ADHERENCE TO INFECTION PREVENTION AND CONTROL GUIDELINES AMONG NURSES IN THIKA LEVEL 5 HOSPITAL, KIAMBU COUNTY, KENYA

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DECLARATION AND APPROVAL

Declaration by the Student

I, Atanasio Nyaga hereby certify that this thesis is my original work and that it has not been submitted for a degree or prize at any other university.

Signature…… Date……..

ATANASIO NYAGA

MSCN/54462/2016

Approval by the Supervisors

We affirm that the work presented in this thesis was completed under our supervision by the candidate.

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DEDICATION

I dedicate to my dear wife Jane Muthoni and my children Rita, Ignatius and Killian for being supportive during the entire period of my studies.

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ABSTRACT

Hospital acquired infections (Nosocomial) refer to when a patient gets an infection within the healthcare facility which was not the primary reason for admission. The commonest modes of transmission are body contact, airborne and droplet. The study sought to

determine factors influencing compliance to infection prevention and control guidelines among nurses in Thika level 5 Hospital**.** A cross-sectional analytical design was adopted. It utilized self- administered questionnaire for data collection among nurses working at Thika level 5 Hospital, the regional referral hospital. Data was presented using percentages for quantitative data, Frequency distribution tables and histograms. The significance statistical association between independent and dependent variables was determined by use of Chi –Square statistics. The relationship between the dependent and independent variables to control confounding bias was determined by multivariate regression analysis. The significance statistical association between independent and dependent variables was determined by use of Chi –Square statistics. A total of 110 questionnaires were distributed to the participants according to the calculated sample size. a response rate of at least 50% was adequate for data analysis, in a descriptive cross-sectional kind of study. majority of the participants were female, representing 87.5% (n=56), while males were 12.5% (n=8). Majority of the participants were married i.e. 68.8% (n=44), 25% (n=16) were single, 1.6% (n=1) were divorced and 4.7% (n=3) were widowed. Regarding the professional qualifications of the participants, majority were diploma holders, which represented 78.1% (n=50), further shows that, majority of the participants (78.1%, n=50), had trained in government institutions, 17.2% (n=11). The participants were working in different departments at the time of data collection whereby18.8% (n=12) were in maternity department. There was a weak association between gender of the participants, and compliance to IPC guidelines at Cramers V of 0.025, and a negative Pearson's correlation, r (62) =-.09, p=.481. The male participants were 0.946 times more likely to have good compliance compared to their female counterparts (OR=0.946, CI [0.536-1.670]). However, these results were not statistically significant at χ^2 (1, N=64) =0.040, p=0.842. Results of the Spearman correlation indicated that, there was a positive association between ages of the participants and compliance to IPC guidelines, r (62) = 0.19, p=0.126. Nonetheless, chi squared tests found no statistically significant association between ages of participants and compliance to IPC guidelines at χ^2 (3, N=64) =7.836, p=0.076. Marital status and the departments where participants worked were significant influencers of compliance to IPC guidelines. The study found that the availability of IPC supplies significantly affected compliance to IPC guidelines The findings shall be useful to public health stakeholders in formulating policies to promote compliance to infection prevention and control policies.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONSAND ACRONYMS

HAIS- Health Care Associated Infections

WHO - World Health Organization

CDC– Centre for Disease Control

VAP- Ventilator Associated Pneumonia

AMR - Antimicrobial Resistance.

IPC - Infection Prevention and Control.

i

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Infections prevention and control is the cornerstone of any functional health care system. Globally, there has been rampant change in infections manifestation pattern and bacterial multiple resistance to antibiotics. The health care providers need to embrace evidence based practices towards infection prevention and control with the aim of preventing health care workers, patients and clients from hospital acquired infections (National Ipc Guidelines, 2015).

In Africa which has more developing countries, the burden of Health Care Associated Infections (HAIs) is substantial and safety concern for both patients and healthcare professionals with the prevalence of 5.7% - 45% and 50% or more in intensive care units (Vincent *et al*., 2019)

Hospital acquired infections (Nosocomial) is when a patient gets an infection within the health care facility which was not the primary reason for admission. Causes of HAIS include; bacterial, viral, fungal, and parasites in nature. The commonest modes of transmission are body contact, airborne and droplet. HAIs leads to prolonged period of admission, extended use of antibiotics and more cost and extended period of recovery. (Amadu & Al Samarai 2017).

The most significant factor associated with mortality and morbidity among admitted patients is health care related infections. Globally, more than 1.4 Million patients suffer from health care associated infections (Ofori *et al.,* 2019). The prevalence of HAIs among health care providers in Kenya is as high as 30–50% of service delivery to the community. Health care providers risk acquisition and transmission of infections while in the course of their duty. Stringent measures to curb spread of infectious microbes are

influential factors of any health care service delivery since various microbes lead to lethal infections (Amadu & Al Samarai 2017).

The magnitude of health care associated infections (HAIs) in a Nation with minimal industrial growth and unnoticeable human development indicators may go undiagnosed since the surveillance activities to guide the process needs a lot of resources. HAIs are still a major disparity in Africa at large and in Kenya as a Country. For over two decades in Kenya there has been intensive research to control the spread of infections however, the knowledge gap among health care providers is still high (WHO, 2018). The impact of HAIs is comparatively low in countries with developed economy and advanced technology infrastructure at 5 – 15 % of admitted patients though higher among the critical care patients at 9- 37 % (Vincent *et al*., 2019).

In low and middle income countries, associated infection poses more significant challenges to patient's safety specifically the intensive care unit (ICU). The pooled rate of comparative study between low and middle income countries and USA among **surgery and medicine** was 4.1 against 0.8 per 1000 central line days. Other studies on pneumonia developing post intubation (endotracheal tube or tracheostomy) Ventilator Associated Pneumonia (**VAP**) Shows 13.1 against 0.9 per 1000 ventilator day. Similarly, catheter associated urinary tract infections (**UTI**) was found less common in more financially stable countries compared to poor and middle income at 1.7 & 5.07 respectively per 1000 catheter days. Globally the rise in hospital acquired infections led to extended period of treatment in hospital, antimicrobial resistance and increase in the entire cost of healthcare for all (International nosocomial infection control consortium, 2020).

Table 1: Risk of Acquiring Health Care Associated Infections

STATUS OF THE COUNTRY	PERCENTAGE (%) RISK OF (HAIs)
Developed (Industrialized)	5-10 %
Developing country	>25 %
	>50% (Neonates)

Source: WHO, (2016)

Transmission of Infectious agents in a health care set up can occur in various ways; cross infection among patients, cross contamination among health care givers, transmission from health care givers to patients and vice versa. Nurses contribute to the majority of the health care workforce since they do the significant proportion of inpatient activities; parenteral medication, maintaining patients hygiene & comfort and wound care. Nurses are therefore constantly exposed to health care acquired infections

(HCAIs); Hepatitis B &C virus, Tuberculosis, acquired immune deficiency syndrome (HIV/AIDS) and diverse bacterial infections (Gichuhi *et al*., 2018).

Basic infections prevention and control measures need to be observed to minimize risk of transmitting infections (Infection Prevention Guidelines, 2015)

A point prevalence study conducted in 183 hospitals across the United States in 2011 estimated that up to 1.4 million health care–related infections occur in hospital patients each year, with approximately 75,000 deaths associated with these illnesses (By 2015, the prevalence of the disease had decreased by approximately 16 percent, from 4 to 3.2 percent). (Lahsaeizadeh et, al, 2008). According to previous European study results, 4.1 million health-care–associated infections occur in acute care hospitals across Europe each year, with the majority occurring in the United Kingdom and the United States. In the United States and Europe, health-care-associated infections afflict about one out of every 14 to 20 patients admitted to hospitals, making them one of the most common

issues associated with health-care delivery in these nations. As a result of these findings, it is estimated that health-care-associated infections are among the top 10 most common causes of death in the United States of America. Patients who are already severely ill and who have a high likelihood of dying as a result of their underlying disease account for a significant proportion of health care–associated infection–associated deaths. Patients who were otherwise expected to survive their hospitalization account for a significant proportion of health care–associated infection– associated deaths. (Lahsaeizadeh et, al, 2008).

As part of their responsibilities, SPs educate and train health-care workers (HCWs) on proper hand hygiene, the use of personal protective equipment (PPE) such as gloves and masks when contact with a patient's mucus membrane, blood, or bodily fluids is anticipated, as well as the identification and correction of errors in patient care and medication administration. Spiked objects and other types of medical waste should be properly disposed of in a safe and proper way. When it comes to identifying people who have been infected by a wide range of germs, it has become more difficult to differentiate between them using medical history and physical examination. According to the Centers for Disease Control and Prevention, it is necessary to establish a nationally recognized standard of care (CDC). There is the same level of precaution applied to all patients, regardless of whether or not they are aware of their infection status. J.D. Siegel and his associates are responsible for (2007).

The ingestion of infectious blood and bodily fluids through contaminated needle pricks and injections is the most common cause of blood poisoning in the United States and other countries. Sharps and other potentially infected items are a significant source of illness and death in the workplace, accounting for a significant portion of all illnesses and deaths. Infected with blood-borne viruses among those who work in the health-care

profession (Lahsaeizadeh et, al, 2008). This is the current state of affairs. According to current estimates, healthcare workers are considered to be responsible for 2.5 percent of HIV infections and 40 percent of HBV and HCV cases over the globe, respectively. According to the World Health Organization, exposure to this kind of radiation may lead to cancer (2002).

According to a research conducted in Mongolia, almost one-third of those who were injured by needle stick or sharps injuries were under the age of twenty-one. Among the most notable examples of this were instances in which health-care providers did not follow universal precautions, as was the case in this particular instance. Ulaanbaatar. Mayo and Nayu were among the individuals who demonstrated unsafe injection administration techniques, such as the practice of reusing and recapping needles after providing an injection (Kakizaki et, al, 2011).

Nurses in Cyprus were found to be less compliant with hand hygiene, the wearing of gloves when it was predicted that they would be exposed to bodily fluids, eye protection, protection for the mouth and nose, wearing a gown when necessary, and avoiding needle recapping, according to research conducted in the country. after its administration to a patient and the administration of therapy with the realization that all patients are possibly infected with a virus that is contagious. (Kakizaki et, al, 2011).

Infection management and prevention are important. The Centers for Disease Control and Prevention (CDC) recommend that respondents take normal measures while traveling. Keeping bloodborne and other infections under control and preventing their spread is critical in order to reduce the risk of disease transmission. As an example, consider hospitals. In a way, the standard precautions serve as a distillation of the most significant qualities of universal precautions (Amadu & Al Samarai, 2017). The isolation of other body substances (which is meant to reduce the risk of germs spreading from

moist bodily fluids) and universal application (in order to reduce the risk of transmission of blood-borne illnesses) are also included. Whatever their diagnosis or suspected infection status, all patients receiving treatment in hospitals are categorized as high-risk. Blood, other body fluids, secretions, and excretions, with the exception of sweat, are subject to the same protections as other biological materials. It makes no difference whether they contain or do not contain blood. The precautions are meant to reduce the probability of an accident occurring. an infection control process in which bacteria are transmitted from known and unknown sources of illness in hospitals, as defined by the Centers for Disease Control and Prevention (CDC) (2010).

The idea of Hospital Acquired Infections (HAIs), the scale of HAIs, and the prevention of HAIs was covered in detail in this chapter. The risks of HAIs, the most common HAIs, and the significance of infection prevention standards are all covered in depth in this article. standardized infection prevention procedures, as well as components of infection prevention that are considered standard.

In the course of their service delivery obligations, nurses are the health-care professionals who are most at risk of developing and spreading healthcare-associated infections (HAIs). A significant component of the delivery of nursing care services is thus dedicated to attempts to prevent germ transmission between patients. (Amadu & Al Samarai, 2017). Failure to follow infection prevention and control (IPC) policies and procedures has been connected to the emergence of the Hepatitis (B and C) virus pandemic, which is one of the most frequent bloodborne infections.

A variety of initiatives, including patient and health-care worker education, hand hygiene practice, and good catheter care, have been promoted by the Centers for Disease Control and Prevention (CDC) to prevent the spread of infections (American Society of Nephrology, 2018).

Patient compliance with infection control strategies has a substantial influence on the quality of patient care and the results of treatment procedures. In terms of their personal safety as well as the safety of their patients, nurses have a great deal of responsibility. As a consequence of the many surgeries they conduct on the patient, the nurses' exposure to blood-borne illnesses is significantly enhanced. (2018, 2018); (Bekele,
2018).

1.2 Problem Statement

As a consequence of the transmission of common bacteria via improper hand and equipment handling, as well as other unsanitary behaviors, patients and health care professionals are more likely to get nosocomial illnesses. It has been shown in the past that inadequacies in infection control strategies such as hand hygiene and environmental cleanliness were responsible for blood stream infections and Hepatitis C epidemics. Several infection control strategies are recommended by the Centers for Disease Control and Prevention (CDC), including: hand hygiene practices, proper catheter care, patient and health care worker education, and infection control. All of these strategies are important in preventing the spread of infections. (WHO,2015)

It is estimated that the majority of patients suffer and die as a consequence of infections acquired while undergoing medical care. Globally, there are 21 million cases of Hepatitis B virus infection and more than 200,000 cases of HIV/AIDS infection as a result of unsafe injecting behaviors, whereas in the United States of America, there are
40,000 to 80,000 deaths owing to hospital acquired illnesses. (WHO,2015)

There is a dearth of awareness in terms of (knowledge and practice) among essential health care professionals in the United States (nurses, clinicians pharmacist and microbiologist) The National Safety Survey was carried out in 2013 with the goal of reducing the incidence of HAIs and antibiotic resistance in the population. Hand hygiene

is the most critical step in ensuring the safety of patients and health-care workers. (WHO,2015)

The Kenyan Ministry of Health prepared the national IPC guidelines in 2013, as part of the national IPC strategy plan 2014-2018, which was developed by the Kenyan government. The guidelines were published in 2013. It was the duty of a multidisciplinary advisory board to manage these projects and to bridge the knowledge gap in the IPC via research and development. However, since the devolution of healthcare services, there have been a number of roadblocks to overcome in order for them to be fully implemented.

Table 2: Percentage compliance to hand hygiene practice at Thika level 5 Hospital by the Nurses

Year 2018	**Compliance to Hand hygiene practice (%)**
May	17%
June	18%
July	10%

Source: Researcher (2019)

1.3 Objectives of the Study

The following specific objectives guided the study;

i) To assess the socio-demographic characteristics that influence compliance to IPC guidelines among nurses at Thika Level 5 Hospital ii) To determine the institutional factors that influence compliance to IPC guidelines among nurses at Thika Level 5 Hospital iii) To ascertain the influence of knowledge on compliance to IPC

guidelines among nurses at Thika Level 5 Hospital iv) To examine the level of compliance to IPC guidelines among nurses at Thika Level 5 Hospital

1.4 Research Questions

i) What are the socio-demographic characteristics that influence compliance to IPC guidelines among nurses at Thika Level 5 Hospital ii) What are the institutional factors that influence compliance to IPC guidelines among nurses at Thika Level 5 Hospital iii) What is the influence of knowledge on compliance to IPC guidelines among nurses at Thika Level 5 Hospital.

iv) What is the level of compliance to IPC guidelines among nurses at Thika Level 5 Hospital.

1.5 The research hypotheses

H0$_1$; No relevant statistical association in facility related factors & compliance to IPC guidelines by Thika level 5 hospital nurses.

H0$_2$; No relevance statistical association in, hand washing& compliance to IPC guidelines by Thika level 5 Hospital nurses.

H0$_3$; NO relevant statistical association in knowledge, practice & compliance to IPC guidelines by Thika level 5 Hospital nurses.

1.5 Justification of the Study

To design effective measures to lower the occurrence of hospital-acquired infections, it is necessary first to identify the variables that impact adherence to infection prevention guidelines. A good influence on the length of time and cost of treatment will be achieved by implementing appropriate policies. It is anticipated that the policies will be

advantageous to the Ministry of Health Department of Nursing, as they will aid in infection prevention and the improvement of standard operating procedures in order to prevent infections at the institution.

1.6 Limitation of the study

There will be a challenge of generalization of results since the sample size was drawn from one institution.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section reviews works by literary critics and studies that have been done with a bearing to this study. The study aids in establishing the gaps and helps put forward the necessity of this study and how it contributes to the realm of knowledge in relation to gender studies.

2.1 Institutional-Related Factors That Influence Compliance to IPC Guidelines

A study done in Ethiopia indicated that patients admitted in wards in presence of medical waste segregation containers had less chances of developing hospital acquired infections. The odds of developing HAIS among immune deficient patients were higher than the counter parts. Patients who received antimicrobial, central vascular catheter and surgery since admission had higher chances of developing HAIs (Yallew *et al.,* 2019).

The ultimate goal of medical therapy is to improve the overall quality of life while also, in some cases, saving lives through interventional procedures. Each and every health care worker has a significant responsibility for preventing the spread of health careassociated infections, and adherence to medical injection safety procedures is meant to protect both patients and medical practitioners equally (WHO, 2017) Aeruginosa, Escherichia coli, and Staphylococcus aureus are the bacteria that cause the vast majority of nosocomial infections in hospitals and other healthcare settings. According to the Centers for Disease Control and Prevention, the most common means of transmission of germs are as follows: instrument contamination during operations and contaminated hands of health-care personnel during procedures (2019).

The ratio of trained Health care workers to patients and patient bed occupancy rate in health care sector demand availability of improved health work force and raises challenges concerning hospital bed capacity. A mismatch between the intended versus the designed bed capacity, improper staffing of health care workers may lead to rise in HAIs and antimicrobial resistance. Overcrowding in health care facilities is significant to public health and influences disease transmission (WHO, 2017)

At light of these findings, it would be useful to undertake a research similar to the one mentioned above among Chinese registered nurses who work in hospitals specializing in Traditional Chinese Medicine (TCM). Our study effort, however, zeroed in on two

specific areas: McSherry, Simmons, and Abbott (2002), the present state of obstacles to research utilization (RU), and Ingersoll, G. L. (2000), RNs' knowledge, attitudes, and behaviors toward evidence-based practice. The current state of obstacles to research use (RU) among registered nurses was studied by McSherry R, Simmons M, and Abbott P in 2002. (EBP). Even if the two situations had certain similarities, they should not be compared. The most notable contrast between EBP and RU is that only a subset of EBP is concerned with RU. Both challenges are important, but the one that focuses on RNs' self-conditioning on evidence-based practice (EBP) is narrower in scope than the one that considers obstacles in the wider world. The results of our 2015 research showed that RNs working in Traditional Chinese Medicine (TCM) clinics had a substantially different perspective on RU barriers than RNs working in conventional hospitals. In order to gain a complete picture of our sample, this research looked at the present status of the latter problem among registered nurses and the factors that affect it. Ghana News Agency (2014)

It is critical for nurses to learn and practice with a thorough understanding of ethical concepts in order to have a good impact on the lives of their patients, their patients' families, and the broader public. Nursing, on the other hand, has been found to have inadequacies in terms of ethical awareness and execution in practice when interacting with patients and their families, especially when dealing with patients who are suffering from mental illnesses. Several studies have shown that nurses' solutions to ethical difficulties in Ghana do not always fulfill the standards set out by the international code of ethics on nursing practice. GNA is the Ghana News Agency (2014). As a result, local ethical norms that are tied to Ghana's institutional structure and cultural milieu have an influence on the ethics of nurses in the country, the nation in which they practice (Bhardwaj et al. 2014). Bhardwaj et al. (2014). Mithra p. Singh et al. (2014). Rajesh DR (2014). Despite the fact

that many cultural values are consistent with the most complete international code of ethics and principles, many others were in direct opposition with these codes. GNA is the Ghana News Agency (2014)

A code of ethics issued by the Nursing and Midwifery Council (NMC), which is the legislative body responsible for regulating the nursing and midwifery professions in Ghana, must be followed by licensed nurses and midwives working in that country. According to the code of ethics, nurses and midwives should be aware of the highest level of quality that is required in the execution of their professional obligations in order to safeguard the general public health and safety. The code of ethics should also be used to educate the general public, other health care professionals, and employers on the highest standard of professional behavior that is expected of registered nurses and midwives in the course of their duties in a variety of healthcare settings. Ghana's Nurses and Midwives' Council is a professional organization that represents nurses and midwives in Ghana (2006) Nurses' ability to engage in immoral behavior while carrying out their responsibilities will thus be influenced by their degree of education and attitude as well as a variety of other circumstances, such as their institutional and social settings, among other things. Eren N. is a professional photographer based in New York City (2014) The following are some instances of unethical behavior among nurses, according to Eren (2014): inadequate staffing, bad working conditions, excessive workload, lack of supervisory monitoring, and insufficient in-service training, just to name a few. According to the available research, the vast majority of nurses are incapable of recognizing ethical problems at work, and as a result, they engage in unethical therapeutic activities in their clinical practice. Crothers, C.E., and Dorrian, J.E. (2011). Personal variables such as age, gender, level of education, professional qualification, marital status, years of experience, rank, ward setting, training, and institution have all

been shown to have a significant impact on nurses' level of knowledge, attitude toward ethical practice, and application of ethical principles in their professional duties, according to research. Crothers, C.E., and Dorrian, J.E. (2011). Additionally, these actions have a negative effect on the professional image of nurses, the institutions in which they work, and the nursing profession as a whole. Eren N. is a professional photographer based in New York City (2014).

The Nursing Board is a body that regulates the practice of nursing (2000) When it comes down to it, the ultimate goal of the nursing profession is to give patients with the finest quality of care possible, which entails maintaining high standards of professional conduct on a constant basis. W. Tadd, A. Clarke, and L. Lloyd (2006) One conclusion from a number of research studies is that nurses lack ethical awareness, exhibit negative ethical attitudes, and fail to follow their own ethical norms while delivering care to their patients, among other things. Several nurses in Ghana's Cape Coast Metropolitan Area, for example, have been accused of failing to apply their ethical understanding in the course of their employment, according to a 2006 media piece by the Nurses and Midwives' Council of Ghana. In addition, according to Peacefmonline news (2014), onduty nurses are dismissive of their patients when they demonstrate labor discomfort at any time throughout the birthing process. Women who attended prenatal clinics, for example, claimed that the nurses made them feel bad about themselves because they had failed to show up for their appointments on time and had been unable to acquire some of the items necessary for birthing on their own money. Adei, D., Fiscian, Y.B., Adei, D. (2012) As well as possessing these characteristics, nurses have been described as being hostile, obstructive, and disrespectful, as well as as pretending sass while really being nasty, heartless, and horrible to their patients and customers. Adofo R., and Adofo R. (2010). The fact remains that, despite growing concerns about and instances of unethical nursing

behaviors in health-care facilities in the Cape Coast Metropolitan Area, there has been a scarcity of research on the subject, both in terms of the extent of such practices and the factors that may be contributing to them. As a result, the purpose of this research was to explore nurses' knowledge, attitudes, and behaviors addressing ethical issues in nursing care in the Cape Coast Metropolitan Area, with the hope of identifying patterns.

It is critical to prevent microorganisms from entering the air and settling on clean surfaces. Fungal spores that travel in the air are known as aerospores. They are especially dangerous in immunosuppressed patients because they have the potential to cause life-threatening infections. It is essential to follow the manufacturer's directions for diluting the disinfectant cleaning solution in order to ensure that it is as effective as possible while disinfecting. Both Tietjen & Bossemeyer are hospital-grade disinfectants that are utilized in a variety of settings (2004).

It is recommended that decontamination of surfaces that have been visibly contaminated with blood or body fluids be carried out utilizing a variety of methods.

After being exposed to 0.5 percent chlorine for 10 minutes, the area was thoroughly cleaned with soap and water. Measures such as isolation chambers and other safeguards Besides the patient's room, any other area where patients with known transmissible infectious diseases are present should also be cleaned. Cleaning should be done on horizontal surfaces at the very least once a day, using a detergent and a disinfectant solution. as often as required, at the very least once a day Toilets should be cleaned four times a day, or more often if required, according to the manufacturer. Tietjen and Bossemeyer urge that floors be cleaned twice a day, as described in their book (2004). It is possible to categorize waste generated by health-care establishments into three types: non-infectious, infectious, and hazardous. hazardous. It is estimated that around 85 percent of the waste generated in hospitals is recyclable. non-infectious. Trash that has

been infected (contaminated) has the potential to be contagious or dangerous if it is not treated appropriately. in the proper way, it was disposed of There are many chemicals that may be dangerous or detrimental to human health, including medicines and medical supplies. hazardous. Trash should be sorted into two categories when it is generated: contaminated waste and noncontaminated waste.

When wastes are separated, the quantity of contaminated rubbish that must be treated is reduced, making it less costly to do so. The employment of expensive procedures that are required for the management and disposal of hazardous waste waste is prohibited. It is recommended that non-infected garbage be separated from infectious waste using color-coded, different containers.

Putting infectious or hazardous waste in containers that are more than three-quarters full is not advised since the containers may get contaminated. It is necessary to discard the containers after they have been utilized up to three-quarters of their capacity.

Infection transmission to patients is the biggest danger posed by a sharps container that has been contaminated with blood, hence it should be avoided at all costs. (Amadu & Al Samarai, 2017).

Sharps are described by the Food and Drug Administration as any products or materials that have the potential to cause injury or sickness in someone or something owing to their ability to cut. Syringes with needles, knives, wires, and other sharp objects are included in this category because their needles have the ability to pierce or cut through various materials. Using a mallet, break a piece of glass When syringes and needles are no longer required, they should be disposed of in the most environmentally friendly way possible. A syringe is used to keep the needle in position throughout the procedure. This means that syringe capping or withdrawing the whole contents of a syringe at the same time is not recommended in this situation. Once the product has been used, it should be put in

the safety box. Sharps should be stored in conveniently accessible safety containers so that they may be disposed of appropriately if and when they are no longer required.

The fact that these containers are impervious to punctures and leaks does not prevent them from being filled with objects with just one hand. There is nothing in this world that can be taken away from a hand that has been extended. It is suggested that sharps not be handled excessively in order to reduce the risk of needle stick injuries. Sado and Fawole were both injured as a result of a poke to the body. They were both sent to the hospital (2006).

Conforming to industry requirements, solid contaminated trash should be segregated from noncontaminated garbage and disposed of in a different location from the latter. Solid When garbage is collected, it should be placed in a plastic or galvanized metal container with a tight-fitting lid, and the container should be tightly sealed with tape after the garbage has been removed from the site. Personal protection equipment (PPE) should be worn by cleaning sector employees who are exposed to potentially dangerous products on the job (PPE). Waste that has been contaminated is referred to as tainted waste. Both contaminated and non-contaminated rubbish must be placed in waste containers, and the bins must be placed in an easily accessible location. In order to collect recyclable goods on a regular basis, Tietjen and Bossemeyer are delivering burnable materials to an incinerator or other designated area. In order to gather recyclable products on a regular basis, Tietjen and Bossemeyer are delivering burnable objects to an incinerator or other designated area for burning. They are completely enveloped in flames. (2004)

In order to avoid infection or coming into touch with infectious microorganisms, those working in the health care industry are required to wear personal protective equipment (PPE). By donning personal protective equipment, it is possible to establish a physical barrier between pathogens and the individual who is wearing it (PPE). In addition to

protecting the wearer's hands and eyes from infection, this physical barrier will also protect the wearer's clothing, hair, and shoes. The use of personal protective equipment (PPE) may also help prevent the transmission of germs to other patients and staff members who are not wearing it (PPE). When it comes to illnesses, personal protection equipment (PPE) may assist to reduce the likelihood of developing one, but it cannot completely remove the potential of contracting one in specific conditions. Worker protection equipment (PPE) such as gloves, gowns, face masks, respirators, goggles, and face shields, among other items, must be used correctly and responsibly to keep them safe from potential threats. PPE must be used properly and responsibly to keep workers safe. According to the nature of the patient encounter and the possibility of exposure to blood, bodily fluids, or infectious microorganisms, different personal protective equipment (PPE) should be worn in different situations. It is necessary to use personal protective equipment (PPE) properly in order to achieve compliance with the Standard. When it is possible to come into contact with blood or bodily fluids, mucous membranes, non-intact skin, or potentially infectious substances, it is important to take preventative measures. The wearing of mouth, nose, and eye protection during procedures that are likely to generate splashes or sprays of blood or other bodily fluids, as well as the wearing of gloves, are some of the precautions that can be taken to protect skin and clothing during procedures and activities where contact with blood or bodily fluids is anticipated. Additionally, the Ministry of Public Health and Sanitation and the Ministry of Medical Services are working together on this project to preserve the health and safety of patients (2010).

In a study done by Jain and Dogra (2012), they discovered that around half of the participants used protective garments such as hats, masks, and gowns as part of their maximal barrier protection strategies. According to the study's findings, nurses used

these maximal barrier measures far less often than doctors. Because HIV-positive patients had already been identified at the time of the introduction of SPs, it was critical that they be included in the program as soon as it was implemented. When eye protection was suggested, 40 percent of health-care workers (HCWs) employed it, according to the results of an Indian research (Kermode, 2005).

Injections that do not cause injury to the recipient, do not expose the provider to additional risks, and do not produce waste that might be hazardous to other people or the environment are classified as non-harmful injections. According to a study conducted by the World Health Organization, almost half of all injections are dangerous and pose significant health risks to patients, health-care workers, and members of the general public. In many developing countries, the overuse of injections and the use of ineffective administration procedures are responsible for a considerable number of new HBV, HCV, and HIV infections, according to the World Health Organization. According to the World Health Organization, injections with contaminated needles or syringes were responsible for 30 percent of new HBV infections, 41 percent of new HCV infections, and 5 percent of new HIV infections in

2000 (representing 21 million new HBV infections, 2 million new HCV infections, and 260,000 new HIV infections) (2002). An investigation on injection-safety procedures in Kenya was completed in 2003, and the findings revealed that inappropriate prescribing of injections and incorrect disposal of injection-related debris were two of the most prevalent causes of dangerous injection practices in the country. Whenever feasible, injections should be done as safely as possible, and they should only be provided when absolutely essential for medical reasons.

Whenever it comes to reducing the risk of injection-associated infections, the most effective technique is to avoid delivering unnecessary injections altogether. Moreover,

the Ministry of Public Health and Sanitation, as well as the Ministry of Medical Services, have expressed their support for this project (2010). According to the findings of a survey done among Mongolia's medical professionals, safe injection techniques such as the reuse and recapping of needles after providing injections were still being practiced by health-care workers in the nation and his colleagues Similarly, a study done in the Nigerian state of Ogun found that one-third of the participants always recapped their used needles, as shown by the data (Sado, 2006).

A study at a level 4 hospital in Kenya shows several hindrances. The water shortage within the hospital – no running water in the sink for hand washing. Inadequate resources led to poor implementation of IPC guidelines despite having policy guidelines distributed in most of the clinical areas; inadequate supplies and inactive IPC committee, inconsistency continuous professional medical education among health care providers to keep them updated. Gichuhi *et al*., (2018)

Every patient undergoing surgery or medical treatment risks acquiring an infection. However risks differ from a patient to the other. Persons with compromised immune systems, the elderly young children are all risk factors for infections. Report from the database of National Nosocomial Infection Surveillance system (NNSS) compiled by the center for disease control (CDC) showed 6.1 % rate of infection among children in critical care unit. The common types of infections were catheter-related infection and ventilator-associated pneumonia ((VAP)

Hospital-acquired infections in children may be influenced by; parenteral nutrition (tube or intravenous feeding), prolonged antimicrobial use exceeding ten days, improper use of invasive devices, lack of infection prevention measures postoperatively and dysfunctional immune system. Other significant factors that increase the opportunity for

Hospitalized adults and children may acquire infections due to other factors: prolonged hospital stay, severity of underlying illness, compromised immune system, malnutrition, use of indwelling catheters, poor hand hygiene practice between patients or before procedures and prevalence of antimicrobial-resistant bacteria from the irrational use of antibiotics Rizzo & culvert, (2019).

2.2 Knowledge and Practice;

These programmes have been run by multidisciplinary advisory committee whose role is to address the knowledge gap in IPC knowledge. However, there have been many challenges in the implementation following devolution of health care services. There is considerable lack of knowledge and practice in IPC among the frontline health care workers (nurses, clinicians, & pharmacists) National safety survey, (2018)

A study by Ndipowa *et al.,* (2018) in Ethiopia in showed a an important relationship between level of knowledge infection prevention &control and health promotion practice, while in Kenya a weak association was observed between compliance and individual characteristics.

Nurses are at the greatest risk to acquire and transmit hospital acquired infections in the course of the nursing services delivery. Efforts to combat the transmission of these infectious microorganisms are therefore a significant initiative in patient care. This prevention is achieved through the practice of infection prevention and control including the implementation of infection prevention and control guidelines Amadu &Saka (2017).

Modern nursing in the western world is advancing at a quick pace, and EBP has already accomplished a number of noteworthy achievements in this sector. There is a substantial number of systematic reviews, evidence summaries, and practice recommendations accessible in both the Cochrane Library and the Joanna Briggs Institute Library, all of

which may be searched for online via the Cochrane Library and the Joanna Briggs Institute Library. Evidence implementation and distribution lag behind evidence synthesis and are often faced with resistance, Muhumuza, C., colleagues (2015).

According to Vortherms, J. Spoden, and Wilcken J. (2015); nonetheless, they are carried out in a methodical and step-by-step manner, as described in the paper. According to one research, EBP had a favorable influence on both the clients and the nurses who were part in the process. The installation of an evidence-based cancer outpatient staffing system boosted working efficiency, decreased overtime, and improved patient and nurse satisfaction, according to a six-month pilot study done by

Vortherms et al. et al. Muhumuza, C., Gomersall, J. S., Fredrick, M. E., and colleagues (2015). In Uganda, it was determined that the introduction of best practices increased hand hygiene among healthcare practitioners, despite the fact that the nation lacked resources. et Muhumuza, C., colleagues (2015). In their cost-benefit analysis of Electronic Clinical Procedural Resources Supporting Evidence-Based Practice, the researchers discovered a significant savings. After doing a cost-benefit analysis on the subject, Schoville, R. R. Shever, L. L. Calarco, M. M., and Tschannen, D. (2015) discovered further savings that may be realized.

The savings were significant, as demonstrated by the results. Furthermore, as seen by the rising popularity of EBP, an increased emphasis has been placed on international cooperation, which has led in the formation of a number of independent nursing associations. It was founded by Joanna Briggs in 1996, and it has since evolved to become the world's first and biggest evidence-based practice institution devoted exclusively to nursing, according to its website. It has more than 70 locations in a number of countries. As at the time of this writing, the Joannabriggs Institute was still in operation. In addition to the American Nurses Association, the Registered Nurses

Association of Ontario (RNAO) has had an impact on evidence-based practice in nursing practice. In addition to more than 50 best practice recommendations issued by the RNAO, each of these guidelines has been applied in a real-world clinical nursing setting. 'Registered Nurses' is an abbreviation for Registered Nurses' (2016)

It varies from western nursing in that it is founded on traditional Chinese medicine (TCM) philosophy and contains fifteen separate nursing methods, such as acupressure, scraping of the skin and herbs bathing, and the way of producing TCM decoctions, which are not found in western nursing. The China Association of Traditional Chinese Medicine (2006) Traditional Chinese nursing (TCN) differs from western nursing in that it is founded on the concept of traditional Chinese medicine (TCM) and combines fifteen separate nursing techniques, such as acupressure, scraping, herbal baths, and acupuncture, into the practice of nursing. In recent years, TCN has gained popularity in China, and as a result, the organization now employs a large number of registered nurses around the nation. Vortherms, J. Spoden, and Wilcken J. (2015) Following official statistics from 2009, TCN was provided by 440.7 thousand different levels of medical care facilities, with 1.86 million registered nurses (RN) working in such facilities in 2011. According to official statistics from 2011, there were 1.86 million registered nurses (RN) who worked in such facilities in 2011. TCM is becoming more extensively recognized in Western nations, and nurses in the United States are getting increasingly active in giving patients with TCM knowledge and training . Additionally, a number of international nursing schools started sending students to China to pursue a TCN degree, which has become increasingly popular. Sun, R. Y., and Guo, H. (in press) (2015)

However, despite the fact that it is still in its infancy, EBP is gaining traction in the TCN business. It was discovered that 1470 scientific citations were related to TCN in an initial search of the National Knowledge Infrastructure (CNKI), which is a common Chinese

database. This finding supports the previous assertion that EBP in the TCN sector was supported by a strong research foundation by a strong research foundation. When the School of Nursing at Beijing University of Chinese Medicine was accepted as a Joint Base Initiative subcenter in 2014, it was subsequently recognized as one of the RNAO's Best Practice Spotlight Organizations in 2015. This occurred after the school's classification as a subcenter in the previous year. Neither of these noteworthy incidents demonstrates that the potential of EBP in the TCN area should be undervalued. However, despite the fact that significant progress has been achieved, EBP in the TCN sector is still regarded to be a relatively new field of study Crothers, C.E., and Dorrian, J.E. (2011)..

Upgrading nurses' attitudes and enhancing their abilities, according to the results of several research, are the initial steps in adopting EBP. Using data from 528 graduate nurses working at educational pediatric hospitals throughout Canada, Krugman, McCleary, and Brown (2013) came to the conclusion that nurses' understanding of evidence-based practice (EBP) and favorable attitude toward it would help in its acceptability in the healthcare system. Melnyk and colleagues go on to say that having knowledge of research methodologies, as well as the ability to critically evaluate research reports, may aid in overcoming the obstacles that prevent research findings from being implemented, ultimately leading to an improvement in the overall quality of healthcare. Melnyk, B. M., Fineout-Overholt, E., Stone, P., and Ackerman, M., Melnyk, B. M., Fineout-Overholt, E., Stone, P., and Ackerman, M. (2010) As a result, nurses' attitudes toward, knowledge of, and abilities in evidence-based practice are all highly significant elements to take into consideration.

It is unfortunate that no study has been conducted to investigate the data pertaining to comparable studies that have been conducted in China in the TCN area, which would

have supplied important information if done. Further to their current work on clinical nurses in China, Yang and Tang did a similar survey seven years ago to analyze the perspective and attitude of clinical nurses in the country. The participants in that research, on the other hand, were not registered nurses (RNs) who worked in the TCN industry. The authors, Yang, R. M. and Tang, S. Y. (2010) First and foremost, as we all know, conditions may and will change during the course of a seven-year period, making preparations in advance is critical.

As part of the entire treatment process for respiratory disorders, it is required to undertake therapeutic procedures on the throat as part of the overall treatment process. A surgical wound has the potential to get infected and create problems. get infected as a result of coming into contact with contaminated bandages or the hands of medical professionals Dressings should be changed at least once a week or more often. The wounds produced by trauma, burns, and pressure sores are more susceptible to infection and necrosis if patients are kept in bed for an extended period of time or confined to a wheelchair. Custodio and Steele are both members of the United States Armed Forces (2012).

According to the results of a research of surgical patients at two Ethiopian hospitals, 6.2 percent and 5.2 percent of those who had surgery died, respectively, after the procedure. One of the patients had had HAI, whilst the other had not contracted the illness. The most prevalent kind of illness was surgical site infection, which accounted for a quarter of all reported instances of illness. The individuals in issue, according to Massele and Woldemednin, had diseases found in their bodies (2009).

SPs, which include the provision of appropriate sharps containers, the formation of a national sharps registry, and the training of health-care professionals about the risks of blood-borne viruses, as well as the use of antiviral drugs are being implemented on a broad basis. A variety of personal protective items, as well as the most up-to-date use of

safer instruments, such as needles, are all encouraged. The widespread use of needles that sheath or retract after use has resulted in a significant reduction in the frequency of needle stick and associated injuries, particularly among children. Both Beekmann and Henderson are well-known figures in the world of architecture, and they have collaborated on a number of notable projects (2005).

Nurses from various nations were studied in order to determine their qualities. 15. According to Upton, D., and Upton, P. (2016), several research have been carried out simply because other nations are becoming more aware of the significance of the traits in question. Among the instruments studied, the Evidence-Based Practice Questionnaire (EBPQ) is the most frequently utilized, having been employed in 22 research investigations as well as five educational and training-related studies. It is also the most extensively used tool on the market. 44 percent of them were carried out in the United States, while 33 percent were carried out in Europe (with only two carried out in the United Kingdom), and 22 percent were carried out in other countries, including

Saudi Arabia, New Zealand, Australia, South Korea, and China Upton, D. Psychol C., Upton P. et al. (2014).

A research conducted in Cyprus among nurses indicated poor compliance to; Hand hygiene, use of protective equipment's when exposed to body fluids, use of goggles' for eye protection, use of face masks for nose as well as mouth protection, use of gown for general protection of health care workers. Ensure injection safety through avoidance of needle recapping after it is used for a patient and provision of care considering all patients as potentially infectious. While another study done in Mongolia on a on needle stick and sharps injuries revealed that one third of the health care workers disregarded universal precautions at the tertiary hospital in Ulaanbaatar. Unsafe medical injection practices

such as recapping of needle by nurses after giving injections were still observed among them Mayo & Nayu, (2018).

2.3 Hand Washing Practice;

To reduce health-care associated infections (HAIs) and antimicrobial resistance (AMR), hand hygiene remains a basic minimum practice therefore enhancing patient and health care workers safety WHO, (2016). Infection prevention guidelines within the health care system are intended to break the chain of infection. Every intervention targets the specific link of transmission chain. Washing hands at the right moment minimizes the number of microbes as reservoir hence reducing the chance of transmission via direct contact. Hand hygiene breaks the mode of transmission and prevents cross infection as well. National IPC guideline of Sieraleone, (2020) A study carried out on assessment of compliance to IPC guidelines, Turnberg *et al.*,(2021) reported that among health workers (Doctors, nurses, physiotherapist and auxiliary staff) indicates higher compliance rates among male nurses who had received training while reports that five moment hand hygiene attitude and practice was low among doctors who cited more pressing official commitments despite holding official positions in health facilities, disproportionately influenced the practice.

The risk of getting health-care-associated infections (HCAI), also known as nosocomial infections, is high for patients admitted to hospitals, and these infections are a substantial source of morbidity and death. At any one moment, the Globe Health Organization (WHO) estimates that around 1.4 million individuals throughout the world are suffering from infections that they acquired while in a health-care environment, according to the organization. Infants are more susceptible to HCAIs than older children and adults, in part because of their inherent vulnerability to infection. WHO, (2019) As a result, they

are more likely than older children and adults to get the infection and suffer from more severe disease as a result. Patients admitted to acute care hospitals in industrialized countries have a 5 percent to 10 percent higher risk of contracting HCAI than those admitted to hospitals in developing countries. Patients admitted to acute care hospitals in developing countries have a 5 percent to 10 percent higher risk of contracting HCAI. According to the World Bank, the risk is 2-20 times greater in developing nations than it is in developed ones, with the percentage of people afflicted topping 25% in certain circumstances. It is estimated that the danger in the United States is 2-20 times larger than in other nations. Hospital-born neonates in underdeveloped nations are believed to be three to twenty times more likely to get infections than other newborns, with case fatality rates topping 52 percent in certain locations Kac et al. (2019).

In order to achieve one of the Millennium Development Goals, which is to decrease child mortality by two-thirds by the year 2015, the United Nations Development Programme has established a goal. Every year, the number of deaths among children under the age of five surpasses seven million. Approximately seventy-five percent of all child deaths are caused by six diseases: neonatal causes (including pneumonia and diarrhea), malaria, measles, and HIV/AIDS, to mention a few of the most common ones. Poor infection control in impoverished nations is exacerbated by a lack of enough manpower, as well as inadequate levels of employee training and education9. Additionally, the absence of proper hygiene and sanitation facilities makes it impossible to comply with infection control standards. Further complicating matters is the absence or unavailability of basic equipment such as gloves, the lack of adequate buildings and congested traffic patterns, and the lack of conveniently available monitoring data, among other factors. Despite this gloomy image, there are basic and easily implemented preventative strategies and tools available to the public. WHO,

(2019)

Despite the fact that their efficacy has been shown mostly in settings with adequate resources, research undertaken in disadvantaged countries10-15 has revealed some exceptional instances of intervention implementation to decrease hospital acquired infections in the hospital context. It is widely documented that infections acquired in the hospital have a significant impact on the well-being of patients and their loved ones. More severe infections, longer hospitalizations, increased microorganism resistance to antibiotics, long-term impairment and mortality, significant additional financial burdens for patients and their families, and emotional stress on the part of patients and their families are all associated with them Kac et al. (2019) .

In this context, the World Health Organization launched the Globe Alliance for Patient address the problem of healthcare-associated infections (HCAIs) in hospitals around the world. The Alliance is a joint initiative of the World Health Organization and the World Health Organization. In recognition of the critical importance of this issue, the effort has been designated as the First Global Patient Safety Challenge "Clean Care is Safer Care," which is an abbreviation for "Clean Care is Safer Care," which is an acronym for "Clean Care is Safer Care," which is an abbreviation for "Clean Care is Safer Care." In order to reduce healthcare-associated infections (HCAI) throughout the globe, the World Health Organization established the Global Hand Cleanliness Initiative. The promotion of hand hygiene in the health-care setting is the initiative's cornerstone. An international guideline on hand cleanliness in health care, titled "WHO

Guideline on Hand Hygiene in Health Care," was produced by the World Health Organization (WHO) in May 2009 as a new worldwide standard for hand cleanliness in health care. The World Health Organization devised an implementation plan that includes different modalities of distribution in order to put scientific data contained in the recommendations into practice while also recommending viable strategies to promote

change (figure A). This technique will, in the long run, result in increased hand hygiene compliance as well as a decrease in morbidity and death associated with healthcare-associated infections. An review of existing hand hygiene practices, HCW knowledge and attitudes, and infrastructure availability must be done prior to implementing the recommended implementation plan in order to ensure that

improvement activities are accomplished on time and with little disruption.

Hand hygiene has been demonstrated to be the most effective technique for reducing the spread of diseases associated with health-care delivery in studies that have been undertaken so far. At the National Hospital for Women and Children's maternity and newborn units, no study has been done on the hand hygiene practices of health-care staff, as well as their knowledge and attitudes about hand hygiene Muli (2018). Providing this baseline information will be critical in the development of effective and targeted medicines aimed at improving hand hygiene habits in order to lower the high incidence of infant sepsis in neonatal intensive care units, which is the primary purpose of this research. In order to determine if hand washing is appropriate or inadequate based on microbiological data, only a few studies have been conducted to far in order to determine whether hand washing is adequate or inadequate. Researchers Larson and colleagues discovered that using just 1 ml of liquid soap or alcohol-based handrub resulted in smaller log reductions, indicating that there were more germs persisting on the hands, as compared to using 3 ml of either of these products to clean hands. The results are clinically noteworthy since some health-care providers use as little as 0.4 mL of soap to wipe their hands after each shift, making the findings even more meaningful. Based on their findings, Kac et al. (2019) concluded that hand rubbing with an alcoholbased solution and handwashing with an unmedicated soap were both equally effective in terms of microbiological effectiveness on the hands.

Among the findings of the research were the following: Hand rubbing did not reveal any transitory pathogens, however hand washing did reveal two incidences of transient infections in the hands of health care workers before hand hygiene was performed. Even though hand hygiene is a simple and highly effective technique for reducing the prevalence of healthcare-associated illness as well as the emergence of antimicrobial resistance, the lack of compliance with hand hygiene practices remains a source of concern in the majority of health care settings WHO, (2019) .

According to the results of many research studies, the average level of compliance with hand hygiene regulations varies greatly across hospital wards, occupational categories of health-care employees, working circumstances, and the criteria utilized in the studies. The vast majority of research undertaken in the newborn environment have shown that compliance with hand washing is less than 50% in this demographic group, according to the findings. It is estimated that compliance rates at the Kenya National

Hospital's newborn unit are as low as 15 percent, according to a research conducted by Sera Ngugi at the hospital's newborn unit Muli (2018) .

Hand hygiene Australian audit data (2017) indicated higher compliance among nurses and doctors at 83% and 66% respectively. Effective hand washing is technique easier to learn and has significant reduction in spread of infectious diseases in adult and children. To promote hand hygiene practice, hand hygiene is celebrated globally every 5th day of May annually by WHO and other partners (CDC, 2020) According to Global hand washing partnership (2017) when the environment is enabling, hand washing practice is easier. Successful hand washing behavior change requires both availability of soap and water and a good hand washing habit adoption.

A study by Isanda (2017) in Naivasha level 4 hospital showed that there was proper knowledge and good compliance on hand hygiene above 75 %. Among health service

providers while the overall compliance was at 32.5% slightly lower than the global compliance rate of 39%. However the institutional management emphasized training to improve hand hygiene. The health care workers cited lack of supply of alcohol based hand rub and forgetfulness while other health care providers used gloves as an alternative to hand wash. A study one in Embu level 5 Hospital Muli (2018) revealed a moderate rate of compliance to hand hygiene at 46.6% by health care providers. However there was a statistical significant correlation professional category (cadre), level of education level of knowledge and compliance to hand hygiene among health care providers.

The figure below shows the hand washing practice.

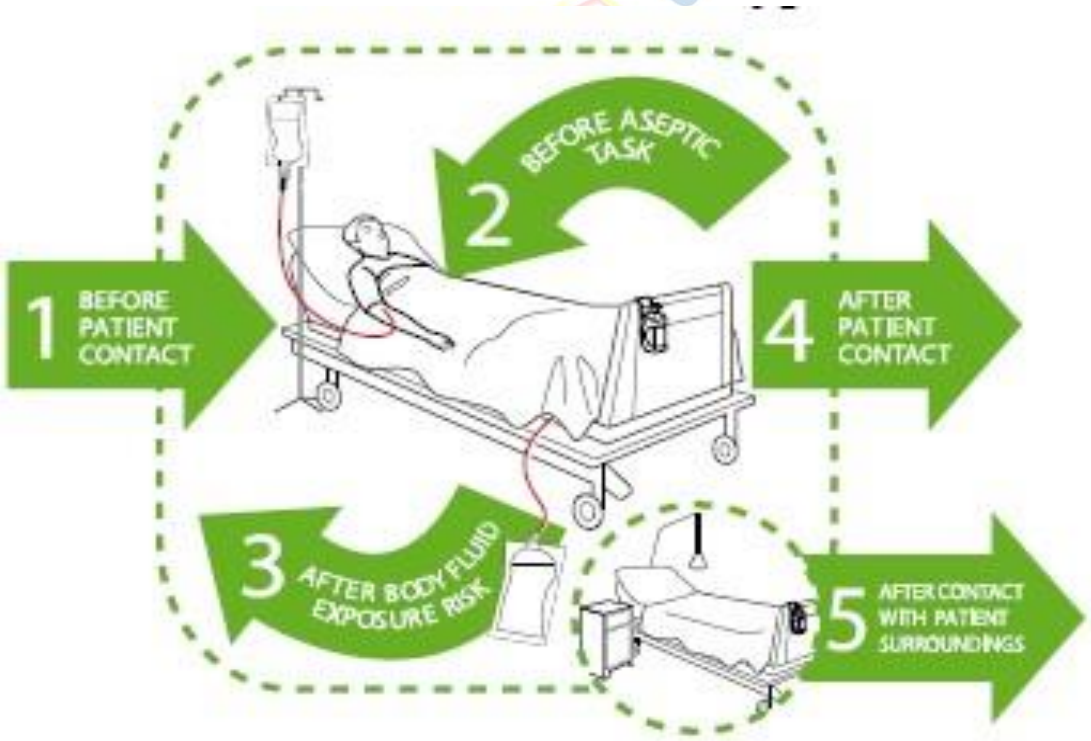

Figure 1: Hand Washing Practice

2.4 Theoretical Framework

The Health Belief Model is the subject of this investigation (HBM). Social scientists from the Department of Public Health took the initiative in putting this document together. It is extensively used, and it plays a significant role in the prevention of illness and the development of healthy living conditions. It focuses on the attitudes and actions that people may develop in similar circumstances in response to the instructions supplied by the organization.

In 1950, Hochbaum and colleagues (Hochbaum and colleagues, 1950) developed the health belief model, which is used to measure compliance with programs that may be used to diagnose or prevent diseases from occurring. The instrument has been used in a variety of different health-care delivery studies to assess participants' knowledge, attitudes, and behaviors about disease prevention policies, as well as to assess compliance with prescribed standards of infection prevention and control, among other things.

The model is based on the notion of application that is found in psychology and behavioral theory. In this way, it is possible to get a greater understanding of the many forms of behavior and attitudes that people may adopt in response to a specific disease prevention and control guideline, regardless of whether they follow it or not (Glauzeet al., 2002).

In addition to sexual behavior and vaccine behavior, this model has been used to explore a broad variety of other health-care behaviors and attitudes, including attitudes toward smoking and alcohol use.

The two components of health related behaviour include; efforts to prevent illness or attempt to conversely get well from an existing infection (illness). A specific health intervention will prevent / eradicate existing illness

Constructs Of Health Believe Model;

Susceptibility may be described as a person's attitude toward an exposure that has the potential to cause the development of a disease or sickness in that person.

Barriers are defined as any hurdles that impede a person from adhering to established standards.

Cues to action are the variables that cause people to behave in a certain way.

A high level of self-efficacy is shown by those who believe in their own ability to change their behavior.

Benefits are defined as positive outcomes that occur as a result of a new habit being established or maintained.

The seriousness of a sickness or illness is defined as the degree to which the disease or condition is life-threatening or fatal.

2.5 Conceptual Framework

Independent variables **Dependent variable**

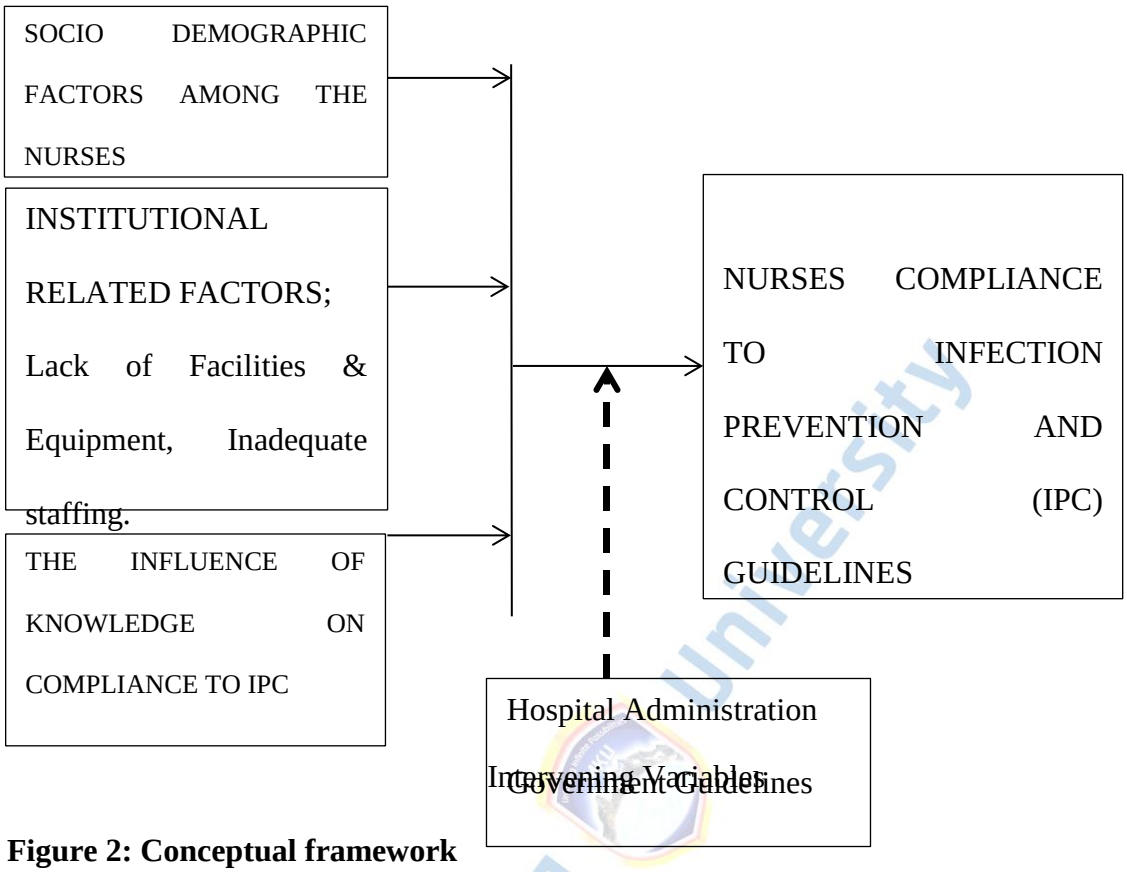

Figure 2: Conceptual framework

CHAPTER THREE

THE RESEARCH METHODOLOGY

3.0 Research design

The researcher employed cross-sectional analytical design collecting quantitative data. Self- administered questionnaires were embraced by the investigator for data collection among nurses working at Thika level 5 Hospital.

3.1 The Area of Study

The area of study was Thika level 5 hospital, regional referral Hospital for Kiambu County. The facility is located along General Kago road next St Patricks Catholic parish

church Hospital ward Thika Sub-County, Kiambu County. Thika Level 5 Hospital provides health services to an average of 20,000 inpatients and 350,000 outpatients annually. The hospital's provision of quality health services has blurred intercounty boundaries which has seen patients trickle in from More counties including Nairobi, Murang'a, Kirinyaga and Machakos, translating to a catchment population of 3-5 Million people on average.

3.2 Study Population

This will consist of all the nurses working at Thika level 5 Hospital during the study period.

3.3 The Size of the Sample

The formular below was used to determine the size of the sample

n=$^{z2}d^{pq}{}_{2}$ developed by Cochran in 1963 as cited by Israel (1992).
n= $z2dpq2$

where n= The desired sample size (When the target population is greater than 10,000)

Z= The standard normal deviate at the required confidence level.

p= The proportion the target population estimated to have characteristics being measured

q= (1-P) d= The level of statistical significance set

The proportion of the target population has no estimate and is therefore is assumed to have the characteristics of interest available. 50 % will be used as recommended by Fishers *et al.*,

Using 95% level of confidence (Giving a critical value of 1.96) and a 0.05 degree of precision.

Substitution of the figures in the above formula;

$N= (1.96)^2 (0.50) (0.500/ (0.05) (0.05)$

= 335.

Since the sample size is less than 10,000 the size of the sample was adjusted according to;

(Mugenda & Mugenda, 2003). Nf = n /(1+(n/N)

Where nf= the desired sample size (When population is less than 10,000) n=

The size of the required sample (When the population is more than 10,000) n=

The size of the population by estimation.

Therefore nf = 335/ (1+ (384/187)

335 / (1+ (2.05347594)

= 335/3.05347594
= 110

The size of the sample was 125 Nurses + 10% of non-participants.

The sample size was one hundred and twenty five nurses (125)+ Non- respondence.

(125 + 13)

138 nurses

3.4 Sampling Technique

Stratified sampling was employed by the researcher for selection of units and departments within the facility. Sampling was employed to select the eligible participants.

3.5 Inclusion Criteria;

- The study comprised of nurses in clinical practice who were working in maternity, medical, surgical, pediatric departments and newborn unit at time of the study.
- Nurses who had worked in the facility for a minimum of 6 months by the time of the study. Qualified nurses practitioners willing and who consented for the study.

3.6 Exclusion Criteria

- Student nurses, nurse interns since they take less than six months in the various departments.
- Nurses with experience less than six months.
- Nurses working in maternal and child welfare clinic, comprehensive care center and outpatient departments.

3.8 Data Management

3.8.1 Cleaning of Data

The data collection process was done prior to checking for completeness cleaning and coding data. The data collection tools were numbered (serialized) before issuing for security purpose.

3.8.2 Data Analysis

The statistical software for data Science (STATA) was used for data analysis after data collection. The analysis entails data cleaning; comparison of different variables and demographic characteristics analyzed.

3.8.3 Data Presentation

This will be done using percentages of quantitative data, Frequency distribution tables and histograms. The significance statistical association between independent and dependent variables were determined by use of Chi –Square statistics. The relationship between the dependent and independent variables to control confounding bias was determined by multivariate regression analysis. Multivariate regression analysis was used to control confounding bias and establish the relationship between dependent and independent variables.

3.8.4 Logistical and Ethical Consideration

The study was carried out after clearance from ethics and research committee of Mt. Kenya University. The National Council of Science technology and innovation (NACOSTI) also granted permission for data collection in writing. Prior to the study, the principal investigator acquired authority from the training ethics and research regulatory body of the institution.

The principal investigator and research assistants ensured confidentiality and anonymity, during the study period. Respect for the individual was expressed through right to self-determination while an informed consent was sought from the nurses' participants by signing the form provided.

The participants' confidentiality was maintained by not indicating their names in the questionnaire. Those willing to withdraw from the study could do so without any victimization since there is anonymity.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The chapter contains analysis and presentation of the research findings, based on the specific objectives. It is organized into five sections starting with questionnaire response rate (4.2), socio-demographic characteristics of the participants (4.3), factors influencing compliance to IPC guidelines that is, institutional related factors (4.4), and nurses' knowledge of IPC guidelines (4.5). The other sections focus on the level of compliance to infection prevention and control guidelines (4.6), and regression analysis (4.7). Results are presented starting with descriptive statistics, such as percentages and frequencies, followed by inferential statistics. Inferential statistics used include Chi squared test, to determine statistical significance at p=<5% , and binary logistic regression analysis to control for confounding effects of other variables, in order to identify the main determinants of compliance to IPC guidelines.

4.2 Questionnaire response rate

A total of 110 questionnaires were distributed to the participants according to the calculated sample size. Out of these, 64 questionnaires were duly filled and completed, which represented a 60% response rate. As Mugenda & Mugenda (2003) argues, a response rate of at least 50% would be adequate for data analysis, in a descriptive cross-sectional kind of study.

4.3 Socio-demographic and background characteristics of the participants The socio-demographic and background characteristics of interest included gender, age, marital status, professional qualification, durations of service, category of training institution and department of work.

Table 3: Socio-demographic and background characteristics of the participants

Characteristic	Frequency (n)	Percentage (%)
Gender		
• Male	8	12.5
• Female	56	87.5
Total	64	100

Marital status		
• Married	44	68.8
• Single	16	25
• Divorced	1	1.6
• Widowed	3	4.7
Total	64	100
Professional qualification		
• Certificate	6	9.4
• Diploma	50 8	78.1
• Degree	64	12.5
Total		100
Duration of service		
• 1-5years	14	21.9
• 6-10years	12 7	18.8
• 11-15years	11	10.9
• 16-20years	20	17.2
• 21years and	64	31.3
above Total		100
Training institution		
• Government	50 2	78.1 3.1
• Private	11 1	17.2
• Mission	64	1.6
• Government private		100
Total &		
Department		
• Maternity	12	18.8
• Surgical	16 6	25
• New born unit	15	9.4
• Medical	6	23.4
• Pediatric	5	9.4
• Critical care	2	7.8
• Renal	1	3.1
• Theatre	1	1.6
• Gynaecology Total	64	1.6
		100

Source: Field Data (2021)

Table 3 shows that, majority of the participants were female, representing 87.5% (n=56), while males were 12.5% (n=8). As for marital statuses, majority were married i.e. 68.8% (n=44), 25% (n=16) were single, 1.6% (n=1) were divorced and 4.7% (n=3) were widowed. Concerning the professional qualifications of the participants, majority were

diploma holders, which represented 78.1% (n=50), certificate holders were 9.4% (n=6), and degree holders accounted for 12.5% (n=8). With regard to duration of service, most participants (31.3%, n=20), had served for at least 21 years, 17.2% (n=11) had served for 16-20 years, 10.9% (n=7) had served for 11-15 years, 18.8% (n=12) had served for 6-10 years, and 21.9% (n=14) had served for 1-5 years.

Table 3 further shows that, majority of the participants (78.1%, n=50), had trained in government institutions, 17.2% (n=11) trained in mission institutions, 3.1% (n=2) trained in private institutions, while 1.6% (n=1) had trained in both government and private institutions. The participants were working in different departments at the time of data collection whereby, 18.8% (n=12) were in maternity department, 25% (n=16) were in surgical department, 9.4% (n=6) were in new born unit, 23.4% (n=15) were in medical department, 9.4% (n=6) were in pediatric department, 7.8% (n=5) were in critical care department, 3.1% (2) were in renal department, 1.6% (n=1) were in theatre department, and 1.6% (n=1) were in gynecology department.

4.3.1 Influence of socio-demographic and background characteristics on compliance to IPC guidelines

Chi squared tests were performed, after cross-tabulation of socio-demographic and background characteristics, with compliance to IPC guidelines. Cramer's V and Phi were used to assess the strengths of associations, while Pearson R and Spearman's correlation tested the nature of associations. Odds ratios and confidence intervals were also used, to show the likelihoods of different groups, to demonstrate specific compliance statuses.

4.3.2 Influence of gender on compliance to IPC guidelines

The results revealed that, out of 8 male participants, 5 had good compliance while 3 had poor compliance. On the other hand, out of 56 female participants, 37 had good compliance, while 19 had poor compliance. There was a weak association between gender of the participants, and compliance to IPC guidelines at Cramers V of 0.025, and a negative Pearson's correlation, *r* (62) =-.09, *p*=.481. The male participants were 0.946 times more likely to have good compliance compared to their female counterparts (OR=0.946, CI [0.536-1.670]). However, these results were not statistically significant at χ^2 (1, N=64) =0.040, p=0.842. **Table 4: Influence of gender on compliance to IPC guidelines**

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
Gender of the participant	Male	5	3	8
	Female	37	19	56
Total		42	22	64

χ^2 (1, N=64) =0.040, p=0.842

Source: Field Data (2021)

4.3.3 Influence of age on compliance to IPC guidelines

Data on ages of the participants showed that, out of 17 participants who were aged between 21-30 years, 12 had good compliance while 5 had poor compliance. Out of 13 participants who were aged 31-40 years, 12 had good compliance while 1 had poor compliance. Out of 18 participants who were aged 41-50 years, 9 had good compliance while 9 had poor compliance. Lastly, out of 16 participants aged 51 and above, 9 had good compliance while 16 had poor compliance. Results of the Spearman correlation indicated that, there was a positive association between ages of the participants and

compliance to IPC guidelines, *r* (62) = 0.19, *p*=0.126. Nonetheless, chi squared tests found no statistically significant association between ages of participants and compliance to IPC guidelines at χ^2 (3, N=64) =7.836, p=0.076. **Table 5 : Influence of age on compliance to IPC guidelines**

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
Age of the participant	21-30years	12	5	17
	31-40years	12	1	13
	41-50years	9	9	18
	51 & above	9	7	16
Total		42	22	64

χ^2 (3, N=64) =7.836, p=0.076.

Source: Field Data (2021)

4.3.4 Influence of marital status on compliance to IPC guidelines

The results revealed that, out of 44 participants who were married, 26 had good compliance while 18 had poor compliance. Out of 16 participants who were single, 15 had good compliance while 1 participant had poor compliance. The divorced participants had poor compliance and out of the 3 widowed participants, 1 had good compliance while 2 had poor compliance. There was a statistically significant association between marital statuses and compliance to IPC guidelines at χ^2 (3, N=64) =9.739, P=0.021.

Table 6: Influence of marital statuses on compliance to IPC guidelines

Variable	Category	Compliance to II guidelines Good co	Poor compliance	Total

Marital status of the participant	Married	26	18	44
	Single	15	1	16
	Divorced	0	1	1
	Widowed	1	2	3
Total		42	22	64

χ^2 (3, N=64) =9.739, P=0.021

Source: Field Data (2021)

The odds of good compliance to IPC guidelines among the single participants, compared to the other categories revealed that, single participants were 1.67 times more likely to have good compliance compared to their counterparts (OR=1.667, CI [1.2602.205])

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Table 7 Odds of good compliance among the various marital statuses

Risk Estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for What is your marital status? (Single / Others)	11.667	1.424	95.562
For cohort Good versus poor practice = Good practice	1.667	1.260	2.205
For cohort Good versus poor practice = Poor practice	.143	.021	.979
N of Valid Cases	64		

Source: Field Data (2021)

4.3.5 Influence of professional qualification on compliance to IPC guidelines

Results showed that, out of 6 participants who were certificate holders, 4 had good compliance while 2 had poor compliance. Moreover, out of 50 diploma holders, 33 had good compliance while 17 had poor compliance. Finally, out of 8 degree holders, 5 had good compliance while 3 had poor compliance. There was a negative correlation between professional qualification and compliance to IPC guidelines, r (62) =-.04, p=0.765. These results were not statistically significant at χ^2 (2, N=64) = 0.041, p=0.980.

Table 8 Influence of professional qualification on compliance to IPC guidelines

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Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
Professional qualification	Certificate	4	2	6
of the participant	Diploma	33	17	50
	Degree	5	3	8
Total		42	22	64

χ^2 (2, N=64) = 0.041, p=0.980

Source: Field Data (2021)

4.3.6 Influence of duration of service on compliance to IPC guidelines

The study revealed that, out of 14 participants with 1-5years of service, 10 had good compliance while 4 had poor compliance. Out of 12 participants with 6-10 years of experience, 8 had good compliance while 4 had poor compliance. Out of 7 participants with 11-15 years of service, 6 had good compliance while 1 had poor compliance. Out of 11 participants with 16-20 years of service, 6 had good compliance while 5 had poor compliance. Finally, out of 20 participants who had 21 years of service and above, 12 had good compliance while 8 had poor compliance. Results of Spearman correlation indicated a positive association between duration of service and compliance to IPC guidelines at, r (62) = 0.11, p=0.404. Chi squared tests on the other end, did not reveal any statistically significant association, between duration of service and compliance to IPC guidelines at χ^2 (4, N=64) = 2.346, p=0.672.

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Table 9 Influence of duration of service on compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines Good compliance	Poor compliance	Total
Duration of service of the participant	1-5years	10	4	14
	6-10years	8	4	12
	11-15years	6	1	7
	16-20years	6	5	11
	& 21years above	12	8	20
Total		42	22	64

χ^2 (4, N=64) = 2.346, p=0.672

Source: Field Data (2021)

4.3.7 Influence of training institution on compliance to IPC guidelines

The findings indicated that, out of 50 participants who had trained in government institutions, 34 showed good compliance while 16 had poor performance. All of the participants who trained in private institutions demonstrated good compliance. Out of 11 who trained in mission institutions, 6 had good compliance while 5 had poor compliance. Lastly, none of those with both government and private training backgrounds had good compliance. There was a negative association between training institution and compliance to IPC guidelines at, r (62) =-.15, p=.254. These findings were not statistically significant at χ^2 (3, N=64) =3.680, p=0.298

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Table 10: Influence of training institution on compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
Training institution of the participant	Government	34	16	50
	Private	2	0	2
	Mission	6	5	11
	Government & Private	0	1	1
Total		42	22	64

χ^2 (3, N=64) =3.680, p=0.298

Source: Field Data (2021)

4.3.8 Influence of department of work on compliance to IPC guidelines

Departments had different compliance statuses with lowest being maternity and pediatric and highest being renal, theatre and gynecology departments. Out of 12 participants working in maternity, 3 had good compliance compared to 9 who had poor compliance. In surgical department, out of 16 participants, 14 had good compliance while 2 had poor compliance. In the new born unit, 2 had good compliance while 4 had poor compliance. In medical department, 13 had good compliance while 2 had poor compliance. In pediatric department, 2 had good compliance while 4 had poor compliance. In critical care department, 4 had good compliance while 1 had poor compliance. Lastly in renal, theatre and gynecology departments, all participants demonstrated good compliance to IPC guidelines.

There was a strong association between department of work and compliance to IPC guidelines at Phi of 0.602. Chi squared tests revealed that these results were statistically significant at χ^2 (8, N=64) =23.217, p=0.003

Table 11: Influence of department of work on compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
Department of work of the participant	Maternity	3	9	12
	Surgical	14	2	16
	New born unit	2	4	6
	Medical	13	2	15
	Paediatric	2	4	6
	Critical care	4	1	5
	Renal	2	0	2
	Theatre	1	0	1
	Gynaecology	1	0	1
Total		42	22	64

χ^2 (8, N=64) =23.217, p=0.003

Source: Field Data (2021)

4.4 Institutional related factors influencing compliance to IPC guidelines

The institutional factors of interest included hospital policy on IPC, orientation of newly employed staff on IPC policy, availability of IPC committee, frequency of IPC committee meetings, facilitation of continuous medical education on IPC guidelines,

staffing levels, relationship between various professionals and availability of infection prevention and control supplies.

4.4.1 Influence of hospital policy on compliance to IPC guidelines

Majority of the participants (93.8%, n=60) reported that the hospital had IPC policy, 1.6% (n=1) reported that the hospital did not have IPC policy, and 4.7% (n=3) were not sure about the existence of IPC policy.

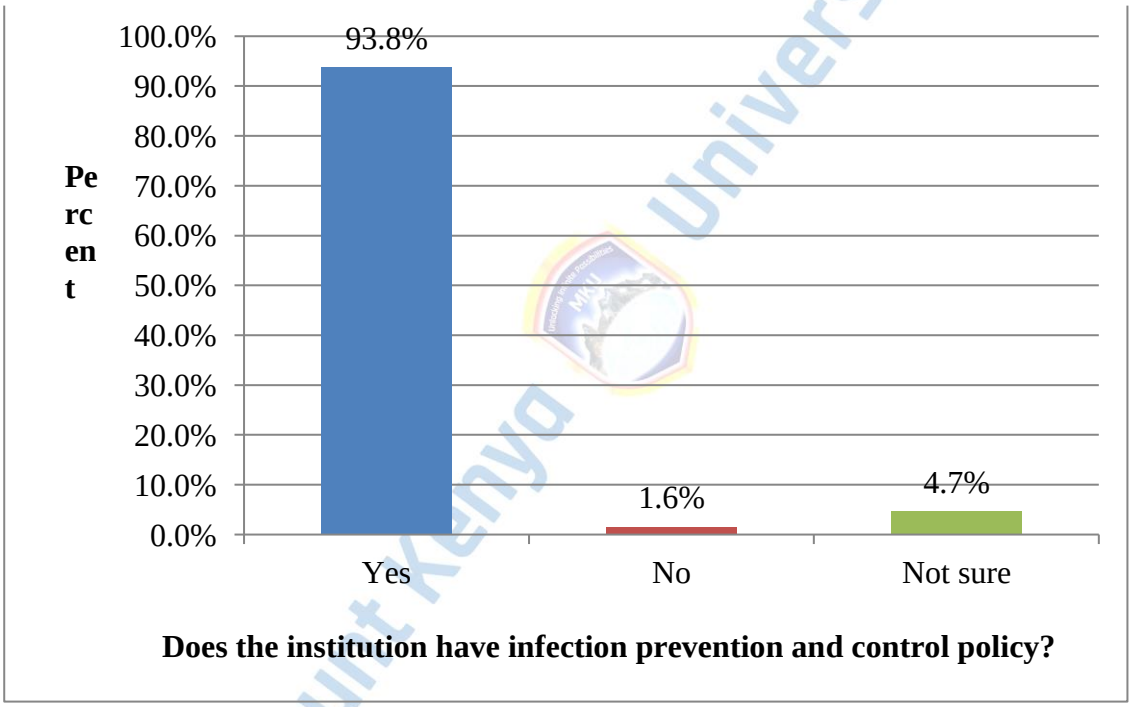


Figure 3: Availability of infection prevention and control policy

Out of the 60 participants who reported that IPC policy existed in the hospital, 40 had good compliance while 20 had poor compliance. All the participants who reported that the hospital did not have IPC policy had good compliance, and out of 3 participants who were not sure whether IPC policy existed or not, 1 had good compliance while 2 had poor compliance. There was a negative correlation between availability of IPC policy

and compliance to IPC guidelines at, *r* (62) =-.13, *p*=.292. These results were not statistically significant at χ^2 (2, N=64) =1.939, p=0.379

Table 12: Influence of institutional policy on compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
Does the institution have IPC policy?	Yes	40	20	60
	No	1	0	1
	Not sure	1	2	3
Total		42	22	64

χ^2 (2, N=64) =1.939, p=0.379

Source: Field Data (2021)

4.4.2 Influence of orientation to IPC policy on compliance to IPC guidelines

Majority of the participants (85.9%, n=55) reported that, IPC policy was part of orientation done to the newly employed members of staff, while 14.1% (n=9) reported that IPC policy was not part of the orientation.

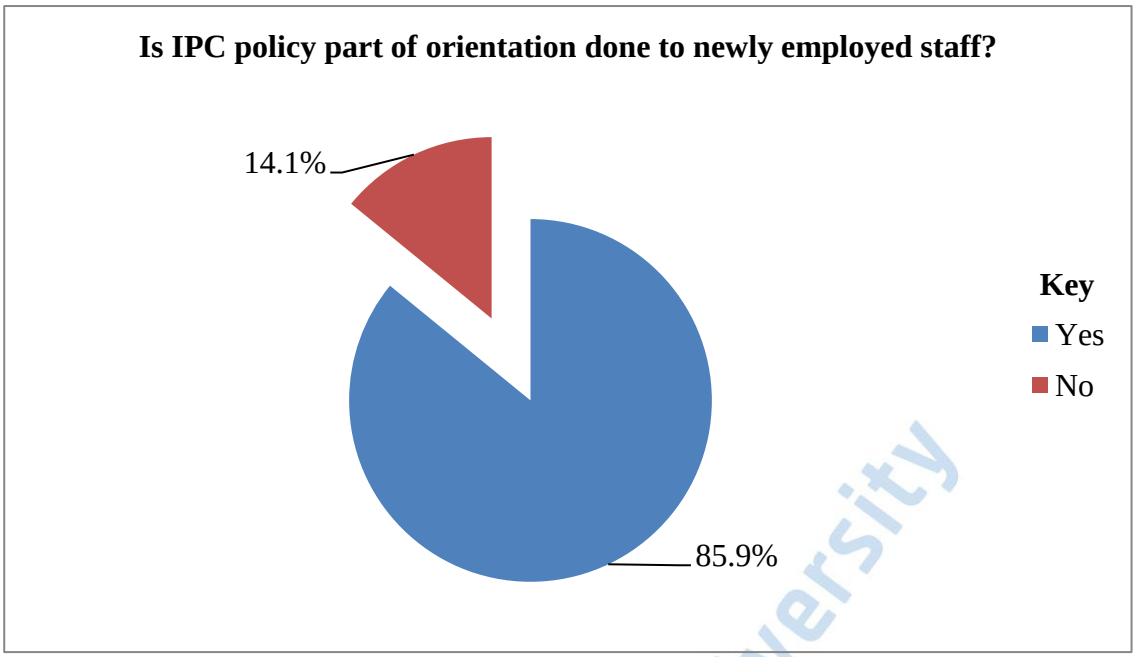


Figure 4: : Orientation of newly employed staff on IPC policy

Out of 55 participants who reported that orientation to IPC policy was done to newly employed staffs, 35 had good compliance while 20 had poor compliance. On the other hand, out of 9 participants who reported that IPC policy was not part of orientation for new staffs, 7 of them had good compliance while 2 had poor compliance. The results revealed a weak association between orientation to IPC policy for new staffs and compliance to IPC guidelines, at Cramer's V of 0.104. Results of Spearman's correlation indicated a positive correlation at, r (62) =.02, p=.905. Those who reported that orientation to IPC policy was done for the new staffs, were 0.82 times more likely to have good compliance (OR=0.82, CI[0.547-1.223). These results were not statistically significant at χ^2 (1, N=64) =0.686, p=0.408.

13: Influence of orientation to IPC policy on compliance to IPC guidelines

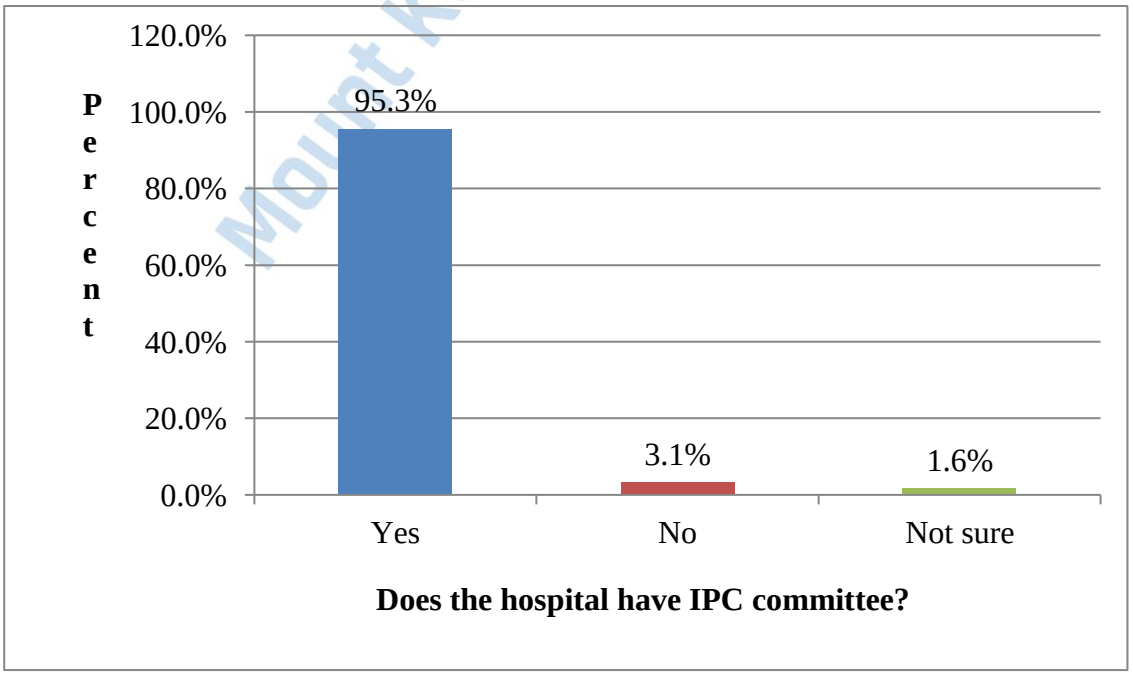
Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
Is IPC policy part of orientation done on newly employed staff?	Yes	35	20	55
	No	7	2	9
Total		42	22	64

χ^2 (1, N=64) =0.686, p=0.408

Source: Field Data (2021)

4.4.3 Influence of availability of IPC committee on compliance to IPC guidelines

Majority of the participants (95.3%, n=61) reported that the hospital had an IPC committee, 3.1% (n=2) reported that the hospital did not have IPC committee, while 1.6% (n=1) were not sure whether IPC committee was in place.



Table

Figure 5: Availability of hospital IPC committee

The study revealed that, out of 61 participants who reported that the hospital had IPC committee, 40 had good compliance and 21 had poor compliance. All the participants who reported that the hospital did not have IPC committee demonstrated good compliance, while those who were unsure of the existence of IPC committee had poor compliance. There was a weak association between reported availability of IPC committee, and compliance to IPC guidelines at Cramer's V of 0.215 and a positive correlation at, r (62) =.10, p=.45. These findings were not statistically significant at χ^2 (2, N=64) =2.957, p=0.228

14: Influence of availability of IPC committee on compliance to IPC guidelines

Variable	Category	Compliance to guidelines IPC		Total
		Good compliance	Poor compliance	
Does the hospital have IPC committee?	Yes	40	21	61
	No	2	0	2
	Not sure	0	1	1
Total		42	22	64

χ^2 (2, N=64) =2.957, p=0.228

Source: Field Data (2021)

4.4.4 Influence of IPC committee meetings on compliance to IPC guidelines

Majority of the participants (56.3%, n=36) reported that the IPC committee met on monthly basis, 9.4% (n=6) reported that they met every 6 months, 28.1% (n=18) were not sure about the frequency of IPC committee meetings, 4.7% (n=3) did not know and 1.6% (n=1) reported that the committee met when necessary.

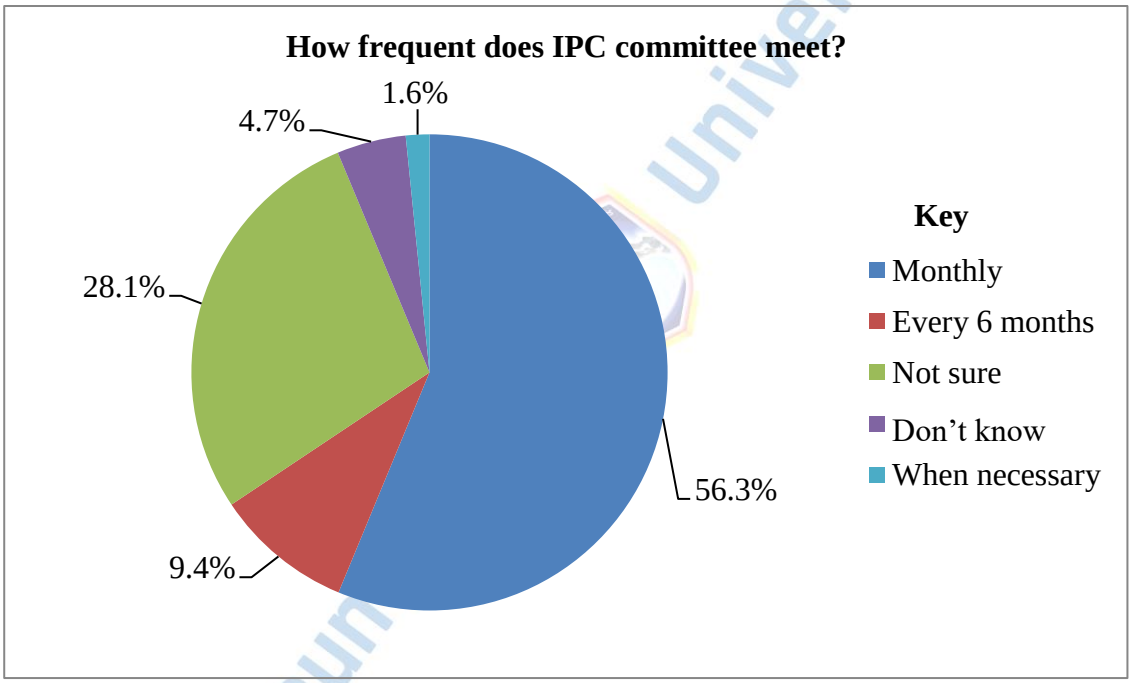


Figure 6: Reported frequency of IPC committee meetings

The results indicated that, out of 36 participants who reported that the IPC committee met monthly, 23 had good compliance while 13 had poor compliance. Out of 6 who reported that IPC committee met every 6 months, 4 had good compliance while 2 had poor compliance. Out of 18 participants who were not sure about the frequency of IPC committee meetings, 13 had good compliance while 5 had poor compliance. Out of 3

Table

participants who did not know the frequency of IPC committee meetings, 2 had good compliance while 1 had poor compliance. Lastly all the participants who reported that IPC committee met when necessary, had poor compliance. There was a positive correlation between reported frequency of IPC committee meetings, and compliance to IPC guidelines at, *r* (62) =.01, *p*=.928. These results were not statistically significant at χ^2 (4, N=64) =2.309, p=0.679

15: Influence of reported frequency of IPC committee meetings and compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
How frequent does the IPC committee meet?	Monthly	23	13	36
	Every 6 months	4	2	6
	Not sure	13	5	18
	Don't know	2	1	3
	When necessary	0	1	1
Total		42	22	64

χ^2 (4, N=64) =2.309, p=0.679

Source: Field Data (2021)

4.4.5 Influence of hospital facilitated CME on compliance to IPC guidelines

Majority of the participants (84.4%, n=54) reported that the hospital facilitated continuous medical education on IPC guidelines, while 15.6% (n=10) reported that CME on IPC guidelines was not facilitated.

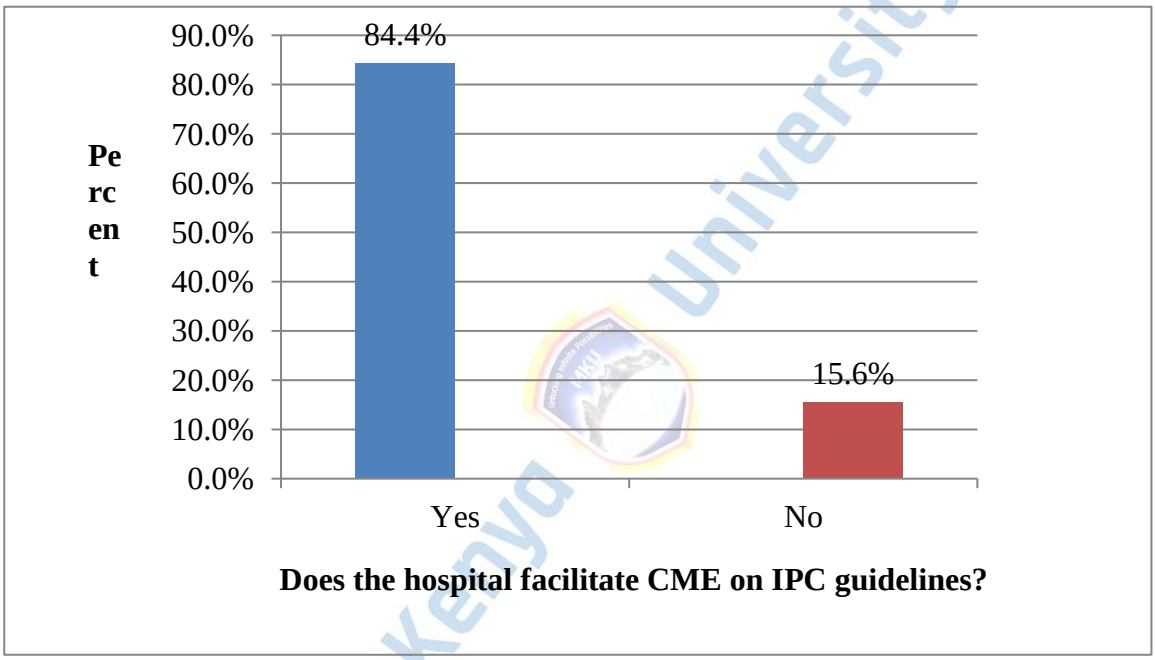


Figure 7: Hospital facilitated CME on IPC guidelines

The results further revealed that, out of 54 participants who reported that the hospital facilitated CME on IPC guidelines, 36 had good compliance while 18 had poor compliance. On the other hand, out the 10 participants who reported that the hospital did not facilitate CME on IPC guidelines, 6 had good compliance while 4 had poor compliance. There was a weak association between facilitation of CME and compliance to IPC guidelines at Cramer's V of 0.051 and a negative correlation at, r (62) =-.16,

Table

p=.218. Those who reported that CME on IPC guidelines was facilitated were found to be 1.11 times more likely to have good compliance (OR=1.11, C1 [0. 647-1.907]). These results were not statistically significant at χ^2 (1, N=64) =0.166, p=0.683

16: Influence of hospital facilitated CME on compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
Does the hospital facilitate CME on IPC guidelines?	Yes	36	18	54
	No	6	4	10
Total		42	22	64

χ^2 (1, N=64) =0.166, p=0.683

Source: Field Data (2021)

4.4.6 Influence of perceived staffing levels on compliance to IPC guidelines

Majority of the participants (93.8%, n=60) perceived staffing status as inadequate while 6.3% (n=4) perceived staffing status as adequate.

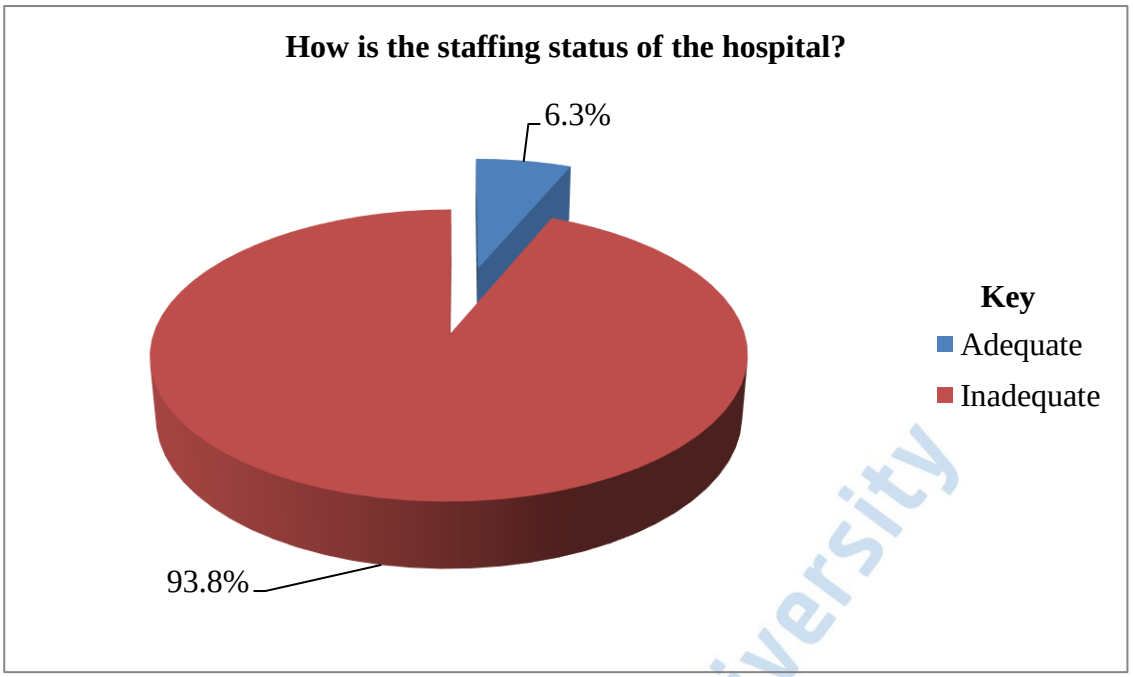


Figure 8: Perceived staffing status at the hospital

It was further revealed that, out of the 4 participants who perceived the staffing status as adequate, 3 had good compliance while 1 had poor compliance. On the other hand, out of 60 participants who perceived staffing status as inadequate, 39 had good compliance while 21 had poor compliance. There was a weak association between perceived staffing status and compliance to IPC guidelines at Cramer's V of 0.051.

Results of Spearman's correlation indicated a negative association at, r (62) =-.01, p=.931. The participants who perceived staffing status as adequate were 1.15 times more likely to have good compliance (OR=1.154, CI [0.636-2.093]). These results were not statistically significant at χ^2 (1, N=64) =0.166, p=0.683.

Table 17: Influence of perceived hospital staffing status on compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	

Table

How is the staffing status of the hospital?	Adequate	3	1	4
	Inadequate	39	21	60
Total		42	22	64

χ^2 (1, N=64) =0.166, p=0.683

Source: Field Data (2021)

4.4.7 Influence of professional relationships on compliance to IPC guidelines

Majority of the participants (81.3%, n=52) felt that the relationship between the various professionals was cooperative, 6.3% (n=4) felt it was very cooperative and 12.5% felt the relationship was uncooperative.

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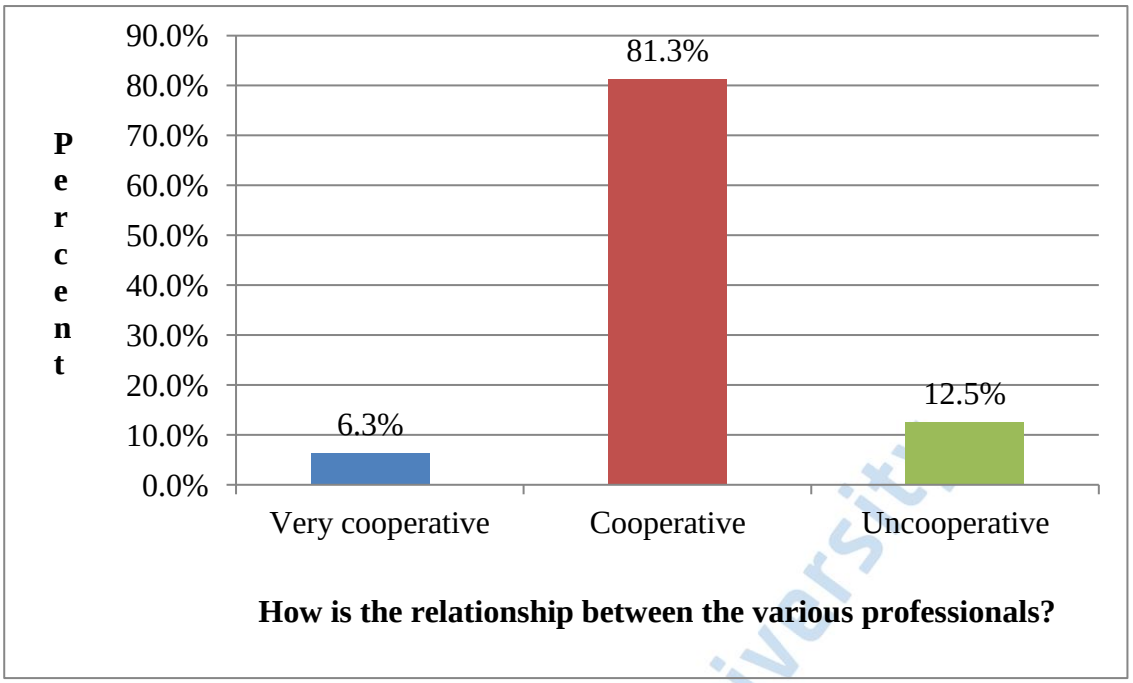

Figure 9: Perceived relationship between the various professionals

On further analysis, it was found that all the participants who perceived professional relationship as very cooperative had good compliance. Out of the 52 participants who perceived the relationship as cooperative, 34 had good compliance while 18 had poor compliance. Lastly, out of 8 participants who perceived the relationship as uncooperative, 4 had good compliance while 4 had poor compliance. There was a weak association between perceived professional relationship and compliance to IPC guidelines at Phi of 0.215 and a significant negative correlation at, r (62) =-.26, p=0.038. These results were not statistically significant at χ^2 (2, N=64) =2.963, p=0.227.

18 Influence of perceived professional relationship on compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
How is the relationship between the various professionals?	Very cooperative	4	0	4
	Cooperative	34	18	52
	Uncooperative	4	4	8
Total		42	22	64

χ^2 (2, N=64) =2.963, p=0.227

Source: Field Data (2021)

4.4.8 Influence of availability of supplies on compliance to IPC guidelines

Majority of the participants (57.8%, n=37) reported that IPC supplies were always available while 42.2% (n=27) reported that they were not always available.

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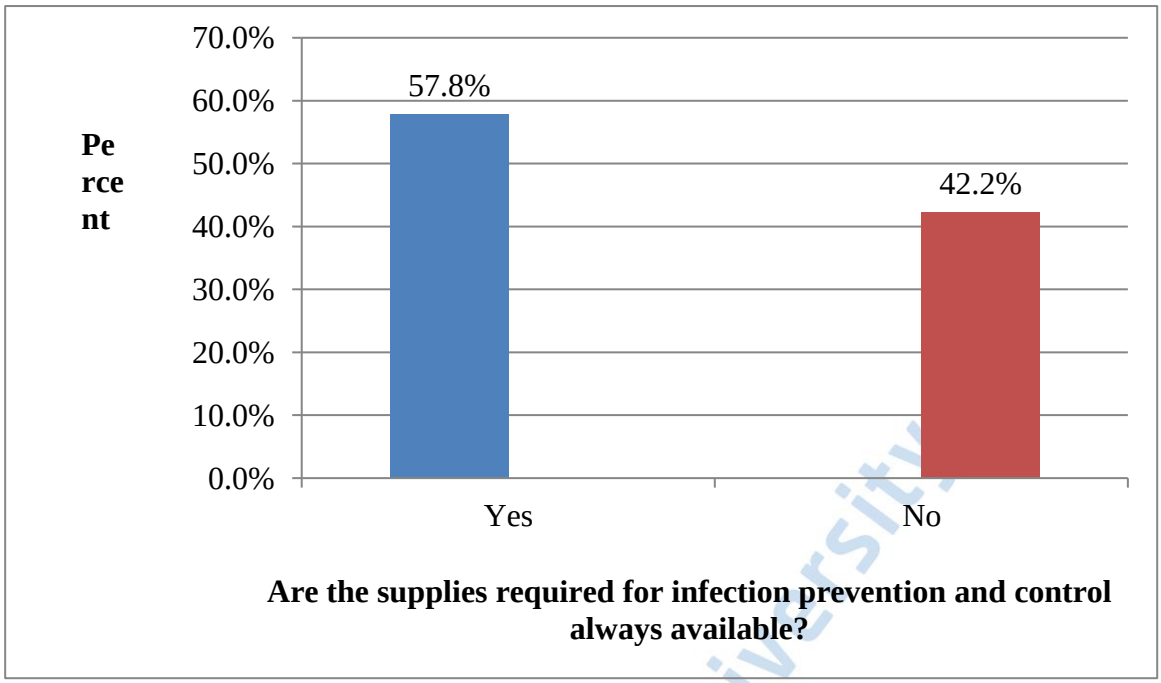

Figure 10: Availability of IPC supplies

Results revealed that, out of the 37 participants who reported that IPC supplies were always available, 28 had good compliance while 9 had poor compliance. On the other hand, out of 27 participants who reported that IPC supplies were not always available, 14 had good practice while 13 had poor practice. There was a weak association between reported availability of IPC supplies and compliance to IPC guidelines at Phi of 0.248 and a significant negative correlation at, r (62) =-.30, p=.018. Those who reported that IPC supplies were always available were 1.5 times more likely to have good compliance (OR=1.459, CI [0.972-2.192]). These results were found to be statistically significant at χ^2 (1, N=64) =3.927, p=0.048. These findings were consistent with those of Gichuhi *et al*., (2015), who found that lack of adequate IPC supplies, led to poor implementation of IPC guidelines.

19 Influence of availability of IPC supplies on compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines	Total

		Good compliance	Poor compliance	
Are the supplies required for IPC always available?	Yes	28	9	37
	No	14	13	27
Total		42	22	64

χ^2 (1, N=64) =3.927, p=0.048

Source: Field Data (2021)

4.5 Influence of knowledge on compliance to IPC guidelines

Participants' knowledge was tested on three items namely: whether they had heard of IPC guidelines, whether they had received any formal training on IPC in the last four years and knowledge on the main route of cross-transmission of infection between patients in a health facility. Majority of the participants (96.9%, n=62) had heard of IPC guidelines while 3.1% (n=2) had not. Majority of the participants (76.6%, n=49) had received formal training on IPC in the last four years while 23.4% (n=15) had not. Concerning knowledge of the main route of cross transmission of infection, majority (56.3%, n=36) gave the correct response, while 43.8% (n=28) gave the wrong response. A knowledge score was computed out of these three items, and converted into a percentage. Participants who scored 100% were considered as having good knowledge while those with below 100% were considered as having poor knowledge. The mean knowledge score was poor (M=77%, SD=24), and the range was 33-100%. Majority of the participants (54.7%, n=35) were found to have poor knowledge on IPC while 45.3% (n=29) had good knowledge.

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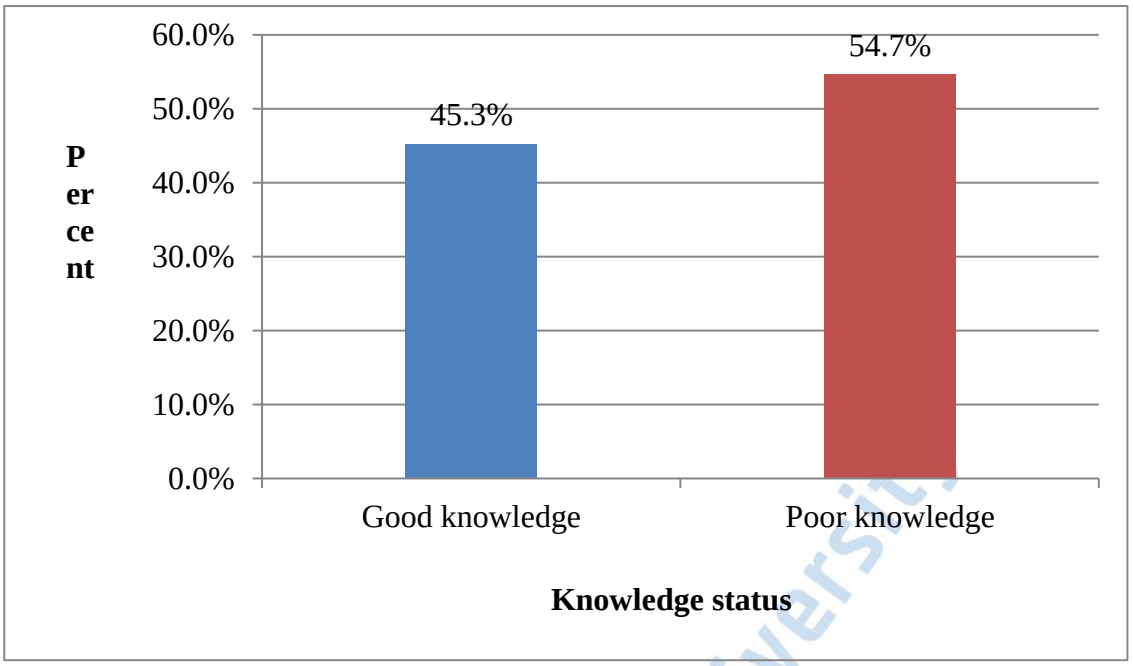

Figure 11: Knowledge on IPC

The findings further revealed that, out of the 29 participants who had good knowledge of IPC, 23 had good compliance while 6 had poor compliance. On the other hand, out of 35 participants who had poor knowledge, 19 had good compliance while 16 had poor compliance. Knowledge and compliance to IPC guidelines were found to be positively correlated, r (62) = .193, p=.127. There was a weak association between knowledge and compliance to IPC guidelines at Cramer's V of 0.262. Moreover, participants with good knowledge were found to be 1.46 times more likely to have good compliance compared to their counterparts (OR=1.461, CI [1.023-2.086]). These findings were statistically significant at χ^2 (1, N=64) = 4.403, p=0.036

20 Influence of knowledge level on compliance to IPC guidelines

Variable	Category	Compliance to IPC guidelines		Total
		Good compliance	Poor compliance	
Knowledge level	Good knowledge	23	6	29
	Poor knowledge	19	16	35
Total		42	22	64

χ^2 (1, N=64) = 4.403, p=0.036

Source: Field Data (2021)

4.6 Level of compliance to IPC guidelines

This study focused on six infection prevention and control guidelines namely, what participants used to decontaminate hands, change of gloves between patients, use of PPEs, covering cuts and abrasions with waterproof to avoid contamination, drying hands with disposable hand towel and segregating wastes according to color coded bins and containers.

On the first guideline, i.e. what participants used to decontaminate hands, the study revealed that, majority of the participants (76.6%, n=49) used alcohol based hand rub, 14.1% (n=9) used soap, 1.6% (n=1) used both soap and alcohol based hand rub and 1.6% (n=1) used alcohol based hand rub and methylated spirit.

Table 21: Hand decontaminants used by the participants

Decontaminant	**Frequency (n)**	**Percent (%)**

Table :

Soap		9	14.1
Alcohol based hand rub	**(correct**	49	76.6 **practice)**
Methylated spirit		1	1.6
Soap and hand gel		4	6.3
Hand gel and methylated spirit		1	1.6
Total		**64**	**100.0**

Source: Field Data (2021)

The performance in the other infection prevention and control guidelines were as follows: Majority of the participants (93.8%, n=60) changed gloves between the patients, while 6.3% (n=4) did not, 51.6% (n=33) always used PPE while 48.4% (31) did not, 84.4% (n=54) covered cuts and abrasions with a waterproof to avoid contamination while 15.6% (n=10) did not, 82.8% (n=53) always dried their hands with disposable hand paper while 17.2% (n=11) did not. Lastly, majority of the participants (98.4%, n=63) always segregated waste according to color coded paper bags and containers while 1.6% (n=1) did not.

A compliance score was computed out of these 6 guidelines and converted into a percentage. Those who demonstrated correct practice in at least 5 guidelines, i.e. those who scored at least 83%, were regarded as having good compliance, while those with correct practice in at least 4 guidelines, were considered as having poor compliance.

The mean compliance score was poor (M=81%, SD=18), and a range of 33-100%. Nevertheless, majority of the participants (65.3%, n=42) had good compliance to IPC guidelines while 34.4% (n=22) had poor compliance. Compliance status i.e. good versus poor, was used as the dependent variable in this study, and all other independent variables were cross-tabulated against it.

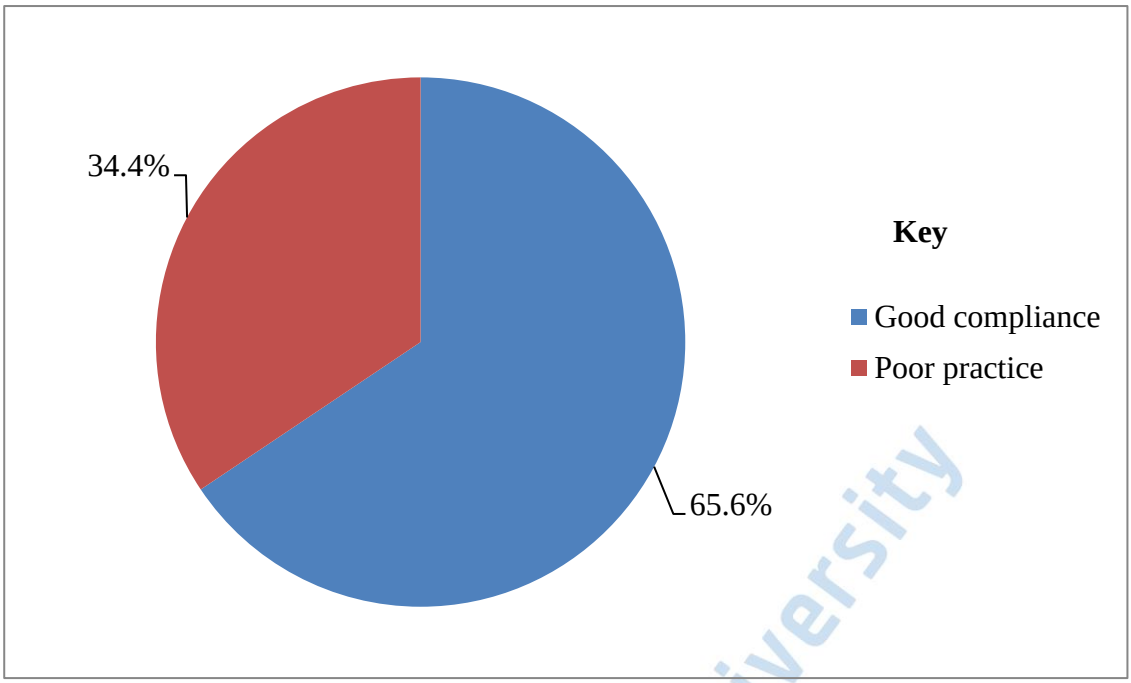

Figure 12: Participants' IPC guidelines compliance

4.7 Regression analysis

The study found four factors that significantly influenced compliance to IPC guidelines. These included marital status, department of work, availability of IPC supplies and knowledge on IPC guidelines. These four factors were used to develop a regression model. They were entered in the model stepwise, using an entry point of 0.05 and a removal point of 0.01. Stepwise forward regression was run and this produced a model that was fit for the variables under study.

Table 22: Variables in the equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.647	.263	6.037	1	.014	.524

Source: Field Data (2021)

Table 23: Omnibus tests for model coefficients

		Chi-square	df	Sig.
Step 1	Step	23.251	1	.000
	Block	23.251	1	.000
	Model	23.251	1	.000
Step 2	Step	7.959	1	.005
	Block	31.210	2	.000
	Model	31.210	2	.000

Source: Field Data (2021)

Table 24: Model summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	59.116[a]	.305	.421
2	51.157[b]	.386	.533

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

b. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Source: Field Data (2021)

Table 25: Variables in the equation

		B	S.E.	Wald	df	Sig.	Exp(B)
1[a]	Department	2.833	.656	18.657	1	.000	17.000
	Step 1 Constant	-4.779	1.056	20.467	1	.000	.008
2[b]	Marital status	2.757	1.198	5.299	1	.021	15.751
	Step 2 Department	3.001	.730	16.883	1	.000	20.106
	Constant	-10.080	2.750	13.433	1	.000	.000

a. Variable(s) entered on step 1: Department

b. Variable(s) entered on step 2: Marital status

Source: Field Data (2021)

The results, after adjusting for confounding factors indicated that the main determinants of compliance to IPC guidelines were the department of work (Wald =18.657, p=<0.001) and marital status (Wald =5.29, p=0.021).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter details the summary of the major findings, conclusions of the study and recommendations, to the various stakeholders. The study focused on the sociodemographic characteristics of the respondents, institutional factors influencing compliance, influence of participants' knowledge on compliance and the level of compliance to IPC guidelines.

5.2 Summary of major findings

5.2.1 Socio-demographic characteristics of the respondents

The male participants were 0.946 times more likely to have good compliance compared to their female counterparts (OR=0.946, CI [0.536-1.670]). However, these results were not statistically significant at $\chi 2$ (1, N=64) =0.040, p=0.842. Results of the Spearman correlation indicated that, there was a positive association between ages of the participants and compliance to IPC guidelines, r (62) = 0.19, p=0.126. Nonetheless, chi squared tests found no statistically significant association between ages of participants and compliance to IPC guidelines at $\chi 2$ (3, N=64) =7.836, p=0.076. There was a statistically significant association between marital statuses and compliance to IPC guidelines at $\chi 2$ (3, N=64) =9.739, P=0.021. Results of Spearman correlation indicated a positive association between duration of service and compliance to IPC guidelines at, r (62) = 0.11, p=0.404. Chi squared tests on the other end, did not reveal any statistically significant association, between duration of service and compliance to IPC guidelines at $\chi 2$ (4, N=64) = 2.346, p=0.672. There was a negative association between training institution and compliance to IPC guidelines at, r (62) =-.15, p=.254. These findings were not statistically significant

at $\chi 2$ (3, N=64) =3.680, p=0.298. Finally, there was a strong association between department of work and compliance to IPC guidelines at Phi of 0.602. Chi squared tests revealed that these results were statistically significant at $\chi 2$ (8, N=64) =23.217, p=0.003.

5.2.2 Institutional factors influencing compliance to IPC guidelines

There was a negative correlation between availability of IPC policy and compliance to IPC guidelines at, r (62) =-.13, p=.292. These results were not statistically significant at $\chi 2$ (2, N=64) =1.939, p=0.379.

5.2.3 Influence of participants' knowledge on compliance to IPC guidelines

The knowledge score was above average (M=2.30, SD=0.73). Nevertheless, majority (54.7%) were found to have poor knowledge of IPC guidelines. Knowledge status was found to significantly influence compliance to IPC guidelines at χ^2 (1, N=64) = 4.403, p=0.036. The results revealed a weak association between orientation to IPC policy for new staffs and compliance to IPC guidelines, at Cramer's V of 0.104. Results of Spearman's correlation indicated a positive correlation at, r (62) =.02, p=.905. There was a positive correlation between reported frequency of IPC committee meetings, and compliance to IPC guidelines at, r (62) =.01, p=.928. These results were not statistically significant at $\chi 2$ (4, N=64) =2.309, p=0.679. There was a weak association between perceived staffing status and compliance to IPC guidelines at Cramer's V of 0.051.

Results of Spearman's correlation indicated a negative association at, r (62) =-.01, p=.931. There was a weak association between perceived staffing status and compliance to IPC guidelines at Cramer's V of 0.051. Results of Spearman's

correlation indicated a negative association at, r (62) =-.01, p=.931.

5.2.4 Level of compliance to IPC guidelines

Knowledge and compliance to IPC guidelines were found to be positively correlated, r (62) = .193, p=.127. There was a weak association between knowledge and compliance to IPC guidelines at Cramer's V of 0.262.

5.3 Conclusions

The study concluded that:

1. Some socio-demographic factors that significantly affected compliance to IPC guidelines among nurses at Thika Level 5 Hospital
2. There were no health facility related factors that significantly influenced compliance to IPC guidelines among nurses at Thika Level 5 Hospital.
3. The null hypothesis, "No relevant statistical association in knowledge and compliance to IPC guidelines by Thika Level 5 Hospital nurses" Was rejected.

5.4 Recommendations

The study recommends that, the hospital should avail IPC supplies to all departments at all times, in order to boost the level of compliance to the IPC guidelines. Continuous medical education sessions should be organized on regular basis, to keep the staff up to date with any development, in the field of infection prevention.

The researcher suggests that further studies should be conducted in the area of infection prevention, to capture other variables such as attitudes of nurses, and the impact of infection prevention practices on prevalence of specific infectious diseases.

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APPENDICES

Appendix I: Explanation of the Consent

1. **Introduction**

   I am **AtanasioNyaga student at Mount Kenya University** pursuing a Master of Science in nursing carrying out a study among nurses at Thika level 5 Hospital.

2. **Purpose of the study**

   The aim of this study is to assess the compliance to infection prevention guidelines among nurses in Thika level 5 Hospital.

3. **Research approval**

This study has been reviewed and the relevant boards have approved it, which are Mount Kenya University, Thika level 5 hospital ethics and research committee and NACOSTI.

4. **Potential benefits**

   The information that you will provide will enable the researcher to identify gaps in infection prevention and control guidelines which will be useful in putting up measures to ensure compliance to infection prevention and control guidelines.

5. **Potential risks**

   The study does not harm you in any way.

6. **Anonymity and confidentiality**

   The information that you will provide will be treated with a lot of confidentiality and will not be shared without permission. No relationship between the information provided and the name.Dont indicate your name.

7. **Participation/withdrawal**

   Participation in the study is voluntary; withdrawal from the study will not lead to any victimization.

8. **Number of participants; The study targets ……..nurses working at the hospital.**

9. **Procedures**

   ……..

   Your participation shall be highly appreciated. Do not hesitate to ask any question.

Yours faithfully

AtanasioNyaga (principal researcher)

+254725-650-369 atanasionyaga@gmail.com

Appendix II: Consent

Currently, I am a student at Mount Kenya University in Thika, pursuing a Master of Science in Nursing (midwifery). Among women who frequent a mother-child clinic in Migori County, Kenya, the researchers want to find out what influences their decision to breastfeed their children.

Because of the findings of this research, health-care practitioners and policymakers will be better equipped to address concerns relating to newborn feeding in order to minimize child morbidity and death rates. It will also aid policymakers in formulating policies that are attentive to the socio-economic and cultural context of the local area in which they are implemented.

During the course of the research, you will get no advantages and will not be exposed to any hazards. All of the information you provide will be kept strictly secret, and your name will not be included in the questionnaire in order to safeguard your identity.

Your participation in this research is completely optional, and you will only be needed to complete a questionnaire based on a semi-structured interview that will take around 10 minutes of your time. You have the right to ask whatever questions you want, and you have the option of declining to answer any questions you don't feel comfortable answering.

I have clearly read the consent explanation and hereby agree to voluntarily take part in this study on "**COMPLIANCE TO INFECTION PREVENTION AND CONTROL GUIDELINES AMONG NURSES IN THIKALEVEL 5 HOSPITAL" on the ……day of…..2019.**

Sign……. Witness……

Date…….

Appendix III: Study Questionnaire

COMPLIANCE TO INFECTION PREVENTION AND CONTROL GUIDELINES AMONG NURSES IN THIKA LEVEL 5 HOSPITAL.

INSTRUCTIONS;

Do not indicate your name anywhere in this questionnaire.

Indicate your responses in the spaces provided.

Information obtained is for learning purpose and will be treated with utmost confidence.

Tick the correct response in the spaces provided where necessary.

SECTION 1; SOCIO - DEMOGRAPHIC AND BACKGROUND CHARACTERICS.

1. Gender

i) Male ii) female **2.**

Age in years

i) 21-30 Yrs.

ii) 31-40 Yrs.

iii) 41-50 Yrs.

iv) >51 Yrs.

4. **Professional qualification**

i) Certificate

ii) Diploma

ii) Degree

iv) Masters

5. **Duration of service in years.**

i) 1-5 yrs ii) 6-10 yrs

iii) 11-15 yrs

iv) 16 -20 yrs

iv) > 21 yrs

6. Category of training institution.

i) Governmen t ii) Private

iii) Mission

7. Department Of Work

i) Maternity

ii) Surgical

iii) Newborn unit iv) Medical v) Pediatric

vi) Critical care vii) Renal

SECTION 2; INSTITUTIONAL FACTORS

1. Does the hospital have infection prevention and control policy.

YES

NO ☐

2. Is the IPC policy a part of Orientation done to newly employed staff?
3. Does the hospital have infection prevention and control committee?

YES ☐

NO ☐

4. How frequent does the committee meets

Monthly ☐

Every six months ☐

Any other time, Explain……..

5. Does the hospital facilitate continuous medical education/ on IPC guidelines? Yes

No ☐☐

6. How is the status of staffing in this hospital?

Adequate ☐

Inadequate ☐

7. **How is the relationship between various professionals?**

Very cooperative ☐

Cooperative ☐

Uncooperative ☐

8. **Are the supplies required for infection prevention and control always available?**

Yes ☐

No ☐

SECTION 3: Knowledge on IPC guidelines

1. Have you heard of any Guidelines on infection prevention and control in Health

Care Services?

i) Yes
ii) No

2. Have you received any formal training on infection prevention and control in the last 4 years?

i) Yes ii) No

3. Which of the following is the main route of cross-transmission of potentially harmful germs between patients in a health care Facility?

i) Healthcare workers‟ hands when not clean ii) Air circulating within the hospital iii) Patient‟s exposure to colonized surfaces (i.e. beds, chairs, tables) iv) Sharing non-invasive objects between patients

SECTION 4: Compliance to IPC guidelines

4. What do use to decontaminate hands?

i) Soap ii) Alcohol based hand rub ii) Methylated spirit

5. Do you always cover cuts and abrasion with a water proof dressing to avoid contamination?

i) Yes

ii) No

6.Do you always use disposable hand towels to dry hands?

i) Yes ii)

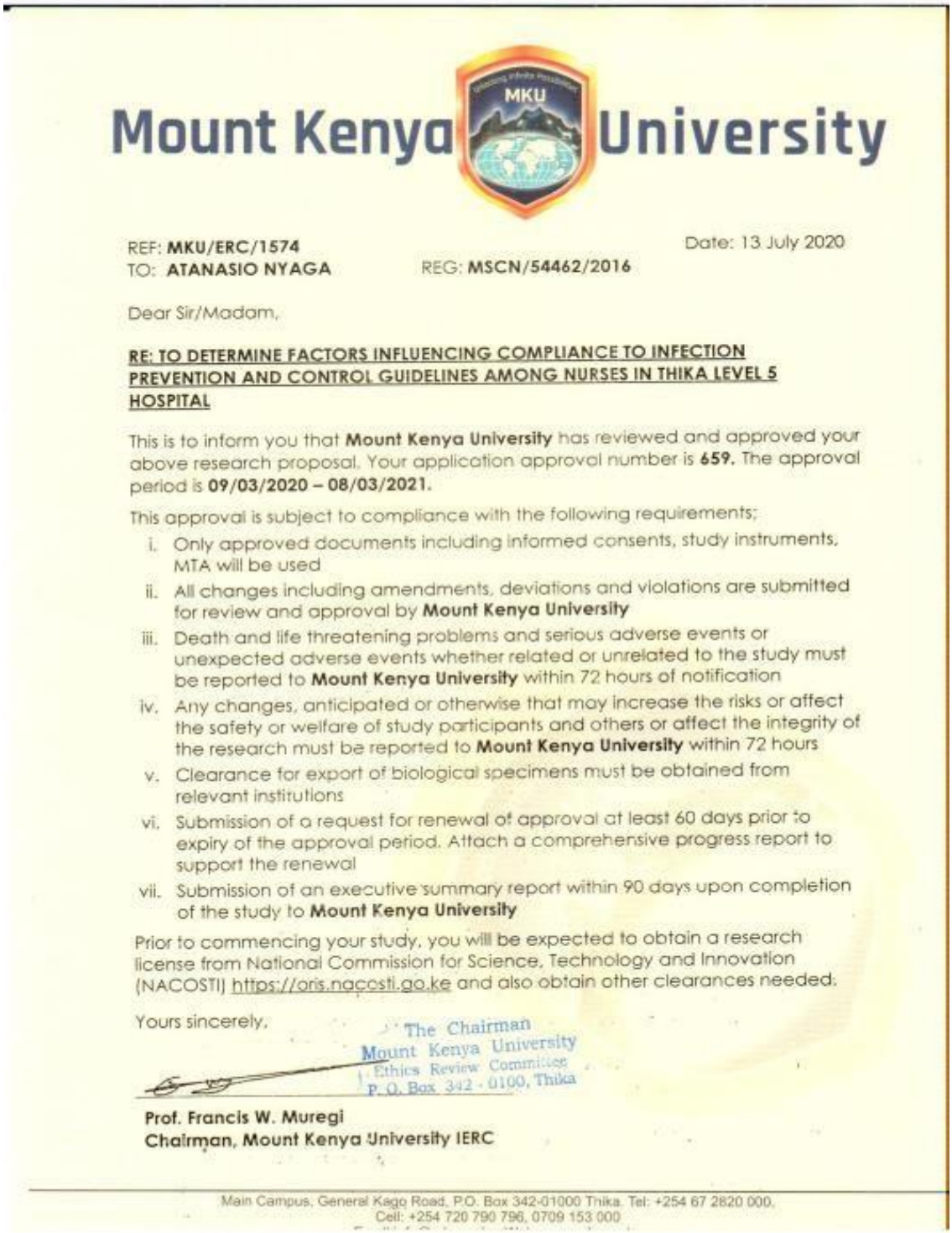
No

7. Do you always change gloves when moving from one patient to another?
    a. Yes
    b. No
8. Do you always use PPE in the ward?
    a. Yes
    b. No
9. Do you always segregate waste according to color coded papers and bins?
    a. Yes
    b. No

THE END

THANK YOU FOR YOUR TIME

Appendix VI: Ethical Clearance from MKU



Mount Kenya University

REF: **MKU/ERC/1574**
TO: **ATANASIO NYAGA**

REG: **MSCN/54462/2016**

Date: 13 July 2020

Dear Sir/Madam,

RE: TO DETERMINE FACTORS INFLUENCING COMPLIANCE TO INFECTION PREVENTION AND CONTROL GUIDELINES AMONG NURSES IN THIKA LEVEL 5 HOSPITAL

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **659.** The approval period is **09/03/2020 – 08/03/2021.**

This approval is subject to compliance with the following requirements;

i. Only approved documents including informed consents, study instruments, MTA will be used
ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

The Chairman
Mount Kenya University
Ethics Review Committee
P. O. Box 342 - 0100, Thika

Prof. Francis W. Muregi
Chairman, Mount Kenya University IERC

Main Campus, General Kago Road, P.O. Box 342-01000 Thika. Tel: +254 67 2820 000,
Cell: +254 720 790 796, 0709 153 000

Appendix VI: Research Permit From NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 741648

Date of Issue: 15/September/2020

RESEARCH LICENSE

This is to Certify that Mr.. atanasio mbogo nyaga of Mount Kenya University, has been licensed to conduct research in Kiambu on the topic: Factors influencing adherence to infection prevention guidelines among nurses in Thika level 5 Hospital for the period ending : 15/September/2021.

License No: NACOSTI/P/20/6666

741648

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

Appendix VII: Research Permit from County Government of Kiambu

COUNTY GOVERNMENT OF KIAMBU
DEPARTMENT OF HEALTH SERVICES

All correspondence should be addressed to HEAD
HRDU – HEALTH DEPARTMENT
Email address: mndirita@gmail.com
mkwasa@live.com
Tel. Nos: 0721641516
0721974655

HEALTH RESEARCH AND DEVELOPMENT
UNIT
P. O. BOX 2344 – 00900
KIAMBU

Ref. No.: KIAMBU/HRDU/20/09/24/RA_NYAGA Date: 24th SEPT 2020

TO WHOM IT MAY CONCERN

RE: CLEARANCE TO CONDUCT RESEARCH IN KIAMBU COUNTY

Kindly note that we have received a request by Mr. Atanasio Mbogo Nyaga of Mount Kenya University to carry out research in Kiambu County, the research topic being on "**Factors Influencing Adherence to Infection Prevention Guidelines among Nurses in Thika Level 5 Hospital**"

We have duly inspected his documents and found that he has been cleared by the NACOSTI to carry out the research for a period ending **15th September 2021**. He thus does not need any further clearance with another regulatory body in order to conduct research within the county of Kiambu.

However, it is incumbent upon the institution where he is carrying out research to ensure that he receives adequate supervision during the process of conducting the research. This note also accords him the duty to provide a feedback on his research to the county at the conclusion of his research.

DR. MWANCHA KWASA
COUNTY CLINICAL RESEARCH OFFICER
KIAMBU COUNTY

Appendix VIII: Map of Kiambu County In Kenya

https://www.google.co.ke/maps/place/

Appendix IX: Similarity Index

FACTORS INFLUENCING COMPLIANCE TO INFECTION PREVENTION AND CONTROL GUIDELINES AMONG NURSES IN THIKA LEVEL 5 HOSPITAL

by Atanasio Nyaga

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