

KIBOGORA POLYTECHNIC

FACULTY OF HEALTH SCIENCE

DEPARTMENT OF GENERAL NURSING

**ASSESMENT OF NURSE'S KNOWLEDGE, ATTITUDES AND
PRACTICES TOWARDS THE USE OF ANTIBIOTICS IN PEDIATRIC
DEPARTMENT.**

CASE STUDY: Kibuye Referral hospital.

Undergraduate thesis presented in partial fulfillment of the requirements for the bachelor's degree
with honor in Science of Nursing

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DECLARATION

Declaration by the candidate

I, **NAHIMANA Innocente** and **UWASE Micheline**, hereby declare that this is my own original work and not a duplication of any similar academic work. It has therefore not been previously or concurrently submitted to any other degree, diploma or other qualification to Kibogora polytechnic or any other institution. All materials cited in this paper which are not my own have been duly acknowledged.

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Declaration by the supervisor

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ABSTRACT

Introduction: The social elements of antibiotic management, particularly the knowledge, attitude, and practice (KAP) of the general public on antibiotic use, have drawn the attention of numerous experts, including bacteriologists. Nonetheless, the literature on the connection between KAP and medical education is still somewhat thin. In this study, we assess the current state of nurse's knowledge of antibiotic use(KAP) (Hammour, 2018).

Purpose and scope: to assess knowledge, practice and attitude of nurses toward antibiotics use in the pediatric department at Kibuye referral hospital

Methodology: A cross-sectional survey was conducted involving nurses working in the pediatric department. The survey assessed demographic data, knowledge about antibiotics, attitudes towards antibiotic use, and adherence to antibiotic administration practices. Descriptive statistics were used to summarize the data.

Results: According to our findings, we found that the overall percentage of knowledge was 86% (0.86), indicating a strong understanding of antibiotic use among the nurses. The mean percentage of agreement for attitude-related findings was 80% (0.8), reflecting a generally positive attitude towards appropriate antibiotic use. However, the mean practice score of 74% (0.74) suggests that, on average, nurses are adhering to recommended practices three-quarters of the time. While this reflects a relatively high level of compliance, it also indicates that there is room for improvement, as 100% adherence is not being achieved.

Conclusion: Nurses at Kibuye Referral Hospital generally demonstrate a high level of knowledge and positive attitudes towards antibiotic use in pediatrics. Despite this, there are areas for improvement in practices, particularly concerning hand washing and monitoring patient responses. Continued education and adherence to protocols are essential for optimizing antibiotic use and improving patient outcomes.

DEDICATION

To:

almighty God

supervisor

our parents

our sisters and brothers

our lecturers and Colleagues

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LIST OF ABBREVIATIONS

AWR: Access, Watch, Reserve

EML: Essential Medicine List

KAP: knowledge, attitudes and practices

SPSS: Statistical Package for Social Sciences

WHO: World Health Organization

CHAPTER ONE: GENERAL INTRODUCTION

1.0 INTRODUCTION

This chapter covers the background of the research study, statement of the problem, the purpose of the study, research questions, objectives of the study, significance of the study, limitations of the study, and as well as scope of the study.

1.1 BACKGROUND OF THE STUDY

The social elements of antibiotic management, particularly the knowledge, attitude, and practice (KAP) of the general public on antibiotic use, have drawn the attention of numerous experts, including bacteriologists. Nonetheless, the literature on the connection between KAP and medical education is still somewhat thin. In this study, we assess the current state of nurse's knowledge of antibiotic use(KAP) (Hammour, 2018).

One of the main reasons of antibiotic resistance is the improper use of antibiotics. Because they are the ones who obtain the most prescriptions for these medications, pediatric patients are heavily involved in this problem. Therefore, the purpose of this study was to ascertain parents of children in the pediatric age group's general awareness of the usage of antibiotics as well as their attitudes toward the administration of these medications to children (Fabrizio Bert, 2017).

Between 2000 and 2010, there was a significant increase in the use of antibiotics worldwide, with emerging economies such as Brazil, Russia, India, China, and South Africa contributing 76% of this growth. As stated in Objective 4 of the World Health Organization's (WHO) Global Action Plan on Antimicrobial Resistance, optimizing the prescription of antibiotics is imperative. Antibiotic classification on the WHO Essential Medicines List (EML) has recently undergone a significant modification. The goal of the new Aware (Access, Watch, Reserve) classification is to promote appropriate prescribing practices and the prudent use of antibiotics. Antimicrobials are among the most often recommended medication types for kids. Many antimicrobial medication dosage schedules for children have historically been predicated on the assumption of linearity between exposure and total body weight, which was drawn from adult pharmacokinetic data (Ahmed, 2011).

In Sub-Saharan Africa, the finding shows that Antibiotic use prevalence was 80.1%, Most of the patients surveyed had two antibiotic agents. Community-acquired infections (38.7%) and

surgical prophylaxis (22.5%) were the most common indications. Antibiotic prescribing for surgical prophylaxis was for more than 24 hours in all cases 56% of the antibiotic prescriptions were intravenous Documentation for antibiotic use was recorded in 75.8% of the cases. The most prescribed classes of antibiotic were nitroimidazoles (28.5%), third-generation cephalosporin (18.9%), and fluoroquinolones (13.6%) (Siachalinga, 2023).

In south Africa, 1946 antimicrobial prescriptions were documented in 1191 children; of these, 55.2% and 39.2% were designated as WHO AWaRe Access and Watch medicines, respectively. The prescription of Reserve antibiotics and antifungals varied significantly throughout the institutes. Receiving WHO Watch and Reserve antibiotics was linked, in a significant way, to blood transfusion, a lengthy hospital stay, and a quickly or fatally sick child in infancy and adolescence (13–17 years). Prescription of antifungals has been linked to medical prevention, treatment in intensive care units, and management of infections linked to hospitals (Moore, 2024).

In Rwanda, there were 300 pediatric patients in the research. Male patients make up 51.7% of this population, with 155 more than female patients (48.3%). The population's mean (average) age was 3.0 years (± 3.1). Malaria (19.1%) and sepsis (7.6%) were the most common diseases. Ampicillin (37.1%) and Ceftriaxone (25.2%), a third-generation antibiotic, were the most often prescribed single antibiotics. The most commonly used antibiotics from different groups or classes were gentamycin (46.5%), ampicillin, and chloramphenicol. However, the most often utilized combination of two antibiotics from the same category is ampicillin and amoxicillin (16.6%) (Christian Mugabo, 2021).

1.2 PROBLEM STATEMENT

From the discovery, antibiotics fall among the most commonly prescribed and dispensed drugs in pediatric population Due to an overall increase in medical care costs, non uniform drug prescribing practices and the high growth of antibiotic resistance, lack of monitoring and control of antibiotic use call for the concern and strict antibiotic policies to be taken into account. In Rwanda, as for the entire world, infections and other diseases are common in children and their treatment include most of time the use of antibiotics, which are sometimes unnecessary, leading to an increased resistance of bacterial infections (Palikhe, 2004).

World Health Organization has long recognized antimicrobial resistance (AMR) as a growing worldly health problem due to low level of knowledge, malpractice towards antibiotic use, and through several resolutions, The World Health Assembly has called upon member States and

the international community to take measures to prevent and control the emergence and spread of AMR. Great medical achievements of the last century may suddenly be lost via the spread of antimicrobial resistance. In next few years, curable infectious medical conditions may become untreatable and spread throughout the world, and this has already started to happen (Christian Mugabo, 2021).

In January at Kibuye Referral Hospital, there were a total of 147 pediatric patient hospitalization days for discharged patients. Among the cases reported, simple malaria was prevalent, with 20 outpatient department (OPD) cases for children aged 5 years and older, and 62 hospitalization cases for children under 5 years old, and 60 for those aged 5 years and older. There were no cases of simple malaria with minor digestive symptoms in children under 5 years old. Severe malaria accounted for 4 cases. Pneumonia was diagnosed in 57 children under 5 years old and 7 children aged 5 years and older. Additionally, there were 11 cases of acute malnutrition and 29 cases of sepsis. The most commonly used drugs for these conditions included ampicillin, gentamicin, ceftriaxone, cefoxatime, cloxacillin, Flagyl (metronidazole), ciprofloxacin, salbutamol, hydrocortisone, and Lasix (furosemide) (Ahmed, 2011).

This study will examine how antibiotics are used to treat infections in pediatric patients because improper use of antibiotics is still a significant problem that has hampered public health in Rwanda and around the world. Which has motivated us so as we can gain information on knowledge, skills and practices of nurses towards antibiotic use. In addition to being a major cause of the spread of antibiotic resistance, improper use of antibiotics has been linked to a high rate of unfavorable side effects.

1.3 OBJECTIVE OF THE STUDY

1.3.1 General objective

The main objective of our study is to assess knowledge, practice and attitude of nurses toward antibiotics use in the pediatric department.

1.3.2 Specific objective

To assess the level of knowledge among nurses regarding antibiotic administration in pediatric care at Kibuye Referral Hospital.

To examine the attitudes of nurses towards the utilization of antibiotics in pediatric cases at Kibuye Referral Hospital,

To evaluate the practices of nurses concerning antibiotic use in pediatric care at Kibuye Referral Hospital.

1.4 RESEARCH QUESTIONS

What are the knowledge of nurses on antibiotic use in pediatric at Kibuye referral hospital?

What are the attitudes of nurses towards antibiotics use in pediatric at Kibuye referral hospital?

What are the practices of nurses towards antibiotics use in pediatric at Kibuye referral hospital?

1.5 SIGNIFICANT OF THE STUDY

From the study done in Rwanda hospitals shows that the majority of nurses has inadequate knowledge towards antibiotics use, this study will demonstrate the findings at Kibuye referral hospital, where the findings will help in increasing effort on antibiotic use especially in pediatric department.

1.5.1 To the researchers

The researchers will gain more information about knowledge, attitudes and practices of nurses towards antibiotic use and will be a good referencing object which can even use to explore the more modern use of antibiotics.

1.5.2 To Kibogora Polytechnic

This research will be used as one of the teaching and learning tools for lecturers and student of Kibogora polytechnic.

1.5.3 To Kibuye referral hospital

This research will help Kibuye referral hospital to know if there is a gap in antibiotic use regarding to the protocol in pediatric department or not, if the gap is found that time they will have the clear picture of the problem which can help them to set an appropriate measures based on the results of this research.

1.5.4 To the government of Rwanda

The results may help the government of Rwanda to introduce police and procedures which can be used to improve the antibiotic use in referral hospitals. Also the result may help to determine if there is need of training to the nurses about antibiotic use.

1.5.5 To the society

This result may help the society; once we found the gap, the hospital will provide the training to the nurses working in pediatric, by that time the knowledge, skills and practices will be upgraded to the desired level and the society will receive proper care and proper use of antibiotic which will decrease the persistent and reoccurring of infection in pediatric patients.

1.6 LIMITATION OF THE STUDY

Limited access to data from health care professionals can also be a limitation.

This study is being conducted during clinical placement which is limitation because it's difficult to get time for working on it.

1.7 SCOPE OF THE STUDY

1.7.1 Content scope

Our study cover only assessment of knowledge, attitudes and practices of nurses towards the antibiotic use.

1.7.2 Geographical scope

This study conducted in Kibuye referral Hospital which is located in the western Province of Rwanda, Karongi district, Bwishyura sector. It is a referral hospital which serves all the health centers located in Karongi district and some District hospital in western province, Kibuye referral Hospital's activities consist mostly of administrative and clinical activities, and the first mission is the best service to the community.

1.7.3 Participant scope

Participants of our study were all registered nurses work at Kibuye referral hospital especially in pediatric department.

1.7.4 Time scope

This study conducted from February to May 2024.

CHAPTER TWO: LITERATURE REVIEW

2.0 INTRODUCTION

This chapter consist of definitions of key terms or concepts, the literature related to the objectives of our study and any other relevant literature to support the study.

2.1 DEFINITIONS OF KEY TERMS

2.1.1 knowledge refers to the facts, abilities, and comprehension that people learn via school, research, or experience. It includes both academic and practical comprehension of a subject, it is frequently distinguished from beliefs or views (Peyracchia, 2018).

2.1.2 practice describes the usual, routine, or conventional methods that people carry out tasks or engage in activities. Practices are important in determining how people behave both individually and collectively. They might be impacted by organizational, social, religious, or cultural influences (Webster, 2017).

2.1.3 Attitude refers to a person's basic perspective or method of thinking about something which is frequently shaped by their experiences, feelings, and beliefs. attitudes have the power to shape behavior (Wangdi, 2021)

2.1.4 Antibiotics refers to class of drugs used to treat bacterial infections. They function by either eliminating germs or stopping their growth. To prevent antibiotic resistance, it's critical to only use antibiotics as directed by a medical practitioner and to finish the entire course of therapy.

2.1.5 Antimicrobials: are group of substances that can destroy or inhibit the growth of harm full groups of microbes, including bacteria, viruses, fungi and parasites. Empirical therapy is a term referring to the initiation of therapy prior to determination of a firm diagnosis (Pathak, 2012).

2.1.6 Broad-spectrum antibiotics: An antibiotic that is effective against a wide range of bacteria, both gram-positive and gram-negative

2.1.7 Narrow-spectrum antibiotics: Antibiotics that kill just gram-positive or gram-negative bacteria or could be specific to one type of bacteria.

2.1.8 Pediatrics: Pediatrics is the branch of medicine that deals with the health and medical care of infants, children and adolescents.

2.1.9 Bactericidal: Substances that kill germs are known as bactericidal agents. Bacterial cells are specifically targeted by them, which causes them to perish.

2.1.9.1 Mechanism of Action: Bactericidal drugs can damage bacterial DNA, interfere with protein synthesis, break down the bacterial cell wall, or interfere with other vital bacterial functions, all of which lead to the final destruction of the bacterium.

As an example antibiotic such as ciprofloxacin and penicillin are frequently regarded as bactericidal.

2.1.10 Bacteriostatic: Substances known as "bacteriostatic agents" prevent bacteria from growing and reproducing without necessarily killing them right away.

2.1.10.1 Mechanism of Action: To stop germs from growing, bacteriostatic drugs usually obstruct vital bacterial functions like DNA replication or protein synthesis. Even while the current bacterial population might not be eliminated, the host's immune system can successfully clear (tetracycline is an example of a bacteriostatic antibiotic).

2.2 KNOWELGE OF NURSE TOWARDS USE OF ANTIBIOTICS IN PEDIATRICS

The study done in Jordan, aimed at examining nurses' knowledge, attitudes, and practices related to antibiotics use and resistance. A second objective was to identify Jordanian nurses' sources of information about antibiotics (Abuhammad, 2023).

According to the survey, only 21 (3.5%) of the participants agreed with the statement, "I know what ABR among children is." This indicates that nurses' perceived understanding of ABR with regard to children was poor. Only thirty (6.1%) of the respondents agreed with the statement, "I know there is a connection between my dispensing of antibiotics and the emergence and spread of antibiotic resistant bacteria." It was found that nurses have a significant knowledge gap when it comes to using antibiotics for gram-negative and anaerobic infections. Feedback on antibiotic use from nurses and medical teams may need to be included in future educational initiatives. In a prior study involving paramedics, over 60% of participants expressed their belief that children suffering from viral illnesses should have access to antibiotics (Abuhammad, 2023).

This kind of false information has the potential to exacerbate the already rising ABR by causing an unreasonably high number of antibiotic prescriptions.

After examining nurses' knowledge of antibiotics and ABR in, they surveyed 312 nursing programs across the US and discovered that 95% of participants needed lectures on antibiotic

therapy and 99.3% of participants needed a pharmacology course. These findings indicated the need for a web-based module for ABR education. It is important to note that the typical nursing curriculum has less than 10 hours of instruction on antibiotic therapy, and 52% of the programs did not offer a microbiology component. These results suggest that there is room for improvement in nursing awareness (Kilpatrick, 2021).

In a study on paramedics' and nurses' knowledge, attitudes, and practices regarding the use of antibiotics, 93% (410) of the participants believed that children's fevers of unknown origin shouldn't always be treated with antibiotics, while 66% (291) believed that antibiotics should be given even for temporary fevers. 54%(193) of the participants said that their children had taken antibiotics six times in the year before. Just 66% of respondents disagreed with parents buying antibiotics for their children over-the-counter, despite the fact that 88% (388) of respondents thought that medications accelerated the recovery from colds (Abuhammad, 2023).

A total of 194 nurses (88% female and 70% master's degree holders) completed the questionnaire for the study published in the Journal of the American Association of Nurse Practitioners in 2021. A patient's cost (58%), together with their condition (79%), affected the decision to prescribe an antibiotic. 63% of nurse practitioners based their antibiotic decisions on the antibiogram in their setting, whereas 56% of nurse practitioners stated they started with wide spectrum antibiotics and changed their selections after receiving cultures(Knobloch, 2021).

The incorrect use of antibiotics harms patients (97%), raises resistance (97%), and decreases resistance (94%), as nurses were aware of. Furthermore, 86% of participants said they were comfortable using antibiotics, and 94% said it was important to have a thorough grasp of antibiotics. Nevertheless, 62% of respondents thought antibiotics were overused in their specific situation, and 94% agreed that antibiotics are misused nationwide. (Abbo, 2012).Nurse practitioners would prefer further information on antibiotics and comments regarding their antibiotic selections since they understand how vital antibiotic knowledge is to their careers. Antibiotic use may be improved and practices changed if this education were to be delivered in an efficient manner (Hamilton, 2021).

2.3 ATTITUDE OF NURSES TOWARDS USE OF ANTIBIOTICS IN PEDIATRICS

In the study of its kind in Jordan to examine nurses' attitudes on and knowledge of ABR for children and antibiotics. Secondary objectives included examining Jordanian nurses' favorite information sources for kids and their knowledge of the facts supporting sensible prescribing practices for kids in the Jordanian healthcare system. Although they are not allowed to issue prescriptions in Jordan, nurses nevertheless make a substantial contribution to the management of antibiotics and are essential to the distribution of antibiotics. Considering their crucial importance. The findings demonstrated that Jordanian nursing staff 89% does not seem to be aware of the factors that contribute to antibiotic resistance in children, such as inappropriate prescription, overuse of antibiotics, and self-medication (Abuhammad, 2023).

Nurses frequently point to protocols, worldwide recommendations, parental/patient demand, and diagnostic uncertainty as the most successful ways to stop children from using antibiotics improperly. Merely 33% of nurses possessed restricted knowledge regarding antibiotic usage and ABR, while 2/3 of nurses thought that antibiotic resistance and illogical prescribing were significant issues in the healthcare sector (Adegbite, 2022).

The study examined nurses' and paramedics' attitudes and practices regarding the use of antibiotics. It revealed that 48.2% of nurses explained to patients and caregivers why they were prescribed antibiotics once a week or more the week before; 13.3% of nurses supported the use of antibiotics daily or more frequently or infection control; and 42.3% of nurses said they did not give antibiotic advice because they did not have a leaflet about their use or the patients did not receive one (Abuhammad, 2023).

2.4 PRACTICES OF NURSE TOWARDS USE OF ANTIBIOTICS

One major public health concern that adds to the high baby and early childhood death rate is antibiotic resistance. Improving the quality and accessibility of antibiotics is equally as important as increasing their sensible usage in the fight against antibiotic resistance. This study aims to provide information on the use of antibiotics in children in resource-poor countries in order to identify problems and possible routes for improving the use of antibiotics (Mambula, 2023).

The worldwide health care system is at risk due to antibiotic resistance. The role that nurses have played in neutralizing this threat is remarkable. In terms of antibiotic facts, properly hands washing is the most important step in preventing illness from bacteria. This item had the highest rating, coming in at 97.1%. With a score of 29.1%, the item "antibiotic resistance," which is defined as bacterial changes that reduce or eliminate the effectiveness of antibiotics, received the lowest rating. (Lalithabai D. S., 2022).

In a research on patient care practices conducted among trainee nurses in Sri Lanka, 111 (55.8%) claimed that they always make sure the drug has expired before providing it, compared to just 78 (39.2%) who said they don't always check (Jayaweerasingham, 2019). the Nurses at a tertiary hospital in Malawi the nurses establishing protocol and standards before and during drug administration to 87.3%, whereas 12.7% do not establishing protocol and standards before and during antibiotics administration. 69.4% of nurses took vital signs before administration of antibiotics, 30.6% of the cases do not took vital signs before administration of antibiotics respectively (Mula, 2019) It was discovered that 88.8% of participants in the Turkish study worked in a patient-centered manner they communicate to physician any patients response, whereas 11.2% worked in a work-centered manner (Barlam, 2016). It was found that while the treatment was being prepared, there were interruptions or diversions 92.9% of the time. When preparing or administering high-risk pharmaceuticals, 64.3% of respondents reported doing a double check, and 76.5% of respondents correctly identified the storage conditions for medications (Bülbül, 2014).

2.5 OTHER RELEVANT AND RELATED LITERATURE TO SUPPORT THE STUDY

2.5.1 WHAT ARE ANTIBIOTICS

Antibiotics are medications that treat bacterial infections. When it comes to viral diseases like the flu or cold, they are useless. You can find microscopic microbes called bacteria on your skin, in your body, and wherever you look. Most microbes don't pose a threat to you. Some kinds (such the ones in your stomach or on your skin) are good for your general health. But certain germs can make you sick; the symptoms might range from a mild infection to a dangerous one that needs to be hospitalized (Alisha D. Sellers, 2023)

Antibiotics are crucial for this reason. They are frequently lifesaving and can make you feel better. However, there can be too much good when it comes to antibiotics, the use of antibiotics to treat bacterial illnesses is known as antibiotic treatment. Since the discovery of antibiotics, it has saved countless lives and is a pillar of modern medicine. Antibiotics help the body's immune system fight off an infection by either killing (bactericidal) or inhibiting the growth of germs (bacteriostatic). (Jennie Olopaade, 2023).

2.5.2 MECHANISM OF ACTION

Bacteriostatic effects are possible with antibiotics. either by bactericidal (i.e., killing bacteria) or by (i.e., preventing bacterial reproduction) mechanisms of action. A narrow spectrum of bacteria can be effectively combated by antibiotics, or they can be used against a broad spectrum of pathogens. Inhibiting the synthesis of proteins, cell walls, or specific enzymes (like THF RNA polymerase) in bacteria is how most antibiotics function. Hypersensitivity responses, nephrotoxic, and hepatotoxic side effects are frequently observed during antibiotic treatment. Numerous patient populations such as children and expectant or nursing mothers should not use antibiotics. In the event of a serious infection, empiric antibiotic therapy—which involves starting medication without waiting for a microbiological confirmation—may be used. to focus on the most likely infections. Since they are essential in the treatment of infectious diseases, antibiotics are widely used; yet, their overuse, combined with improper dosages and timing, has resulted in the rise of infections resistant to antibiotics (such MRSA and pseudomonas). (Alana Biggers, 2023)

2.5.3 INDICATIONS

Skin infections, pneumonia, and urinary tract infections are among the bacterial infections that antibiotics are used to treat. They don't work well against viral illnesses like the flu or the common cold. Antibiotics are used to treat a broad variety of illnesses that can affect any region of your body, including the skin and internal organs. Here are a few instances. (Ahmad Y, 2020)

Infections of the skin and soft tissues

cellulitis.

gas gangrene.

Impetigo.

Infections brought on by human or animal bites.

fasciitis with necrotizing.

infection with Staph

Infections affecting your respiratory system and throat

pneumonia caused by bacteria.

sore throat.

whooping cough.

Infections in your reproductive and urinary systems

bacteria-causing illness (BV).

A few STIs (sexually transmitted illnesses).

Infection of the urinary tract (UTI).

diseases of the eyes

color pink.

Cellulitis orbitale.

Additional circumstances

Anthrax.

endocarditis.

Lyme illness.

infection with germs causing sepsis.

Selection: The type of bacteria causing the infection, its antibiotic sensitivity, the infection site, and the patient's medical history all influence the antibiotic that is prescribed. Initially,

broad-spectrum antibiotics may be used for empiric therapy, which is then refined in light of results related to sensitivity and culture.

Length: The length of antibiotic treatment varies according to the kind and intensity of the infection. Short antibiotic regimens (five to seven days) may be adequate in certain situations, but longer courses may be required in others.

Compliance: Even if a patient begins to feel better before the prescribed antibiotic course is finished, it is still crucial that they finish the entire course of treatment. This aids in stopping the emergence of antibiotic resistance.

2.5.4 Adverse Effects

Antibiotics can have adverse effects, just like any other treatment. Common adverse effects include allergic responses, diarrhea brought on by antibiotics (caused by disruption of normal gut flora), and gastrointestinal problems (e.g., nausea, diarrhea).

2.5.5. When is it inappropriate to use antibiotics?

Antibiotics are not recommended for viral infections. The objective of antibiotics is bacteria, not viruses. Thus, they won't function in situations such as: The illness. a typical cold or nasal discharge. majority of bronchitis cases. a sore throat (not strep throat, though). virus-induced sinus infection. For many bacterial illnesses that usually clear up on their own, antibiotics are probably not necessary. Among them are: Certain sinus infections are bacterial in nature. A few infections in the ears. If you require antibiotics for the condition, your healthcare professional will inform you.

2.5.6 What advantages do antibiotics offer?

Antibiotics are quite advantageous. They are able to: Effectively rid your body of bacterial illnesses, reduce your discomfort and aid with your recovery, Hasten the process of your healing, prevent yourself from infecting others, shield you against dangerous diseases or problems and Preserve your life.

2.5.7 What potential dangers come with using antibiotics?

Drug interactions and antibiotic resistance are the two main dangers associated with antibiotic usage.

Interactions between drugs

Certain antibiotics and other drugs may interfere. This means that taking antibiotics along with several other medications at the same time may have unintended or negative effects.

Medication interactions can happen with a wide range of drugs, including those that handle common issues like pain and indigestion and treat cardiovascular disease. Several medications have the potential to interact with specific classes of antibiotics, such as:

Warfarin.

beta-blockers.

Antheims.

NSAIDs.

Hormonal contraception, or birth control, is unaffected by most antibiotics. A few antibiotics that are used to treat meningitis and tuberculosis constitute an exception.

Before receiving an antibiotic prescription, always let your healthcare practitioner know about all of the medications you use, both prescription and over-the-counter. (Johnson LP, 2015)

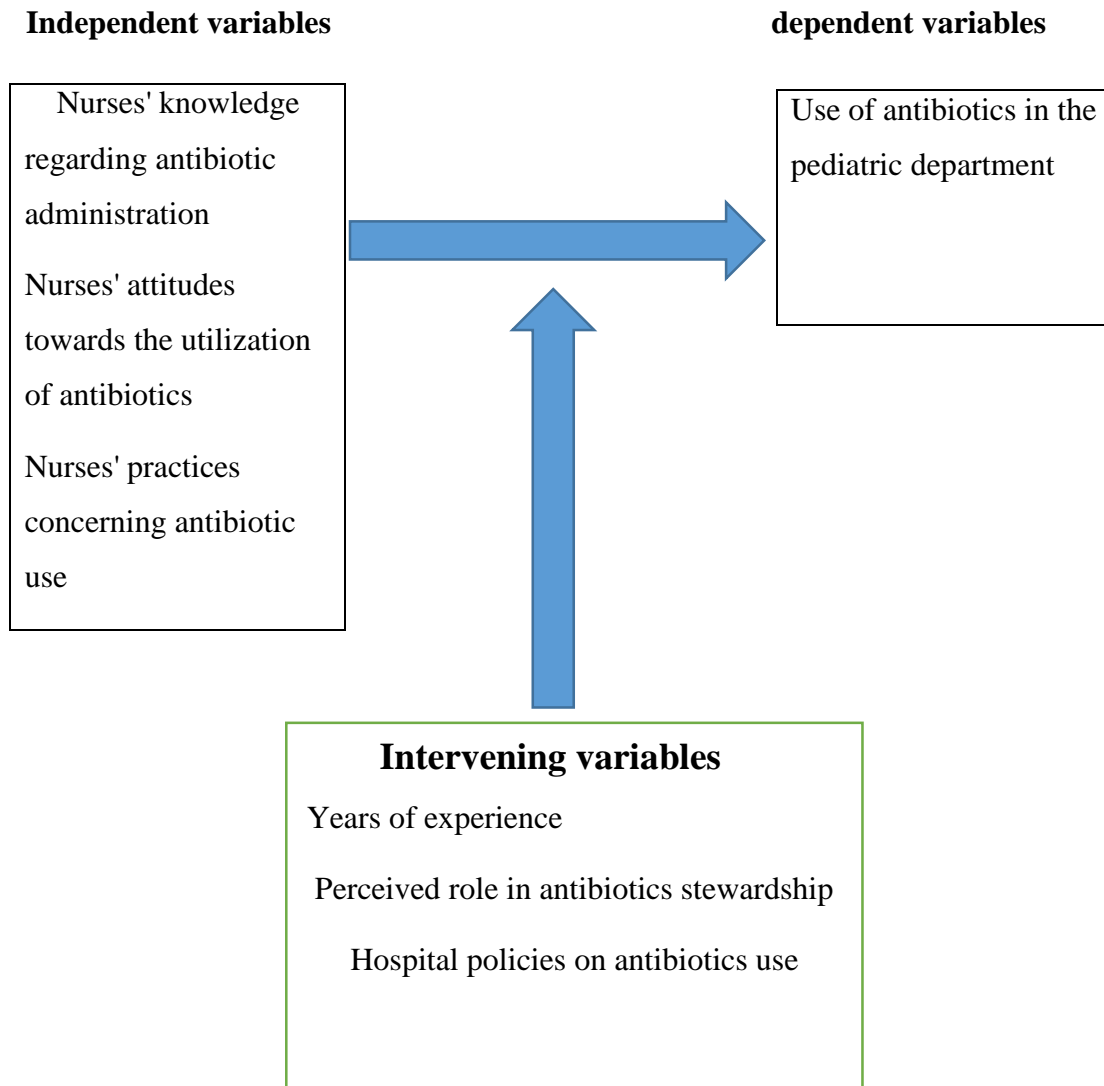
Resistance: Bacteria that are resistant to antibiotics are more challenging to treat and have emerged as a result of antibiotic abuse and overuse. It's critical to use antibiotics sparingly and adhere to prescription guidelines in order to prevent resistance .Antibiotic resistance: An international public health concern, antibiotic resistance arises from bacterial adaptations that render them immune to antibiotics that once eradicated them (Yella Hewings-Martin, 2017).

Monitoring: It may be necessary to keep an eye on patients taking antibiotics to ensure that the medication is working as intended and to look out for any side effects. Laboratory testing and follow-up appointments with medical professionals may be part of this.

All things considered, antibiotic therapy is an effective weapon against bacterial illnesses, but its usage must be carefully considered in order to optimize its advantages and reduce the possibility of resistance.

2.6 CONCEPTUAL FRAMEWORK

Figure 1: Conceptual frame work



The diagram above shows the following features:

A variable that is controlled or altered by the researcher is known as an independent variable (IV). The component that you change or alter to see how it influences nurses' knowledge, attitude, and practice towards use of antibiotics in the pediatric department

Experience Level: Evaluating the ways in which nurses' years of pediatric nursing experience impact their understanding, attitudes, and practices about the administration of antibiotics.

Training Programs: The introduction of various training regimens or frequencies with the goal of teaching nurses about best practices and recommendations for the use of antibiotics.

Attitude Factors: Examining how nurses' attitudes regarding stewardship programs or antibiotic resistance impact their work.

Dependent variables refer to the outcomes or reactions that you are interested in measuring or observing, in our study on the assessment of nurses' knowledge, attitudes, and practices towards the use of antibiotics in the pediatric department. These factors rely on the independent variables that you can change or influence.

Knowledge: Assessed via questionnaires, surveys, or other methods to gauge nurses' familiarity with the recommended use of antibiotics.

Attitudes: To learn about nurses' opinions and beliefs on the prescription of antibiotics, attitudes are measured using Likert scales or qualitative interviews.

Practices: Recorded by means of prescription audits, chart reviews, or self-reported actions pertaining to the prescription of antibiotics.

Intervening variables. They help explain the relationship between the independent variable and the dependent variable by showing how or why changes in the independent variable lead to changes in the dependent variable.

Years of experience working in the pediatric department or as a nurse.

Role Perception: The way in which nurses view their part in antimicrobial stewardship.

Hospital Policies: Regulations that affect how antibiotics are prescribed.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.0 INTRODUCTION

In this chapter, the complete research process is explained, from choosing the study's target population to carrying out the data analysis. It illustrates the research approach, methodology used in this study. It is divided up into several sections, including data sources and methodology, study area, study population, inclusion criteria for participants, sample size and sampling strategy, data analysis tool, and ethical considerations.

3.1 RESEARCH APPROACH AND DESIGN

3.1.1 Research Approach

Research approach is the plan and procedures that consist of the steps of broad assumption to detailed method collection, analysis and interpretation (Chetty, 2016).

Quantitative approach used in this study: whereas we created an organized questionnaire and checklist based on recommendations and current research on the use of antibiotics in pediatric patients. Ask questions that will evaluate nurses' knowledge, attitudes and practices.

3.1.2 Research Design

Research design is the overall plan for collecting data in order to answer the research questions, for the purpose of the study, cross-section descriptive survey design describes phenomena as they exist and collect data at the one point in the time.it is used to identify and obtain information on the characteristics of a particular issue.

3.2 TARGET POPULATION

The study targeted 10 nurses working in pediatrics department at Kibuye referral hospital.

3.3 SAMPLING PROCEDURE

Sampling procedure is the process of selecting a number of people (a sample) from a population so that the people are representative of a large group from which they were selected. We used the census sampling approach in our study, which involves gathering information from every member of the population.

3.4 SAMPLE SIZE

A sample is a representation of the population from which data will be collected. It is a smaller group obtained from the target population, due to the smaller number of target population, the sample size is equal to the target population, so The sample size used is equal to 10 nurses working in pediatric department.

3.5 RESEARCH INSTRUMENTS FOR DATA COLLECTION

3.5.1 Questionnaire

A questionnaire is a survey tool or research instrument used to gather data and information from respondents. It typically included a list of questions or statements to which respondents provide their thoughts or replies. Included relevant questions related to the research objectives such as demographics, health practices and perception.it used to assess knowledge and attitudes of nurses towards use of antibiotics.

3.5.2 Checklist

A checklist is a systematic list of items, tasks, or criteria that need to be completed or verified. It serves as a tool to ensure that important steps or elements are not overlooked. It used to assess practices of nurses towards use of antibiotics.

3.6 DATA COLLECTION PROCEDURE

Data collection is the procedure of collecting, measuring, and analyzing accurate insights for research using standard validated techniques (Knatterud, 2022).

Upon approval and acceptance of Kibogora polytechnic and Kibuye referral hospital. We approached nurses within morning staff and first introduce ourselves and explain what is going: including introduction to the purpose of the study. Then we requested for consent signing for those who agreed to participate in our study, Questionnaires administered face to face in English, and then we observed the implementation of evidence-based practice of the nurse towards use of antibiotics in pediatric department.

3.7 ETHICAL CONSIDERATIONS

The study carried out with authorization from both Kibuye referral hospital and Ethical committee of Kibogora polytechnic. Only participants who provided signed consent included in the study, privacy and confidentiality ensured. Any information shared by a participant in the study have been not disclosed to anyone else without the participant's explicit permission.

3.8 DATA ANALYSIS

After collecting data, the SPSS version 26 used in order to process, compile and analyses the data from questionnaires and checklists conducted during data collection by using both descriptive and inferential statistical analysis

3.9 RELIABILITY AND VALIDITY MEASURES

Reliability and validity are two essential concepts in research methodology, particularly in the fields of psychology, education, and social sciences. They are crucial for ensuring that research findings are accurate, consistent, and meaningful.

3.9.1. Reliability measures

Reliability refers to the degree to which the instrument can produce consistent result if used repetitively (DeKosky, 2001). The result from this study reproduced under similar methodology, to ensure reliability, a trial study of 10 respondents carried out to check the stability of the answers provided on the questionnaires and checklists over time in the same group of the respondents.

3.9.2. Validity measures

Validity refers to whether or not an instrument accurately measured what it supposed to measure (Carroll, 2022). validity of this study content ensured by giving out instrument to professionals like researchers, supervisors, and college to assess if the instruments measured what they were supposed to measure.

CHAPTER FOUR: PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.0 INTRODUCTION

This chapter analyses the data collected, interprets it and presents various findings from the research to relate it with the research objectives and research questions. In the presentation statistical, tables and percentages are used to summarize data.

4.1. DATA PRESENTATION AND ANALYSIS

4.1.1 Social demographic of respondents

Table 1 provides an overview of the demographic characteristics of 10 respondents. The data reveals that the majority of participants were female, constituting 9 out of 10 respondents (90%), with only 1 male participant (10%).

Age distribution indicates that most respondents were within the 31-40 age range, accounting for 8 participants (80%). This is followed by 1 participant (10%) in the 21-30 age range and another 1 participant (10%) in the 41-50 age range.

In terms of educational qualifications, the respondents were evenly split between those holding an A0 degree and those with an A1 degree, with each group comprising 5 participants (50%).

Regarding years of nursing experience, half of the respondents (5 participants, 50%) had 5-10 years of experience. Three participants (30%) had less than 5 years of experience, while 1 participant (10%) had 10-15 years of experience, and another 1 participant (10%) had more than 15 years of experience.

Finally, the table indicates that a significant majority of the respondents (8 participants, 80%) had received in-service training, while 2 participants (20%) had not undergone any such training.

Table 1: Distribution of social demographic of respondents

Categories	Frequency	Percentage
SEX		
Female	9	90%
Male	1	10%
AGE		
21-30	1	10%
31-40	8	80%
41-50	1	10%
LEVEL OF EDUCATION		
A0	50	50%
A1	50	50%
YEARS OF NURSING EXPERIENCE		
Less than 5 years	3	30%
5-10 years	5	50%
10-15 years	1	10%
Above 15 years	1	10%
GOT IN SERVICE TRAINING		
Yes	8	80%
No	2	20%

4.1.2 KNOWLEDGE OF NURSES TOWARDS USE OF ANTIBIOTIC IN PEDIATRIC

Table 2 reveals that everyone surveyed believes that antibiotics can cause allergic reactions in pediatric patients.

The majority (80%) believe that antibiotics do not treat both bacterial and viral infections, suggesting a clear understanding that antibiotics are not effective against viral infections. A small percentage (10%) agree that antibiotics can treat both types of infections, and another 10% are unsure.

A significant majority (80%) believe that antibiotics should not be used to treat a fever of unknown origin in pediatric patients, which aligns with the principle that antibiotics should not be given without a clear bacterial cause. A small number (10%) are unsure, and another 10% agree with the use of antibiotics in this situation.

All respondents agree that antibiotic dosages for pediatric patients should be calculated based on weight or age, reflecting a consensus on the importance of proper dosing to ensure efficacy and safety.

A majority (70%) are unsure about the necessity of obtaining cultures before starting antibiotics, indicating a lack of clarity or awareness on this practice. A minority (20%) disagree with the necessity of cultures, and only 10% agree with it.

The survey results show a strong consensus on some aspects, such as the potential for allergic reactions and the need to base dosages on weight or age. However, there is less clarity or agreement on the use of antibiotics for infections and the necessity of cultures before starting treatment.

Table 2: Distribution of respondents related to knowledge of nurses towards use of antibiotics in pediatric

Variables	Frequency	Percentage
Can antibiotics cause allergic reactions in pediatric patients ?		
Agree	10	100%
Do antibiotics treat bacterial infections and viral infections		
Disagree	8	80%
I don't know	1	10%
Agree	1	10%
Can antibiotics be safely used to treat a fever of unknown origin in pediatric patients		S
Disagree	8	80%
I don't know	1	10%
Agree	1	10%
Should antibiotics dosages for pediatric patients be calculated based on weight or age		
Agree	10	100%
Is it necessary to obtain cultures before starting antibiotics for suspected bacterial infections in children		
Disagree	2	20%
I don't know	7	70%
Agree	1	10%

4.1.3 ATTITUDE OF NURSES TOWARDS USE OF ANTIBIOTIC IN PEDIATRIC DEPARTMENT

Table below shows, the majority (80%) believe that it is important to inform parents and caregivers about both the benefits and risks of antibiotic treatment for their children. This suggests a strong consensus on the need for clear communication regarding antibiotic use to ensure that caregivers are well-informed about the treatment their child is receiving.

There is a high level of agreement (90%) that interdisciplinary teamwork is essential for optimizing antibiotic use in pediatric care. This reflects a broad recognition of the importance of collaboration among healthcare professionals to ensure effective and safe antibiotic management for children.

A majority (70%) are satisfied with the level of cooperation between nursing staff and prescribing clinicians in making antibiotic decisions. However, 30% are not satisfied, indicating that while most are content with the current level of collaboration, there is room for improvement in communication and teamwork between these groups.

The majority (80%) agree that minimizing the overuse of antibiotics is crucial for maintaining their efficacy in pediatric care. This reflects an understanding of the importance of responsible antibiotic use to prevent resistance and ensure continued effectiveness.

Table 3:Distribution of respondents related to attitude of nurses towards use of antibiotics in pediatric

Variables	Frequency	Percentage
Is it necessary to inform parents and other caregivers about the advantages and disadvantages giving their child antibiotic treatment		
Agree	8	80%
Disagree	2	20%
Is the interdisciplinary teamwork is crucial to optimizing pediatric patients usage of antibiotics ?		
Agree	9	90 %
Disagree	1	10%
Regarding antibiotic decisions ,are you happy with the degree of cooperation between nursing staff and prescribing clinicians		
Agree	7	70%
Disagree	3	30%
Does minimizing the overuse of antibiotics essential to maintain the efficacy of pediatric care		
Agree	8	80%
Disagree	2	10%

4.1.4 Practice of Nurses Towards Use of Antibiotic In Pediatric Department

The majority (70%) of respondents follow the practice of washing hands before administering antibiotics, which aligns with infection control protocols. However, 30% do not adhere to this practice, indicating a need for reinforcement of hand hygiene standards in antibiotic administration.

70% of respondents always check the physician's antibiotic prescription, which is crucial for ensuring the correct medication is given. However, 30% do not consistently check the prescription, highlighting a potential area for improvement in verifying medication orders.

80% of respondents check the pediatric patient's weight before calculating antibiotic dosages, which is important for accurate dosing. The 20% who do not check weight might risk incorrect dosing, underscoring the need for adherence to this practice.

A significant majority (80%) follow established protocols and standards when preparing and administering antibiotics, which helps ensure safety and efficacy. The 20% who do not follow these standards could be at risk of compromising patient safety, suggesting a need for consistent adherence to guidelines.

70% of respondents take vitals and assess the patient before administering antibiotics, which is important for monitoring patient condition and response to treatment. The 30% who do not may be missing critical assessments, highlighting an area for improvement in patient evaluation practices.

80% of respondents notify physicians if they have concerns about the pediatric patient's response to antibiotics, which is crucial for timely adjustments and addressing adverse effects. The 20% who do not may not be fully communicating concerns, indicating a need for better reporting practices.

80% of respondents monitor for signs that the pediatric patient is responding well to antibiotic treatment, which is important for evaluating the effectiveness of the treatment. The 20% who do not monitor for positive responses may be overlooking important indicators of treatment success.

Table 4: Distribution of respondents related to practice of nurses towards use of antibiotics in pediatric

Variables	Frequency	Percentage
Washing hands before antibiotics administration		
Yes	7	70%
No	3	30%
Always check physician's antibiotic prescription		
Yes	7	70%
No	3	30%
Always check pediatric patient's weight before calculating antibiotics to pediatric patients		
Yes	8	80%
No	2	20%
Following protocol and standards when preparing and giving antibiotics to pediatric patients		
Yes	8	80%
No	2	20%
To take vitals and asses the patient before antibiotic's administration		
Yes	7	70%
No	3	30%
To notify physicians of any concerns regarding pediatric patients response to antibiotics ?		
Yes	8	80%
No	2	20%

To keep an eye out for indications that pediatric patients are responding well to antibiotic treatment		
Yes	8	80%
No	2	20%

4.2 DISCUSSION OF FINDINGS

This study addressed the assessment of nurse's knowledge, attitude and practice towards the use of antibiotics in pediatric department.

an overview of the demographic characteristics of 10 respondents. The data reveals that the majority of participants were female, constituting 9 out of 10 respondents (90%), with only 1 male participant (10%). Age distribution indicates that most respondents were within the 31-40 age range, accounting for 8 participants (80%). This is followed by 1 participant (10%) in the 21-30 age range and another 1 participant (10%) in the 41-50 age range. In terms of educational qualifications, the respondents were evenly split between those holding an A0 degree and those with an A1 degree, with each group comprising 5 participants (50%). Regarding years of nursing experience, half of the respondents (5 participants, 50%) had 5-10 years of experience. Three participants (30%) had less than 5 years of experience, while 1 participant (10%) had 10-15 years of experience, and another 1 participant (10%) had more than 15 years of experience.

.Everyone surveyed believed that antibiotics can cause allergic reactions in pediatric patients, the majority (80%) believe that antibiotics do not treat both bacterial and viral infections, suggesting a clear understanding that antibiotics are not effective against viral infections. A small percentage (10%) agree that antibiotics can treat both types of infections, and another 10% are unsure. Different to the study done in Jordan reveal that More than 60% of respondents in previous research who also included paramedics said they believed that children suffering from viral illnesses should have access to antibiotics (Abuhammad, 2023). This kind of misinformation could lead to an unjustifiably high rate of antibiotic prescriptions, which would worsen the already growing ABR. A significant majority (80%) believe that antibiotics should not be used to treat a fever of unknown origin in pediatric patients, which aligns with the principle that antibiotics should not be given without a clear bacterial cause. A small number (10%) are unsure, and another 10% agree with the use of antibiotics in this situation.

All respondents agree that antibiotic dosages for pediatric patients should be calculated based on weight or age, reflecting a consensus on the importance of proper dosing to ensure efficacy and safety. In a research on knowledge attitudes and practices around the use of antibiotics for paramedics and nurses, 93% (410) of the participants thought that children's fever of unknown origin should not always be treated with antibiotics, while 66% (291) thought that even for transient fevers, antibiotics should be given (Patel, 2023).

A majority (70%) are unsure about the necessity of obtaining cultures before starting antibiotics, indicating a lack of clarity or awareness on this practice. A minority (20%) disagree with the necessity of cultures, and only 10% agree with it. related to the study done In 2021 Journal of the American Association of Nurse Practitioners done 56% of nurse practitioners said they began with broad spectrum antibiotics and modify their selections after receiving cultures, 63% of nurse practitioners based their antibiotic decisions on the antibiogram in their setting (Hamilton, 2021).

the majority (80%) believe that it is important to inform parents and caregivers about both the benefits and risks of antibiotic treatment for their children. This suggests a strong consensus on the need for clear communication regarding antibiotic use to ensure that caregivers are well-informed about the treatment their child is receiving, while In a research on attitudes and practices around the use of antibiotics for paramedics and nurses The study found that 48.2% of nurses gave explanation to patients and caregivers about antibiotic prescriptions once a week or more in the previous week; 13.3% of nurses supported the use of antibacterial drugs on a daily or more frequent basis or infection control; and 42.3% of nurses said they did not provide antibiotic advice because they did not have a leaflet about their use or the patients did not receive one (Abuhammad, 2023).

There is a high level of agreement (90%) that interdisciplinary teamwork is essential for optimizing antibiotic use in pediatric care. This reflects a broad recognition of the importance of collaboration among healthcare professionals to ensure effective and safe antibiotic management for children. A majority (70%) are satisfied with the level of cooperation between nursing staff and prescribing clinicians in making antibiotic decisions. However, 30% are not satisfied, indicating that while most are content with the current level of collaboration, there is room for improvement in communication and teamwork between these groups. The majority (80%) agree that minimizing the overuse of antibiotics is crucial for maintaining their efficacy in pediatric care. This reflects an understanding of the importance of responsible antibiotic use to prevent resistance and ensure continued effectiveness, Different to The findings

demonstrated that Jordanian nursing staff 89% does not seem to be aware of the factors that contribute to antibiotic resistance in children, such as inappropriate prescription, overuse of antibiotics, and self-medication (Abuhammad, 2023).

The majority (70%) of respondents follow the practice of washing hands before administering antibiotics, which aligns with infection control protocols. However, 30% do not adhere to this practice, indicating a need for reinforcement of hand hygiene standards in antibiotic administration. Similar to the study done, in terms of the facts of antibiotics, the most crucial step in preventing infection from microorganisms is to wash your hands properly. At 97.1%, this item received the highest rating. The item "antibiotic resistance," which is defined as bacterial alterations that lessen or abolish the effectiveness of antibiotics, had the lowest score of 29.1%. (Lalithabai D. S., 2022).

80% of respondents check the pediatric patient's weight before calculating antibiotic dosages, which is important for accurate dosing. The 20% who do not check weight might risk incorrect dosing, underscoring the need for adherence to this practice, related to In 67.3% of the patients in the study at a tertiary hospital in Malawi, nurses gave the right (recommended) antibiotics, while 59.2% of patients received the prescribed dosages. Antibiotics were administered to 69.4% of patients via the appropriate channel (Bülül, 2014). 70% of respondents always check the physician's antibiotic prescription, which is crucial for ensuring the correct medication is given. However, 30% do not consistently check the prescription, highlighting a potential area for improvement in verifying medication orders. as similar In a study on patient care behaviors among trainee nurses in Sri Lanka, only 78 (39.2%) reported, they don't always make sure the medication is expired before administering it while 111 (55.8%) reported that they always make sure the medication is expired before administering it (Jayaweerasingham, 2019) . A significant majority (80%) follow established protocols and standards when preparing and administering antibiotics, which helps ensure safety and efficacy. The 20% who do not follow these standards could be at risk of compromising patient safety, suggesting a need for consistent adherence to guidelines. 70% of respondents take vitals and assess the patient before administering antibiotics, which is important for monitoring patient condition and response to treatment. The 30% who do not may be missing critical assessments, highlighting an area for improvement in patient evaluation practice, related to the Nurses at a tertiary hospital in Malawi the nurses establishing protocol and standards before and during drug administration to 87.3%, whereas 12.7% do not establishing protocol and standards before and during antibiotics administration. 69.4% of nurses took vital signs before administration of antibiotics, 30.6% of

the cases do not took vital signs before administration of antibiotics respectively(Mula, 2019). 80% of respondents notify physicians if they have concerns about the pediatric patient's response to antibiotics, which is crucial for timely adjustments and addressing adverse effects. The 20% who do not may not be fully communicating concerns, indicating a need for better reporting practices related to the study discovered that 88.8% of participants in the Turkish study worked in a patient-centered manner they communicate to physician any patients response, whereas 11.2% worked in a work-centered manner (Barlam, 2016).80% of respondents monitor for signs that the pediatric patient is responding well to antibiotic treatment, which is important for evaluating the effectiveness of the treatment. The 20% who do not monitor for positive responses may be overlooking important indicators of treatment success, It was found that while the treatment was being prepared, there were interruptions or diversions 92.9% of the time. When preparing or administering high-risk pharmaceuticals, 64.3% of respondents reported doing a double check, and 76.5% of respondents correctly identified the storage conditions for medications (Bülbül, 2014).

4.3 SUMMARY OF FINDINGS

The demographic data reveals that the majority of the respondents are female 90%, most of respondent aged 31-40 years (80%), and evenly distributed between A0 and A1 education levels at the same level of 50%. among the participants most have 5-10 years of nursing experience 50% and80% of participants have received in-service training

The majority (80%) correctly disagree with the statement that antibiotics treat both bacterial and viral infections, reflecting an accurate understanding that antibiotics are effective only against bacterial infections; 10% believe antibiotics treat both types, and 10% are unsure. The majority (80%) correctly disagree with the use of antibiotics to treat a fever of unknown origin, acknowledging that antibiotics are not appropriate without a clear bacterial cause. All respondents (100%) recognize the possibility of allergic reactions in pediatric patients when using antibiotics. A small portion (10%) agree that it is necessary to obtain cultures before starting antibiotics, while 20% disagree and a large majority (70%) are unsure. This suggests uncertainty or lack of consensus on the importance of culturing before initiating antibiotic therapy. Only 10% agree with this approach, and 10% are unsure. All respondents (100%) agree that antibiotic dosages for pediatric patients should be calculated based on weight or age.

A significant majority (80%) believe it is necessary to inform parents and caregivers about the advantages and disadvantages of antibiotic treatment for their child, highlighting the importance of communication and education in pediatric care. An overwhelming majority (90%) view interdisciplinary teamwork as crucial for optimizing antibiotic use in pediatric patients, indicating strong support for collaborative approaches in improving patient care. Most respondents (70%) are satisfied with the level of cooperation between nursing staff and prescribing clinicians regarding antibiotic decisions. However, 30% are dissatisfied, suggesting room for improvement in collaboration. A strong majority (80%) agree that minimizing the overuse of antibiotics is essential for maintaining the efficacy of pediatric care, underscoring the importance of stewardship to prevent resistance

70% practice hand washing before administering antibiotics; 30% do not, 80% always check the pediatric patient's weight before dosing; 30% do not. 70% always check the physician's prescription; 30% do not. 80% follow protocols and standards when preparing and administering antibiotics; 20% do not. 70% take vitals and assess the patient before administration; 30% do not. 80% notify physicians of concerns about a pediatric patient's response to antibiotics; 20% do not. 80% monitor for signs of a positive response to antibiotics; 20% do not.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.0. INTRODUCTION

This chapter provides a comprehensive discussion of the research findings regarding nurses' knowledge, attitudes, and practices related to antibiotic use in pediatric patients. Based on the analysis, we will offer recommendations to address identified gaps and suggest areas for future research.

5.1. CONCLUSION

The research assessing nurses' knowledge, attitude, and practice toward the use of antibiotics in the pediatric department at Kibuye Referral Hospital revealed significant findings. The majority of respondents (90%) participated in the study. The mean percentage of knowledge-related findings was 86% (0.86), indicating a strong understanding of antibiotic use among the nurses. The mean percentage of agreement for attitude-related findings was 80% (0.8), reflecting a generally positive attitude towards appropriate antibiotic use.

However, the mean practice score of 74% (0.74) suggests that, on average, nurses are adhering to recommended practices three-quarters of the time. While this reflects a relatively high level of compliance, it also indicates that there is room for improvement, as 100% adherence is not being achieved.

The study highlights a gap between knowledge, attitude, and practice, particularly in the area of practical application. This discrepancy suggests the need for further research to identify potential barriers contributing to the lower practice scores. Addressing these barriers is crucial for improving the overall quality of care and ensuring the effective use of antibiotics in the pediatric department.

5.2 RECOMMENDATION

According to our research done we suggest the following recommendation to:

Recommendations for Kibuye Referral Hospital:

Implement Regular Workshops: Organize ongoing workshops focused on the latest guidelines for antibiotic use. These should cover key topics such as the importance of culture results, differentiating between bacterial and viral infections, and best practices in antibiotic stewardship.

Develop and Enforce Standardized Protocols: Establish and strictly enforce standardized protocols for antibiotic administration. These should include critical practices like hand hygiene, accurate weight checks, and thorough patient assessments before administering antibiotics.

Conduct Regular Audits: Implement routine audits to monitor adherence to antibiotic protocols. Provide constructive feedback to nursing staff to address any discrepancies and ensure continuous improvement in practice.

Foster Interdisciplinary Collaboration: Encourage regular interdisciplinary meetings to enhance collaboration between nursing staff and prescribing clinicians. These meetings should focus on aligning practices, resolving any issues of dissatisfaction, and improving overall patient care.

Kibogora polytechnic and other researchers

Given the limited research on healthcare-associated infections in Rwanda, particularly in the context of pediatric care, there is a pressing need to conduct comprehensive studies focusing on the knowledge, attitudes, and practices (KAP) related to antibiotic use in pediatric departments. These studies would provide valuable insights into current practices and identify areas where healthcare providers may require further education or support.

Additionally, it is recommended to enhance the nursing and midwifery curriculum by placing a stronger emphasis on the knowledge, attitudes, and practices concerning antibiotic use, as outlined by the Ministry of Health. This curriculum enhancement should aim to ensure that all healthcare providers are well-equipped with the necessary competencies to promote safe and effective antibiotic use, thereby reducing the risk of antibiotic resistance and improving patient outcomes.

Nurses

Nurses should adhere to hospital protocols and policies related to antibiotic use and actively participate in training programs focused on evidence-based practices. By doing so, they can enhance their knowledge, attitudes, and practices regarding the appropriate use of antibiotics. Additionally, it is crucial for nurses to remain adaptable and maintain high standards of care, even in the face of excessive workloads, to effectively prevent microbial resistance and ensure patient safety.

5.3. SUGGESTIONS FOR FURTHER STUDY

Future research should explore the prevalence of antibiotic use in pediatric departments to better understand prescribing patterns and identify areas for improvement. Additionally, conducting similar studies in other hospitals across the country would allow for a comparative analysis, helping to identify common trends and challenges in antibiotic use. This broader perspective could inform targeted interventions to enhance antibiotic stewardship nationwide.

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APPENDICES

APPENDICES 1: CONSENT FORM FOR PARTICIPATION IN A RESEARCH STUDY

I consent /accept to participate in this research project entitled: *ASSESSMENT OF NURSE'S KNOWLEDGE, ATTITUDES AND PRACTICES TOWARDS THE USE OF ANTIBIOTICS IN PEDIATRIC DEPARTMENT AT KRH* during AUGUST 2024.conducted by NAHIMANA Innocente and UWASE Micheline, KIBOGORA POLYTECHNIC.

The information about this study has been given and explained to me and all my questions have been observed .I have read this form and I feel that I have enough information and time to consider my decision to join the study .I fully understand that by signing this form , I do not waive any of my legal rights ,nor does it relieve the study investigators their duty (liability) , but merely indicates that I have been informed about research study in which I am voluntarily agreeing to take part in this research , however if you have questions about this study , you can ask the researcher to the following addresses

NAHIMANA Innocente on 0784045001

UWASE Micheline on 0780182800

KIBOGORA POLYTECHNIC ethics research committee

I have understood this consent form and voluntarily consent to participate in the study

Participate's signaturedate

APPENDICES 2: QUESTIONNAIRE AND CHECKLIST FOR ASSESSING KNOWLEDGE AND ATTITUDES TOWARDS USE OF ANTIBIOTICS IN PEDIATRIC DEPARTMENT AT KIBUYE REFERRAL HOSPITAL

Dear respondents, we NAHIMANA Innocence and UWASE Micheline have prepared this questionnaire in order to found information for research topic, which is to assess nurse's Kibuye referral hospital. the information given will be used by academic purpose and confidentiality will be observed. please kindly feel free to fill and answer the questions below.

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

Variable	Frequency
Sex of the participants	
Male	
Female	
Age of the participants	
21-30 years	
31-40 years	
41-50 years	
Above 50 years	
Level of education of participants	
Master's nurse	
A0 nurse	

A1 nurse	
A2 nurse	
Years of nursing experience	
Less than 5 years	
5-10 years	
10 -15 years	
More than 15 years	
Got in service training on antibiotic use	
Yes	
No	

SECTION B: KNOWLEDGE OF NURSES TOWARDS USE OF ANTIBIOTIC IN PEDIATRIC

Items	Disagree	I don't know	Agree
Can antibiotics cause allergic reactions in pediatric patients?			
Do antibiotics treat bacterial infections or viral infections?			

Can antibiotics be safely used to treat a fever of unknown origin in pediatric patients?			
Should antibiotic dosages for pediatric patients be calculated based on weight or age?			
Is it necessary to obtain cultures before starting antibiotics for suspected bacterial infections in children?			

SECTION C: ATTITUDE OF NURSES TOWARDS USE OF ANTIBIOTIC IN PEDIATRIC

Items	agree	disagree
Is it necessary to inform parents and other caregivers about the advantages and disadvantages giving their child antibiotic treatment?		
Is the interdisciplinary teamwork is crucial to optimizing pediatric patients' usage of antibiotics?		

Regarding antibiotic decisions, are you happy with the degree of cooperation between nursing staff and prescribing clinicians?		
Does minimizing the overuse of antibiotics essential to maintain the efficacy of pediatric care?		

**SECTION D: CHECKLIST FOR ASSESSING PRACTICE OF NURSES TOWARDS
USE OF ANTIBIOTIC IN PEDIATRIC**

Items	YES	NO
Washing hands before antibiotic administration.		
always check physician's antibiotic prescription.		
always check a pediatric patient's weight before calculating antibiotic dosages.		
Following protocol standards When preparing and giving antibiotics to pediatric patients.		
To take vitals and assess the patient before antibiotic's administration.		
To notify physicians of any concerns regarding pediatric patients' response to antibiotics		
To keep an eye out for indications that pediatric patients are responding well to antibiotic treatment		

