

**Infection control practices among health workers at Kajjansi Health Centre IV.
A cross-sectional study.**

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Abstract

Background:

Infection control practices among health workers are essential for preventing the spread of healthcare-associated infections and ensuring patient and staff safety. Therefore, this study aims to determine the infection control practices among health workers at Kajjansi Health Centre IV.

Methodology:

A cross-sectional study design was used, where participants were given questionnaires to fill in quantitatively, the data were coded, and analysed with the aid of the Statistical Package for the Social Sciences (SPSS) version 25, and presented using tables, Bar charts, and pie charts.

Results:

A total of 55 healthcare workers were interviewed, 61.8% (34/55) were females. The mean age of the participants was 25.3, with the majority, 54.5% (30/55), in the age group of 26 to 30 years. 50.9% (28/55) of the participants were diploma holders, and 63.6% (35/55) of the participants were nurses. The proportion of health workers who practiced good infection control activities were 56.4% (31/55). 43.6% (24/55) of participants washed their hands with soap before patient care, after patient care, or after contact with blood. 90.9% (50/55) did not recap needles after use, all discarded waste immediately in their waste containers, 98.2% (54/55) did not remove rings or bracelets before hand washing, 90.9% (50/55) agreed availability of written guidelines on exposure to HIV, HBV while 47.3% (26/55) admitted presence of guidelines on waste disposal with only 45.5% (25/55) applying the guidelines.

Conclusion:

More than half of health workers practiced good infection control, with strengths in waste disposal and avoiding needle recapping.

Recommendation:

There is a need for regular training and mentorship on infection control practices. The facility should also improve supervision and ensure proper availability and enforcement of guidelines.

Keywords: *Infection control practices, healthcare workers, hand hygiene, waste disposal, Kajjansi Health Centre IV.*

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Background of the study

Effective infection control practices among healthcare workers (HCWs) are essential in preventing healthcare-associated infections and ensuring patient safety. The World Health Organization emphasizes that adherence to recommended practices such as hand hygiene, proper use of personal protective equipment (PPE), safe waste disposal, and sterilization procedures is critical in minimizing the transmission of infectious agents in healthcare settings. While knowledge provides the foundation, it is the consistent application of these practices that ultimately determines the effectiveness of infection prevention efforts. Globally, studies have shown varying levels of compliance with infection control practices among HCWs. For example,

a study conducted in Palestine by Imad (2015) reported that the majority of participants (91.1%) demonstrated good infection control practices (>80%), suggesting a relatively high level of adherence. However, this contrasts with findings from other regions, indicating that good practice is not always universal. Bouallègue (2013) noted that although many infection control measures are simple and low-cost, their implementation often requires behavioral change, accountability, and continuous monitoring, which can be challenging in resource-limited settings.

In Ethiopia, Kelemua (2014) found that only 54.2% of healthcare workers demonstrated safe infection prevention practices, despite having relatively high knowledge levels. This disparity highlights a critical gap between knowledge

and actual practice. Factors such as availability of PPE, years of work experience, and type of healthcare facility were found to significantly influence adherence to proper practices. Similarly, Yakob (2015) reported that only 42.2% of HCWs consistently applied standard precautions, and a considerable proportion (43.7%) disposed of sharps in open containers, posing a significant risk of infection transmission. These findings underscore persistent challenges in ensuring compliance with safe practices.

In Uganda, studies have also identified gaps in infection control practices. Research conducted at Mulago Hospital in Kampala by Katamba (2012) revealed that although health workers possessed good knowledge, hand hygiene practices were often driven more by self-protection than by the prevention of patient-to-patient transmission. This indicates a partial application of infection control principles. Furthermore, a study in Arua District by Peter (2015) highlighted that many health facilities lacked essential infection control infrastructure, such as committees and adequate supplies, which negatively impacted the ability of HCWs to practice proper infection prevention measures.

These findings suggest that infection control practices are influenced not only by individual knowledge but also by systemic factors such as resource availability, institutional support, and workplace culture. In lower-level health facilities like Kajjansi Health Centre IV, where resources may be limited, assessing the actual practices of HCWs is crucial for identifying gaps and designing appropriate interventions. Therefore, this study aims to determine the infection control practices among health workers at Kajjansi Health Centre IV.

Methodology

Study design

A cross-sectional study design was used, where health workers were interviewed. This design was chosen because it is relatively easy and economical to conduct.

Study area

The study was conducted at Kajjansi Health Centre IV in Wakiso district. The centre has an Out-Patient Department, In-patient wards, a laboratory, maternity, and pharmacy. The laboratory is well equipped to handle blood, urine, and stool samples, and has a hematology, biochemistry, and microbiology section. This site was chosen because it's a government facility, hence it has a large catchment area and is easily accessible to the researcher.

Study population

All health care workers employed at Kajjansi Health Centre IV were eligible for the study once they consented. This population was chosen because they are in direct contact with the patients and are also exposed to biohazard materials.

Sampling techniques

A purposive sampling technique was used in this study, where a list of the names of all the healthcare workers was generated from the hospital's official records and contacted on first come first serve basis until the required sample size. This was chosen because it gave a representative view of the population, was less time-consuming, and economical to apply.

Sample size determination

To calculate the minimum sample size, Slovin's formula was used

Where;

$N = \text{Population size}$ $e = \text{Margin of error}$ $n = \text{sample size}$

$n = \frac{N}{1 + Ne^2}$

In this study, a 99% confidence interval was used.

This gives $(1 - 0.99 = 0.01)$ as the margin of error

$n = 60$

$1 + (100 (0.01)^2)$

$= 59$

In this study, a sample size of 59 health care workers was needed

Selection criteria

Inclusion Criteria

All healthcare workers in direct contact with patients who had consented were enrolled in the study.

Exclusion Criteria

All health workers handling emergency cases during the time of the study were excluded, and also those who were on duty were excluded from the study.

Study Variables

Independent Variables

In this study, the independent variables were various socio-demographic characteristics and institutional factors.

Dependent Variable

In this study, the dependent variable was the practices of healthcare workers towards infection control.

Piloting the study

To establish the validity and reliability of the study, the researcher sought the opinion of the supervisor and also distributed 5 questionnaires randomly to 5 volunteer staff of Kajjansi Health Centre IV before applying the research tool so that any items missing in the questionnaire were added and those unsuitable were removed.

Data collection tools

In this study, a questionnaire and interview schedule were used. The questionnaire consisted of open and closed questions and was used to collect qualitative and quantitative data, while the interview was conducted one-on-one with prepared schedules to encourage the respondent to give an in-depth and heartfelt response without fear of revealing information.

Data collection procedures

Informed consent was obtained from the participants who met the inclusion criteria of the study. Those who agreed to participate in the study were enrolled after an explanation about the study, the risks and benefits of the study, confidentiality, and their freedom to decline to participate, and after signing an informed consent form. After being enrolled, the participants were interviewed using a structured questionnaire on a face-to-face basis and given unique numbers as identifiers to avoid repeat interviews with the same participant in the subsequent visits. A yellow sticker with the study number was used for unique identification of the participant after the interview, and the sticker was placed inside the top cover of the file. Also, a daily log of the out-patient number, name, and study number assigned to each participant was kept to counter-check when doing subsequent visits.

Participants' knowledge was assessed by 15 questions as follows: each question had a group of answer points, one point was awarded for each correct answer; incorrect or I don't know " answers took zero. Correct responses were summed up to get a total knowledge score for each participant.

The practice scores were categorized into good ($\geq 80\%$), fair (59-79%), and poor ($\leq 59\%$), and practice was assessed using 9 questions and required a Yes or No response.

Data presentation and analysis

The data was analysed with the aid of the Statistical Package for the Social Sciences (SPSS) version 25 and presented using tables, Bar charts, and pie charts.

Quality control of the study

To ensure high-quality data, the data collected was checked for consistency immediately, where any missing or unclear responses to the question were corrected by requesting the participant for additional time to clarify the responses to the question before the study participant left the site.

Ethical consideration

Before starting the study, a letter of introduction and a copy of the research proposal were presented to the Kajjansi Health Centre IV administrator for approval. Also, verbal consent was obtained from the participants before interviewing and after explaining to them about the study, and they had the freedom to participate or not. They had the right to withdraw from the study at any time if they wished, and the investigator respected their decisions without compromising their service delivery at the hospital. Information obtained from the participant was handled with confidentiality by using study numbers and initials.

Results

Socio-demographic characteristics of the study participants

A total of 55 healthcare workers were interviewed, yielding a response rate of 91%, and the majority, 61.8% (34/55), were females. The mean age of the participants was 25.3, with the majority, 54.5% (30/55), in the age group of 26 to 30 years. A great proportion, 50.9% (28/55) of the participants were diploma holders, and 63.6% (35/55) of the participants were nurses.

Table 1: Socio-demographic characteristics of participants at Kajjansi Health Centre IV (n=55)

Variables		Frequency	Percentage
Age (years)	21 – 25	20	36.4
	26 – 30	30	54.5
	Above 31	5	9.1
Gender	Male	21	38.2
	Females	34	61.8
Marital status	Single	25	45.5
	Married	30	54.5
Education status	BSc and above	1	1.8
	Diploma	28	50.9
	Certificate	26	47.3
Work experience	<5 years	20	36.4
	5-10 years	25	45.5
	>10 years	10	18.2

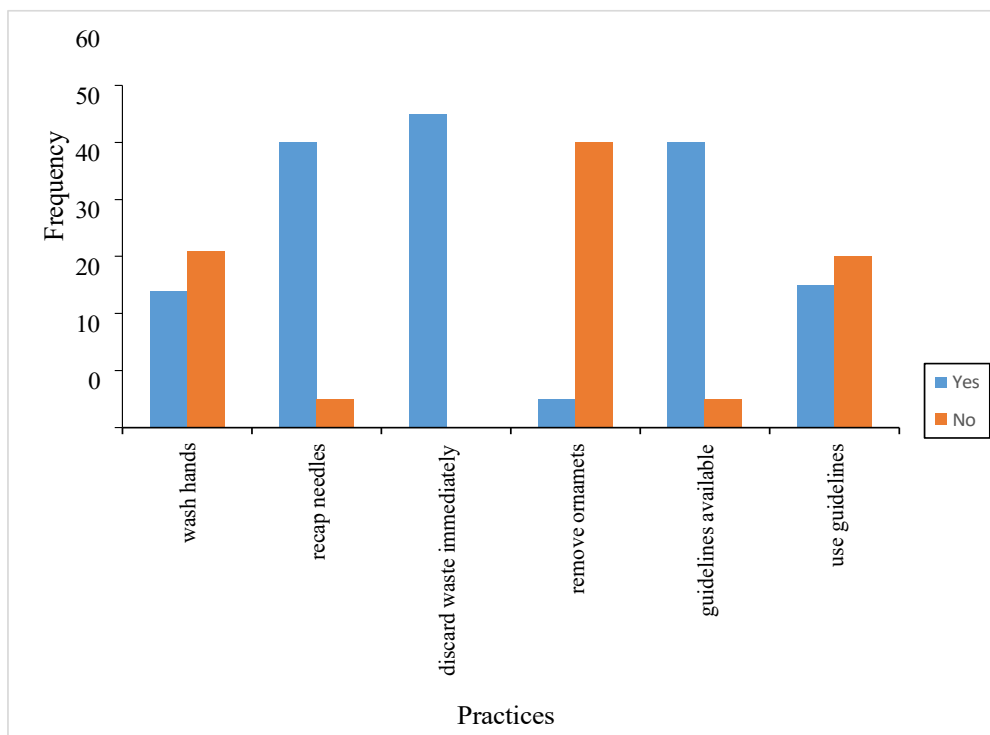
Cadre	Physician	1	1.8
	Nurse	35	63.6
	Midwife	10	18.2
	Lab technicians	9	16.4
Had taken training in infection control	Yes	45	81.8
	No	10	18.2
Infection control guidelines available	Yes	50	90.9
	No	5	9.1

Practices of healthcare workers in infection control

In this study, the proportion of health workers who practiced good infection control activities were 56.4% (31/55). Regarding recommended guidelines, 43.6% (24/55) of participants washed their hands with soap before patient care, after patient care, or after contact with blood. 90.9%

(50/55) did not recap needles after use, all discarded waste immediately in their waste containers, 98.2% (54/55) did not remove rings or bracelets before hand washing, 90.9% (50/55) agreed availability of written guidelines on exposure to HIV, HBV while 47.3% (26/55) admitted presence of guidelines on waste disposal with only 45.5% (25/55) applying the guidelines.

Figure 1: Practices of study participants about infection control (n=55)



Discussion

The study found that 56.4% of health workers at Kajjansi Health Centre IV practiced good infection control measures, indicating that just over half of the respondents adhere to recommended standards. While strong compliance was

observed in some areas, such as immediate waste disposal (100%), avoidance of needle recapping (90.9%), and removal of rings or bracelets before handwashing (98.2%), there were notable gaps in hand hygiene practices, with only 43.6% consistently washing hands before and after patient

care or after contact with blood. This shows inconsistency in the application of standard infection prevention measures despite awareness of their importance. The low compliance with hand hygiene in this study is consistent with findings from Katamba et al. (2012), who reported that although healthcare workers at Mulago Hospital in Kampala had adequate knowledge of infection control, hand hygiene practices were often suboptimal and influenced more by self-protection than patient safety. Similarly, Peter (2015) found in Arua District, Uganda, that handwashing practices were inconsistent and strongly affected by the availability of supplies and training.

Mohan and colleagues (2014) observed poor adherence to hand hygiene protocols among healthcare workers in Ethiopia, despite awareness of infection risks. They attributed this gap to limited resources, inadequate training, and workload pressures. In addition, Talaat et al. (2011) emphasized that even in settings where knowledge of infection control is high, compliance with hand hygiene remains low unless reinforced through continuous training, reminders, and institutional support. The high adherence observed in waste disposal practices and avoidance of needle recapping in this study is encouraging and may reflect improved awareness of sharps-related risks and availability of disposal containers. However, only 45.5% of respondents reported consistent use of waste management guidelines, despite 90.9% acknowledging their availability.

This suggests a gap between policy awareness and actual implementation, which has also been reported in studies where guidelines exist but are not effectively enforced due to weak supervision and limited accountability (Katamba et al., 2012; World Health Organization, 2016).

Conclusion

The study found that just over half (56.4%) of health workers at Kajjansi Health Centre IV had good infection control practices, with strong adherence in areas such as safe waste disposal and avoiding needle recapping. However, gaps still exist in hand hygiene and consistent application of available guidelines, indicating suboptimal overall practice.

Recommendations

There is a need for intensified training and continuous mentorship on infection control, especially hand hygiene and guideline use. The health facility should also strengthen monitoring and ensure better availability and enforcement of infection prevention guidelines.

Acknowledgement

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List of abbreviations

HCAIS:	Health Care-Associated Infections
HCWs:	Health Care Workers
HIV:	Human immunodeficiency virus
NI:	Nosocomial Infection
PEP:	Post-Exposure Prophylaxis
TB:	Tuberculosis
WHO:	World Health Organization

Data availability

The data is available upon request.

Informed consent

Written informed consent was obtained from all participants before their inclusion in the study. Participants were informed about the purpose of the study, procedures

involved, potential risks and benefits, and their right to withdraw at any time without penalty.

Source of funding

The study did not receive any external funding.

Conflict of interest

The author did not declare any conflict of interest.

Author contributions

Duncan Edward Kasibante was the principal investigator
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