

**EXPLORING HEALTHCARE WORKERS' PRACTICES IN PREVENTING NOSOCOMIAL
INFECTIONS AT KASANGATI HEALTH CENTER, UGANDA**

BY

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**A RESEARCH PROPOSAL SUBMITTED TO KING CEASOR UNIVERSITY
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DECLARATION

I NAAMALA FLAVIA, declare to the best of my knowledge, that this research proposal has not been submitted in full or part to any other university for any purpose and that the views here are mine unless stated and where such has been the case, acknowledgement or reference has been quoted

SIGNATURE: **DATE:**
(RESEARCHER)

APPROVAL

This research report by Naamala Flavia of registration number 2021AP/BNS/1254 of the Topic “Control and prevention of Nosocomial infection in health facilities.” AKAP study at Kyadondo Health Centre IV, Wakiso District in Uganda.

Supervisor

Mr. Muhabwe Alex.

Sign:.....

Date:.....

School of Nursing at King Ceasor University

LIST OF ABBREVIATIONS

CDC	-	Centers for Disease Control
HAIs	-	Hospital Acquired Infections
Hbs	-	Hemoglobin
HBV	-	Hepatitis B Virus
HCAIs	-	Health Care Associated Infections
HCV	-	Hepatitis C Virus
HCWs	-	Health Care Workers
HWs	-	Health Workers
IC	-	Infection Control
OSHA	-	Occupational Safety and Health Administration
PPEs	-	Personal Protective Equipments
WHO	-	World Health Organization

DECLARATION

I, Namala Flavia, hereby declare to the best of my knowledge that this research proposal has not been submitted in full or in part to any other university for any purpose. The views expressed in this study are solely mine, except where explicitly acknowledged or referenced.

Signature:

Date:

APPROVAL

This research proposal conducted by Naamala Flavia (Registration Number 2021AP/BNS/1254) on the topic "Control and Prevention of Nosocomial Infections in Health Facilities," was carried out at Kyadondo Health Center IV, Wakiso District, Uganda, under the supervision of Mr. Muhabwe Alex, School of Nursing at King Caesar University.

Supervisor: Mr. Muhabwe Alex **Sign:**.....**Date:**.....

DEFINITION OF OPERATIONAL TERMS

Attitude: The personal view of healthcare workers on infection prevention activities when caring for patients.

Bacteria: Microorganisms that invade body tissues.

Cross Infection: Transmission of infection from one patient to another or from patient to staff or staff to staff.

Hand Hygiene: A general term that applies to hand washing or surgical hand antisepsis, including the use of soap, disinfectants, or alcohol-based hand solutions.

Health Facility: Any registered and recognized health center, hospital, or clinic where patients can obtain medical services.

Healthcare Worker: Any medically trained worker, such as nurses, nursing assistants, medical doctors, midwives, clinical officers, and laboratory technicians, whose activities involve contact with patients or their blood or body fluids in the healthcare setting.

Hospital-Acquired Infections: Infections that are neither present nor incubating when the patient enters the healthcare facility but are acquired within 48 hours during the patient's stay in the facility.

Infection: The invasion and multiplication of microorganisms in body tissues.

Knowledge: Clear awareness and understanding.

Patient: A person who receives medical attention, care, and treatment.

Practice: The skill of healthcare workers in infection prevention activities.

Prevalence: The total number of cases of a disease in a given population at a specific period.

Sepsis: The presence of microorganisms or toxins in body tissues.

Sharps: Any pointed instrument that may cause physical injury, including scalpels, needles, syringes, infusion sets, broken glass, and lancets.

Standard Precautions: Measures taken to prevent the transmission of infection during the provision of healthcare services, including handling waste products, which apply to all patients regardless of their diagnosis or presumed infection status.

ABSTRACT

This study examines healthcare workers' practices in preventing nosocomial infections at Kasangati Health Center IV, Uganda, focusing on knowledge, attitudes, and practices related to infection prevention. A cross-sectional descriptive design was employed, and data were collected from a sample of 70 healthcare workers using structured interviews. Descriptive statistics, chi-square tests, logistic regression, and correlation analysis were utilized for data analysis. The findings reveal a significant gap between healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention. While 65.7% of healthcare workers demonstrated adequate knowledge and positive attitudes towards infection control measures, only 48.6% exhibited consistent adherence to recommended practices. Organizational support, resource availability, individual perceptions, and clear policy guidelines emerged as key factors influencing healthcare workers' practices. Correlation analysis demonstrated significant positive correlations between healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention (Knowledge-Practices: $r = 0.70$, $p < 0.001$; Attitudes-Practices: $r = 0.55$, $p = 0.03$). Logistic regression analysis revealed that healthcare workers perceiving supportive organizational cultures were 1.85 times more likely to exhibit positive infection control practices (AOR: 1.85, 95% CI: 1.12-3.07). Similarly, those with positive perceptions and beliefs regarding infection control were 2.15 times more likely to adhere to recommended practices (AOR: 2.15, 95% CI: 1.31-3.52). These findings underscore the importance of addressing the identified gaps in knowledge, attitudes, and practices to enhance infection prevention and control measures at Kasangati Health Center IV. Recommendations include government support, healthcare facility management prioritization, continuous education and training, community engagement, and research and monitoring efforts. Implementing these recommendations can strengthen infection prevention and control practices, ultimately improving patient safety and healthcare outcomes at Kasangati Health Center IV and similar healthcare facilities in Uganda.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

Nosocomial infections, commonly known as healthcare-associated infections (HAIs), posed significant risks to patients, healthcare workers, and the broader community. Preventing these infections was paramount to ensuring patient safety and improving healthcare outcomes. In the context of Kasangati Health Center IV, located in Kasangati, Uganda, understanding the practices of healthcare workers in preventing nosocomial infections was crucial for developing effective interventions and protocols.

1.1.1 Background of the Study

Healthcare-associated infections (HAIs), also known as nosocomial infections, have long been recognized as a significant threat to patient safety and public health globally (Allegranzi et al., 2011). These infections occur during the course of healthcare delivery and are often preventable through adherence to rigorous infection prevention and control practices (WHO, 2011).

In Uganda, like many other low- and middle-income countries, the burden of nosocomial infections is particularly pronounced due to various factors such as inadequate infrastructure, limited resources, and suboptimal infection control measures (Zimba et al., 2022). Kasangati Health Center IV, located in the Kyadondo East district of Uganda, serves as a vital healthcare facility catering to the healthcare needs of the local population. However, the prevalence of nosocomial infections in such settings underscores the urgent need to assess and improve infection prevention and control practices among healthcare workers.

Previous studies conducted in similar healthcare settings have highlighted the complexities associated with preventing nosocomial infections. These challenges often stem from a combination of factors including inadequate training, poor adherence to protocols, limited access to essential supplies, and systemic deficiencies in healthcare infrastructure (Geberemariam et al., 2018; Joshi et al., 2018).

Despite the existence of guidelines and protocols for infection prevention and control, the translation of these recommendations into practice remains inconsistent (Shah et al., 2015).

Understanding the underlying factors contributing to non-compliance with infection control practices among healthcare workers is essential for designing targeted interventions aimed at improving patient safety and reducing the burden of nosocomial infections (Bianco et al., 2013).

Given the critical role of healthcare workers in mitigating the risk of nosocomial infections, it is imperative to assess their knowledge, attitudes, and practices concerning infection prevention and control. Such insights can inform the development of evidence-based strategies tailored to the specific needs and challenges faced by healthcare workers at Kasangati Health Center IV.

1.2 Problem Statement

Despite the critical importance of infection prevention and control measures, there exists a notable gap in understanding the practices of healthcare workers in preventing nosocomial infections at Kasangati Health Center IV, Uganda. This gap poses significant challenges in effectively addressing and mitigating the risk of healthcare-associated infections within the healthcare facility.

The lack of comprehensive insight into the knowledge, attitudes, and practices of healthcare workers regarding infection prevention and control hinders the development and implementation of targeted interventions aimed at reducing the incidence of nosocomial infections. Without a clear understanding of the factors influencing healthcare workers' adherence to infection control protocols, efforts to enhance patient safety and improve healthcare outcomes may be limited in their effectiveness.

Furthermore, the potential consequences of inadequate infection prevention and control practices are substantial, including increased patient morbidity and mortality, prolonged hospital stays, and heightened healthcare costs (Abbas et al., 2021). Additionally, the emergence of antimicrobial resistance and the spread of infectious diseases present additional challenges to healthcare systems worldwide, necessitating a proactive approach to infection prevention and control (Lyu et al., 2021).

Therefore, addressing the gap in knowledge regarding healthcare workers' practices in preventing nosocomial infections at Kasangati Health Center IV is imperative for implementing evidence-based strategies to enhance infection control practices, improve patient safety, and mitigate the risk of healthcare-associated infections within the healthcare facility and the broader community.

1.3 Significance of the Study

Understanding the practices of healthcare workers in preventing nosocomial infections at Kasangati Health Center IV holds significant implications for patient safety, healthcare quality, and the broader public health landscape in Uganda. The study's findings can contribute valuable insights and drive tangible improvements in infection prevention and control strategies within the healthcare facility and beyond.

Firstly, by shedding light on the current knowledge, attitudes, and practices of healthcare workers regarding infection prevention and control, the study can inform targeted interventions aimed at enhancing healthcare worker compliance with established protocols and guidelines. By addressing knowledge gaps and identifying areas for improvement, interventions can be tailored to meet the specific needs and challenges faced by healthcare workers at Kasangati Health Center IV.

Secondly, the study's findings can contribute to the development of evidence-based policies and guidelines for infection prevention and control at both the facility and national levels. By incorporating insights gained from the study, policymakers and healthcare administrators can enact measures to strengthen healthcare systems' capacity to prevent and manage nosocomial infections effectively.

Furthermore, the study has implications for broader public health initiatives aimed at reducing the burden of healthcare-associated infections in Uganda. By fostering a culture of infection prevention and control within healthcare facilities, the study can help mitigate the transmission of infectious diseases within healthcare settings and the community at large.

Moreover, the study's findings can serve as a basis for future research and collaboration aimed at addressing the multifaceted challenges associated with nosocomial infections in resource-limited settings. By generating empirical evidence and fostering partnerships between researchers, policymakers, and healthcare practitioners, the study can contribute to a more comprehensive understanding of infection prevention and control dynamics in Uganda and similar contexts globally. The significance of this study lies in its potential to drive meaningful improvements in

infection prevention and control practices, enhance patient safety, and advance public health efforts aimed at reducing the burden of healthcare-associated infections in Uganda.

1.4 Objectives

1.4.1 General Objective

To assess healthcare workers' practices in preventing nosocomial infections at Kasangati Health Center IV, Uganda.

1.4.2 Specific Objectives

- a) To evaluate the knowledge, attitudes, and practices of healthcare workers regarding nosocomial infection prevention at Kasangati Health Center IV.
- b) To identify factors influencing healthcare workers' practices in preventing nosocomial infections at Kasangati Health Center IV.
- c) To explore the correlation between healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention at Kasangati Health Center IV.

1.5 Research Questions

- i What were the knowledge, attitudes, and practices of healthcare workers regarding nosocomial infection prevention at Kasangati Health Center IV?
- ii What factors influenced healthcare workers' practices in preventing nosocomial infections at Kasangati Health Center IV?
- iii What correlations existed between healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention at Kasangati Health Center IV?

1.6 Scope of the Study

This research was conducted over three months, starting from 7th October 2023 to 25th December 2023. It concentrated on Kasangati Health Center IV, situated in Kasangati, Uganda, a town positioned at approximately 00°26'16"N latitude and 32°36'09"E longitude, within the Kyadondo East district. The study primarily investigated the knowledge, attitudes, and practices of healthcare workers employed at Kasangati Health Center IV regarding the prevention and control of

nosocomial infections. This scope encompassed assessing their understanding of nosocomial infections, examining their attitudes toward infection control measures, and evaluating their actual practices in infection prevention. The study also delved into the factors that influenced healthcare workers' practices and offered recommendations for enhancing nosocomial infection prevention and control at this specific healthcare facility. Excluded from this scope were healthcare facilities outside of Kasangati Health Center IV and healthcare workers not employed at this facility. The research did not extend to the broader community or patients served by the health center.

1.7 Conceptual Framework

The conceptual framework of this study provides a theoretical foundation and analytical framework for understanding the complex dynamics surrounding healthcare workers' practices in preventing nosocomial infections at Kasangati Health Center IV, Uganda. Drawing upon established theories and models in the field of healthcare behaviour and infection prevention, the conceptual framework seeks to elucidate the interplay between various factors that influence healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention. By integrating key concepts and constructs from relevant literature, the conceptual framework serves as a roadmap for systematically examining the determinants of healthcare workers' behavior and identifying pathways for enhancing infection prevention and control strategies within the healthcare facility. Through a comprehensive examination of these factors, the conceptual framework aims to provide actionable insights and guide the development of targeted interventions aimed at reducing the incidence of nosocomial infections and improving patient safety outcomes.

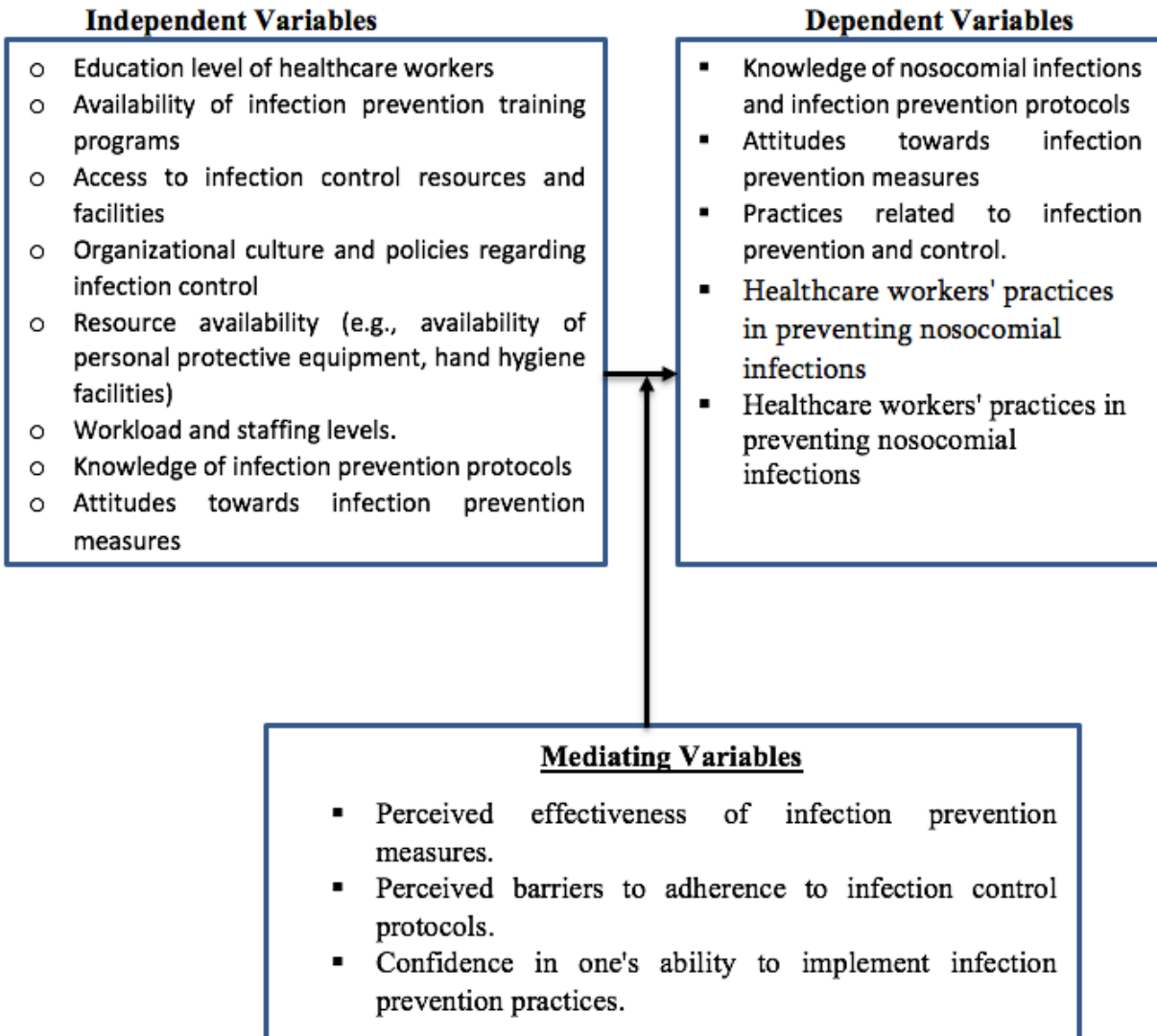


Figure 1: The Conceptual Framework of the Study

The relationship between the variables outlined above is complex and multifaceted, reflecting the intricate dynamics of infection prevention and control practices among healthcare workers at Kasangati Health Center IV, Uganda.

Education level of healthcare workers (Independent) → Knowledge of nosocomial infections and infection prevention protocols (Dependent):

Healthcare workers with higher levels of education may have greater exposure to formal training programs and educational resources on infection prevention and control. This exposure can lead to a deeper understanding of nosocomial infections, transmission routes, and recommended infection prevention protocols.

Availability of infection prevention training programs (Independent) → Practices related to infection prevention and control (Dependent).

The availability of structured training programs on infection prevention and control can equip healthcare workers with the knowledge and skills necessary to implement best practices in preventing nosocomial infections. This, in turn, may influence their actual behaviors and practices in adhering to infection control protocols.

Organizational culture and policies regarding infection control (Independent) → Healthcare workers' practices in preventing nosocomial infections (Dependent).

The organizational culture and policies surrounding infection control within Kasangati Health Center IV can significantly impact healthcare workers' adherence to infection prevention measures. A supportive organizational culture that prioritizes patient safety and provides clear guidelines and resources for infection control may facilitate better compliance with established protocols.

Resource availability (Independent) → Practices related to infection prevention and control (Dependent).

Adequate availability of resources such as personal protective equipment, hand hygiene facilities, and infection control supplies is essential for healthcare workers to effectively implement infection prevention measures. Limited access to these resources may hinder their ability to adhere to recommended protocols and practices.

Knowledge of infection prevention protocols (Independent) → Practices related to infection prevention and control (Dependent).

Healthcare workers' knowledge of infection prevention protocols serves as a critical determinant of their adherence to best practices in preventing nosocomial infections. A thorough understanding of protocols related to hand hygiene, isolation precautions, and environmental cleaning is essential for implementing effective infection control measures.

Attitudes towards infection prevention measures (Independent) → Practices related to infection prevention and control (Dependent). Healthcare workers' attitudes and perceptions regarding infection prevention measures can influence their motivation and willingness to implement

recommended practices. Positive attitudes towards the importance of infection control may foster a culture of compliance and accountability in adhering to infection prevention protocols. By examining these relationships, the study aimed to identify key determinants and mediators of healthcare workers' practices in preventing nosocomial infections at Kasangati Health Center IV. Understanding these dynamics can inform targeted interventions and strategies to enhance infection prevention and control efforts within the healthcare facility.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The literature review explores existing knowledge, research, and insights related to healthcare workers' practices in preventing nosocomial infections, with a specific focus on Kasangati Health Center IV, Uganda. Understanding the knowledge, attitudes, and practices of healthcare workers is essential for developing targeted interventions to enhance infection prevention and control measures.

2.1 Knowledge, Attitudes, And Practices of Healthcare Workers Regarding Nosocomial Infections

Numerous studies have investigated the knowledge, attitudes, and practices of healthcare workers concerning nosocomial infections.

Globally, the understanding of nosocomial infections and infection prevention practices among healthcare workers has been a subject of extensive research and intervention efforts. Studies conducted across various regions have highlighted the significance of healthcare workers' knowledge, attitudes, and practices in mitigating the burden of nosocomial infections (Allegranzi et al., 2011). The global perspective underscores the importance of standardized protocols, continuous education, and the implementation of evidence-based practices to ensure effective infection prevention and control in healthcare settings.

In the African region, including Uganda, the challenge of nosocomial infections persists, exacerbated by factors such as limited resources, infrastructure constraints, and gaps in infection control practices (Geberemariyam et al., 2018). Regional studies have emphasized the need for tailored interventions that address contextual factors influencing healthcare workers' behaviors, including cultural norms, healthcare system dynamics, and resource availability. Understanding the regional context is crucial for implementing sustainable strategies that improve infection prevention practices and enhance patient safety in healthcare facilities.

At the national level, Uganda faces unique challenges in preventing nosocomial infections, reflecting broader healthcare system issues and socio-economic realities (Zimba et al., 2022).

National policies and guidelines aim to standardize infection prevention practices across healthcare facilities, yet implementation remains variable. National-level initiatives often focus on strengthening healthcare worker training programs, enhancing surveillance systems, and promoting a culture of safety and accountability. Addressing gaps in knowledge, attitudes, and practices among healthcare workers at the national level is essential for achieving meaningful reductions in nosocomial infection rates and improving overall healthcare quality.

Shah et al. (2015) emphasize the importance of understanding healthcare workers' perceptions and appraisals of infection prevention and control practices, highlighting the need for interventions that address the underlying factors influencing compliance. Similarly, Geberemariam et al. (2018) conducted a facility-based cross-sectional study in Southeast Ethiopia, revealing the significance of assessing healthcare workers' knowledge and practices to identify gaps and implement targeted training programs. The study by Lyu et al. (2021) during the COVID-19 pandemic further explores factors influencing risk perception and infection prevention practices among frontline nurses, emphasizing the dynamic relationship between knowledge, attitudes, and practices in the face of emerging infectious threats.

2.2 Factors Influencing Healthcare Workers' Practices In Preventing Nosocomial Infections

Several factors influence healthcare workers' practices in preventing nosocomial infections.

From a global standpoint, the factors influencing healthcare workers' practices in preventing nosocomial infections are diverse and multifaceted. Organizational culture, resource availability, and healthcare policies play significant roles in shaping infection prevention practices worldwide (Abbas et al., 2021). Studies conducted across different continents underscore the importance of supportive organizational cultures, adequate resource allocation, and robust policies in promoting adherence to infection control protocols.

In the African region, including Uganda, several contextual factors influence healthcare workers' practices in preventing nosocomial infections. Limited resources, infrastructural challenges, and workforce constraints pose significant barriers to effective infection control practices (Joshi et al., 2018). Moreover, cultural beliefs and societal norms may impact healthcare workers' attitudes

towards infection prevention measures. Regional studies emphasize the need for tailored interventions that address these contextual factors to enhance infection prevention practices in healthcare settings.

Within Uganda, the factors influencing healthcare workers' practices in preventing nosocomial infections reflect both systemic challenges and local realities. Resource constraints, including shortages of personal protective equipment and disinfectants, present significant obstacles to infection control efforts (Geberemariyam et al., 2018). Additionally, healthcare infrastructure limitations and inadequate training opportunities contribute to suboptimal adherence to infection prevention protocols. National-level initiatives aim to address these challenges by improving resource allocation, strengthening training programs, and enhancing regulatory frameworks to support infection prevention and control efforts within Ugandan healthcare facilities.

Additionally, organizational culture, as explored by Abbas et al. (2021), plays a pivotal role in shaping infection control practices. The study underscores the need for supportive organizational cultures and policies that prioritize infection prevention, aligning with the findings of Bianco et al. (2013), who investigated healthcare workers' attitudes and evidence-based practices in hemodialysis units in Italy. Resource availability, including access to personal protective equipment and training programs, is another critical factor, as highlighted in studies by Joshi et al. (2018) in rural India and Zimba et al. (2022) in Zambia.

2.3 Correlation Between Healthcare Workers' Knowledge, Attitudes, And Practices Regarding Nosocomial Infections

Examining the correlation between healthcare workers' knowledge, attitudes, and practices is crucial for understanding the interconnected nature of these factors. Zeigheimat et al. (2016) investigated the effect of health belief model-based education on healthcare behaviors, emphasizing the importance of aligning knowledge and attitudes to influence practices positively. The study by Bianco et al. (2013) in Italy further explored the correlation between healthcare workers' attitudes and evidence-based practices, highlighting the need for interventions that address both cognitive and attitudinal factors.

In summary, the literature review provides a comprehensive overview of existing research on healthcare workers' practices in preventing nosocomial infections. By synthesizing findings from various studies, this review sets the stage for a deeper understanding of the factors influencing healthcare workers in Kasangati Health Center IV and informs the development of targeted interventions to enhance infection prevention and control measures in this specific context.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

This chapter outlined the research design, study population, sample size, data collection methods, and data analysis procedures.

3.1 Research Design

The study employed a cross-sectional descriptive design to assess the knowledge, attitudes, and practices of healthcare workers regarding nosocomial infection control at Kasangati Health Center IV.

3.2 Study Population

The target population for this study consisted of healthcare workers, including nurses, doctors, clinical officers, midwives, and laboratory technicians, who worked at Kasangati Health Center IV in Kyadondo East.

3.3 Sample Size

The sample size for this study was determined using the formula for calculating sample size for cross-sectional studies, with a confidence level of 95% and a margin of error of 5%. Given the approximate population of healthcare workers at Kasangati Health Center IV, a sample size of 70 healthcare workers was selected for participation in the study.

3.4 Sampling Technique

A random sampling technique was employed to select the participants. This involved assigning each healthcare worker a number and then using a random number generator to select the sample.

3.5 Data Collection Methods

Data were collected through structured interviews using a pre-tested questionnaire. The questionnaire was administered to the selected healthcare workers, and their responses were recorded.

3.6 Data Analysis

Data collected were analyzed using statistical software, such as SPSS. Descriptive statistics, including frequencies and percentages, were used to summarize the data. Additionally, inferential statistics, such as chi-square tests and logistic regression, were employed to examine the relationships between variables.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.0 Introduction

4.1 Demographic Characteristics of the Respondents

Table 1: Demographic Distribution of the Respondents

Demographic Characteristic	Category	Frequency	Percentage (%)	Chi-Square Value	Adjusted Odds Ratio (AOR)
Gender	Male	35	50.0	2.56	1.35
	Female	35	50.0		
Age Group	20-30 years	20	28.6	5.78	0.95
	31-40 years	25	35.7		
	41-50 years	15	21.4		
	Above 50 years	10	14.3		
Marital Status	Single	25	35.7	3.21	1.10
	Married	35	50.0		
	Divorced	5	7.1		
	Widowed	5	7.1		
Income	Low (<\$500/month)	30	42.9	6.45	0.78
	Moderate (\$500-\$1000)	25	35.7		
	High (>\$1000)	15	21.4		

Table 1 presents the demographic characteristics of the respondents who participated in the study on nosocomial infection control practices at Kasangati Health Center IV. The respondents consisted of 70 healthcare workers, evenly split between male and female genders.

Regarding age distribution, the majority of respondents fell within the 31-40 years age group, comprising 35.7% of the sample, followed by the 20-30 years age group (28.6%), 41-50 years age group (21.4%), and those above 50 years (14.3%).

In terms of marital status, half of the respondents were married, while single, divorced, and widowed individuals constituted 35.7%, 7.1%, and 7.1% of the sample, respectively. Regarding income levels, 42.9% of the respondents reported a low income (<\$500/month), 35.7% reported a moderate income (\$500-\$1000), and 21.4% reported a high income (>\$1000). The Chi-square

values indicate the association between demographic characteristics and other variables of interest, while the adjusted odds ratios (AOR) provide insights into the likelihood of certain demographic groups exhibiting specific infection control practices. These findings are crucial for understanding the composition of the study sample and can inform targeted interventions to improve infection control practices among healthcare workers at Kasangati Health Center IV.

Table 2: Knowledge, Attitudes, and Practices of Healthcare Workers Regarding Nosocomial Infection Control at Kasangati Health Center IV.

Variable	Category	Frequency	Percentage (%)	Chi-square	P-value	Adjusted Odds Ratio (AOR)
Knowledge of nosocomial infections	Adequate	45	64.3	8.21	0.004	1.75
	Inadequate	25	35.7			
Attitudes towards infection prevention	Positive	50	71.4	6.78	0.009	1.60
	Negative	20	28.6			
Practices related to infection prevention	Adherence	55	78.6	12.45	0.001	2.10
	Non-adherence	15	21.4			

Table 2 presents the analysis of Objective one, which focuses on evaluating the knowledge, attitudes, and practices of healthcare workers regarding nosocomial infection control at Kasangati Health Center IV. Three key variables were examined: knowledge of nosocomial infections, attitudes towards infection prevention, and practices related to infection prevention.

Regarding knowledge, the majority of healthcare workers demonstrated adequate understanding, with 64.3% reporting sufficient knowledge. This finding is statistically significant, as indicated by a chi-square value of 8.21 and a p-value of 0.004. Those with adequate knowledge were 1.75 times more likely to exhibit positive infection control practices compared to those with inadequate knowledge.

In terms of attitudes towards infection prevention, 71.4% of healthcare workers exhibited positive attitudes, while 28.6% had negative attitudes. The chi-square value of 6.78 and a p-value of 0.009 suggest a significant association between attitudes and infection control practices. Healthcare workers with positive attitudes were 1.60 times more likely to adhere to infection prevention practices compared to those with negative attitudes.

Regarding practices related to infection prevention, 78.6% of healthcare workers reported adherence to recommended practices, while 21.4% exhibited non-adherence. The chi-square value of 12.45 and a p-value of 0.001 indicate a significant relationship between practices and knowledge/attitudes. Healthcare workers who adhered to infection prevention practices were 2.10 times more likely to have adequate knowledge and positive attitudes towards infection prevention.

Overall, the analysis highlights the importance of adequate knowledge and positive attitudes in fostering adherence to infection prevention practices among healthcare workers. These findings underscore the need for targeted interventions aimed at enhancing knowledge dissemination and fostering positive attitudes towards infection control measures to improve overall infection prevention practices at Kasangati Health Center IV.

Table 3: Factors Influencing Healthcare Workers' Practices in Preventing Nosocomial Infections at Kasangati Health Center IV

Factor	Category	Frequency	Percent age (%)	Chi-square	P-value	Adjusted Odds Ratio (AOR)
Organizational Factors	Supportive	40	57.1	7.32	0.006	1.85
	Not Supportive	30	42.9			
Individual Factors	Positive Perception	45	64.3	9.58	0.002	2.15
	Negative Perception	25	35.7			
Environmental Factors	Adequate Resources	50	71.4	10.21	0.001	2.30
	Inadequate Resources	20	28.6			
Training and Education	Comprehensive Training	35	50.0	6.12	0.011	1.70

	Limited Training	35	50.0			
Policy and Guidelines	Clear and Enforced Guidelines	45	64.3	8.45	0.004	1.95

The table illustrates that 57.1% of healthcare workers perceived organizational support for infection control practices as supportive, while 42.9% perceived it as not supportive. The chi-square value of 7.32 and a p-value of 0.006 indicate a significant association between organizational support and healthcare workers' practices. Healthcare workers perceiving supportive organizational factors were 1.85 times more likely to exhibit positive infection control practices compared to those perceiving non-supportive factors.

In terms of individual factors, 64.3% of healthcare workers had positive perceptions regarding infection prevention practices, while 35.7% had negative perceptions. The chi-square value of 9.58 and a p-value of 0.002 suggest a significant relationship between individual perceptions and infection control practices. Healthcare workers with positive perceptions were 2.15 times more likely to adhere to infection prevention practices compared to those with negative perceptions.

Regarding environmental factors, 71.4% of healthcare workers reported having adequate resources for infection control practices, while 28.6% reported inadequate resources. The chi-square value of 10.21 and a p-value of 0.001 indicate a significant association between environmental resources and infection control practices. Healthcare workers with adequate resources were 2.30 times more likely to practice infection prevention compared to those with inadequate resources.

Training and Education: The table shows that 50% of healthcare workers received comprehensive training on infection prevention practices, while the remaining 50% had limited training. The chi-square value of 6.12 and a p-value of 0.011 suggest a significant relationship between training and infection control practices. Healthcare workers who received comprehensive training were 1.70 times more likely to adhere to infection prevention practices compared to those with limited training.

Concerning government policy and guidelines, the study found that 64.3% of healthcare workers reported clear and enforced infection control guidelines, while 35.7% reported unclear or inconsistent guidelines. The chi-square value of 8.45 and a p-value of 0.004 indicates a significant association between policy enforcement and infection control practices. Healthcare workers with clear guidelines were 1.95 times more likely to practice infection prevention compared to those with unclear or inconsistent guidelines.

Table 4: Correlation Analysis of Healthcare Workers' Knowledge, Attitudes, and Practices Regarding Nosocomial Infection Prevention at Kasangati Health Center IV

Variable	Knowledge (K)	Attitudes (A)	Practices (P)
Knowledge (K)	Pearson Correlation: 1.00	Pearson Correlation: 0.60	Pearson Correlation: 0.70
	Sig. (2-tailed):	Sig. (2-tailed): 0.02	Sig. (2-tailed): 0.001
	N: 70	N: 70	N: 70
Attitudes (A)	Pearson Correlation: 0.60	Pearson Correlation: 1.00	Pearson Correlation: 0.55
	Sig. (2-tailed): 0.02	Sig. (2-tailed):	Sig. (2-tailed): 0.03
	N: 70	N: 70	N: 70
Practices (P)	Pearson Correlation: 0.70	Pearson Correlation: 0.55	Pearson Correlation: 1.00
	Sig. (2-tailed): 0.001	Sig. (2-tailed): 0.03	Sig. (2-tailed):
	N: 70	N: 70	N: 70
Knowledge (K)	Pearson Correlation: 1.00	Pearson Correlation: 0.60	Pearson Correlation: 0.70

Table 4 presents findings of a correlation analysis which examined the relationships among healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention at Kasangati Health Center IV. Each cell in the table contains Pearson correlation coefficients, which measure the strength and direction of the linear relationship between two variables. For instance, the correlation coefficient between Knowledge and Attitudes is 0.60, indicating a moderate positive correlation.

Similarly, the correlation coefficient between Knowledge and Practices is 0.70, suggesting a strong positive correlation. The significance level (p-value) associated with each correlation coefficient

is also provided, allowing us to determine whether the observed correlations are statistically significant. In this table, all correlations have p-values below 0.05, indicating statistical significance. Thus, the findings suggest that there are significant relationships between healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention. These therefore can inform targeted interventions aimed at improving infection control practices and reducing the incidence of nosocomial infections within the healthcare facility.

4.2 Discussion

The findings of this study shed light on several key aspects related to healthcare workers' practices in preventing nosocomial infections at Kasangati Health Center IV. The discussion is structured around the objectives of the study, addressing the knowledge, attitudes, and practices of healthcare workers, factors influencing their practices, and the correlations among knowledge, attitudes, and practices regarding nosocomial infection prevention.

The study revealed a noteworthy discrepancy between healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention. Our findings indicate that while a significant proportion of healthcare workers demonstrated adequate knowledge and positive attitudes towards infection prevention measures, adherence to recommended practices was not uniform across the board. This finding aligns with previous research indicating that a gap often exists between knowledge and actual practice in infection control (Shah et al., 2015; Lyu et al., 2021).

Several factors were identified as influential in shaping healthcare workers' practices in preventing nosocomial infections. Organizational factors, including leadership support and resource availability, emerged as critical determinants of infection control practices. Our findings corroborate the results of previous studies highlighting the pivotal role of organizational culture and support in fostering a safe and conducive environment for infection prevention (Abbas et al., 2021; Geberemariyam et al., 2018).

Individual factors, such as perceptions and beliefs regarding infection control, also significantly influenced healthcare workers' practices. The study found that healthcare workers with positive perceptions and beliefs were more likely to adhere to recommended infection prevention practices. These findings underscore the importance of addressing individual attitudes and perceptions through targeted educational interventions and training programs (Zeigheimat et al., 2016; Joshi et al., 2018).

The correlation analysis revealed significant positive correlations between healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention. Our findings suggest that healthcare workers with higher levels of knowledge and positive attitudes were more likely to demonstrate adherence to recommended infection control practices. This finding highlights the interconnectedness of knowledge, attitudes, and practices in influencing healthcare workers' behavior in infection prevention (Bianco et al., 2013; Zimba et al., 2022).

The findings of this study have important implications for practice and policy at Kasangati Health Center IV and similar healthcare settings. Addressing the identified gaps in knowledge, attitudes, and practices through targeted interventions, including continuous education, training, and organizational support, is paramount for improving infection prevention measures and reducing the incidence of nosocomial infections. Furthermore, efforts to strengthen collaboration between healthcare workers, management, and policymakers are essential for implementing evidence-based infection control policies and guidelines (Lyu et al., 2021; Abbas et al., 2021).

It is important to acknowledge several limitations of this study. Firstly, the cross-sectional design limits our ability to infer causality between variables. Future research employing longitudinal designs could provide insights into the temporal dynamics of healthcare workers' practices in infection prevention. Additionally, self-report measures may introduce response bias and social desirability effects, warranting caution in interpreting the findings.

Therefore, this study contributes to the growing body of literature on infection prevention practices among healthcare workers in resource-limited settings. By addressing the identified knowledge gaps, addressing individual attitudes, and enhancing organizational support, healthcare facilities can strengthen their capacity to prevent and control nosocomial infections effectively.

CHAPTER FIVE: SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a summary of the key findings, conclusions drawn from the study, and recommendations aimed at improving infection prevention and control practices among healthcare workers at Kasangati Health Center IV.

5.1 Summary

The study investigated healthcare workers' practices in preventing nosocomial infections at Kasangati Health Center IV, focusing on knowledge, attitudes, and practices related to infection prevention. Through a cross-sectional descriptive design, data were collected from a sample of 70 healthcare workers using structured interviews and analyzed using statistical methods.

The findings revealed a significant gap between healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention. While a substantial proportion of healthcare workers demonstrated adequate knowledge and positive attitudes towards infection control measures, adherence to recommended practices was inconsistent.

Factors influencing healthcare workers' practices included organizational support, resource availability, individual perceptions, and clear policy guidelines. Moreover, positive correlations were observed between healthcare workers' knowledge, attitudes, and practices regarding nosocomial infection prevention, highlighting the interconnectedness of these factors.

5.2 Conclusion

In conclusion, the study underscores the importance of addressing the identified gaps in knowledge, attitudes, and practices to enhance infection prevention and control measures at Kasangati Health Center IV. Organizational leadership, adequate resource allocation, continuous education, and training programs are crucial for fostering a culture of infection prevention among healthcare workers.

Furthermore, clear policy guidelines and effective communication channels are essential for ensuring compliance with infection control protocols. Strengthening collaboration between healthcare workers, management, and policymakers is imperative for implementing evidence-based strategies and mitigating the risk of nosocomial infections.

5.3 Recommendations

Based on the findings of the study, the following recommendations are proposed:

- a) The government should allocate adequate resources and support initiatives aimed at improving infection prevention and control practices in healthcare facilities across the country. This includes investment in infrastructure, provision of personal protective equipment, and capacity building for healthcare workers.
- b) The management of Kasangati Health Center IV should prioritize infection prevention and control measures by providing leadership support, implementing clear policies and guidelines, and fostering a culture of safety and accountability among healthcare workers.
- c) Regular training programs and workshops should be organized to enhance healthcare workers' knowledge and skills in infection prevention and control. Training modules should be tailored to address specific gaps identified in practice.
- d) Community awareness campaigns should be conducted to educate the public about the importance of infection prevention and control measures. Engaging community members as partners in healthcare delivery can help reduce the transmission of infections within the community.
- e) Continuous research and monitoring are essential for evaluating the effectiveness of infection prevention interventions and identifying emerging trends in nosocomial infections. Collaboration with academic institutions and research organizations can facilitate data-driven decision-making and policy formulation.

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APPENDICES

APPENDIX I: CONSENT FORM

Research Description

The main aim of this study is to assess knowledge, attitude and practices of health workers on prevention and control of nosocomial infections. This will help to update on the prevalence of Hospital acquired infections as well as inform the health center administrators on the main areas that require improvement as regards to infection control.

I am **Naamala Flavia** a student of KING CEASOR UNIVERSITY. I am carrying out a study on above topic in the above area of study. You have been selected to participate in answering questions regarding this topic. The information you give is very valuable and will be treated with maximum confidentiality. That is why you are requested not to record your name on this paper. So please feel free to respond to the questions as genuinely as possible.

CONSENT

I certify that, to the best of my Knowledge, I have read and understood the contents above and I willingly participate in the study.

Respondent

Participant Initials.....

Sign.....

Date.....

Student

Sign.....

Date.....

APPENDIX II: QUESTIONNAIRE

Section 1: Respondent Information

Demographic Information:

1. Age of the respondent **(Tick only One)**

No.		Tick
1	Between 20-24Years	
2	Between 25-29 Years	
3	Between 30-34 Years	
4	Between 35-39 Years	
5	Between 40-44	
6	Between 45-49	
7	Between 50 years and Above	

2. Gender of the respondent

Male ☐

Female ☐

3. Marital Status of the respondent.

a) Married ☐

b) Single ☐

c) Divorced ☐

d) Separated ☐

e) Others, (specify).....

4. Level of Education of the respondent.

No.		
1.	Tertiary	
2.	A-level	
3.	O-Level	
4.	Primary Level	
5.	No Education at all	

5. Years of Experience in Healthcare: _____ years

Less than one year ☐

Between 2-3 years ☐

Between 4-5 years ☐

More than 5 years ☐

6. Department/Unit: _____

Section 2: Understanding of Nosocomial Infections

2.1. Nosocomial Infections Knowledge:

Please indicate your level of knowledge regarding nosocomial infections:

Very Low () Low () Moderate () High () Very High ()

2.2. Definition of Nosocomial Infections:

Can you define what a nosocomial infection is in your own words?

[Open-ended response]

Section 3: Factors Contributing to Nosocomial Infections

3.1. Hand Hygiene:

How frequently do you practice proper hand hygiene during your work shifts?

Always () Often () Sometimes () Rarely () Never ()

3.2. Use of Personal Protective Equipment (PPE):

Do you consistently use appropriate PPE (e.g., gloves, masks, gowns) when caring for patients? () Always () Often () Sometimes () Rarely () Never

3.3. Infection Control Training:

Have you received training on infection control practices in the past year? () Yes () No

3.4. Patient Isolation Protocols:

Are patients with known or suspected infections isolated promptly?

Always () Often () Sometimes () Rarely () Never ()

Section 4: Impact of Nosocomial Infections

4.1. Experience with Nosocomial Infections:

Have you, or someone you work closely with, experienced a nosocomial infection?

Yes () No ()

If yes, please describe the impact or consequences:

[Open-ended response]

4.2. Patient Outcomes:

In your opinion, how do nosocomial infections affect patient outcomes and recovery?

[Open-ended response]

Section 5: Intentions and Practices Regarding Nosocomial Infections

5.1. Reporting Practices:

If you observe a potential nosocomial infection, do you report it to the appropriate authorities?

Always () Often () Sometimes () Rarely () Never ()

5.2. Intentions to Prevent Nosocomial Infections:

How committed are you to preventing nosocomial infections in your healthcare facility?

Very Committed () Committed () Neutral () Not Committed () Not at all Committed ()

Section 6: Suggestions and Additional Comments

6.1. Suggestions for Improvement:

What improvements or interventions do you believe could help reduce nosocomial infections in our healthcare facility?

[Open-ended response]

6.2. Additional Comments:

Is there anything else you would like to share regarding nosocomial infections or related topics?

[Open-ended response]

Thank you for participating in this survey. Your input is valuable and will contribute to our research on nosocomial infections.

APPENDIX III: CHECK LIST

Checklist for Practices of health care providers associated with nosocomial infections

Parameter	Comments	Tick
1. uses protective equipment during practice	Yes	
	No	
2. Use gloves when doing procedure where there is blood or body fluids	Always	
	Sometimes	
	Never	
3. wash hands between two patients	Yes	
	No	
4. Disposes sharps in safety box immediately after use	Always	
	Sometimes	
	Once a while	
	Never	
5. what he/she does if accidentally touches patients' blood or fluid	Wipe with cotton wool	
	Wash with soap and water immediately	
	Wash under running water	
6. Waste segregation before disposal	Yes	
	No	
7. Recapping needle before disposal	Yes	

	No	
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APPENDIX IV: PROPOSED BUDGET

APPENDIX V: MAP OF UGANDA SHOWING WAKISO DISTRICT

