

THE LEVEL OF AWARENESS ABOUT INFECTION PREVENTION AND CONTROL AMONG HEALTH WORKERS IN PRIVATE UNITS IN KAWEMPE DIVISION. A CROSS-SECTIONAL STUDY.

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Page | 1 **ABSTRACT**

Background

Awareness and adherence to infection prevention and control (IPC) measures among healthcare workers (HCWs) are critical for ensuring patient safety and reducing healthcare-associated infections worldwide. Therefore, this study aimed to assess the level of awareness about Infection prevention and control among health workers in private units in the Kawempe Division.

Methodology

The study employed a descriptive cross-sectional design, using a quantitative approach involving the observation of representative subsets of the population at a specific time. participants were selected using convenience sampling techniques due to time constraints that precluded the use of other sampling approaches.

Results

The majority of respondents were females (55.8%), with most 42.9% aged (31-40) years. (35.5%) Of the respondents were somewhat familiar with IPC measures and nearly half of the respondents had received training in IPC (46.8%), (40.4%) of respondents always practiced hand hygiene, about (14.1%) of respondents were not confident at all in using PPE and 63(40.4%) showed to be knowledgeable about IPC, 66(42.3%) participants often adhered to IPC protocols.

Conclusion

Observations indicated a significant gap in IPC practices, including insufficient hand hygiene, lack of proper client screening, and poor waste management.

Recommendations

the Ministry of Health, Kampala Capital City Authority (KCCA), and relevant stakeholders need to implement comprehensive measures. These measures should focus on increasing awareness among healthcare workers.

Keywords: Infection prevention and control, Awareness, Private health units, Kawempe division
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BACKGROUND

Awareness and adherence to infection prevention and control (IPC) measures among healthcare workers (HCWs) are critical for ensuring patient safety and reducing healthcare-associated infections globally. Studies conducted in Uganda highlight varying levels of awareness and training effectiveness among HCWs. In Arua, Wasswa et al. (2021) found that 51% of respondents were aware of six out of eight major IPC measures, with those trained in IPC being more likely to practice proper hand hygiene (AOR = 2.71, 95% CI: 1.03–7.16). However, gaps persist, as improper IPC measures pose significant health risks to both HCWs and patients (Boyce, 2021).

Infection prevention and control practices vary widely across countries, impacting healthcare outcomes. Research indicates disparities in knowledge and practices among HCWs in different settings. For instance, studies in Ethiopia highlight significant gaps in IPC knowledge, particularly in healthcare waste management and disease transmission awareness (Muluken et al., 2013). Similarly, research from South Asia underscores that variations in IPC knowledge among nurses are influenced by factors such as hospital type and experience (Castaneda, 2021).

The challenges extend beyond Africa and Asia. In India, Alok (2020) found poor awareness among healthcare

personnel regarding biomedical waste management and IPC practices, with substantial percentages exhibiting inadequate knowledge in these areas. Furthermore, studies emphasize inadequate provision and utilization of personal protective equipment (PPE) by HCWs, contributing to improper waste disposal practices and compromising infection control efforts (*Deressa et al., 2020*).

Across diverse regions, there is a consistent highlight of gaps in IPC practices and knowledge among healthcare workers. For example, research in Southeast Asia reveals significant variations in IPC awareness and adherence among HCWs in intensive care units, influenced by factors such as hospital type and the economic status of the country (*Castaneda, 2021*). Similarly, studies in Cameroon and other parts of Africa underscore challenges related to inadequate IPC resources and infrastructure, leading to increased risks of infectious disease outbreaks and healthcare-associated infections (*Ackers et al., 2020*). Global initiatives emphasize the importance of standardized IPC training and guidelines to improve healthcare outcomes.

The World Health Organization (WHO) advocates for comprehensive IPC strategies that include training HCWs, ensuring access to PPE, and implementing effective waste management practices (*WHO, 2020*).

These findings indicate a global need for enhanced IPC training and infrastructure to mitigate healthcare-associated infections effectively. Addressing these challenges requires comprehensive strategies that prioritize education, resource allocation, and policy implementation across healthcare systems worldwide. By improving HCW knowledge and adherence to IPC protocols, significant strides can be made in enhancing patient safety and public health outcomes on a global scale. Therefore, this study aimed to assess the level of awareness about Infection prevention and control among health workers in private units in Kawempe Division.

METHODOLOGY

Study Design

This study employed a descriptive cross-sectional design, involving the observation of representative subsets of the population at a specific time. Participants were selected using convenience sampling techniques due to time constraints that precluded the use of other sampling approaches.

Study Area

The study was conducted in selected private healthcare facilities in Kawempe Division, Kampala, to ascertain IPC practices, which are reported to be poorly implemented. Kawempe Division, one of the five divisions that comprise

Kampala District, has a total surface area of 32.45 km². It is located in the northwest corner of the district, bordered by Nakawa Division to the east, Kampala Central to the south, and Lubaga Division to the southwest. The coordinates are 00°23'N, 32°33'E (latitude 0.3792, longitude 32.5574). Kawempe has 297 healthcare workers in its licensed mainly private health units (*Facility Master List, MOH, 2020*). The study targeted doctors, nurses, nursing assistants, laboratory technicians, midwives, and dental officers across 18 private facilities in 15 parishes within the division.

Sampling Procedure

A convenience sampling method was used due to the limited timeframe available for the study. Participants were enrolled from 18 private facilities across 15 parishes. Health workers who were approached and agreed to participate were enrolled in the study. Each consenting participant signed a consent form and completed a questionnaire. Observational data were collected by the researcher. Awareness levels were assessed through questions on waste segregation, hand hygiene, PPE, and IPC guidelines. Scores of 50% or above were considered adequate awareness, while below 50% indicated inadequate awareness. Data was cleaned daily and securely stored for confidentiality.

Sample Size Estimation

The Kish and Leslie formula (1988) was used to calculate the sample size:

$$N = S^2 Z^2 \times P \times Q$$

Where:

N = Sample size

Z = 1.96 (95% confidence interval)

P = Prevalence of improper IPC (64%, WHO 2005)

Q = 1 - P = 0.36

S = Standard error (± 0.05)

$$N = 0.0025(1.96^2 \times 0.64 \times 0.36) = 354$$

For smaller populations, the sample size was adjusted:

$$n = 1 + N(N_0 - 1) / N_0$$

Where:

n = Adjusted sample size

N = Population size (280)

$$n = 1 + 280(354 - 1) / 354 = 156 \text{ participants}$$

Inclusion Criteria

Health workers in selected licensed private health units in Kawempe Division who consented to participate.

Data Collection Tools

Data were collected using a researcher-developed questionnaire and an observational checklist. The checklist was used to verify the availability of specific items and practices in different facilities.

Data Analysis

Data were organized, edited, coded, and presented using tables and pie charts. Detailed computations were performed using computer applications.

Quality Assurance

The questionnaire was pre-tested on a small group of health workers outside the study area. Feedback was used to ensure the clarity, validity, and reliability of the data collection tools

Ethical Considerations

Formal permission was obtained from each health facility. Informed consent was secured from each participant, and their responses were kept confidential.

RESULTS

Demographic Data.

Table 1: Description of the Study Participants

Variable	Category	Frequency(n=156)	Percentage (%)
Gender	Males	69	44.2%
	Females	87	55.8%
Age	20-30	43	27.6%
	31-40	67	42.9%
	41-50	23	14.7%
	Above 50	12	7.7%
Professional Qualification/Cadre	Nurses	63	8.3%
	Laboratory Technician	13	8.3%
	Clinical Officers	30	19.2%
	Dental Officers	4	2.6%
	Laboratory Assistants	26	16.7%
	Midwives	15	9.5%
	Environmental Assistants	5	3.2%
Marital status	Single	48	30.8%
	Married	66	42.3%
	Widowed	29	18.6%
	Divorced/separated	13	8.3%
Years of Experience.	Below 3	37	30.5
	3-6	51	32.7
	7-15	45	11.1
	Above 15	23	5.5
Total		156	100

Source of Information: Primary source 2024

Table 1: showed that the majority of respondents were females (55.8%), with most falling within the age range of

31-40 years (42.9%). In terms of professional Qualifications, the highest proportion of respondents were

nurses (40.4%), followed by clinical officers (19.2%) and laboratory assistants (16.7%). Marital Status data showed most respondents were married (42.3%). Additionally, the majority had 3-6 Years of Experience (32.7%). The

demographic data provides a comprehensive profile of the respondents, indicating a diverse group of health workers with varying levels of experience and professional qualifications.

Table 2: showing awareness of IPC Measures, Training in IPC, Hand Hygiene Practices, and Use of Personal Protective Equipment (PPE)

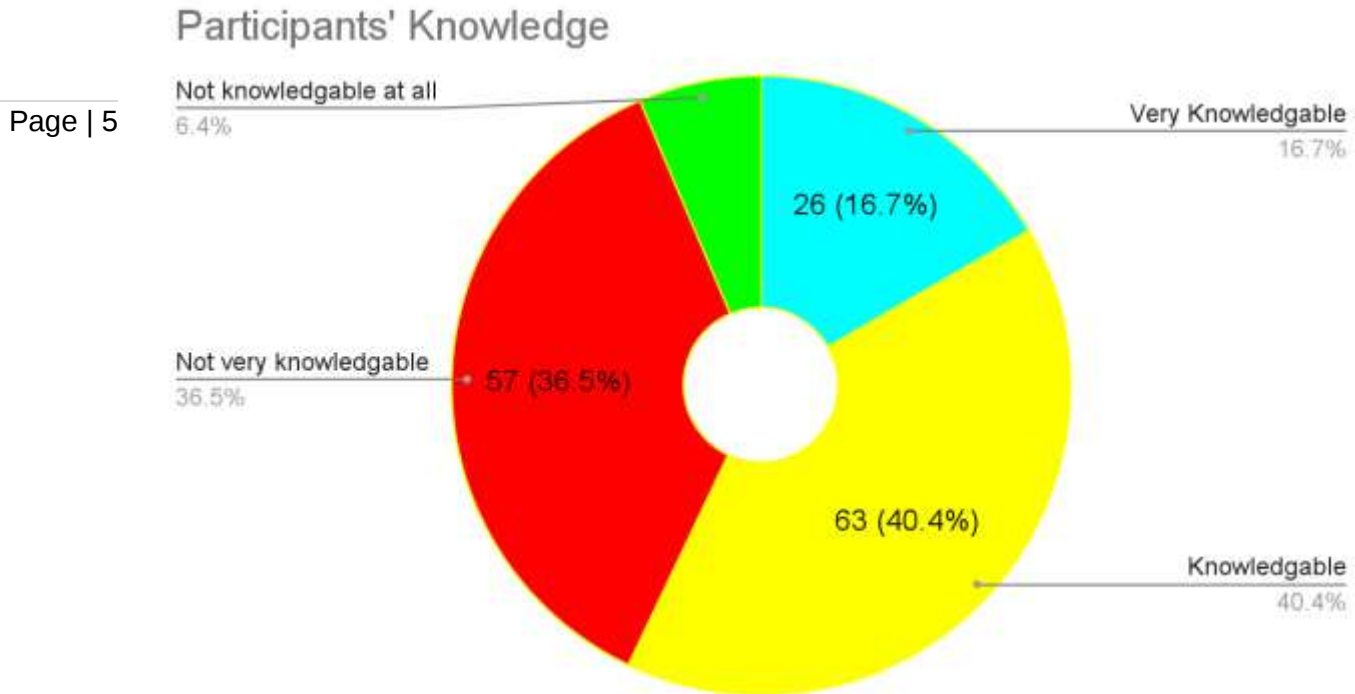
Variable	Category	Frequency	Percentage (%)
Awareness of IPC Measures.	Very familiar	43	27.6%
	Somewhat familiar	57	35.5%
	Somewhat unfamiliar	39	25%
	Very unfamiliar	17	10.9%
Training in IPC	Yes	73	46.8%
	No	45	28.8%
	Not sure	23	14.7%
	Prefer not to say	15	9.6%
Hand Hygiene Practices	Always	63	40.4%
	Often	57	36.5%
	Sometimes	33	21.2%
	Never	3	1.9%
Use of Personal Protective Equipment (PPE):	Very confident	39	25%
	Confident	53	34%
	Not very confident	42	26.9%
	Not confident at all	22	14.1%
Total		156	100

Source of Information: Primary source 2024

According to table 2: The majority of respondents were somewhat familiar with IPC measures (35.5%). Only 17(10.9%) participants were unfamiliar with IPC measures. Training in IPC: Nearly half of the respondents had received training in IPC (46.8%). 28.8% of respondents had not received

training in IPC. Regarding hand hygiene practices, the majority of respondents always practiced hand hygiene (40.4%). Only 1.9% of respondents never practiced hand hygiene. Furthermore, the majority of respondents were confident in using PPE (34%). 14.1% of respondents were not confident at all in using PPE.

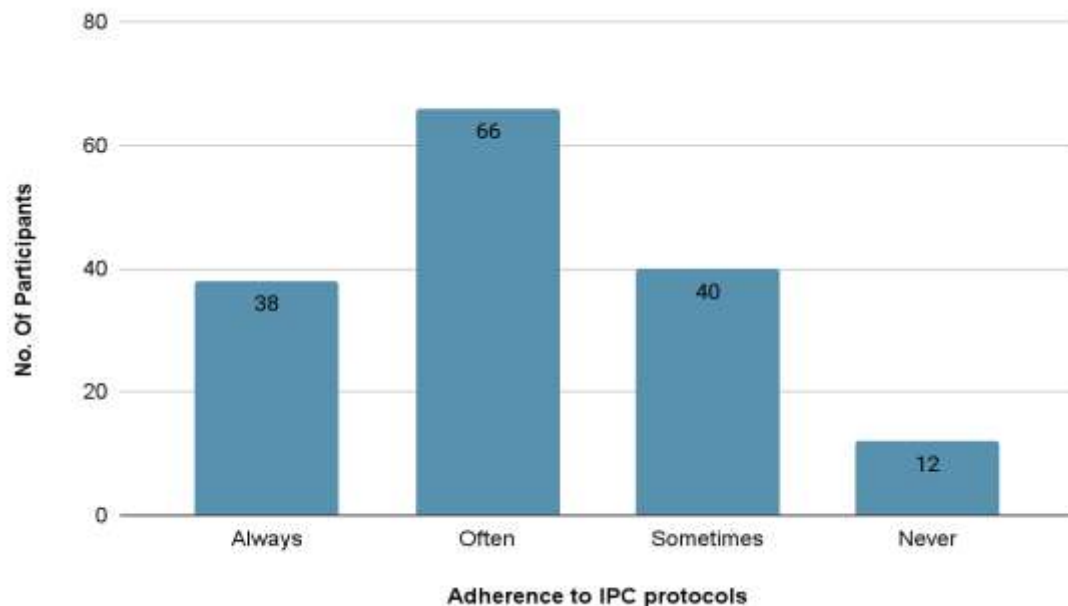
Figure 1: showing participants' knowledge of healthcare waste management



Source of Information: Primary source 2024

According to Figure 1, the majority of participants, 63 (40.4%), showed to be knowledgeable, while only 10 (6.4%) participants indicated they were not knowledgeable at all.

Figure 2: A bar graph showing participants' adherence to IPC protocols



Source of Information: Primary source 2024

According to figure 2, 66 participants (42.3%) often adhered to IPC protocols, while only 12 participants (7.7%) never adhered to IPC protocols.

DISCUSSION OF FINDINGS

The study revealed that 70.5% of respondents were knowledgeable about IPC. This contrasts with (Alhumaid et al., 2021) in Ethiopia, who found higher, moderate, and lower knowledge levels among their respondents at 30%, 31.8%, and 31.8%, respectively. Additionally, Akol (2008) in India reported awareness levels at 36%, 40%, and 25% among nurses, laboratory technicians, and dental officers, respectively. The higher awareness in this study may be attributed to the urban setting of Kampala, which has a more diverse and possibly better-informed population.

CONCLUSION

Observations indicated better significant gap in IPC practices including insufficient hand hygiene, lack of proper client screening, and poor waste management.

STUDY LIMITATIONS

- The data collection period was limited.
- Some health workers might refuse to consent due to fears of authority.

RECOMMENDATIONS

the Ministry of Health, Kampala Capital City Authority (KCCA), and relevant stakeholders need to implement comprehensive measures. These measures should focus on increasing awareness among healthcare workers. Further Research is needed to uncover more evidence on IPC practices and challenges. To ensure adherence to IPC protocols, Supportive Supervision must be established and consistently implemented.

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LIST OF ACRONYMS

IPC: Infection prevention and control
 CDC: Centre for Disease Control

KCCA: Kampala capital city Authority
PPE: Personal Protective Equipment
WHO: World Health Organization
HWC: Health Care Wastes
T.B: Tuberculosis
CI: Confidence interval.
AOR: Adjusted odd ratio.

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CONFLICT OF INTEREST

The authors declare no competing interest.

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