



KIBOGORA POLYTECHNIC



FACULTY OF HEALTH SCIENCES

DEPARTMENT OF GENERAL NURSING

**ASSESSMENT OF NURSES KNOWLEDGE AND PRACTICE REGARDING THE
INFECTION CONTROL THROUGH HANDWASHING AT KIBOGORA DISTRICT
HOSPITAL FROM 25 MAY,2022 TO 15 JUNE, 2022.**

A Research Paper submitted in partial fulfillment of the requirements for the Bachelor's degree with honor in General nursing.

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DECLARATION

Declaration by the Candidate

We are ISHIMWE Didier and IRIHO Honorine hereby declare that this is our own original work and not a duplication of any similar academic work. It has therefore not been submitted to any other institution of higher learning. All materials cited in this paper which are not our own have been duly acknowledged.

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ABSTRACT

Background: If the patient is not clean, the hands of nursing staff are the main route to infect the patient with harmful bacteria. The best way to reduce infection is to wash your hands. For this reason, nurses and midwives need to have knowledge of hand washing. This impacts best practices and compliance. to infection control measures.

Aim of the study: the present study aimed to assess nurses' knowledge and practice regarding in infection control through hand washing

Research methodology: Quantitative approach by cross-section descriptive study was used assess of nurse's knowledge and practice regarding infection control through hand washing at kibogora district hospital and Non-probability convenient sampling used to calculate sample size total sample of 32 nurses working in Surgical ,Internal medicine ,pediatric unit was used. Nameless questionnaire was used to collect data and out of 32 questionnaires distributed 32 were returned back completed. The data analysis was done using SPSS version 26..

Result of study : Respondant demonstrated 90.63 % was take formal training on hand washing in last three years and 9.38% was not, only 18(56.3%) indicated that 20 seconds is the minimum time needed for alcohol-based hand rub as correct answer 21(65.62%) showed that it is usual practice to wear gloves instead of washing hands for contact with patients. The majority 30(93.8%) indicated there a policy on keeping finger nails short or not using artificial nails 28(87.5%) indicated that there is a written policy/guide on hand hygiene and18(56.2%) show that overcrowding and insufficient time.

Conclusion: this study recommend the improvement in infection control training and respecting of recommend time during hand washing or alcohol handrub may increase nurses knowledge and practice regarding infection control through hand washing

Key words: Knowledge, practice, infection control and hand washing.

DEDICATION

To the almighty God

To our beloved parents and siblings

To friends and Lecturers.

ACKNOWLEDGEMENT

First, we thank the Almighty God for his abundant blessings and protections during our studies.

We are highly thankful to our Supervisor Mr.KANAKUZE Chris Adrien for their guidance which has enlightened us a lot and working with them has been a wonderful experience.

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LIST OF ABBREVIATIONS AND ACRONYMS

BSI: Blood stream infection

CDC: Central of disease control

HCAI: Health care associated infection

HCW: Health care workers

NS: Nasocomial Infection

ICUs: Intensive care units

MOH: Minister of health

HH: Hand hygiene

A1: Advanced diploma

A0: Bachelors degree

MsC: Masters degree

WHO: World health organization

IPC: Infection prevention and control

HCF: Highest common factor

HIV/AIDS: Human immunodeficiency virus/ Acquired immunodeficiency syndrome

VIP: Very important person

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CHAPTER ONE: GENERAL INTRODUCTION

1.0 INTRODUCTION

This chapter provide the background of study , problem statement ,significance of the study , research objectives which contain general objective, specific objectives and research question , limitation of study , and Scope of the study, study design and approach, data presentation, analysis and interpretation and general conclusion and recommendation.

1.1 BACKGROUND OF STUDY

Hand washing is easiest and important procedure that can limit the spread of health care associated infections I the hospital setting, as it is effective intervention hand washing or hand hygiene play vital role in infection control (Mathur, 2016). Globally more than 1.4 million people across the world affected by hospital acquired infection WHO project that prevalence of hospital acquired infection is on 5-10% in developed countries and around 40% in developing countries According the research conducted in Saudi Arabia between the year of 2010 to 2011 indicate that 48.3 % of patient developed hospital acquired infection(AL-Mohaithef, 2020).Hand hygiene is single most important a way to prevent the spread or transmission of infection ,hand hygiene can be performed with warm water and liquid soap for cleaning soiled hands , warm water and antiseptic solution for prior to invasive procedures or after contact with patients or infective materials or by using a hand sanitizer (Agency, 2021). Practicing hand hygiene is simple yet effective way to prevent infection cleaning your hand prevent spread of germs , including those that are resistant to antibiotic (CDC, 2019).

Recent studies conducted in Europe reported hospital wide prevalence rates of patients affected by HCAI that ranged from 4.6% to 9.3% 3-9 An estimated five million HCAI at least occur in health care hospitals in Europe annually, contributing to 135 000 deaths per year ,Approximately 99 000 deaths were attributed to HCAI. Prevalence rates of infection acquired in ICUs vary from 9 to 37% when assessed in Europe and the USA, with crude mortality rates ranging from 12% to 80%(WHO, 2021).

In sub-Saharan countries, WHO's 2015 global guidelines report on core component for effective IPC in health facilities. Hand hygiene is recommended as key national performance indicator. Only 21 countries report fully on the basic hand hygiene materials in 2019. The available data shows 7% of HCF in sub-Saharan Africa and 2% globally have no hand hygiene service at all. Madagascar 33%, Mali 79%, United Republic of Tanzania 78%, Guinea 75%, Côte d'Ivoire 75%, Chad 75%, Uganda 75%, Cameroon 74%, Rwanda 70%, Malawi 68%, Burundi 66%, Nigeria 66%, Ethiopia 65%, Niger 60%, Somalia 58%, Guinea-Bissau 49%, Djibouti 35% (WHO, State of the world hand hygiene, 2019). Nurses in Sub-Saharan Africa may not have enough resources, like biohazard bins or waste bags, to adequately dispose of infectious medical materials. Additionally, nurses may not have access to familiarity with appropriate medical infrastructure to ensure safe patient care, IPC guidelines or regulations for healthcare facilities, and knowledge of effective screening and triage practices to minimize transmission of infectious diseases entering the health facility. However, HAIs among healthcare workers and patients are preventable (Barrera-Cancedda, 2019). According to a study conducted in Kenya between 2014-2015 for practice of infection control by hand washing before surgical procedure, 348 participants, 72%-79% demonstrate the preoperative bath about quality of hand washing performed according to hand washing checklist. The low is 10.6% to 2.6 and other use alcohol for hand rubbing. It demonstrates about 0.8% to 73.9% according to hand rubbing (Elobu, 2017).

In Rwanda, hand hygiene is the primary measure proven to be effective in preventing HCAI and the spread of antimicrobial resistance. In addition, proper hand hygiene is the single most important, simplest, and least expensive means of reducing the prevalence of HAIs and the spread of antimicrobial resistance in health care settings. A study done by (Mathur, 2011) shows an increase in hand hygiene compliance from 40% to 53% before patient contact and 39% to 59% after patient contact. Finally, lack of knowledge and practice among nurses regarding infection control increases the high rates of HAIs, which is a very big burden to Rwanda as our country and to ourselves as health care providers. That's why we have to emphasize by introducing great effort in effective implementation of infection control through hand washing.

1.2 PROBLEM STATEMENT

Globally the burden of HAI is not distributed equally .In low and middle income countries HAIs affect on average of 15.5% of hospitalized patient which is high than rate reported in Europe and united state compliance (Holmen I. C., 2016) Unsafe hand washing remains the third largest cause of disease burden in the world, accounting for 7.8% of disability adjusted life years .It is estimated that inadequate hand hygiene results in nearly 300,000 deaths annually (partnership, 2018) in sub Saharan countries 10.4% to 20.5% of all surgical site infections resulted from practicing hand washing (Medical Library, National Institute of Health, 2011).

In Rwanda through nurses' knowledges for HH fulfillment decreased 32.1% between 2015 and 2016. HH for patient protection was completed significantly less than HH for HCW protection in 2016, and HCWs appeared to substitute HH for patient protection with glove use and also Availability of alcohol-based hand-rub in patient rooms decreased from 100% in 2015 to 79.5% in 2016 (Holmen., 2017). According the study conducted in same hospital in Rwanda 201 patients aged between 15 to 47 years were operated 3.48% developed SSI. 90% were due to disrespect of infection control measures as hand washing (AKIMANA, 2020), also according study conducted to Kibogora district hospital show that HAI affect 40% of hospital population((Ngarukiye, 2017) According report from Kibogora district hospital July 2020 infection rate 2.26% where in 2021 is 2.34%

The critical role of nurses in patient care emphasis on the role of the control hospital acquired infections, but good knowledge and skills (practice) are required for infection control

However there limited data on nurses knowledge and practice regarding infection control through hand washing and there is inward infections that did not be recorded, this study intend to assess nurses knowledge and practice regarding infection control through hand washing in surgical, internal medicine and pediatric ward at Kibogora district hospital. So this study is expected to inform the administrative authorities to set programs to improve the application of prevention of hospital acquired infections and infection control by hand washing in the services.

1.3 OBJECTIVES

1.3.1 General objectives

To Assess nurse's knowledge and practice regarding infection control through hand washing in Kibogora district hospital.

1.3.2 Specific objectives

- ❖ To assess the level of nurses knowledge regarding infection control through hand washing at Kibogora District Hospital.
- ❖ To assess the nurses practice regarding infection control through hand washing at Kibogora District Hospital.
- ❖ To determine the challenges faced by nurses in implementing infection control through hand washing at Kibogora District Hospital.

1.4 RESEARCH QUESTIONS

- ❖ What are levels of nurse's knowledge regarding infection control through hand washing at Kibogora District Hospital?
- ❖ What are the nurses practices regarding infection control through hand washing at Kibogora District Hospital?
- ❖ What are the challenges faced by nurses in implementing infection control through hand at Kibogora District Hospital?

1.5 SIGNIFICANCE OF THE STUDY

1.5.1. Kibogora district hospital

The study on assessment of Nurses knowledge and practice regarding infection control through hand washing at Kibogora district hospital will form a basis for future measures and strategies and theurapetic programs that covering the gaps that exist to increase the Infection control through hand washing among nurses at Kibogora district hospital.

1.5.2. Nurses

This study will help the nurses of Kibogora district hospital to improve their skills regarding infection control through hand washing as practice and will increase the knowledge about infection control and the benefits of hand washing to limit the spread of hospital acquired infections.

1.5.3. Researchers

This study will motivate other researchers to conduct further researchers on health care acquired infections and improve the lives of community .The outcome of this research will contribute to Kibogora district hospital and health care professional to recognize which factor that increases infection control through hand washing among nurses.

1.6 STUDY LIMITATION

Limited time among nurses during period of data correction.

1.7 SCOPE OF STUDY

1.7.1 Geographical scope

This research is carried in Kibogora district hospital located in western province, Nyamasheke district, Kanjongo sector, Kibogora cell.

1.7.2 In domain

This research will do in Fundamental of nursing and midwifery.

1.7.3In time

The present study will be conduct through a period from 25 May,2022 to 15 June, 202

CHAPTER II LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, an overview of different literature on health care associated infections and the knowledge and practice of nurses about hand hygiene were discussed. HAI are not only a problem of Africa but also it is a delicate issue in developed countries, up to 7% of patients in developed countries and 10% in developing countries will acquire at least one HAI.

In the last five years, WHO has conducted global surveys and to assess the implementation status of national IPC programmes. Comparing the data from the 2017-18 and 2021-22 surveys, the proportion of countries implementing national IPC programs has not improved. Also, only 4 out of 106 in 2021-22 national IPC programme improved; furthermore in 2021–22 only four out of 106 assessed countries (3.8%) had all minimum requirements for IPC in place at the national level. This is reflected in inadequate implementation of IPC practices at the point of care, with only 15.2% of health care facilities meeting all of the IPC minimum requirements, according to a WHO survey in 2019 (WHO, 2022). The WHO recommend the multidimensional hand washing strategies which contain five essential elements are: system change, including availability of alcohol-based hand rub at the point of patient care and/or access to a safe, continuous water supply and soap and towels; training and education of health-care professionals; monitoring of hand hygiene practices and performance feedback (NIH, 2013).

In Rwanda Hand washing is one of the best practices that are applied by health professionals. Within hospitals and other healthcare facilities. Rwandan hospitals have promoted hand washing among health professionals as part of the quality improvement. Emphasis is put on hand washing before and after interaction with a patient. Availability of hand washing stations, water and soap, The hand washing measures also apply to patients and visitors for whom specific hand washing stations are foreseen. Respect of the hand washing procedures not only protects the patients and the healthcare providers (Gahutu, 2020).

In this study, we described three major components. The first component was nurses level of knowledge about hand washing and infection prevention. The second was the practice level of the nurses on infection control. The third was challenges to the practice of hand hygiene and infection prevention in health care settings (Kibogora District Hospital).

2.1 DEFINITION OF KEY CONCEPT

Hand washing: is a hand hygiene practice that requires washing hands with plain or antimicrobial soap and water. or by hand rubbing using alcohol.(WHO, 2009).

Knowledge: it is information and awareness gained though experience or education. Colour Oxford English Dictionary (Dictionary, 2021).

In this study project, knowledge refers to information and skills of nurses about hand washing for infection control in surgery ward at Kibogora District Hospital.

Infection control: is the action of preventing or stopping the spread of infections in healthcare settings. This site includes how infections spread, the way to prevent the spread of infections, and more detailed recommendations by type of healthcare setting.

In this study, **infection control** is the activities nurses in surgical ward will do to prevent and stop the spreading of infection.

Practice: refers to do something regularly as part of your normal behavior. Color Oxford English Dictionary (Dictionary, 2021).

In this study, **Practice** is the way nurses in surgical ward consolidate handwashing when delivering care in order to control or prevent infection as their goal.

2.2 NURSES KNOWLEDGE REGARDING INFECTION CONTROL THROUGH HAND WASHING

Nosocomial infections are also known as hospital-acquired or associated infections (Robles, 2020)Health-care-associated infection is a major global safety concern for both patients and health-care professionals. HAI is defined as an infectious disease that occurs in a patient during the course of care in a hospital or other medical environment that is not manifested or cultured on admission (Nejad, e tal, 2011) Major challenges for low- and middle-income countries with limited health resources (Shahida, 2016) Causes health-related infections are caused by a wide range of microorganisms. These are often carried by the patients themselves (NICE, 2014).Organisms that are frequently involved in hospital-acquired infections include Streptococcus, Staphylococcus aureus.

Health-related infections occur in a variety of clinical conditions and affect patients of all ages. May be given.. Healthcare-associated infections can develop from health care interventions especially if invasive procedures or devices was used (bloodstream infections are associated with vascular access devices). They can exacerbate existing or underlying conditions, delay recovery and adversely affect quality of life (NICE, 2014).Therefore, nurses are required to have strong knowledge on essential component regarding infection Preventive and control measures applicable to all patients, including adults and children. Those measures include the hospital environment hygiene, good hand hygiene and proper use of personal protective equipment, respect of principles regarding a sepsis also safe use sharps disposal (Loveday, 2014). According to WHO (WHO, 2009) main way to transmit germ is the health care‘hands during health care. Health care workers hands are contaminated in the following situation, auscultation and palpation or while touching contaminated surfaces, devices or materials such as changing of dressing (M. Shinde, 2014)., organisms must be capable of surviving for at least several minutes on health care worker's hands, hand washing or hand antisepsis by the health care workers must Insufficient or inappropriate hand hygiene products used. The caregiver's contaminated hands must be in direct contact with another patient (WHO, 2009)

Hand washing is a technique that uses soap and water, and rubbing by hand as a method of using alcohol visible dirty ,blood, or other body fluids (Mathur, 2011).While Alcohol based hand-rub is suggested for hand decontamination in all clinical settings apart from visibly soiled hands (M. Shinde, 2014)..

In handwashing technic all element that increase colonization hand with bacteria must be removed like. Jewelry‘s also increase the colonization of germs, 40% of nurse‘s harbored gram-negative bacilli on skin under rings and that certain nurses carried the same organism under their rings for several months(MUH, 2006).

To close, there is requirement of many training courses so as to improve the knowledge of healthcare personnel (Tanwir, 2012).

2.3. NURSE'S PRACTICE REGARDING INFECTION CONTROL THROUGH HAND WASHING

Evidence shows that improving hand hygiene contributes significantly to the reduction of Health care associated infections, practicing hand hygiene by many health care professionals, including nursing staff, is not often as is required or use a proper technique (Sunley, 2021). Due to the number of times health care workers have contact with patient or patient environment, they have the greatest potential role to spread micro-organisms that may result in infection.

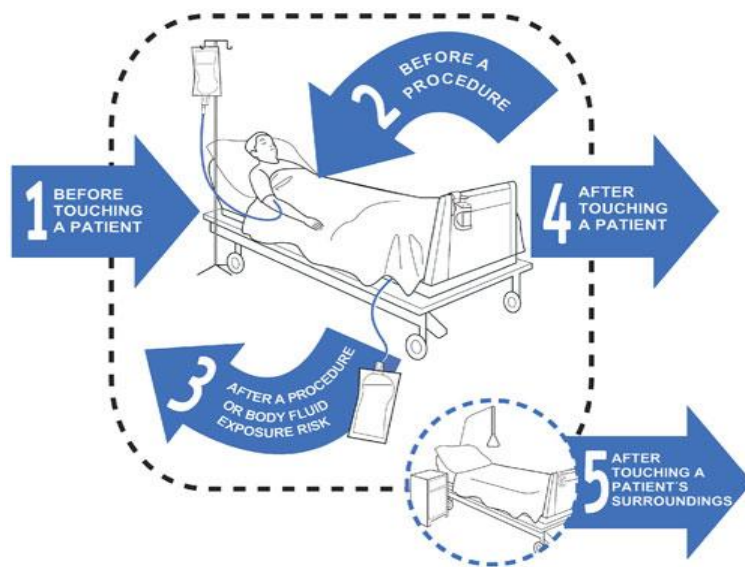


Figure 1: WHO Five moment of hand washing

2.4 CHALLENGES OR BARRIERS FOR INFECTION CONTROL THROUGH HAND WASHING PRACTICE

Many factors lie behind poor hand hygiene adherence among health care workers. Among nurses a lack of awareness and scientific knowledge regarding hand hygiene is considered significant claim that lack of proper infection control during training programmers (M. Shinde, 2014). According to(Mathur, 2011). Some of the observed/self-reported factors including healthcare staff related factors like not having a role model among the group, clinical factors like shortage , insufficient time, Materials, environment, institution and behavior affecting hand hygiene behaviors.

2.5 OTHER LITERATURE SUPPORTING THE STUDY

Hand washing is a way of cleaning one's hand that substantially reduces potential pathogens or harmful organisms on the hand. It is considered a primary measure for reducing the risk of transmitting infection among patients and health care personnel. Hand hygiene practices include the use of alcohol-based hand sanitizers (containing 60% to 95% alcohol) and washing hands with soap and water (CDC, Oral health , 2016).

According to the World Health Organization (WHO) there are over 1.4 million Health care Associated Infection (HAI) at any given time, then the issue of hand washing cannot be neglected. Patients in all health care settings are at risk for acquiring bloodstream infection, surgical site infections, urinary tract infections, respiratory infections and gastrointestinal infections resulting from malpractice of infection control. Often it is the health care workers who become conduit for the spread of these infections to the patients they are caring for, especially when health care workers neglect to follow hand hygiene protocol.

Also it is important to remember that patient can carry microbes with no clear signs and symptoms of infection.

2.5.1 How to perform hand washing

Step1. Wet hands with water, Wet your hands and apply enough liquid soap to create a good lather ,The temperature of water should be between 35Celsius degrees and 45Celsius degrees.
Step 2. Apply enough soap to cover your hands. Step 3. Rub your hands together,Step 4. Use one hand to rub the back of other hand and clean in between the fingers. Do the same with the other hand,Step 5. Rub your hands together and clean between your fingers, step 6.. Rub the back of your fingers against your palms,Step7. Rub your thumb using your other hand. Do the same with the other thumb,Step8. Rub your fingertips against the palm of your other hand 9. Rinse your hands with water,Step10. Dry your hands completely with a disposable towel,Step 11. Use the disposable towel to turn off the tap(CDC, 2021).

2.6 EMPIRICAL LITERATURE

Different studies on nurses knowledge and practice about infection Control through hand washing have been conducted in different countries and different results were found.

2.6.1 Studies on knowledge

According to a study conducted in eastern Africa to assess Knowledge, Attitude and Practices among 300 nurses, 243 participants were approached to participate in the study, so the response rate was 81%. The study found that 65.4% (159) of the participants followed a good hand hygiene practice while 10.3% (25) showed inadequate hand hygiene practice (Mohaithef, 2020).

In the cross-sectional study aimed to assess the knowledge and practice of hand hygiene among graduate medical students in Asir governmental state, the main route of transmission of potentially harmful germs between patients, where 68% of the sample answered correctly that the health care Workers' hands are the main method when they are not clean.

Most of HCWs (82.1%) recognized correctly that alcohol-based hand rubbing is more rapid for Hand cleansing than hand washing with soap and water, while majority of them (97.1%) reported Correctly that alcohol-based hand rubbing does not cause skin dryness more than hand washing With soap and water and that hand washing with soap and water and alcohol-based hand rubbing (ALSofiani, 2016).

Different knowledge was seen with respect to practice of hand hygiene immediately after risk of body fluid exposure (71.8%) and after exposure to immediate surroundings of patient (75.0%) among paramedical staff. Only 27.3% of class IV and 62.5% of paramedical staff were aware that Washing your hands is more effective against bacteria than rubbing your hands. Only 43.7% of paramedical workers and 27.3% of class IV workers knew that they needed to be rubbed by hand before palpation of the abdomen. Less than half of paramedical staff and class IV workers (46.8% and 22.7% respectively) were aware that hand rubbing was required before giving injection (Mukesh Shukla, 2016).

2.6.2 Studies on practice

A study done in Palestine showed that, (75.8%) had intermediate level of performance in this field, approximately half (53.9%) of the studied sample had fair knowledge level (>80%). However, the majority (91.1%) of the studied sample had Good practice (>80%) on infection prevention. A study done in Italy whose aim was to investigate the nurses knowledge about hand hygiene showed that nurse's knowledge was at a good level and good positive attitudes, but the

compliance was low rate regarding standard precautions about HAIs. In addition knowledge was seen with respect to practice of hand hygiene immediately after risk of body fluid exposure (71.8%) and after exposure to immediate surroundings of patient (75.0%) among paramedical staff. Only 27.3% of class IV and 62.5% of paramedical staff were aware that hand washing is more effective against germs than hand rubbing. The rate of nosocomial infections before the intervention was 17.3 per 1000 patient and decreased to 13.5 per 1000 patients (Onno K Helder, 2010).

2.6.3 Studies on barriers

In clinical practice, hand hygiene practices can be constrained by various barriers and being influenced by many factors, a study done (Mathur, 2011).found three types of factors that affect compliance to hand hygiene. Among them, there are health care staff related factors such as ,lack of role models among colleagues or superiors, not thinking about it/forgetfulness. Clinical factors (overloaded work, working during the week, if involved in activities with high risk of cross transmission, understaffing, patient overcrowding, insufficient time, patient needs take priority, hand hygiene interferes with health-care worker relationships with patients (Mathur, 2011).

Finally environmental/institutional/behavioral/ other factors which are, wearing gowns/gloves (beliefs that glove use obviates the need for hand hygiene). Lack of institutional priority, lack of active participation in hand-hygiene promotion at individual or institutional level, lack rewarding compliers (Mathur, 2011). Lack of knowledge of guidelines for hand hygiene, lack of recognition of hand hygiene opportunities during patient care, and lack of awareness of the risk of cross-transmission of pathogens are barriers to good hand hygiene practices(NIH, 2013). The Perceived barriers to HH practices faced by HCWs vary depending on physical or financial influences. That may influence the health care on the same health institution formal practice of hand hygiene same of barrier are: lack of accessible products, insufficient staff and high workload(Rosenberg, 2016).

2.7 CONCLUSION

Many studies have been conducted on knowledge and practices of nurses about HCAs and hand. The hygiene status of infection prevention using study design and results varied from study to

study and from country to country, but few studies related to Rwanda and more specifically in Kibogora while the problems of HCAI'S were identified. Therefore, this study aims to show and provide more information about hand washing knowledge and practices of nurses for Control.

8 CONCEPTUAL FRAMEWORK

The conceptual framework in the present study is composed by several concepts, specifically, the factors affecting nursing practice and knowledge regarding infection control by hand washing.

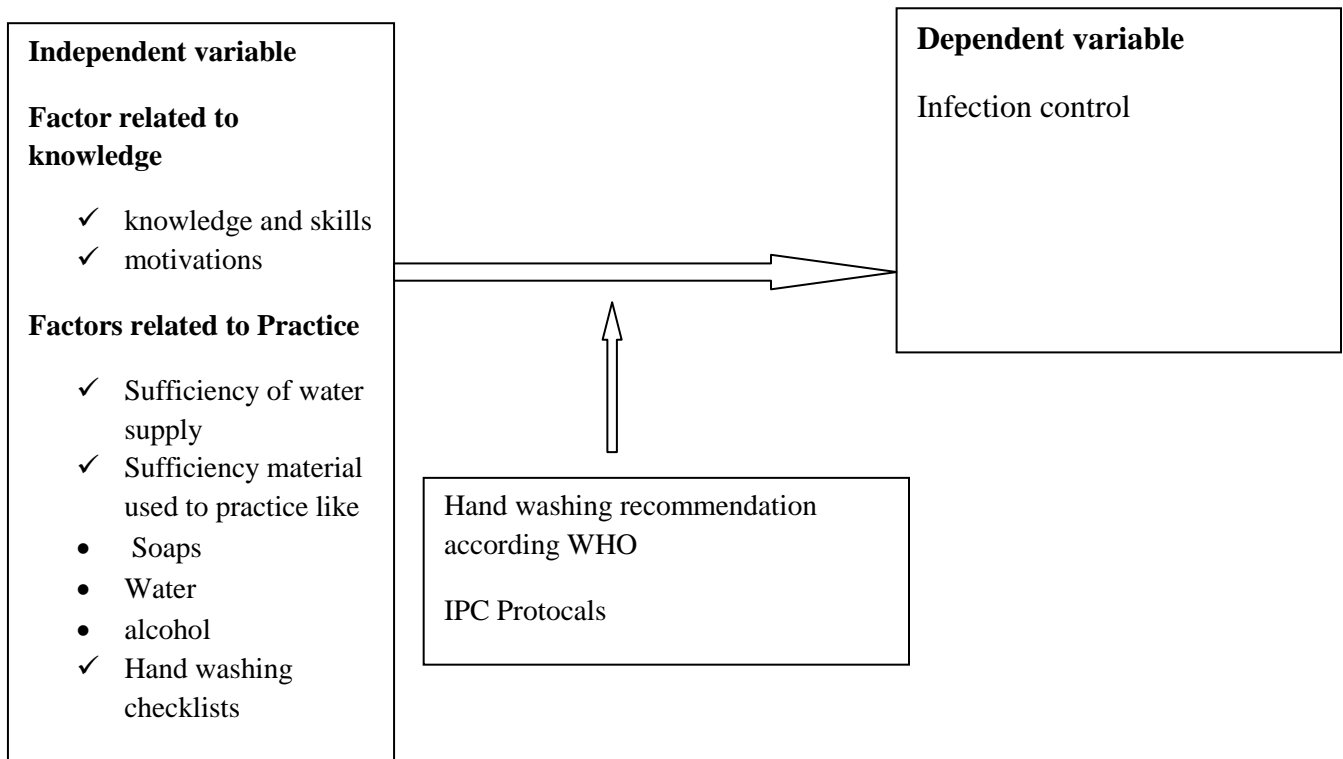


Figure 2: CONCEPTUAL FRAME WORK

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.0 INTRODUCTION

Research methodology is the systematic way to reach and solving the research problems. It is the way the research done scientifically in research methodology discussion of various steps that are generally adopted by a researcher in studying his / her research problem is presented.

This chapter includes the research methodology that was applied to assess Nurse's Knowledge and practice regarding infection control through hand washing at Kibogora district Hospital search design, research approach, Target population, research setting, population, sampling procedure , Sample size , Research instrument for data collection procedures, data collection procedures, Ethical issues, data analysis, Reliability and validity measures.

3.1.RESEARCH STUDY

3.1.1Research design

In this research we was use the cross-sectional study of Nurses at Kibogora district hospital A descriptive cross- sectional design is used where more information required in a particular field through the provision of a picture of the phenomenon as it occur naturally and the information gathered once in time(David Turkson, 2021). cross-sectional study design will help us to Assess nurses 's knowledge and practice regarding infection control through hand washing and identify the factors that influence infection control through hand washing . As a result, our study population will appear to be a representative sample of surgical, internal medicine, pediatric ward nurses at kibogora district hospital.

3.1.2 Research approach

The research approach is a plan and procedure that consists of the steps of broad assumptions to detailed methods of data collection, analysis, and interpretation. It is, therefore, based on the nature of the research problem being addressed(Chetty, 2016). In our study we used Quantitative method where it involves the process of collecting, analyzing, interpreting and writing the results of the study there fore we use it as research approach for assessing nurses's knowledge and practice regarding infection control through hand washing at Kibogora district hospital.

3.2 STUDY SETTING

This study was take place in surgical ward, internal medicine and pediatric nurses at Kibogora District Hospital, KIBOGORA district hospital located in western province, NYAMASHEKE district, KANJONGO sector, KIBOGORA cell, GATABA Village Kibogora Hospital is a rural hospital of 252 beds, located in southwest Rwanda on the shores of Lake Kivu. It serves in its catchment area a population of 240.730 people. Kibogora is also a referral Hospital for 12 outlying health facilities and one health post considered as independent to any health center.

This hospital is a very busy outpatient department, offering services for surgery, general internal medicine, pediatrics, obstetrics and newborns. This hospital is a very busy outpatient department, offering services for surgery, general internal medicine, pediatrics, obstetrics and newborns. The support facilities include X- ray. Laboratory, HIV/Aids testing, treatment facilities, dentistry, ophthalmology, occupation therapy, VIP services, physiotherapy and family planning clinics

In 2019-2020 the total number of staff at Kibogora was 218 including 9 Doctors, 85nurses and 20 Midwives technicians. The hospital admitted 11015 patients and treated 27276 as outpatients. The maternity unit delivered 3565 babies, over 21% of which had complications. The laboratory conducted 79691 tests. There were 1749 major surgeries performed and 1330 minor surgeries. The bed occupancy was 82,9%.

3.3 TARGET POPULATION

The population for this study was consist of nurses of surgical ward, Internal medicine and Pediatric ward at kibogora district hospital, Where in surgical ward there are 13 nurses ,11 in pediatric ward,11internal medicine there for 35nurses were taken as study population

3.4 SAMPLING PROCEDURE

In this research, we use convenient sampling where the all available nurses who sign the consent form to contribute in research are until we reach to the sample of 32 participant obtained in whole population. Convenience sampling is the most common type of non- propability sampling , which focuses on gaining information from participants (the sample) who are ‘convenient’ for the researcher to access (qualtrics, 2022). This sample method doesn’t require a random selection

of participants based on any set of criteria (like demographic factors) participant who are happy to be approached and become part of the research(qualtrics, 2022).

3.5 SAMPLE SIZE

Sample size is number of individual samples measured or observations used in a survey(SCIENCING, 2022). The selection will include nurses surgical ward, Internal medicine and Pediatric ward nurses, at Kibogora district hospital according sample size

$$n = \frac{N}{1 + N(e)^2}$$

$$n=35/1+35(0.05)^2$$

$$n=32$$

$$N=35\text{NURSES } n=32 \text{ nurses}$$

n= Sample size, N=Population ,e=Marginal error equal to 0.05 at confident interval of 95%

3.6 SELECTION CRITERIA

3.6.1 Inclusion criteria

The population for this study included nurses working in surgical ward, Internal medicine ward and pediatric nurses at Kibogora district hospital during study period.

3.6.2 Exclusion criteria

All nurses who were refused to give accord and to sign consent form due to their profession issue, for participating in this research will be excluded.

3.7 DATA COLLECTION INSTRUMENT

Data collection instruments are the tools used by researchers to actually collect data in the research process (Tie, 2019). In this research we will use questionnaire as data collection instruments.

3.8 DATA COLLECTION PROCEDURES (ADMINISTRATION OF DATA COLLECTION INSTRUMENTS)

In this research, data was be collected through questionnaire with Surgical, internal medicine ,pediatric ward nurses at Kibogora district hospital, The researchers will introduce to all nurses as study or target population and the principle investigator will explain the participant about the purpose of the research, procedure and when they agree to participate in the study, they will sign informed consent form and data sheet will be filled based on questions set for responding to the study objectives related to the Assessment of nurse's knowledge and Practice regarding infection control through hand washing in at Kibogora district hospital .

3.9 DATA ANALYSIS

The data was analyzed by using computer software statistical package of social science (SPSS) version 26. Each completed questionnaire was checked for completeness before fed to The computer. Descriptive statistics was used to calculate percentages for each of the responses Given the. Respondents had the option to answer "yes" or "no" to each question.. And score from 1 up to 5 according the question .Descriptive data was analyzed and presented in graphs, tables, and percentages so that the readers should draw the meanings from the findings. The inferential statistics the Chi square test was used to determine the association between demographic data and infection control regarding through hand washing'knowledge and practice of nurses and significant level was set at 0.05.

3.10 RELIABILITY AND VALIDITY MEASURES

The validity refers to the degree to which an instrument measures what it is supposed to measure Questions to assess Knowledge and practice were taken from WHO Hand Hygiene Knowledge Questionnaire for Health-Care Worker 2009 .the developed tool was adapted to fit the Rwandan context and ensuring its validity The questionnaire was given to 2 nurse experts in critical care nursing, to test its consistency and accuracy. The questionnaire was fairly easy to read.

Reliability

If research tool is consistent and stable, hence predictable and accurate, it is said to be reliable and the greater the degree of consistency and stability in an instrument, the greater its reliability

To ensure reliability of the tool a direct study was conducted on 5 participants. After completing Questionnaire the data had entered into computer and using SPSS and internal consistency reliability was computed where 0.86 Cornbrash's alpha coefficient was obtained.

3.11 Data management

Research data management is part of the research process, aims to make the research process as Efficient as possible and met expectations and requirements of the university. It concerns how Create data and plan, store, and secure its use, structure, and name data, Provide access, store and back it up.

In this study, data collected was Contain hard copies completed by nurses and midwives they was stored in closed keyboard to Insure confidentially however, the soft copy was kept in the computer closed with password and data should be discarded after 10 years. The data was organized and displayed using tables, figures according the objectives of this study.

3.12 ETHICAL ISSUE

Ethical clearance was issued by KP research and ethical committee and Director General Kibogora district hospital was provide approval letter. And put at Kibogora district hospital in ethical team for providing for us go ahead in data collection, informed consent was being obtained from the patients after a clear explanation of the objectives and logistics of the study to them.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, INTERPRETATION

4.0 INTRODUCTION

In this chapter the data corrected and analyzed was presented, data was presented by tables and Pie chart. The data was analyzed to assess nurse's knowledge and practice regarding infection control through hand washing .the statistical package (IBM SPSS version 26) was used to analyze data and pie chart

The chapter ends up by the Analytical statistics were used to compare independent and dependent variables in order to establish the relationship between these variables. For statistical tests, a p-value of <0.05 was considered to be statistically significant with 95%.

4.1 DEMOGRAPHIC CHARACTERISTIC AND RESPONSE OF PARTICIPANT

In this section contain 6 questions that respond correctly the question concerned with participant demographic

Demographic variable (n=32)

Table 1: Demographic Characteristics

Variable	Characteristics	frequency	percentages
Age	20-30	15	46.9%
	31-40	14	43.8%
	41-50	1	3.1%
	>50	2	6.3%
Gender	Female	28	87.5%
	Male	4	12.5%
Education	A1	25	78.1%
	A0	6	18.8%
	Msc	1	3.1%
Experience	<5years	17	53.1%
	5-10	13	40.6%
	11-15	2	6.3%
	>15	1	3.1%
Department of work	Surgery	11	34.4%
	Internal medicine	11	34.4%
	Pediatric	10	31.2%
Marital status	Single	10	31.3%
	Married	21	65.6%
	Divorced	1	3.1%

In the above demographic data table 1: indicate that in 32 participants the majority 15 were are between (20-30y) , 14 are between (31-40y), 1 in range (41-50y) and 2 are above 50 years old above 30 years It is thus evident that most of these nurses were chronologically mature. Concerning the level of education and experiences of work 25(78,1) had nursing diploma 6(18.8) had bachelor in nursing 1(3.1)Masters degree. According to the experience of work

17(53.1%) were less than 5 years of experience, 13(40.6) were between 5-10 years of experience. 2(6.3)were between 5-10 years of experience. And 1(3.1) Over 15 years of experience This was

important as understanding of the knowledge varies according to the level of education and experience of work. On the marital status 10(31.1) are single, 21(65.6) are married and 1(3.1)

4.2 SECTION II: ASSESSMENT ON NURSES KNOWLEDGE OF INFECTION CONTROL THROUGH HAND WASHING

1. Participant who receive formal training in last three years

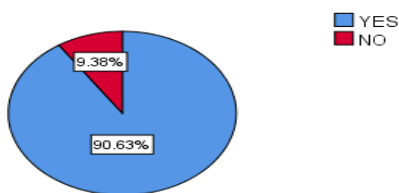


Figure 3: Participant who receive formal training

The figure above show the number of respondent who was take the formal training in last three 90.63 % years and other that can not 9.38

2. Distribution of Respondent on use of Alcohol-Based Hand Rub for Hand

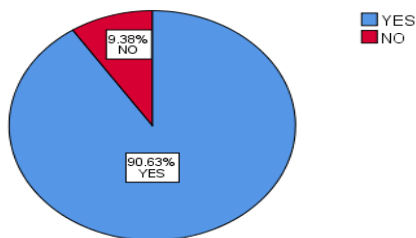


Figure 4: Distribution of Respondent on use of Alcohol-Based Hand Rub for Hand

Hygiene (n=32) The majority 90.63% indicate that they routinely use alcohol based hand rub as hand hygiene whether 9.38% do not use alcohol based hand rub as hand hygiene .

Table 2: Respondent to main route of cross-transmission of Harmful germs between patients in a health-care facility

		Frequency	Percent
Valid	Health-care workers' hands when not clean	18	56.3
	Patients' exposure to colonized surfaces (i.e., beds, chairs, tables, floors)	7	21.9
	Sharing non-invasive objects (i.e., stethoscopes, pressure cuffs, etc.) between patients	7	21.9
	Total	32	100.0

This above table 2: show us that 18(56.3%) knows that main route of cross transmission of harmful germs between patient in health care facility is the health care workers when not clean

Table 3: Respondent to most frequent source of germs responsible for health care-associated Infections

		Frequency	Percent
Valid	The hospital's water systems	7	21.9
	The hospital air	2	6.3
	Germs already present on or the patient	8	25.0
	The hospital environment	15	46.9
	Total	32	100.0

In table 3: above the respondents that indicate the most frequent source of germs responsible for health care associated infection are only 8 (25%) respond that germs already present on or with patient as true answer.

Table 4: Respondent to hand hygiene actions prevents transmission of germs to the Patient

Items	YES	NO
Before touching a patient	30(93.8%)	2(6.2%)
Immediately after a risk of body fluid exposure	30(93.8%)	2(6.2%)
After exposure to the immediate surroundings of a patient	27(84.4%)	5(15.6%)
Immediately before a clean/aseptic procedure	29(90.6)	3(9.4%)

In this above table 4: The majority 30(93.8%) indicated that hand hygiene before touching a patient is the actions that can prevent infection, 27(84.4%) indicate that After exposure to the immediate surroundings of a patient ,29(90.6%)point to immediately before clean/aseptic procedure, 30(93.8%) respond immediately after a risk of body fluid exposure.

Table 5: Knowledge on hand hygiene actions prevents transmission of germs to the Health-care worker?

Item	YES	NO	TOTAL
After touching a patient	31(96.9%)	1(3.1%)	32(100%)
Immediately after a risk of body fluid exposure	27(84.4%)	5(15.6%)	32(100%)
Immediately before a clean/aseptic procedure	23(71.9)	9(28.1%)	32(100%)
After exposure to the immediate surroundings of a patient	28(87.5%)	4(12.5%)	32(100%)

In the above table 5: The majority 28(87.5%) indicated that hand hygiene after exposure to the Immediate surroundings of a patient, 27(84.4%) immediately after a risk of body fluid exposure,

31(96.9%) after touching a patient, those are hand hygiene action prevent transmission of germs to the health care workers.

Table 6: minimal time needed for alcohol-based hand rub to kill germs on your hands

		Frequency	Percent
Valid	20SEC	18	56.3
	3SEC	3	9.4
	1MIN	11	34.4
	Total	32	100.0

In this above table: where the respondents had to indicate the minimal time needed for alcohol-based hand rub the majority 18(56.3%) indicated that 20 seconds is the minimum time needed ,3(9.4%) 3seconds and minor 11(34.4%) indicated 1 minute

Table 7: knowledge on condition to be avoided as situation associated with increased likelihood of Colonization of hands with harmful germs

Item	YES	NO	TOTAL
Wearing jewellery	24(75.0%)	8(25.0%)	32(100%)
Damaged skin	15(46.9%)	17(53.1%)	32(100%)
Artificial fingernails	22(68.8%)	10(31.2%)	32(100%)
Regular use of a hand cream	23(71.9%)	9(28.1%)	32(100%)

This above table7: shows the items that are associated to the colonization of hands with harmful germ. 24(75.0%) indicated wearing jewels, 22(68.8%) indicatedartificialfingernail,15(46.9%) indicated Damaged skin and 23(71.9) said regular use of hand cream as the factors that are associated with increased likelihood of colonization of hands with harmful germs.

4.3 TO ASSESS THE NURSE’S PRACTICE OF INFECTION CONTROL THROUGH HAND WASHING IN KIBOGORA DISTRICT HOSPITAL

Table 8: respondent situations do health care personnel routinely wash their hands with soap and water or a waterless, alcohol-based hand antiseptic

	Frequency	Percent
Before contact with patients	16	50.0
After contact with individual patients or their immediate environment	10	31.2
Before manipulating medical devices such as intravenous catheters	6	18.8
Total	32	100.0

In above table 8 :the respondents had to indicate the situation the health care personal routinely wash their hands with soap and water or a waterless, alcohol-based hand antiseptic, Majority 16(50%) indicated before contact with patient, only 10(31.2%) indicated after contact with individual patient or their immediate environment

Respondent to usual practice of wearing gloves instead of washing hands

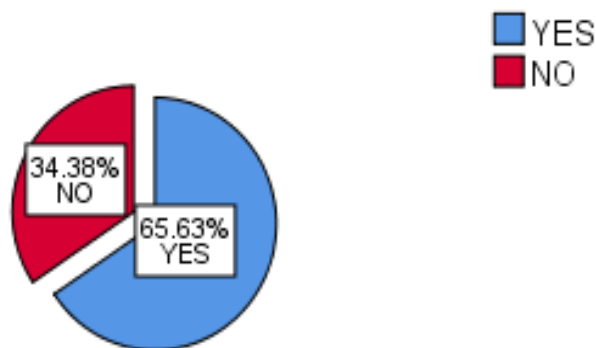


Figure 5: Usual practice to wear gloves instead of washing hands

Figure5:indicated that 21 (65.62) showed that it is usual practice to wear gloves instead of washing hands for contact with patients or potentially contaminated environmental surfaces

Table 9: Policies or guide for practice of Hand washing

Item	YES	NO	TOTAL
Is there a policy on keeping finger nails short and/or not using artificial nails	30(93.8%)	2(6.2%)	32(100%)
Is there a written policy or guide on hand hygiene on this unit	28(87.5%)	4(12.5%)	32(100%)
Does the health facility have at least one poster on hand washing	21(65.6%)	11(34.4%)	32(100%)

Referring this Table 9 above The majority 30(93.8%) indicated there a policy on keeping finger nails short or not using artificial nails ,28(87.5%) indicated that there is a written policy/guide on hand hygiene and 21(65.6%) is Minority indicate that at one poster on hand washing.

Table 10: challenges faced by nurses on implementing of infection control through hand washing

Item	YES	NO	TOTAL
Often too busy/insufficient time	14(43.8%)	18(56.3%)	32(100%)
Understaffing/overcrowding	18(56.2%)	14(43.8%)	32(100%)
Wearing of gloves/beliefs that glove use obviates the need for hand hygiene	4(12.5%)	28(87.5%)	32(100%)
Lack of knowledge of guidelines/protocols	10(31.2%)	22(68.8%)	32(100%)
Insufficient material like : water , soap and alcohol	12(37.5%)	20(62.5%)	32(100%)

In the table 10 above the respondents had indicate which challenges they faced by nurses in the prevention of infections. The majority 18(56.2) indicated that overcrowding is a challenge in Practice of the infection control measures 14(43.8) indicated insufficient time or often too busy as the challenges to adhere to the practice of infection control measures 12(37.5%) indicate insufficient materials like: water ,soap and alcohol as challenge for practicing infection control10(31.2%) lack of knowledge on guidelines or protocols are the challenges in Practice of the infection control measures While minority 4(12.5%) indicated that the beliefs that glove use obviates the need for hand hygiene

4.5 ASSOSSIATION BETWEEN DEMOGRAPHIC DATA AND TIME

table 11: assossiation between demographic data and time

	Pearson Chi-Square	P-value
STATUS	14.825^a	0.017
EXPERIENCE	12.553^a	0.021
AGE	9.294^a	0.077
EDUCATION	7.024^a	0.122
DEPARTMENT	2.151^a	0.866
SEX	3.556^a	0.376

Statistical tests in Table11 above Show that among demographic data only experience and status Shows a significance association with practice of hand washing

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.0 INTRODUCTION

Chapter five has discussed the findings in regards to other studies. As the study aimed to assess nurses knowledge regarding infection control through hand washing at Kibogora polytechnic the discussion was done following the objectives that were: Nurses knowledge regarding infection control through hand washing, Nurses practice regarding infection control through hand washing and nurses challenges for controlling infection through hand washing.

A sample of 32 nurses working in surgical, internal medicine and pediatric ward were selected to participate in the study. According to table1: the key demographic data were age, sex, education, working experience department of work and large number is 15 where are between (20-30y). It is thus evident that most of these nurses were chronologically mature. The most of the study participants 28 (87.5%) were female, concerning the level of education and of work Majority 25(78, 1) had nursing diploma. According to the experience of work high number are 17(53.1%) were less than 5 years of experience, this was important as understanding of the knowledge varies according to the level of education and experience of work

4.6.1 Nurses knowledge regarding infection control through hand washing

The second part of the questionnaire was about assessing level of knowledge of Nurses regarding infection control through hand washing. Nurse's knowledge is very cornerstone in infection control

According data presented the respondents knowledge on the main route of cross transmission of potentially harmful germs between patients in a health-care facility more than half of respondent knows that main route of cross transmission of harmful germs between patient in health care facility is the health care workers when not clean

This is comparable to the findings reported in study compare the knowledge of hand hygiene among nurses in a public tertiary-care and a private corporate hospital in Amritsar, where highly significant knowledge variations was found concerning the main route of cross transmission 28% and 77% (Dhillon, 2016).

Study conducted to assess aseptic-clinical hand Hygiene knowledge among health care workers in a tertiary care hospital in Western India, Indicate that 68.45% knew that the main route of

cross-transmission of potentially harmful germs Between patients in a health-care facility is HCWs hands when not clean (Bhumika Vaishnav, 2016).

According to our study Respondent's knowledge on the hand hygiene actions that prevent transmission of germs to the patient, The majority indicated that hand hygiene before touching a patient is the actions that can prevent infection and immediately before clean/aseptic procedure compare to the study done by (Res, 2017).their results shows a high level on knowledge to items before touching the patient, before a clean/aseptic procedure of 96%respectively in hand hygiene method.

Hand rubbing can be used because is more rapid for hand cleansing than hand washing, findings in the current study, the item knowledge of on the minimal time needed for alcohol-based handrub to kill most germs as presented in chapter four . the majority have good knowledge on the minimal time needed to germs. A study done by (Alamer, 2015).they founded defect in their knowledge was about the minimal time needed for alcohol-based hand rubbing to kill most of the hand germs. Another study on Knowledge, Attitude and Practice of nursing students regarding hand hygiene in Western region of Nepal Knowledge regarding the minimum time needed for alcohol based hand rub is 20 sec, was known correctly by only 24 % of the participants (Paudel, 2016).In hand hygiene technique there some elements that are associated with increased likelihood of colonization of hands with harmful germs according to the current study many indicate wearing jewellery.

To support this study done by (Maheshwari, 2014).significant difference of knowledge was observed regarding use of jewellery 77.5% among residents and nurses respectively as increase colonization of hands with harmful germs. Another study shows that wearing jewels, damaged skins, and artificial fingernails, were detected to be the highest associated factors in germs colonization on hands with a percentage of 98% (Res, 2017)

4.6.2 Nurses practice regarding infection control through hand washing.

In this study nurses responses to the practice questions for asking where to wash hand in practice table 8: a half of respondant indicated before contact with patient, only few respondant indicated after contact with individual patient or their immediate environment. Minority indicate that wash their hand before manipulating medical devices such as intravenous catheters.

According to cross sectional study was done to assess the knowledge, the attitude and Practice on hand hygiene among health science students in Aden University 95% of participants wash their hands and very few use alcohol based(Sallami, 2016).

4.6.3 Distribution of respondents according to the challenges

Hand washing may not be performed due to some barriers, according to the current study table 10: The majority indicated that overcrowding is a challenge in Practice of the infection control measures. Many indicated insufficient time or often too busy as the challenges to adhere to the practice of infection control measures. a half of participant indicate insufficient materials like: water, soap and alcohol by comparing to study conducted in US and Canadian health care workers 'knowledge, attitudes, and practice where, the most frequent barriers were being busy/insufficient time and insufficient materials(Kirk, 2016)

CHAPTER SIX: GENERAL CONCLUSION AND RECOMMENDATIONS

6.0 INTRODUCTION

The chapter presents the study conclusion and recommendations, based on the study objectives and research questions, and the chapter ends up be the suggestions on future research studies for assessment of nurse's knowledge and practice of infection control through hand washing.

6.1 CONCLUSION

The aim of this study was to assess nurses knowledge and practice of infection control through hand washing where HWs are play most significant measure to prevent the spread of HCAs among the patient .This study used a descriptive quantitative design The results of this study indicated Many was take formal training on hand washing in last three years, a half of participant indicated that 20 seconds is the minimum time needed for alcohol-based hand rub For practice many indicated that there is a written policy/guide on hand hygiene and On challenges , The majority show that overcrowding and insufficient time as challenge in Practicing of the infection control measures. Therefore, so enhancement in training may increase nurse's knowledge and practice to infection control measures mostly to the hand washing.

6.2 RECOMMENDATIONS

6.2.1 Minister of Education

- ✓ Emphasize on hand washing in Hospital in the curriculum especially during clinical practice in addition by respecting time.

6.2.2 Kibogora district hospital

- ✓ Increasing the material used for performing hand washing.
- ✓ Promoting inward training on infection control.
- ✓ Encourage the nurses to maximize time when they performing hand washing or alcohol hand.
- ✓ rubbing order to kill those germs in hands that cause HAI.

6.2.3 Suggestion for other research

- ✓ A similar study can be rolled in other hospital of the country to compare the findings and compare similarities in nurses's knowledge and practice in infection control through hand washing and conducted in other services in hospital.
- ✓ Conducting study on types of health associated infection that are more frequent in surgery, internal medicine and pediatric ward in Rwandan hospital.

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APPENDIX 1: QUESTIONNAIRE FOR DATA CORRECTION

INSTRUCTIONS FOR PARTICIPANT

- Don't write your names on questionnaire
- Circle in right place accordingly and indicated
- Answer all question
- This questionnaire consist IV Section

SECTION I :BIOGRAPHICAL DATA

1.Age

- a. 20-30
- b. 31-40
- c. 41-50
- d. >50

2. Sex:

- a. Female
- b. Male

3.Education

- a. Nursing Diploma
- b. Bachelor
- c. Master

4.Working department

- a) Surgical ward
- b) Internal ward
- c) Pediatric ward

5.Working experience

- a. Less than 5 years
- b. 5-10 years
- c. 11-15 years

d. Above 15 years

6. Marital status

a. Single

b. Married

c. Divorced

SECTION II: TO ASSESS THE LEVEL NURSES'S KNOWLEDGE REGARDING INFECTION CONTROL THROUGH HAND WASHING AT KIBOGORA DISTRICT HOSPITAL

1. Did you receive formal training in hand hygiene in the last three years?

a) YES NO

2. Do you routinely use an alcohol-based hand rub for hand hygiene?

a) YES NO

3. Which of the following is the main route of cross-transmission of Harmful germs between patients in a health-care facility? (Tick one answer only)

a) Health-care workers' hands when not clean

b) Patients' exposure to colonized surfaces (i.e., beds, chairs, tables, floors)

c) Sharing non-invasive objects (i.e., stethoscopes, pressure cuffs, etc.) between patients

4. What is the most frequent source of germs responsible for health care-associated infections? (tick one answer only)

a) The hospital's water system

b) The hospital air

c) Germs already present on or within the patient

d) The hospital environment (surfaces)

5. Which of the following hand hygiene actions prevents transmission of germs to the

patient?

- b) Before touching a patient YES NO
- c) Immediately after a risk of body fluid exposure YES NO
- d) After exposure to the immediate surroundings of a patient YES NO
- e) Immediately before a clean/aseptic procedure YES NO

6. Which of the following hand hygiene actions prevents transmission of germs to the health-care worker?

- a) After touching a patient YES NO
- b) Immediately after a risk of body fluid exposure YES NO
- c) Immediately before a clean/aseptic procedure YES NO
- d) After exposure to the immediate surroundings of a patient YES NO

7. What is the minimal time needed for alcohol-based handrub to kill most germs on your hands? (tick one answer only)

- a. 20 seconds
- b. 3 seconds
- c. 1 minute

8. Which of the following should be avoided, as associated with increased likelihood of? Colonization of hands with harmful germs?

- a) Wearing jewellery YES NO
- b) Damaged skin YES NO
- c) Artificial fingernails YES NO
- d) Regular use of a hand cream YES NO

SECTION III: TO ASSESS THE NURSE'S PRACTICE REGARDING INFECTION CONTROL THROUGH HAND WASHING AT KIBOGORA DISTRICT HOSPITAL

1. In which of the following situations do health care personnel routinely wash their hands with soap and water or a waterless, alcohol-based hand antiseptic? (Read the situations and mark one answers that apply)
 - a) Before contact with patients
 - b) After contact with individual patients or their immediate environment
 - c) Before manipulating medical devices such as intravenous catheters

2. Is there a policy on keeping finger nails short and/or not using artificial nails?
YES NO

3. Is it usual practice to wear gloves instead of washing hands for contact with patients or potentially contaminated environmental surfaces? YES NO

4. Is there a written policy or guide on hand hygiene on this unit? YES NO

5. Does the health facility have at least one poster on hand washing YES NO

SECTION IV: TO DETERMINE THE CHALLENGES FACED BY NURSES ON IMPLEMENTING OF INFECTION CONTROL THROUGH HAND WASHING AT KIBOGORA DISTRICT HOSPITAL

- a) Often too busy/insufficient time YES NO
- b) Understaffing/overcrowding YES NO
- c) Wearing of gloves/beliefs that glove use obviates the need for hand hygiene YES NO
- d) Lack of knowledge of guidelines/protocols YES NO
- e) Insufficient material like : water , soap and alcohol YES NO

IBIBAZO

AMABWIRIZA

- **Ntukandike amazina yawe kubibazo**
- **Zengurutsa igisubizo ahabigenewe kandi werekane**
- **Subiza ikibazo cyose**
- **Iki kibazo kigizwe nibice IV**

GICE CYA I: BIOGRAFIQUE DATA

1 IMYAKA

- e. 20-30
- f. 31-40
- g. 41-50
- h. >50

2. IGITSINA:

- c. GORE
- GABO

3. 3.Uburezi

- a) Impamyabumenyi y'abaforomo
- b) icyiciro cya kabiri cya kaminuza
- c) icyiciro cya gatatu cya kaminuza

4.Ishami rishinzwe imirimo akoramo

- a) Icyumba cyo kubaga
- b) Icyumba cy'ubuvuzi bwo mumubiri
- c) Icyumba cy'abana
- d) Surgical ward
- e) Internal ward
- f) Pediatric ward

5. Uburambe bwo gukora

- A.Kutarengaje imyaka 5

B.5-10 imyaka

C.11-15 imyaka

D.Ku myaka 15

6. Imiterere y'abashakanye

a.Ingaragu

b.Abashakanye

c.Batandukanye

IGICE CYA II: GUSUZUMA UBUMENYI BW'ABAFOROMO BWO KUGENZURA INFECTION HAKORESHEJWE GUKARABA INTOKI MUBITARO BYA KARERE BYA KIBOGORA

1. Wabonye amahugurwa asanzwe mubisuku byintoki mummyaka itatu ishize??

e) YEGO OYA

2. Waba usanzwe ukoresha alukolo zishingiye ku nzoga kugirango ugire isuku y'intoki?

f) YEGO OYA

3. Ninde muribi bikurikira ninzira nyamukuru yo kwanduzanya mikorobe zangiza hagati yabarwayi mu bitaro? (kanda igisubizo kimwe gusa)

a) Abakozi bashinzwe ubuzima 'amaboko iyo adafite isuku

b) Abarwayi' guhura nubutaka bwakoronijwe (ni ukuvuga ibitanda, intebe, ameza, hasi)

c) Kugabana ibintu bidatera (nukuvuga stethoskopi, igitutu, nibindi) hagati yihangana

4. Nihe soko ikunze kugaragara ya mikorobe ishinzwe kwanduza indwara

? (kanda igisubizo kimwe gusa)

a)Ibitaro 'sisitemu y'ama

b) umwuka wibitaro

c) Imigera imaze kugaragara kumurwayi cyangwa imbere yumurwayi

d) Mubitaro ndetse nibikikije biri mubitaro

5. Niki mubikorwa bikurikira byisuku yintoki birinda kwanduza mikorobe umurwayi?

a) Mbere yo gukora ku murwayi YEGO OYA

- c) Ako kanya nyuma yo guhura n'amazi yo mu mubiri YEGO OYA
- d) Nyuma yo guhura hafi yumurwayi YEGO OYA
- e) Ako kanya mbere yisuku / aseptike YEGO OYA

6. Niki mubikorwa bikurikira byisuku yintoki bikumira kwanduza mikorobe kubakozi bashinzwe ubuzima?

- a) Nyuma yo gukoraho umurwayi YEGO NO
- b) Ako kanya nyuma yo guhura nibibazo byamazi yumubiri Yego NO
- c) Ako kanya mbere yisuku / aseptike YEGO O
- d) Nyuma yo guhura hafi yumurwayi. YEGO OYA

7. Nuwuhe mwanya muto ukenewe kugirango inzoga zishingiye kuri alukolo yica mikorobe nyinshi mu biganza byawe? (Kanda igisubizo kimwe gusa)

- a amasegonda 20
- b.amasegonda 3
- c.umunota1

8. Niki muri ibi bikurikira gikwiye kwirindwa, nkuko bifitanye isano no kongera amahirwe yo?

- a) Kwambara imitako YEGO OYA
- b) Uruhu rwangiritse YEGO OYA
- c) Urutoki rwibihimbano YEGO OYA
- d) Gukoresha amavuta yintoki YEGO OYA

IGICE CYA III: GUSUZUMA IMIKORESHEREZO Y'UMUFOROMO YEREKEYE KUGENZURA INFECTION HAKORESHEJWE GUKARABA INTOKI MUBITARO BYA KARERE BYA KIBOGORA

1. Ni ibihe bihe bikurikira abakozi bashinzwe ubuzima bakaraba intoki n'isabune n'amazi cyangwa antiseptike y'intoki idafite amazi? (Soma ibintu hanyuma ushire akamenyetso kubisubizo kimwe mubi bikurikizwa

- d) Mbere yo guhura n'abarwayi
- e) Nyuma yo guhura nabarwayi kugiti cyabo cyangwa ibidukikije byabo
- f) Mbere yo gukoresha ibikoresho byubuvuzi nka catheters

2.Haba hari politiki yanditse cyangwa ubuyobozi ku isuku y'intoki kuri iki gice??

YEGO OYA

3 Ni ibisanzwe kwambara uturindantoki aho gukaraba intoki kugirango duhure n'abarwayi cyangwa ibidukikije byanduye? YEGO OYA

4. Ese ikigo nderabuzima gifite byibura icyapa kimwe cyo gukaraba into YEGO
OYA

IGICE CYA IV: KUMENYA INGORANE ZIKURIKIRA nabaforomo KU GUSHYIRA MU BIKORWA UBURYO BWO KUGENZURA INFECTION HAKORESHEJWE GUKARABA INTOKI MUBITARO BYA KARERE BYA KIBOGORA

- a) Akenshi usanga uhuze cyane / umwanya udahagije YES NO
- b) Kudashyira mu gaciro / kurenza urugero YEGO NO
- c) Kwambara uturindantoki / imyizerere ko gants ikoresha bikuraho isuku yintoki YES OYA
- d) Kutamenya ubumenyi bwamabwiriza / protocole YEGO NO
- e) Ibikoresho bidahagije nka: amazi, isabune na alukolo YEGO NO

APPENDIX 2: INFORMATION SHEET

We are ISHIMWE Didier and IRIHO Honorine, student in KIBOGORA POLYTECHNIIC

We are doing research on Nurse's knowledge and practice regarding infection control through hand washing in kibogora district hospital This information sheet and consent form is prepared to explain the study you are being asked to join. You may ask any questions about the study before you agree to join, and at any time after joining the study.

The purpose

The purpose of this research is To Assess nurse's knowledge and practice regarding infection control through hand washing in kibogora district hospital this is not to condemn you; the results of the study will be very help full in improvement on infection control in kibogora district hospital and even for country.

Procedure

We invite you to take part in this study. If you are ready to participate in this study, you need to understand and give us your signed consent. Then after, you will be given the questionnaire by the data collector to fill your response. You do not need to write your name to the questionnaire and all your response and the results obtained will be kept safely by using coding system where no one will have access to your response.

Risk or discomfort

By participating in this research, you may feel that it has some discomfort especially on wasting time about 30min to 40min . We hope you will participate in this study for the sake of the benefit. There is no risk in participating in this study

Benefits

Participants in this study will receive no direct benefit from the study and they are voluntarily participating; there will be no encouragement. However, the outcomes of the study will be indirectly advantageous in improving the knowledge and practice regarding infection control in kibogora district hospital .

Confidentiality

The information collected from this research study will be kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but a

code number assigned to it, and it will not be exposed to anyone except the investigators and will be kept protected .

Right to refuse or withdrawal

You have full right from participating in this research. You have also the full right to withdraw from this study at any time you wish, without losing any of your right.

Persons to contact

Any time you have question or concern

1. Researcher ISHIMWE Didier, ishimwedid45@gmail.com.
2. Researcher IRIHO Honorine ,irihohonorine@gmail.com

Consent form

I have been invited to participate in research on nurse’s knowledge and practice regarding infection control through hand washing in kibogora district hospital. I understand the purpose of the study and I have been informed that there is no risk to participate in the study. I am aware that there may be no benefit to me personally, I have been provided with the name of a researcher who can be easily contacted using the email I was given for that persons. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research and understand that I have the right to withdraw from the research at any time.

Name of Participant.....

Signature of Participant

Date.....

URUPAPURO RUSOBANURA UBUSHAKASHATSI

Turi ISHIMWE Didier na IRIHO Honorine, umunyeshuri muri KIBOGORA POLYTECHNIIC Turimo gukora ubushakashatsi ku bumenyi bw'abafomoro no mu myitozo yerekeye kurwanya indwara binyuze mu gukaraba intoki mu bitaro by'akarere ka kibogora Uru rupapuro rw'amakuru hamwe n'ubushake byatanzwe byiteguye gusobanura ubushakashatsi urimo gusabwaUrashobora kubaza ikibazo icyo ari cyo cyose kijyanye ninyigisho mbere yuko wemera kwinjiramo, kandi igihe icyo aricyo cyose nyuma yo kwinjira mubyigisho

Intego

Intego Intego yubu bushakashatsi nugusuzuma ubumenyi bwabaforomo nubumenyi bijyanye no kurwanya kwandura ukoresheje gukaraba intoki mubitaro byakarere ka kibogora ibi ntabwo ari ukugucira urubanza; ibyavuye mu bushakashatsi bizafasha cyane mu kunoza uburyo bwo kurwanya indwara mu bitaro by'akarere ka kibogora ndetse no mu gihugu.

Uburyo buzakoreshwa

Turagutumiye kugira uruhare muri ubu bushakashatsi. Niba witeguye kwitabira ubu bushakashatsi, ugomba gusobanukirwa no kuduha uburenganzira bwawe bwashyirwe Noneho nyuma, uzahabwa ikibazo nuwakusanyije amakuru kugirango yuzuze igisubizo cyawe Ntukeneye kwandika izina ryawe kubibazo hanyuma ibisubizo byawe byose nibisubizo byabitswe bizabikwa neza ukoresheje sisitemu ya code aho ntamuntu numwe uzabona igisubizo cyawe.

Ibyago cyangwa kubura amahwemo

Kwitabira ubu bushakashatsi, ushobora kumva ko bifite ibibazo cyane cyane guta igihe nka 30min kugeza 40min Turizera ko uzitabira ubu bushakashatsi kubwinyungu Nta ngaruka zo kwitabira ubu bushakashatsi

Inyungu

Abitabiriye ubu bushakashatsi nta nyungu bazabona mu nyigisho kandi baritabira ku bushake; kwitabira nta gutera inkunga. Nyamara, ibizava mu bushakashatsi bizagira akamaro mu buryo butaziguye mu kuzamura ubumenyi n'imikorere bijyanye no kurwanya indwara mu bitaro by'akarere ka kibogora.

Amakuru azabikwa mwibanga

Amakuru yakusanyijwe muri ubu bushakashatsi azabikwa ibanga kandi amakuru akwerekeye azakusanywa niyi nyigo azabikwa muri dosiye, nta zina ryawe, ariko nimero ya kode yabihawe, kandi ntabwo izashyirwa ahagaragara usibye abashakashatsi kandi azakomeza kurindwa

Uburenganzira bwo kwanga cyangwa kwikuramo

Ubuirenganzira bwo kwanga cyangwa kwikuramo Ufite ubuurenganzira bwuzuye bwo kwitabira ubu bushakashatsi. Ufite kandi ubuurenganzira bwuzuye bwo kuva muri ubu bushakashatsi igihe cyose ubishakiye, nta gutakaza ubuurenganzira bwawe. Abantu kuvugana Igihe cyose ufite ikibazo cyangwa impungenge 1.Umushakashatsi ISHIMWE Didier, ishimwedid45@gmail.com.2.Umushakashatsi IRIHO Honorine, irihohonorine @ gmail.com

Amasezerano yo kwemera kwitabira ubushakashatsi

Natumiriwe kwitabira ubushakashatsi ku bumenyi bw'abaforomo no mu myitozo yerekeye kurwanya indwara binyuze mu gukaraba intoki mu bitaro by'akarere bya kibogoraNdumva intego yubushakashatsi kandi namenyeshajwe ko nta kaga ko kwitabira kwiga. Nzi neza ko nta nyungu zishobora kungirira akamaro ku giti cyanyje, nahawe izina ryumushakashatsi ushobora kuvugana byoroshye ukoresheje imeri nahawe kubantu. Nagize amahirwe yo kubaza ibibazo kubijyanye nibibazo byose nabajije byashubijwe kunyurwa. Nemeye kubushake kwitabira nkitabira ubu bushakashatsi kandi nkumva ko mfite ubuurenganzira bwo kuva mubushakashatsi igihe icyo aricyo cyose.

Izina ry'abitabira

Umukono w'abitabira

Itariki.....

APPENDIX 3: RESEARCH LETTER

