Ward

In conclusion, the findings provide valuable insights into the practices of healthcare workers concerning clinical waste management in Mulago Hospital's pediatric ward. While there are areas of strong compliance, such as consistent use of personal protective equipment and proper disposal of sharp clinical waste, there are also notable areas for improvement. It is encouraging to see a high level of awareness and commitment among healthcare workers to maintain a clean and safe environment by promptly addressing spills of liquid clinical waste and adhering to safety

protocols. However, the identified gaps, particularly in consistent use of personal protective equipment and hand hygiene practices, highlight the need for ongoing education and reinforcement.

5.3 Recommendations

5.3.1 Knowledge of Health workers' Knowledge about Clinical Waste Management in Mulago Hospital Pediatric Ward

i. The healthcare facility administration should implement regular and comprehensive training programs for healthcare workers focused on areas of improvement identified in the study, such as responding to blood exposure accidents and segregating sharp clinical waste. This training should emphasize the importance of adhering to guidelines and protocols for waste management to ensure a safer healthcare environment.

ii. Healthcare workers themselves should actively engage in ongoing education and training opportunities provided by the facility administration. They should take personal responsibility for continuously updating their knowledge and skills in clinical waste management, particularly in areas identified as needing improvement. This may involve participating in workshops, seminars, and online courses to stay informed about best practices and emerging guidelines in waste management

5.3.2 Attitudes of health care workers about clinical management in Mulago Hospital Pediatric Ward

1. Hospital administration should ensure that adequate resources, including personal protective equipment (PPE), waste disposal containers, and signage, are readily available to support safe waste management practices. Investing in these resources not only enhances

safety but also reinforces the positive attitudes observed among healthcare workers towards waste management.

2. Encouraging a culture of safety among healthcare workers is essential for sustaining positive attitudes towards waste management. Hospital management should actively promote safety practices, recognize and reward compliance with waste management protocols, and foster open communication channels for reporting any safety concerns or incidents.

5.3.3 Health workers' practices about clinical management in Mulago Hospital Pediatric Ward

i. It is recommended that the hospital should implement strategies to promote thorough hand hygiene practices among healthcare workers after contact with medical waste. Provide accessible handwashing facilities equipped with soap and water, as well as alcohol-based hand sanitizers, throughout the pediatric ward. Additionally, conduct educational campaigns to raise awareness about the importance of hand hygiene in preventing cross-contamination and infection transmission

ii. It is recommended that the health facility should establish a systematic monitoring and feedback mechanism to track healthcare workers' adherence to recommended practices in clinical waste management. Conduct regular audits and observations to identify areas of improvement and provide constructive feedback to staff members. Utilize this feedback to address any gaps in practice and reinforce positive behaviors.

5.4 Areas for Further Studies

i. Explore innovative technologies and strategies for clinical waste management, such as waste segregation systems, on-site treatment methods, and sustainable waste disposal

solutions. Assess the feasibility, cost-effectiveness, and environmental impact of implementing these technologies within the pediatric ward setting.

ii. Investigate the impact of clinical waste management practices on the psychological and physical well-being of healthcare workers in the pediatric ward. Explore strategies to mitigate occupational hazards, reduce work-related stress, and promote a culture of safety and support among healthcare staff.

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APPENDICES

Appendix I: Questionnaire

Introduction

I am **NIGHT CLARE**, and currently collecting data for compilation for my dissertation. The research I am conducting relates to **CLINICAL WASTE MANAGEMENT IN HEALTH FACILITIES: KNOWLEDGE, ATTITUDE AND PRACTICES IN MULAGO HOSPITAL PEDIATRIC WARD.** The information is purely for academic purposes and all the answers will be handled with utmost confidentiality and you do not need to indicate your identity anywhere on the questionnaire. I therefore humbly request that you complete this questionnaire correctly in the spaces provided or options given.

SECTION A: Demographic Characteristics

Tick / fill in the most appropriate answer.

1. Gender:

a) Female ☐ b) Male ☐

2. Age

a) Below 20 years ☐ b) 20 – 25 years ☐ c) 26 – 30 years ☐

d) 31 – 35years ☐ e) 36 – 40 Years ☐ f) Above 40 years. ☐

3. Highest level of education Qualification

a) Certificate ☐ b) Diploma ☐ c) Degree ☐ d) Masters ☐

e) Never went to school (specify) …….....

Please indicate the extent to which you agree or disagree to the following statements' by ticking the appropriate number.

Strongly agree	agree	Not sure	disagree	Strongly Disagree
5	4	3	2	1

SECTION B:

Health workers' knowledge about clinical waste management in Mulago hospital pediatric ward						
K1	I know the standards and regulations on clinical waste management	**5**	**4**	**3**	**2**	**1**
K2	I know the best course of action for blood exposure accident	**5**	**4**	**3**	**2**	**1**
K3	Waste generated from healthcare activities is clinical waste	**5**	**4**	**3**	**2**	**1**
K4	Clinical waste should not be mixed with general waste	**5**	**4**	**3**	**2**	**1**
K5	Clinical waste should be segregated immediately	**5**	**4**	**3**	**2**	**1**
K6	Liquid clinical waste should not be disposed into toilet bowl	**5**	**4**	**3**	**2**	**1**
K7	Sharp clinical waste should be separated from other wastes	**5**	**4**	**3**	**2**	**1**
Attitudes of health care workers about clinical management in Mulago hospital pediatric ward						
A1	Clinical waste generated from clinics must be handled properly	**5**	**4**	**3**	**2**	**1**
A2	Clinical waste containers should be marked with a biohazard symbol	**5**	**4**	**3**	**2**	**1**
A3	Clinical waste management in Mulago hospital pediatric ward is proper	**5**	**4**	**3**	**2**	**1**
A4	Clinical waste management is my duty	**5**	**4**	**3**	**2**	**1**
A5	Clinical waste must be collected more carefully	**5**	**4**	**3**	**2**	**1**
A6	Gloves should always be used during medical services to prevent the hazards associated with exposure	**5**	**4**	**3**	**2**	**1**
Health workers' practice about clinical management in Mulago hospital pediatric ward						

P1	I always wear rubber gloves during medical services	**5**	**4**	**3**	**2**	**1**
P2	I usually put sharp clinical waste into a hard container	**5**	**4**	**3**	**2**	**1**
P3	I always clean spills of liquid clinical waste immediately with proper procedure	**5**	**4**	**3**	**2**	**1**
P4	I usually wear rubber glove when pick up trash that falls on the ground	**5**	**4**	**3**	**2**	**1**
P5	I wash my hands thoroughly after contact with MW, even if I had worn gloves	**5**	**4**	**3**	**2**	**1**
P6	I always put sharp clinical waster into a hard container	**5**	**4**	**3**	**2**	**1**

THANK YOU FOR YOUR TIME AND COOPERATION