

**KNOWLEDGE AND PRACTICE TOWARDS INTEGRATED MANAGEMENT OF
NEONATAL AND CHILDHOOD ILLNESSES AMONG THE HEALTH
WORKERS OF BUSOLWE HOSPITAL, BUTALEJA
DISTRICT**

**KAGODA TONNY
2015-BNS-TU-012**

**AN UNDERGRADUATE RESEARCH REPORT SUBMITTED TO THE SCHOOL
OF NURSING IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE AWARD OF A BACHELOR'S DEGREE IN NURSING
SCIENCES OF INTERNATIONAL HEALTH
SCIENCES UNIVERSITY**

NOVEMBER 2018

DECLARATION

I Kagoda Tonny declare to the best of my knowledge that this work is my original and has never been presented by any person from any University for research report therefore this is its first time to be presented.

Signature.....

Date.....

APPROVAL

I have examined the research report and I am satisfied that it meets the research and ethics standards

Signature:

NABACWA OLIVER NORAH
SUPERVISOR

Date:

DEDICATION

I whole heartedly dedicate this research report to my dear wife Ms. Apuun Caroline who has always believed in me and whose support, prayers and encouragement, gave me hope and strength to complete this study. You have always stood with me at all times regardless of the situation which may be prevailing.

I also dedicate this book to my friends Kirabira Annet, Najjemba Grace, Bbe Jonathan and all those who have encouraged me all through. Thank you for your overwhelming love, patience and support during this struggle.

May the good Lord bless and reward you abundantly.

ACKNOWLEDGEMENT

I thank the Almighty God who has kept me and my family in good working conditions throughout the period of my study.

My sincere gratitude also goes to my supervisor, Ms. Nabacwa Oliver Norah for your tireless and valuable guidance, academic intellect and constructive criticism throughout this research. Your tireless attention and devotion towards my research journey has contributed greatly to the success of this exercise. You have been there for me throughout the entire research project. May the Almighty God bless you always.

Special thanks go to the management and staff of Busolwe hospital who made this research a success.

To my lecturers, thank you for your moral support, confidence and academic expertise offered that enabled me to make it up to the end of this course.

To my classmates, words may not express how grateful I am for your continuous support through discussions and other academic interactions we had together. You have contributed a lot to my academic journey. Thank you very much.

Lastly but not least, special regards and appreciation go to my beloved wife Ms. Apuun Caroline for your wisdom, support, encouragement and prayers throughout my studies. I cannot thank you enough dear.

TABLE OF CONTENT

Declaration.....	i
Approval	ii
Dedication	iii
Acknowledgement	iv
Table of content	v
List of figures.....	vii
List of tables.....	viii
Definition of terms.....	ix
List of abbreviation	x
Abstract	xi
CHAPTER ONE:INTRODUCTION	1
1.0 Background.....	1
1.1 Problem statement.....	2
1.2 Study objectives	3
1.2.1 General objective	3
1.2.2 Specific objectives	3
1.3 Research questions.....	3
1.4 Conceptual framework.....	3
1.5 Significance of the study.....	4
CHAPTER TWO:LITERATURE REVIEW	5
2.0 Introduction.....	5
2.1 The knowledge of IMNCI among health workers	8
2.2 The practice of IMNCI among health workers	10
CHAPTER THREE:METHODOLOGY	14
3.0 Introduction.....	14
3.1 Description of study design and rationale.....	14
3.2 Description of study setting and rationale	14
3.3.1 Sample size determination	14
3.3.2 Procedure / sampling technique	15
3.3.3 Inclusion criteria	15
3.3.4 Exclusion criteria	15
3.4 Definition of variables	15
3.5 Research instruments	16

3.7 Quality Control measures, Steps to minimize errors and eliminate bias	16
3.8 Data analysis plan	16
3.9 Ethical consideration.....	17
3.10The study limitation	17
3.11 Dissemination of results.....	17
CHAPTER FOUR:STUDY RESULTS	18
4.0. Introduction.....	18
4.1 Demographic data of the respondents.....	18
4.2 Knowledge of IMNCI among health workers.	19
4.3 Practice of IMNCI among health workers	29
CHAPTER FIVE:DISCUSSION OF RESULTS	36
5.0 Introduction.....	36
5.1 Knowledge of IMNCI among health workers	36
5.2 Practice of IMNCI among health workers	37
CHAPTER SIX:CONCLUSION AND RECOMMENDATION	40
6.0 Introduction.....	40
6.1 Conclusion	40
6.2 Recommendations.....	40
REFERENCES	41
APPENDIX I: INFORMED CONSENT FORM.....	45
APPENDIX II: QUESTIONNAIRE.....	46
APPENDIX III: OBSERVATIONAL CHECKLIST FOR HEALTH WORKERS’ PRACTICES ABOUT IMNCI	51
APPENDIX IV: INTRODUCTORY AND CORRESPONDENCE LETTER	53

LIST OF FIGURES

Figure 1: Conceptual framework	3
Figure 2: Showing how long the respondents have been practicing as health workers and how long they have worked in Busolwe hospital.	19
Figure 3: Showing whether respondents had ever heard about IMNCI.....	20
Figure 4: Showing whether respondents had ever undergone IMNCI training.	20
Figure 5: Showing the respondents' preference of IMNCI to a single condition approach. ...	22
Figure 6: Shows how respondents would identify the requirement for urgent referral of a sick child according to the color codes	25
Figure 7: Showing how health workers treated severe cases of infants 0-2 months.	30
Figure 8: Showing how health workers treated non severe cases of infants of 0 – 2 months.	30
Figure 9: Showing how health workers treated severe cases of infants 2 months to 5 years.	33
Figure 10: Showing how health workers treated non severe cases of infants of 2 months to 5 years.	34

LIST OF TABLES

Table 1: Showing distribution of the respondents by the demographic characteristics.....	18
Table 2: Showing how the respondents defined IMNCI.	21
Table 3: Shows the respondents’ responses on what is involved in IMNCI.	21
Table 4: Showing the distribution of responses on the diseases that are identified in IMNCI.	22
Table 5: Showing reasons why most respondents preferred IMNCI to a single condition approach in managing sick children.	23
Table 6: Showing responses on how to begin assessing a sick child.....	23
Table 7: Showing the IMNCI danger signs identified by respondents.....	24
Table 8: Showing the main symptoms identified while assessing for a sick child.....	24
Table 9: Showing responses on what should be done when a child has one or more danger signs.	25
Table 10: Shows responses on how to urgently refer a sick child.....	26
Table 11: Showing responses on what the health worker should do if referral is not possible	26
Table 12: Showing responses on which assessment chart is used for infant.	27
Table 13: Shows responses on why infants require special immediate attention.	27
Table 14: Shows respondents views on the qualities of good communication.....	28
Table 15: Showing responses on the importance of good communication	28
Table 16: Showing how health workers assess and classify a sick child of 0-2 months of age	29
Table 17: Showing how health workers did general counselling of caregivers/mothers who had sick infants of 0 – 2 months	31
Table 18: Showing how health workers assess and classify a sick child of 2 months to 5 years of age.....	32
Table 19: Showing how health workers did general counselling of caregivers/mothers who had sick children of 2 months to 5 years.....	35

DEFINITION OF TERMS

Health workers	Are people whose job it is to protect and improve the health of their communities.
IMNCI	Is a systematic approach to neonatal and child health that focuses on the wellbeing of the whole child.
Knowledge	Is the information or awareness gained through experience or education.
Practice	Is the way of doing things. According to IMNCI, it is to assess, classify and check for danger signs then treat the sick child.

LIST OF ABBREVIATION

ARTI	Acute Respiratory Tract Infections
CDD	Control of Diarrheal Diseases
CHW	Community Health Workers
DFID	Department for International Development
EPI	Expanded Program on Immunization
FHP	Family Health Program
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
MCE	Multi Country Evaluation
MOH	Ministry of Health
OPD	Out Patient Department
UIIS	Uganda IMNCI Impact Study
UNICEF	United Nations Initiative for Children's Fund
WHO	World Health Organization

ABSTRACT

Introduction: Integrated Management of Neonatal and Childhood Illness (IMNCI) was adopted by the Ministry of Health Uganda as one of the strategy for improving child survival and to reduce child morbidity and mortality. The purpose of this study was to assess the health workers' knowledge and practices in the implementation of IMNCI strategy to address Childhood Illnesses in Busolwe hospital, Butaleja district.

Study design: The study adopted a descriptive cross sectional design that employed quantitative methods of data collection. The study consisted of 59 respondents which comprised of health workers who are directly involved in the implementation of the IMNCI strategy. The sampling procedures used to select these respondents were simple random and purposive. For the purpose of receiving further information, documentary review of MoH documents and the under-fives registers from daily used registers with the availability of all information treatment inclusive.

Results: The study came up with various findings; health workers are found to have poor knowledge of IMNCI strategy and commented it is a better approach in managing common childhood illnesses if they are trained. The study also observed that there is malpractice in assessment of IMNCI indicators attributed to lack of knowledge. However, the bottlenecks observed are: lack of training and weak supportive supervision, poor adherence of the standard treatment guideline and misuse/overuse of antibiotics. Also the study outlines lack of pre-referral treatment for urgent referral, shortage of the essential drugs, poor counseling and advice to the caregivers and lack of sound referral system.

Conclusion and recommendation: The study recommends that the district health team needs to support health workers to be more conversant with the IMNCI approach. Also there should be a well-organized mechanism to ensure training coverage is increased, augmented with supportive supervision and sufficient distribution of all essential requirements.

CHAPTER ONE

INTRODUCTION

1.0 Background

Integrated management of neonatal and childhood illnesses (IMNCI) is a strategy developed by the World Health Organization (WHO), Pan-American health organization (PAHO), and the United Nations Children's Fund (UNICEF) with the aim of improving the health status of the world's children. The strategy includes three components i.e. improving case management skills of health workers, improving health systems support, and improving family and community practices (WHO, 2007).

Every year about 10.5 million children die before their fifth birthday in low and middle income countries, with a large number of these deaths occur during the first year of life. Nearly 70% of these deaths are due to pneumonia, diarrhea, measles, malaria and malnutrition. Frequently a combination of these conditions is responsible for the untimely deaths in children below five years of age. Around the world, three out of every four children seeking health care are suffering from at least one of the above conditions (WHO, CAH 2007).

In sub-Saharan Africa, nearly 8 out of ten of acute febrile illnesses and deaths in infants and children under 5 years occur with little or no contact between household caregivers and professional health providers. This is because during the sickness parents may not recognize that their children are dangerously ill or take them for their appropriate treatment. Even when the treatment is sought at the health facility, it may still fall short of what is required. Health workers frequently do not recognize that a child may have more than one condition at a time, which requires treatment (Tanzania IMCI policy, 2009).

The need for an integrated approach to improve child health became evident in the mid-1990s for a number of reasons. From the perspective of epidemiology, a small number of diseases accounted for a high proportion of deaths and those diseases were often present in the same children and had overlapping clinical signs. It was during this time that actions aimed at improving child health were organized as vertical programs, each addressing a specific disease or providing a given intervention or a set of interventions (Zhumativa, 2011).

In Uganda, IMNCI implementation started in 1996, and has strongly moved to different parts of the country. In Uganda, IMNCI is being implemented in the context of family health

program through Community Health Workers (CHWs) who work hand in hand with the health workers who are included among the public policies of Ministry of Health (MOH) with a special emphasis on first-level care. Even then the IMNCI strategy has not been undertaken by many health workers in most parts of Uganda due to a number of reasons. Therefore, this study aims at assessing the knowledge and practices of IMNCI among the health workers of Busolwe Hospital Butaleja district.

1.1 Problem statement

The current focus of development worldwide in relation to child survival is sustainable development goal 3, target two, which aims at reducing the global rate of infant and child mortality by 25/1000 live births by the year 2030 (United Nations, 2015). This is one of the challenges that Uganda has to realize through concerted effort by all involved inclusive of families, communities, the government through MOH and various partners locally and internationally.

Every year 43 children per 1000 live births die before their fifth birth day worldwide and most of them occur because of very common problems like measles, malnutrition, acute respiratory infections (ARI), diarrhea and other vaccine preventable diseases.

Despite the many efforts put in place by the Ugandan government to improve child health through IMNCI strategy, the implementation of IMNCI by the health workers in health care facilities is still poor. In Uganda, the under-five child mortality rate is still high at a rate of 64/1000 live births and the leading causes of these deaths are pneumonia, diarrhea, anemia, malaria and malnutrition (UDHS, 2016). The rate of re-attendance among children under 5 years in Busolwe hospital is at 16% (DISH2, 2017). These rates are attributed among other factors to health workers' inability to recognize the child's multiple health problems and intervene accordingly.

These high re-attendance and mortality rates impose a high financial burden to the government in terms of preventive, curative and rehabilitation aspects, low levels of productivity among family and community members and psychological upset as well. Little is known about the knowledge and practice of IMNCI among health workers of Busolwe Hospital. The purpose of this research study therefore is to identify the level of awareness and implementation of IMNCI interventions among health workers in Busolwe hospital, Butaleja district.

1.2 Study objectives

1.2.1 General objective

To assess the knowledge and practice towards IMNCI among the health workers of Busolwe Hospital Butaleja district.

1.2.2 Specific objectives

- i) To assess the knowledge towards IMNCI among the health workers of Busolwe hospital.
- ii) To assess the practice towards IMNCI among the health workers of Busolwe hospital.
- iii) To determine level of implementation of the IMNCI strategy in Busolwe hospital.

1.3 Research questions

- i) What is the level of knowledge towards IMNCI among health workers of Busolwe hospital, Butaleja district?
- ii) What is the practice towards IMNCI among health workers of Busolwe hospital, Butaleja district?
- iii) What is the level of implementation of IMNCI in Busolwe hospital, Butaleja district?

1.4 Conceptual framework

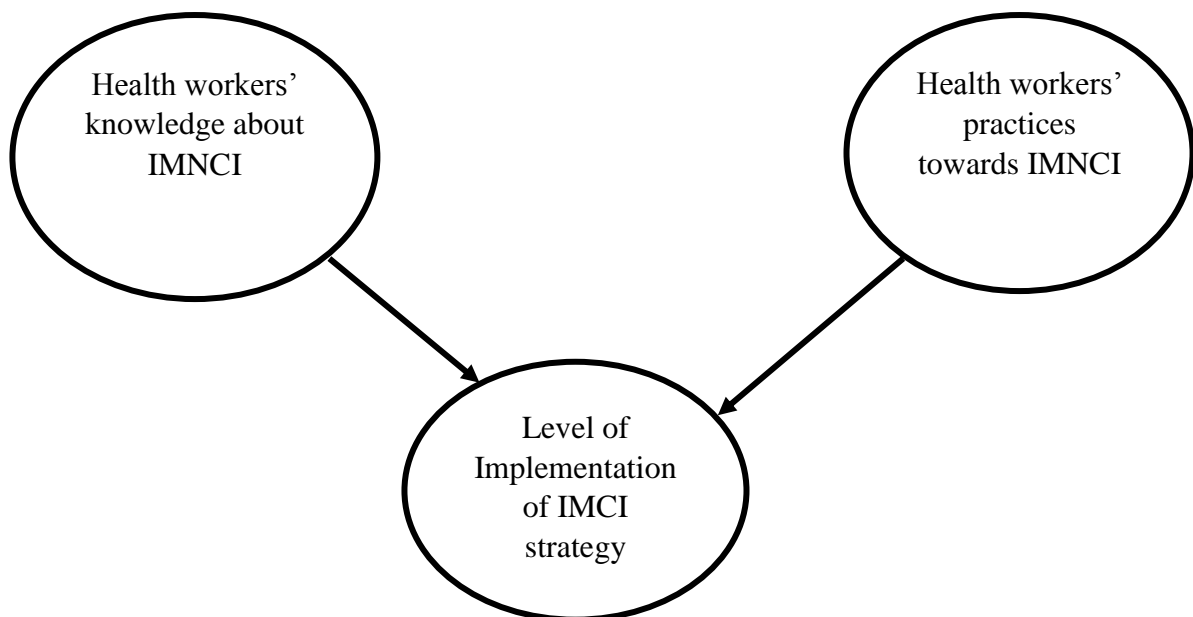


Figure 1: Conceptual framework

1.5 Significance of the study

The study findings will share information on the knowledge and practice of IMNCI among the health workers of Busolwe hospital.

The study findings will also help stakeholders (health workers, implementing partners and MOH) to identify ways to improve on the progress of IMNCI strategy in Uganda.

The research findings will also be viewed as a working document that attempts to synthesize the currently available information about IMNCI in the field of child health promotion.

The study findings will also fulfil an academic requirement for the researcher's award of a bachelor's degree in nursing sciences by International Health Sciences University.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter includes a review is an organized written presentation of what has been published on a topic by scholars, with the purpose of conveying to the reader what is currently known regarding IMNCI. The review also allows the researcher the opportunity to view pertinent references thus building up her knowledge base on the subject.

2.1 Background

Mortality of children under the age of five years remains one of the most important public health challenges in low and middle income countries. Many children succumb to illnesses or conditions that are treatable such as acute respiratory infections (pneumonia), diarrhea, measles, malaria, malnutrition and HIV (Child and adolescent health, 2009). According to Woods (2010) the IMNCI, developed by the World Health Organization (WHO) and UNICEF in 1996, is advocated globally and in developing countries, as a child survival strategy to improve the health of children and reduce under five mortalities.

The IMNCI strategy has three main components which include; improving case management skills of health care workers by administering guidelines that outline a process which primary level health workers can use to assess and manage ill children; improving overall health systems that focus on policy, planning and management, human resources, availability of drugs and supplies, referral, monitoring and health information systems, supervision, evaluation and research; and improving family and community health practices which if properly promoted and adopted by the targeted communities, would potentially contribute to improving child survival, growth and development (Woods, 2010).

According to Woods (2010) and IMNCI chart booklet (2014) the following principles must be adhered to by health workers in order for the IMNCI strategy to be successfully implemented:

- The use of a chart booklet.
- The recognition of the general danger signs in all sick young children under the age of five years which necessitates the need for urgent pre-referral treatment and transfer to hospital.

- The use of the assess -classify- treat format (IMNCI algorithm) where all sick children are first assessed for the main symptoms (cough or difficulty breathing, diarrhea, fever and ear infection) and then routinely assessed for nutritional and immunization status, HIV and other potential problems.
- Only a limited number of clinical signs are used, selected on the basis of their sensitivity and specificity to detect disease. However, the integrated approach is important as many children present with more than one condition at the same time.
- A combination of individual signs leads to a child's classification (not diagnosis). The color coded triage system (red, yellow or green) in the classification tables is an indication of whether the child has a serious condition requiring stat doses of drugs, requires antibiotics that can be taken at home or, simply needs home remedies and home care.
- IMCI management procedures use a limited number of essential drugs and active participation of caregivers in the care of their children is encouraged.
- Counselling of caregivers on homecare, feeding recommendations and when to return is an essential component of IMNCI.
- A combination of individual signs leads to a child's classification (not a diagnosis).
- The color coded triage system (red, yellow or green) in the classification tables is an indication of whether the child has a serious condition requiring stat doses of drugs, requires antibiotics that can be taken at home or, simply needs home remedies and home care.
- IMNCI management procedures use a limited number of essential drugs and active participation of caregivers in the care of their children is encouraged.
- Counselling of caregivers on homecare, feeding recommendations and when to return is an essential component of IMNCI.

The guidelines on IMNCI require that a number of key assessment tasks should be performed in any sick child, irrespective of the specific complaint. This helps in identifying conditions that are not reported by the caretaker.

According to IMNCI strategy, when children arrive at a health facility it is important that the health care worker asks a set of defined questions as part of the screening process.

All sick children must have their temperature and weight measured and recorded. Temperature taking gives an indication of the severity of the child's illness as the child may

have an infection or severe illness like meningitis or malaria. The weight of the child is important in determining the correct dose of medication to give.

According to WHO (2014), when using the IMNCI strategy, the health worker assesses a child by checking for general danger signs, classifies the child's illness by using the color-coded triage system, and identifies specific treatments based on the classification. In the IMNCI strategy general danger signs are an indication of serious illness and they include; the child being unable to drink or breastfeed, vomiting, convulsions and the child being lethargic or unconscious. A child presenting with any of these danger signs requires urgent attention.

All sick children attending a health facility must be assessed not only for a presenting symptom, but also for other main symptoms related to the major childhood illnesses namely cough, diarrhea, fever, ear problems, malnutrition and anemia and HIV status (WHO, 2014).

According to WHO (2014), all children should receive the recommended immunizations at the appropriate age and health workers implementing the IMCI strategy should check the immunization status of all sick children so that no opportunity to immunize is missed.

According to WHO (2014), a feeding assessment must be done for all children under the age of two years, and for children who have a classification of not growing well or anemia. This is because feeding problems in a sick child can often lead to malnutrition.

After assessment of the sick child, a health worker is supposed to classify the child's illness based on the presence or absence of the signs and symptoms. This classification is crucial as it guides the health worker on what type of intervention to undertake. The classifications in the IMNCI strategy are color-coded according to level of severity. A severe classification is colored red, indicating that the child is seriously ill and requires hospitalization. The less serious classification is colored yellow indicating that the child requires antibiotics or other medications, whilst the least serious classification, colored green indicates that the child requires home remedies that can easily be made up at home.

After classification, the health worker identifies specific treatments and develops an integrated treatment plan for each child. If a child requires urgent referral, the sick child is transferred out. If the child is given treatment to take at home the first dose is given at the health facility with the caregiver playing an active role in the administration of this first dose. If the child is to receive home remedies, the caregiver is given specific instructions regarding the preparation of these home remedies (WHO, 2014).

Finally, caregivers are counseled about how to give treatment and take care of the sick child at home, what signs to look for to indicate that the child needs to return immediately to the health facility, and when to return for follow-up. The health worker provides practical treatment instructions, including advising the caregiver on how to give oral drugs, how to feed and give fluids during illness, and how to treat local infections at home. The health worker asks the caregiver to return for a follow-up date dependent on the classification, and also teaches them how to recognize when the child is not improving or responding to the treatment, and the urgency to return immediately to the health facility. The health worker also counsels the mother about her own health (WHO, 2014).

2.2 The knowledge of IMNCI among health workers

At the core of the IMNCI strategy is a clinical guideline that supports health workers to use a series of algorithms to assess and manage a sick child, and give counselling to caretakers. A study done by Venkatachalam, Aggarwal, Gupta, & Sathya, (2012) in North India showed that nearly 40% of the health worker respondents did not know how to appropriately assess, classify and treat the common childhood illnesses.

For a health worker to have concrete knowledge about IMNCI, he/ she must undergo extensive training. IMNCI is taught using a structured 11-day training course that combines classroom work with clinical practice. A variety of training techniques are used, supported by comprehensive training materials and detailed instructions for facilitators (Horwood, Voce, Vermaak, Rollins, & Qazi, 2009). However, this 11 day training course was reported to be too short by the health workers because there is too much information to be learnt within that short period. In Uganda over 8000 health workers were trained in IMNCI and it was incorporated into preservice training for private practitioners.

Health worker training was decentralized to district level and by 2000, IMNCI implementation had started in 55 of 56 districts. Currently it is being implemented in all the 112 districts of Uganda. A shortened training course was developed in 2002 in an effort to improve sustainability and achieve high coverage more rapidly (Krüger, Heinzl-Gutenbrunner, & Ali, 2017).

A study in Ballabgarh, India also showed that attained knowledge and skills may decline over a period of time among health workers (Anand, Patro, Paul and Kapoor, 2004). A study in

Tanzania also showed poor adherence to IMNCI guidelines for managing under-five children after IMNCI training (Walter et al, 2009).

According to Kiplagat (2014), in his study to assess the factors that influence the implementation of IMNCI, it was found that 50% of health workers in Mwanza were trained in implementing the IMNCI approach. This is below the WHO recommendation which emphasizes that at least 60% of health workers seeing sick children in health facilities should be trained in IMNCI.

In a study conducted in Egypt by Mona et al (2013), it was reported that before health workers were trained there was no integrated assessment of sick children but after the health workers were trained on IMNCI the care of sick children increased to 90%.

An evaluation study conducted by UNICEF (2010) in the Republic of Moldova indicated that 90% of health workers were able to name 3 or 4 danger signs that were listed in the questionnaire. In a study conducted by Ali (2015), results showed that 75% of health workers were able to recognize the IMNCI danger signs and 100% of them were able recognize the main symptoms.

In a study done by MOH Rwanda (2008) and Balika (2005) in Kazakhstan 76% and 86% of health workers respectively were able to identify all the common main symptoms in sick children as per the IMNCI guidelines.

According to MOH (2007), health workers should classify a child's illness using a classification chart. Many health workers are familiar with this system from experience with the WHO case management guidelines for diarrhea and upper respiratory infections. Because these children often have more than one condition, the health worker classifies each illness according to whether it requires urgent pre-referral treatment and referral, specific medical treatment and advice or simple advice on home management.

Also a study conducted by Ali (2015) showed that the majority of health workers could not classify the sick children using the color codes of green, yellow and red.

Venkatachalam, Kumar, Gupta & Aggarwal, (2011) reports that health care policies should be strongly based on scientific knowledge. In that respect, the findings show that training in IMNCI has led to significant improvement in children's health in Brazil. Results of a study that was done in a rural district in the Western Cape, South Africa showed that the knowledge

base of a third of the IMNCI health workers was poor and only 10% had sufficient knowledge to provide safe, quality care (Stellenberg, Van Zyl & Eygelaar, 2015).

During IMNCI a health worker asks pertinent questions, examines the child and will then assess for danger signs depending on the present one or often more classifications are made using IMNCI guidelines (WHO, 2007). A course on how to use the hospital based IMNCI approaches in the hospital has given health workers improved skills and a new attitude towards the sick children (WHO, 2007). A study in Kenya found that health workers often misinterpreted signs and symptoms of common childhood diseases, resulting in improper drug management (Rowe, et al., 2007).

Public health nurses are more knowledgeable about IMNCI than the medical officers and public health midwives. This is because public health nurses are more adept in following the protocol according to the IMNCI training coordinator (Luwabelwa, et al, 2017)

In a study by Pillay (2012) in KwaZulu Natal, South Africa; it was revealed that over three quarters of the IMNCI trained health workers disagreed that they received on going supervision. This is likely to have a negative impact on the performance of these health workers.

Many doctors working in the hospitals receive referrals from clinic-based IMNCI nurse practitioners. These children are referred with severe pneumonia or very severe diseases yet the doctors lack knowledge on IMNCI. Therefore, doctors too need to be informed what an IMNCI classification means. This will equip the doctors with skills which will help them to work on ill children in hospitals.

In high income countries such as the Philippines, well trained health workers in rural areas are scarce and some are not fully aware of the deleterious effect of misuse of antibiotics that they prescribe. Furthermore, it was found that some of the physicians or front-line health workers don't stick to the IMNCI guidelines set for treating certain childhood illnesses (Pearson, 2007)

2.3 The practice of IMNCI among health workers

The guidelines on IMNCI require that a number of key assessment tasks should be performed in any sick child, irrespective of the specific complaint. This helps in identifying conditions that are not reported by the caretaker.

In a study done by Kruger et al (2017) in Uganda, Tanzania and Namibia, it was found that only 13% of health workers comprehensively assessed children according to the guidelines through asking questions like name of the child, date of birth, age of the child, problems of the child and, whether it was an initial or follow up visit.

Studies done by Pillay (2012), Kruger et al (2017) and Venkatachalam et al (2011) revealed that most health workers never measured the child's temperature and weight while assessing the children.

According to Pillay (2012), in a study that was carried out in Kwazunatal South Africa, only 38% of health workers asked about or checked for all the general danger signs, whilst 43% did not ask about or check for any general danger signs. Other studies carried out by Venkatachalam et al (2011) and Krugar et al (2017), also reported that most health workers do not check for all the danger signs.

According to studies by Krüger, Heinzl-Gutenbrunner, & Ali (2017) and Venkatachalam et al, (2011), it was observed that a few of the health workers only assessed for the main symptoms related to the major childhood illnesses namely cough, diarrhea, fever, ear problems, malnutrition and anemia and HIV status because the caregiver reported this when asked about what the child's problems were. It is not known whether they would otherwise routinely ask about cough or difficulty breathing and fever.

In studies done by Pillay (2012) and Pariyo, Gouws, Bryce, & Burnham, (2005) it was found that although health workers were examining the road-to-health-card, only a few of them asked caregivers about the current immunization status of the child and few of those immunized the sick children that they were assessing.

Most health workers do not ask about breast feeding, or whether the sick children were taking other fluids or foods. The failure by health workers to complete feeding assessments can have far-reaching consequences for sick children with feeding problems and malnourishment (Kruger et al, 2017).

According to Pillay (2012) and Venkatachalam (2011), most health workers did not classify their sick children correctly while others end up prescribing medication as per essential drug lists instead of the IMNCI treatment protocols.

In a study carried out in Tanzania only 25% of the severely ill children were referred and most of the health workers (91%) showed that it was not necessary to refer children with severe classification. In a survey that was performed by the WHO in South African health

facilities in 2008, it was found that a half of the children that were seen and needed to be referred, were referred as per IMNCI strategy.

A study conducted by Ali (2015) showed that severe illnesses were managed as specific disease conditions and rarely according to the IMNCI protocol, and health workers failed to prescribe antibiotics when necessary.

A baseline survey conducted in the Western Cape province of South Africa found that only 25% of health workers counselled caregivers on the use of medication prescribed. Counselling about home treatment of illness is a key step in the management of sick children, as appropriate home treatment can prevent severe morbidity and mortality (Horwood, Voce, Vermaak, Rollins, & Qazi, 2009). Also in a study conducted by Pillay (2012), it was found that though 20% of the health workers counselled care givers in areas related to feeding, 85% of them failed to provide vital information on when to return for follow up and about 18% did not give the mother advice about her own health. The IMNCI strategy has been relatively well integrated within the health system where the IMNCI guidelines have incorporated other interventions such as immunization, malaria, nutrition and HIV/AIDS. Sixty percent of health workers seeing sick children in health facilities are recommended to be trained in IMNCI so as to be able to assess, classify and treat sick children using guidelines developed specifically for IMNCI (Schellenberg, Adam, Mshinda, Masanja, Kabadi, Mukasa & Mgalula, 2004).

The IMNCI health workers' training emphasizes the integration of curative care with preventive measures including nutrition and vaccination. The training was originally defined to last for 11 days including a large amount of hands on experience (Gove, 2007).

Tools were developed for implementing specific system strengthening interventions including a planning guide for nation and district managers, an integrated health facility assessment tool and a tool for improving referral level care. Several countries including Uganda through WHO's regional office for Africa have made substantial effort to improve the management and availability of the specific drugs required for IMNCI (Barlette et al, 2007).

Community IMNCI supports the development and implementation of community and house hold based messages and interventions to increase the proportions of children exposed to the practices. These behaviors address breast feeding, complementary feeding, micronutrients, personal hygiene, immunization, insecticide treated nets, mental and social development, continued feeding and increased fluids during illness, home treatment of infections, care-

seeking practices, compliance with health workers' recommendations and prenatal care (WHO, 2008).

Both the multi-country evaluation (MCE) and the analytical review of IMNCI that were carried out in 2007-2009 by DFID confirm that IMNCI has been highly successful in motivating managers and health workers. Studies show that health workers trained in IMNCI do perform better than those not trained (Adekanye & Titilayo, 2014).

According to a survey by Krüger et al (2017) to assess the adherence on IMNCI guidelines among health workers, it was revealed that a single assessment of the three main IMNCI symptoms like cough/difficult breathing and fever was better than for the danger signs like convulsions, lethargy and inability to feed in all countries of Uganda, Kenya, Tanzania and Namibia.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the research methodology that was used in the study. This includes description of study design and rationale, description of study setting and rationale, study population, sample size determination, sampling procedure, inclusion criteria, definition of variables, research instruments, data collection procedure, description of data analysis and management, ethical consideration, study limitation and dissemination of results.

3.1 Research design.

This was a descriptive cross sectional study that employed quantitative methods of data collection. This helped the researcher in obtaining accurate and complete information about the study.

3.2 Study area

The study was carried out in Busolwe hospital, Butaleja District. Busolwe hospital is a government owned hospital that was founded in 1970. It is found in Busolwe town council in Bunyole west constituency. It employs 127 health workers of different cadres, and receives an average of 80 children per day on the out patient's department according to the district records. The area was chosen because of its high child mortality rate and high rate of re-attendances among under-fives, which are in line with the study.

3.3 Study population

The study population included health workers i.e. enrolled nurses and midwives, registered nurses and midwives, clinical officers and medical officers of Busolwe hospital, Butaleja district because they directly implement the IMNCI strategy.

3.3.1 Sample size determination

The researcher used the Standard formula of Keish and Leslie (Wayne et al 1997) to determine the sample size (n) of the respondents. The formula is as follows

$$\text{The sample size (n) = } Z^2 \times P(1-P)/d^2$$

Where Z is the standard deviation at confidence interval of 95% with a statistical value of 1.96

P Probability of success, national IMNCI implementation coverage at 96% (UNICEF, 2014)

d is the maximum error the researcher allows between the estimate prevalence and the true prevalence in the population, the researcher uses d= 5% or 0.05

Therefore, substituting in the formula bellow;

$$n = Z^2 \times P(1-P)/d^2$$

$$n = (1.96)^2 \times 0.96(1-0.96)/(0.05)^2$$

$$n = 59.007$$

Therefore, the number of participants were **59**.

The study involved a sample of 59 respondents who were randomly selected.

3.3.2 Procedure / sampling technique

The researcher used a purposive sampling method where the respondents were selected according to the researcher's discretion (only those who were directly implementing the strategy). This helped the researcher to obtain accurate and complete information about the study.

3.3.3 Inclusion criteria

The study population was composed of different cadres of health workers of Busolwe hospital, Butaleja district who were present at the time of data collection and voluntarily accepted to participate in the study.

3.3.4 Exclusion criteria

The study excluded the laboratory personnel, support staff, those who did not consent and those that were not present at the time of data collection.

3.4 Study variables

Independent variables

Knowledge: Is the information or awareness gained through experience or education.

Practice: Is the actual application of the acquired knowledge to carry out a given task.

Dependent variables

Implementation of IMNCI: Is a practice of systematic approach to child health that focuses on the wellbeing of the whole child.

3.5 Research instruments

Pre- tested semi structured questionnaires were used to collect data from the health workers. Pre-testing was done on five health workers of a different health facility of Nabiganda HC IV within Butaleja district. Also a checklist was developed by the researcher to help to assess the practices of health workers.

3.6 Quantitative data collection procedure

Questionnaires were self-administered to collect data on health worker's knowledge on IMNCI but under direct supervision by the researcher or research assistant. A one on one interview was carried with each respondent by the researcher or research assistant.

Also a checklist was used to assess the practice of IMNCI by the health workers. This was filled by the researcher or research assistant as he/she observed the health worker assess, classify and treat the sick child as well as counselling the caretaker.

3.7 Quality Control measures, Steps to minimize errors and eliminate bias

- Pre-testing of the study tools was done a week before beginning the study among a small proportion of the study population from a different facility of Nabiganda H/C IV and adjustments were made where potential errors were identified.
- The researcher developed a short training power point presentation and trained the selected research assistants for three days on each of the data collection tools and the data collection procedure prior to the study
- To ensure reliability of the data that was collected inter rater reliability was conducted by sharing i.e. had two different data collectors assess the same person using study tool and compared their rankings while sampling validity was conducted on the tools to assess their capacity to capture the necessary parameters for the study.

3.8 Data analysis

A compilation of all the responses from the data collection techniques and tool including 59 responded questionnaires, were summarized in an excel sheet and the entire data set was exported to create an SPSS file for analysis.

3.9 Ethical consideration

On approval of the research proposal by my supervisor, a letter of introduction was provided by International Health Sciences University and then it was delivered to the Medical superintendent of Busolwe hospital, Butaleja district. The medical superintendent introduced the researcher to the in-charges of the different departments of the hospital. The researcher obtained consent from the respondents and assured them of absolute confidentiality. Abbreviations instead of respondent's full names were used.

3.10 The study limitation

- The researcher faced financial constraints since he is a student. He however attempted to mobilize for funds from relatives and well-wishers.
- Some respondents asked for money before answering questionnaire. The researcher told them that the work is for academic purposes only.
- Short time for carrying out the study. The researcher designed a time schedule to enable him complete the study in time.

3.11 Dissemination of results

The study findings were disseminated to the following:

- International Health Sciences University
- Medical superintendent of Busolwe hospital, Butaleja district.
- District Health office, Butaleja district

CHAPTER FOUR

STUDY RESULTS

4.0. Introduction

This chapter consists of the analysis of responses from the participants that were interviewed during the study of knowledge and practice of IMNCI among health workers of Busolwe hospital, Butaleja district.

This presentation follows the findings for each of the study objectives that focused on the key consideration of knowledge and practice. Statistical comparisons and relationships were examined for the variables in the study according to selected demographic and situational variables.

Data was presented according to the themes of the study, however demographic data about the respondents were presented first in order to get the clear picture of the nature of respondents that participated in the study.

4.1 Demographic data of the respondents

Table 1: Showing distribution of the respondents by the demographic characteristics

Variable	Frequency n=59	Percentage %
Age in years		
18-25	13	22
26-35	32	54.3
36 and above	14	23.7
Sex		
Male	25	42.4
Female	34	57.6
Job title / qualifications		
Enrolled nurse	20	33.9
Enrolled midwife	13	22.0
Registered nurse	10	16.9
Registered midwife	05	8.0
Clinical officer	08	13.6
Medical officer	03	5.1
Year of qualification		
Less than 5 years ago	19	32.2
6-10 years ago	14	23.7
More than 10 years ago	26	44.1

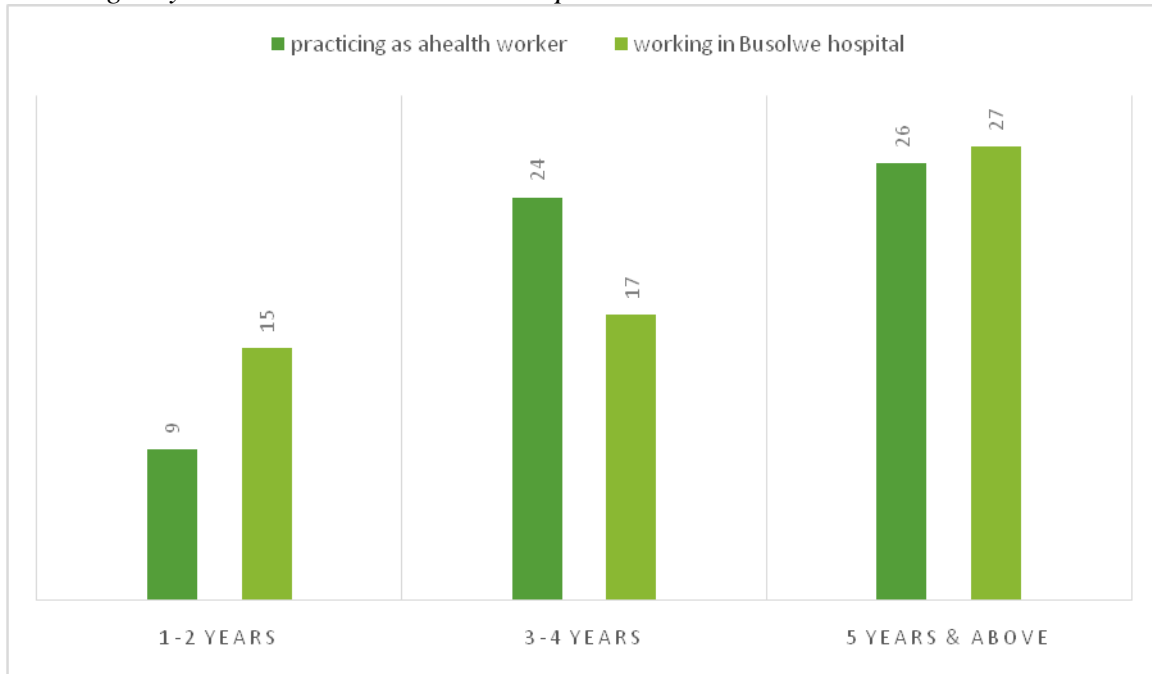
Source: Primary data

The table above shows that 32 (54.3%) of the respondents were aged between 26-35 years and 13(22.0%) of the respondents were aged between 18-25 years. Most of the respondents were females at 34(57.6%) and males were 25(42.4%). Twenty (33.9%) of the respondents were enrolled nurses and 3(5.1%) were medical officers. The majority of the respondents 26

(44.1%) had been qualified for more than 10 years and 14 (23.7%) attained their current qualifications between 6 and 10 years ago

4.2 Knowledge of IMNCI among health workers.

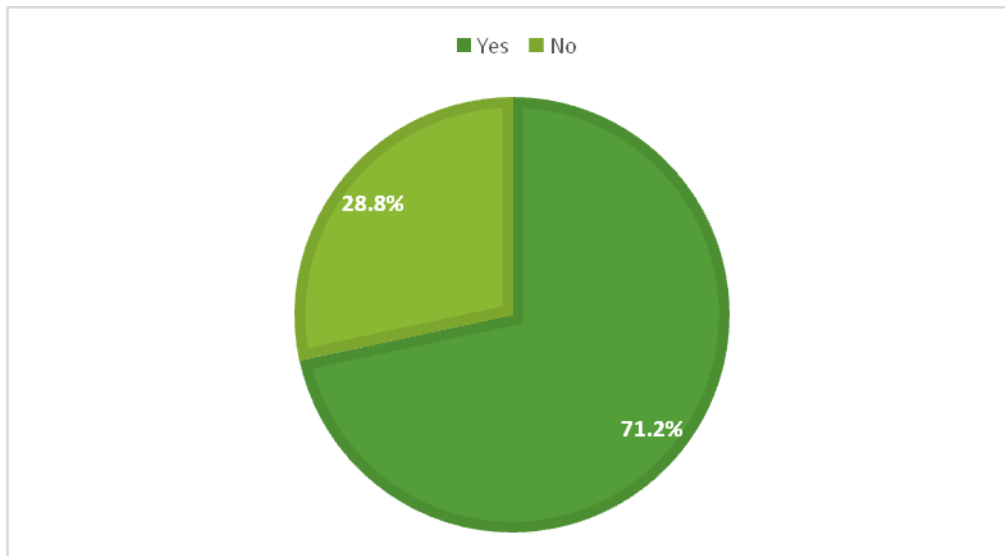
Figure 2: Showing how long the respondents have been practicing as health workers and how long they have worked in Busolwe hospital.



Source: Primary data

The graph above shows that 26 (44%) of the respondents had practiced as health workers for 5 years and above, and 9 (15.3%) of them had practiced for 1-2 years. 27 (45.8%) of the respondents had worked in Busolwe hospital for five years and above whereas 15 (25.4%) of them had worked for only 1-2 years.

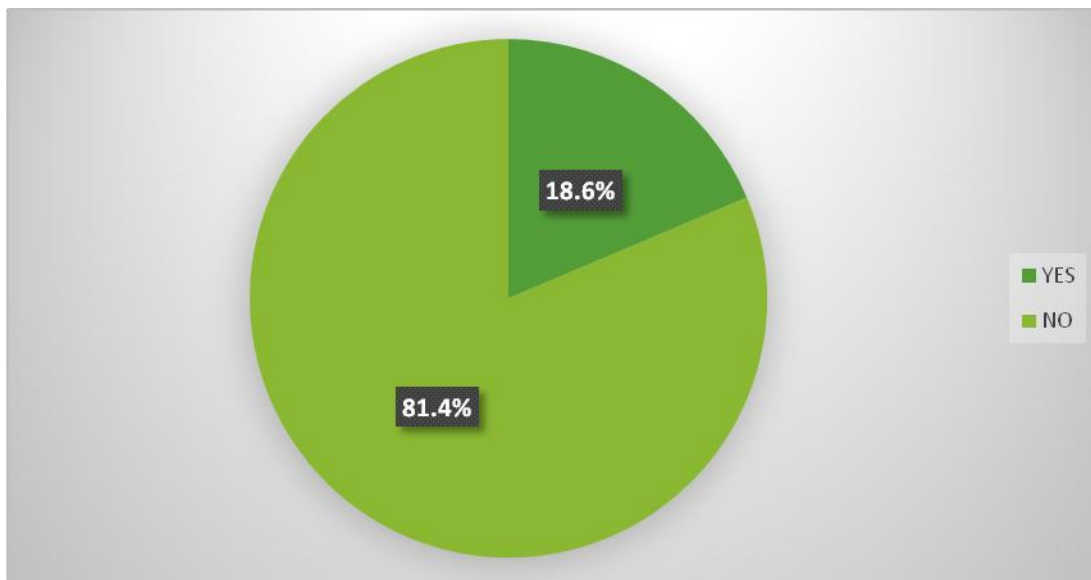
Figure 3: Showing whether respondents had heard about IMNCI.



Source: Primary data

The pie chart above shows that 42 (71.2%) of the respondents had heard about IMNCI and 17 (28.8%) of them had never heard about IMNCI. 26 (71.2%) of those who had heard about IMNCI, learnt of it from the training school/college while 16 (38.1%) got the information about IMNCI from colleagues who trained on IMNCI.

Figure 4: Showing whether respondents had undergone IMNCI training.



Source: primary data

The pie chart above illustrates that 48 (81.4%) of the respondents had never undergone IMNCI training and 11(18.6%) of them had undergone IMNCI training. All those who

reported to have under gone IMNCI training reported that they had the training for 2 weeks and this training occurred more than 6 months ago from the time of this data collection.

Table 2: Showing how the respondents defined IMNCI.

Variable	Frequency n=59	Percentage %
Definition of IMNCI		
A combined treatment of the major neonatal and childhood illness	03	5.1
A systematic approach to child health that focuses on the wellbeing of the whole child	29	49.2
The prevention of childhood illness through improved nutrition and immunization	17	28.8
I do not know	10	16.9

Source: Primary data

The table above shows that the majority 29 (49.2%) of the respondents defined IMNCI as a systematic approach to child health that focuses on the wellbeing of the whole child while 3 (5.1%) of them defined IMNCI as a combined treatment of the major neonatal and childhood illnesses.

Table 3: Shows the respondents' responses on what is involved in IMNCI.

Variable	Frequency n=59		Percentage %	
	True	False	True	false
Assessing the sick child	34	25	57.6	42.4
Classifying the disease	23	36	39.0	61.0
Checking for danger sign	41	18	69.5	30.5
Treating the child	49	10	83.1	16.9
Counselling	17	42	28.8	71.2
Follow up	25	34	42.4	57.6

Source: Primary data

The table shows that most of the respondents 49 (83.1%) agreed that IMNCI involves treating the child and only 17 (28.8%) of them agreed that IMNCI involves counselling.

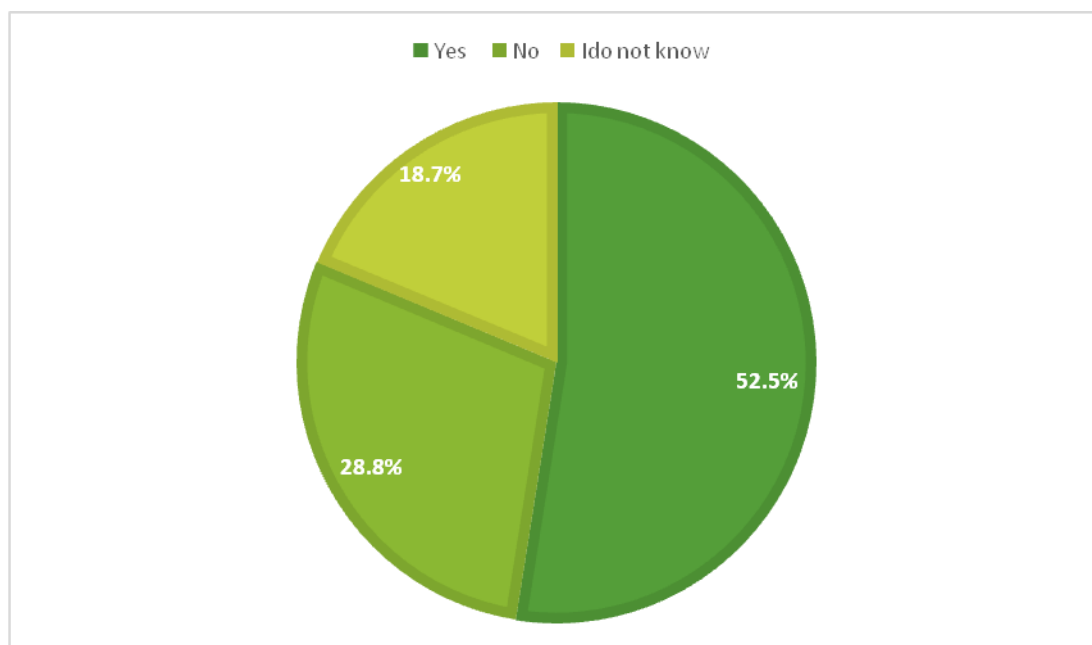
Table 4: Showing the distribution of responses on the diseases that are identified in IMNCI.

Variable	Frequency n=146	Percentage %
Diseases identified by IMNCI		
Pneumonia and diarrhea	32	22.0
Dysentery and malnutrition	17	11.9
Skin diseases and ear infection	17	11.9
Measles and malaria	58	39.0
HIV	22	15.2

Source: Primary data

The majority (39.0%) of the respondents reported measles and malaria as the diseases identified by IMNCI and 17 (11.9%) reported that dysentery, malnutrition, skin diseases and ear infection as the diseases identified by IMNCI.

Figure 5: Showing the respondents' preference of IMNCI to a single condition approach.



Source: Primary data

The majority (52.5%) of respondents said IMNCI is better than a single condition approach whereas 11 (18.7%) had no idea on which of the two approaches is better than the other.

Table 5: Showing reasons why most respondents preferred IMNCI to a single condition approach in managing sick children.

Variable	Frequency n=31	Percentage %
Why IMNCI is better than a single condition approach		
It accounts for a variety of factors that put children at risk	06	19.4
It ensures combined treatment of major childhood illness	18	58.1
It emphasizes prevention of diseases through improved nutrition and immunization.	07	22.5

Source: Primary data

Most of the respondents (58.1%) said that IMNCI ensures continued treatment of major childhood illnesses while the minority 6 (19.4%) said that it accounts for a variety of factors that put children at risk.

Table 6: Showing responses on how to begin assessing a sick child.

Variable	Frequency n=59	Percentage %
How do you begin assessing the child		
Check every sick child for general danger signs	38	64.4
Ask for the child's name and age	14	23.7
Check for child's weight and nutritional status	07	11.9

Source: Primary data

The table above shows that 38 (64.4%) of the respondents said that one should begin with checking for general danger signs while assessing a sick child and 7 (11.9%) said that one should start with checking for the child's weight and nutritional status.

Table 7: Showing the IMNCI danger signs identified by respondents.

Variable	Frequency n=144	Percentage %
IMNCI danger signs		
Child is not able to drink or breast feed	41	28.5
Child vomits every thing	36	25.0
Child has more than one convulsion or is convulsing now	22	15.3
Child is lethargic or unconscious	26	18.1
Wasting	19	13.2

Source: Primary data

The table shows the 144 responses were obtained from respondents when they were asked to identify danger signs as outlined by the IMNCI guidelines. Of these 41 (28.5%) respondents reported that when the child is not able to drink or breastfeed was a danger sign and 19 (13.2%) identified wasting as a danger sign.

Table 8: Showing the main symptoms identified while assessing for a sick child.

Variable	Frequency n=142	Percentage %
IMNCI main symptoms of a sick child		
Cough or difficulty in breathing	44	31.0
Fever	36	25.4
Diarrhea	29	20.4
Ear problems	12	8.5
HIV status	12	8.5
Check for immunization status	09	6.2

Source: Primary data

The table above shows the main symptoms that one assesses for in a sick child. Here, 142 responses were obtained, where the majority 44 (31.0%) of them were cough and difficulty in breathing and 9 (6.2%) reported that to check for the immunization status of the child was important.

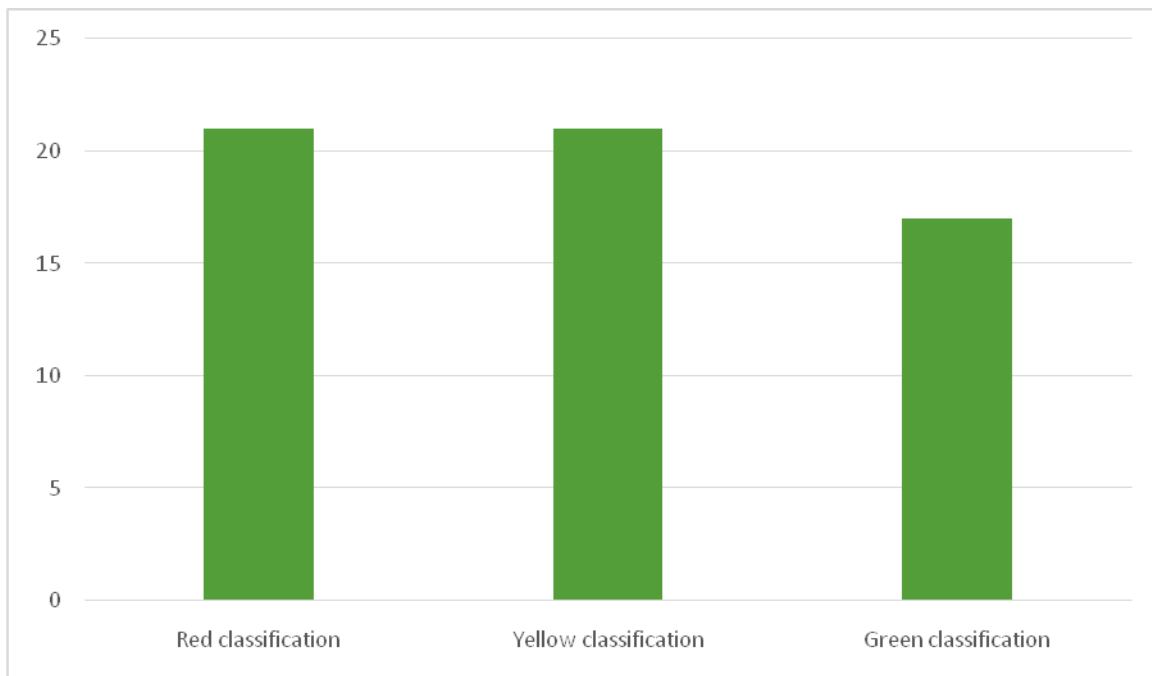
Table 9: Showing responses on what should be done when a child has one or more danger signs.

Variable	Frequency n=73	Percentage %
What do you do if a child has one or more danger signs		
Complete assessment immediately	41	56.2
Provide urgent pre referral treatment	14	19.2
Refer the child to a higher level facility	18	24.6

Source: Primary data

The table above shows that the majority of the respondents 41 (56.2%) said that they had to complete assessment immediately if the child had a danger sign and only 14 (19.8%) responded that you have to provide urgent pre-referral treatment.

Figure 6: Shows how respondents would identify the requirement for urgent referral of a sick child according to the color codes



Source: Primary data

The figure above shows that 21 (35.6%) of the respondents said that urgent referral is classified as yellow, with a further 21 (35.65) of respondents classifying it as red. 17 (28.8%) respondents said that urgent referral is a green classification.

Table 10: Shows responses on how to urgently refer a sick child

Variable	Frequency n=88	Percentage %
How to urgently refer a sick child		
Explain to the care giver the need for referral and get her agreement to take the child	39	44.3
Calm the care givers fears and help to resolve any problem	14	15.3
Write a referral note for the care giver to carry	24	27.3
Give the supplies and instructions needed to care for her child on the way to the hospital	11	12.5

Source: Primary data

Of the 88 responses that were obtained, the majority (44.3%) said that you explain to the caregiver the need for referral and get her agreement to take the child, and 11 (12.5%) were to give supplies and instructions needed to care for the child on the way to the hospital.

Table 11: Showing responses on what the health worker should do if referral is not possible

Variable	Frequency n=59	Percentage %
Measures provided if referral is not possible		
If referral is not possible you should do whatever you can to help the family care for the child.	24	40.7
If referral is not possible continue with the pre-referral treatment until the child is able is to leave for the hospital.	35	59.3

Source: Primary data

Majority of the respondents 35 (59.3%) said that if referral is not possible, you should continue with pre-referral treatment until the child is able to leave for the hospital while 24 (40.7%) of them said you should do whatever you can to help the family care for the child.

Table 12: Showing responses on which assessment chart is used for infant.

Variable	Frequency n=59	Percentage %
Chart used during the assessment of an infant		
Chart with age category from birth to 2 months.	28	47.5
Chart with age category from 2 months to 5 years	12	20.3
Chart with age category from 2 months to 2 years	19	32.2

Source: Primary data

Most of the respondents 28 (47.5%) said the chart with age category from birth to 2 months is used to assess an infant whereas 12 (20.3%) said the chart with age category from 2 months to 5 years is used.

Table 13: Shows responses on why infants require special immediate attention.

Variable	Frequency n=131	Percentage %
Why do infants require special immediate attention		
They become ill and die quickly from serious bacterial infections	46	35.1
Special risk for low birth weight infants	26	19.8
Infants often show only danger signs when seriously ill	29	22.1
Newborn infants are often sick from conditions related to labor and delivery	30	22.9

Source: Primary data

The majority of the respondents (35.1%) said infants require special immediate attention because they become ill and die quickly from serious bacterial infections and 26 (19.8%) said infants have a special risk for low birth weight.

Table 14: Shows respondents views on the qualities of good communication.

Variable	Frequency n=115	Percentage %
Qualities of good communication skills		
Listen carefully	25	21.7
Simplify words	29	25.2
Be clear	20	17.4
Give him/her time to answer	27	23.5
Praise the caregiver	14	12.2

Source: Primary data

The table above shows responses to what good communication skills does one need to have as a service provider and 115 responses were obtained. Of the responses, 29 (25.2%) were for simplifying words, and 14 (12.2%) were for praising the caregiver.

Table 15: Showing responses on the importance of good communication

Variable	Frequency n=59	Percentage %
Importance good communication with the caregiver		
Caregivers can be very stressed and emotional	36	61.0
Helps to reassure the caregiver that his/her child will receive good care	23	39.0

Source: Primary data

The majority 36 (61.0%) of the respondents said good communication is important because caregivers can be very stressed and emotional while 23 (39.0%) said good communication helps to reassure the caregiver that his/her child will receive good care.

4.3 Practice of IMNCI among health workers

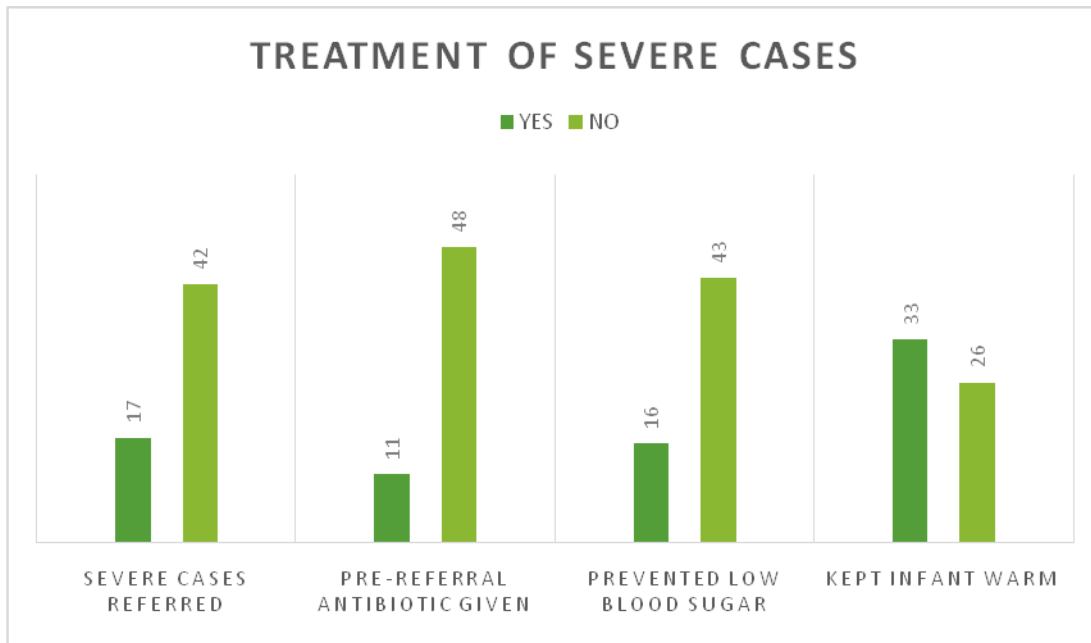
Table 16: Showing how health workers assess and classify a sick child of 0-2 months of age

Variable	Frequency n=59		Percentage	
	Yes	No	Yes	No
Does the health worker use the IMNCI chart book	6	53	10.2	89.8
Assessed for diarrhea	23	36	39.0	61.0
Assessed for jaundice	27	32	45.8	54.2
Assessed for eye problem	19	40	32.2	67.8
Assessed for HIV infection	15	44	25.4	74.6
Assessed for feeding problem or malnutrition	22	37	37.3	62.7
Assessed for breastfeeding	36	23	61.0	39.0
Checked for birth weight and gestational age	18	41	30.5	69.5
Correctly checked immunization status	39	20	66.1	33.9
Correctly classified the sick child according to color codes	22	37	37.3	62.7

Source: Primary data

The table above shows that 6 (10.2%) of the respondents used the IMNCI chart books whereas 53 (89.8%) did not use the chart books. Twenty three (39.0%) respondents assessed the infants for diarrhea and 36 (61.0%) did not assess for diarrhea. Twenty seven (45.8%) of the respondents assessed the sick children for jaundice while 32 (54.2%) did not assess for jaundice. Nineteen (32.2%) of the respondents assessed for eye problem whereas 40 (67.8%) did not. Fifteen (25.4%) respondents assessed for HIV infection while 44 (74.6%) did not assess for it. Twenty two (37.3%) respondents assessed for feeding problem or malnutrition while 37 (62.7%) did not assess for feeding problem or malnutrition. Thirty six (61.0%) respondents assessed for breastfeeding and 23 (39.0%) of them did not. Eighteen (30.5%) respondents checked infants for birth weight and gestational age whereas 41 (69.5%) did not. Thirty nine (66.1%) of the respondents correctly checked for immunization status of infants while 20 (33.9%) respondents did not check for the immunization status of the infants. Twenty two (37.3%) of the respondents correctly classified the sick infants according to the color codes and 37 (62.7%) of the respondents did not correctly classify the sick infants.

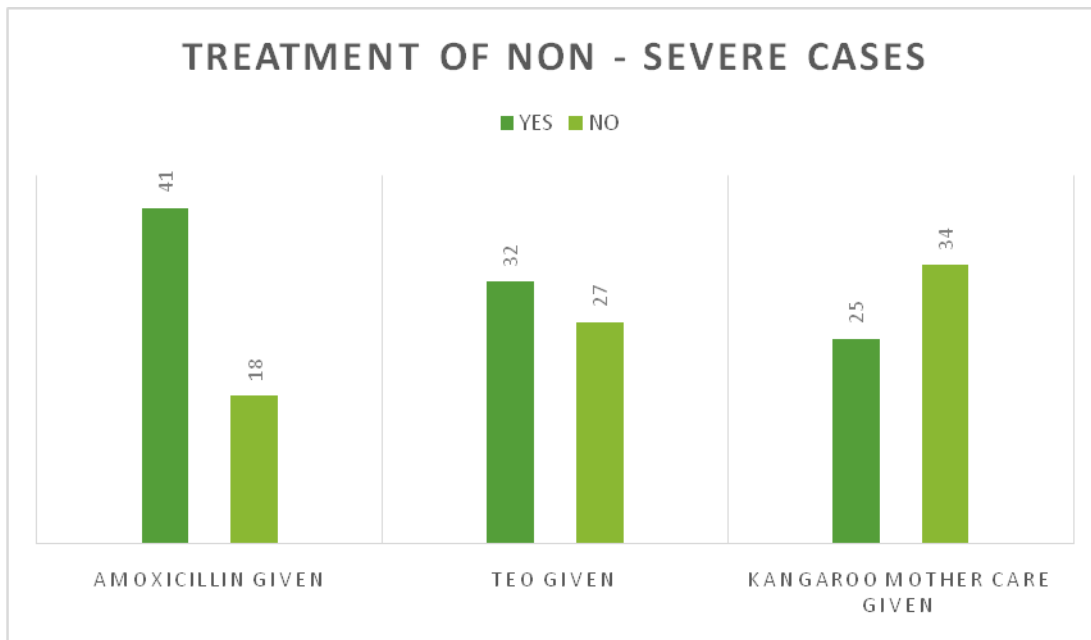
Figure 7: Showing how health workers treated severe cases of infants 0-2 months.



Source: Primary data

The figure above shows that 17 (28.8%) of the respondents referred the severe cases and 42 (71.2%) did not. Also 11 (18.6%) respondents gave the first dose of pre-referral antibiotics whereas 48 (81.4%) did not give pre-referral antibiotics. Sixteen (27.1%) of the respondents treated the infants to prevent low blood sugar and 43 (72.9%) did not prevent low blood sugar. Thirty three (55.9%) of the respondents advised the mother to keep the baby warm whereas 26 (44.1%) did not.

Figure 8: Showing how health workers treated non severe cases of infants of 0 – 2 months.



Source: Primary data

The figure above shows that 41 (69.5%) of the respondents gave amoxicillin for local bacterial infection whereas 18 (30.5%) did not. Tetracycline eye ointment for eye infection was given by 32 (54.2%) respondents and 27 (45.8%) did not give. Twenty five (42.4%) of the respondents gave kangaroo mother care to low birth weight / premature infants and 34 (57.6%) did not.

Table 17: Showing how health workers did general counselling of caregivers/mothers who had sick infants of 0 – 2 months

Variables	Frequency n=59		Percentage	
	YES	NO	YES	NO
Immunization given according to schedule	20	39	33.9	66.1
Mother counselled on feeding including breastfeeding	26	33	44.1	55.9
Mother counselled on when to return	16	43	27.1	72.9
Mother's own health assessed	14	45	23.7	76.3

Source: Primary data

The table above shows that 20 (33.9%) of the respondents counselled mothers on immunizing their children according to schedule while 39 (66.1%) did not. Also 26 (44.1%) respondents counselled mothers on feeding including breastfeeding whereas 33 (55.9%) did not. Sixteen (27.1%) of the respondents counselled the mothers on when to return to the health facility and 43 (72.9%) did not. Assessing the mother's own health was done by 14 (23.7%) respondents and 45 (76.3%) did not. Twenty one (35.6%) respondents managed their cases in between 30 minutes to one hour whereas the rest 38 (64.4%) of the respondents managed their cases in more than one hour.

Table 18: Showing how health workers assess and classify a sick child of 2 months to 5 years of age

Variable	Frequency n=59		Percentage	
	Yes	No	Yes	No
Does the health worker use the IMNCI chart book	5	54	8.5	91.5
Correctly assessed for danger signs	28	31	47.5	52.4
Assessed for presence of main symptoms (cough, diarrhea, fever, ear problem)	36	23	61.0	39.0
Correctly checked for measles	17	42	28.8	71.2
Correctly checked for anemia	24	35	40.7	59.3
Correctly checked for malnutrition	20	39	33.9	66.1
Assessed for HIV infection	14	45	23.7	76.3
Assessed for mouth and gum conditions	19	40	32.2	67.8
Correctly checked immunization status	22	37	37.3	62.7
Correctly classified the sick child according to color codes	29	30	49.2	50.8

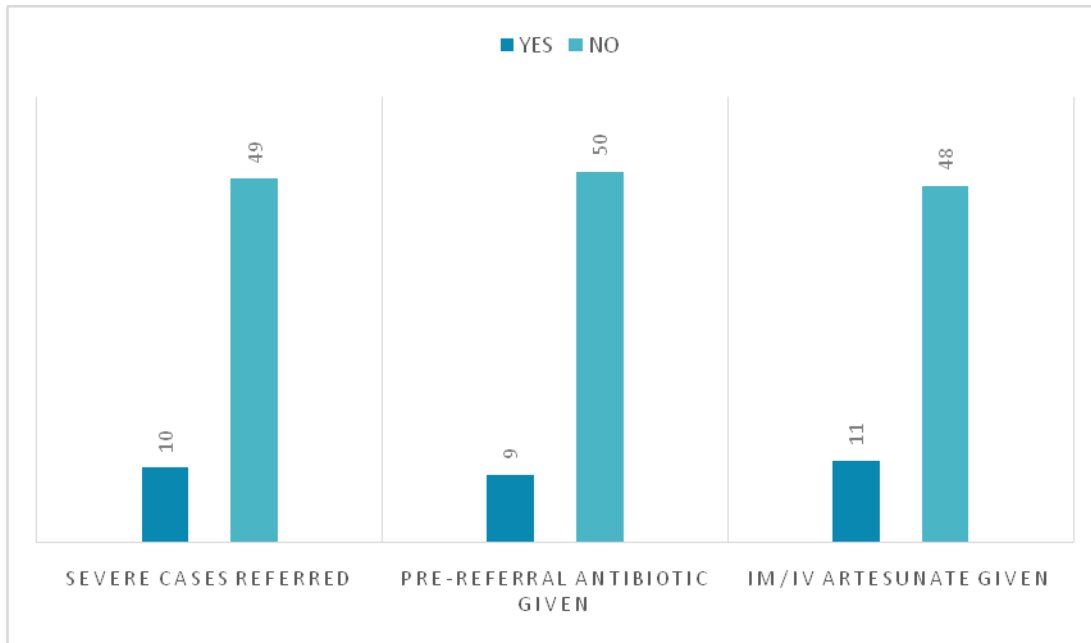
Source: Primary data

The table above shows that 54 (91.5%) of the respondents did not use the chart books and only 5 (8.5%) of them used the IMNCI chart books. Also 28 (47.5%) respondents correctly assessed children for danger signs and 31 (52.5%) did not assess for danger signs. Thirty six (61.0%) of the respondents assessed sick children for the presence of symptoms like cough, diarrhea, fever, ear problem while 23 (39.0%) did not assess for them. Seventeen (28.8%) of the respondents assessed for measles whereas 42 (71.2%) did not.

Whereas 24 (40.7%) respondents correctly assessed for anemia, 35 (59.3%) of them did not. Twenty (33.9%) of the respondents correctly assessed for malnutrition while 39 (66.1%) did not assess for malnutrition. On assessing for HIV infection in children, 14 (23.7%) respondents did it while 45 (76.3%) did not assess for it. Nineteen (32.2%) of the respondents assessed the children for mouth and gum conditions whereas 40 (67.8%) did not. Twenty two (37.3%) of the respondents correctly checked for immunization status of the children while

37 (62.7%) respondents did not check for the immunization status of the children. Twenty nine (49.2%) of the respondents correctly classified the sick infants according to the color codes and 30 (50.8%) of the respondents did not correctly classify the sick infants.

Figure 9: Showing how health workers treated severe cases of infants 2 months to 5 years.

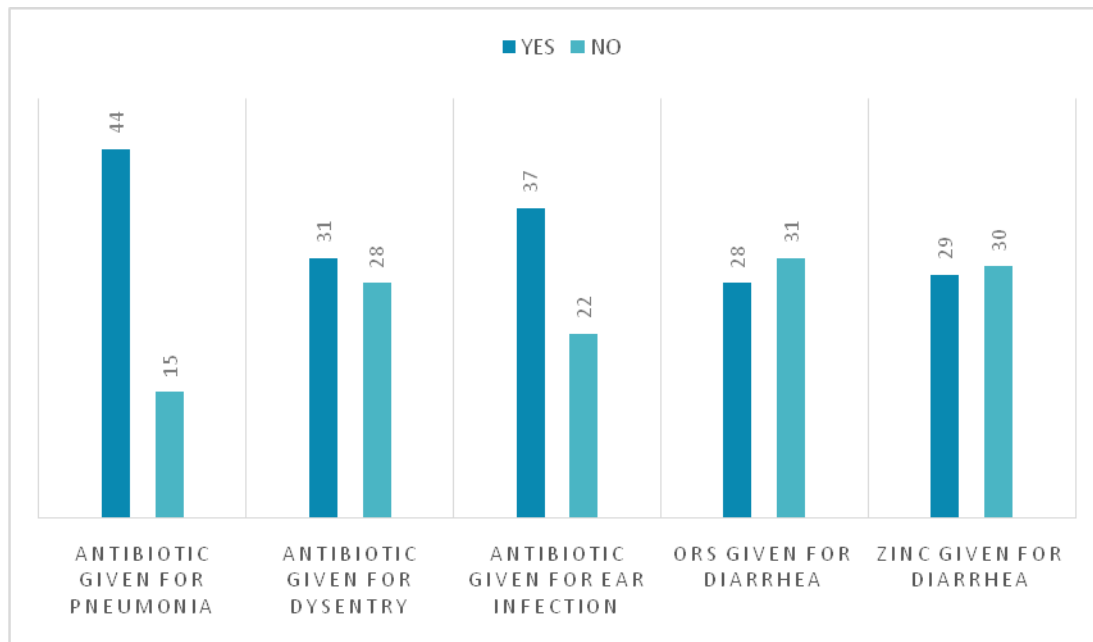


Source: Primary data

The figure above shows that 10 (16.9%) respondents referred the severe cases and 49 (83.1%) did not. Also 9 (15.3%) respondents gave the first dose of pre-referral antibiotics whereas 50 (84.7%) did not give pre-referral antibiotics.

The figure above further shows that 11 (18.6%) of the respondents treated the children diagnosed with malaria with the first dose of I.M/I.V artesunate and 48 (81.4%) did not.

Figure 10: Showing how health workers treated non severe cases of infants of 2 months to 5 years.



Source: Primary data

In the figure above, 44 (74.6%) of the respondents gave an antibiotic for pneumonia whereas 15 (25.4%) did not. Antibiotic for dysentery was given by 31 (52.5%) respondents and 28 (47.5%) did not give.

Also 37 (62.7%) respondents gave antibiotics for acute eye infection and 22 (37.3%) did not. As per the figure above, 28 (47.5%) of the respondents gave ORS for diarrhea while 31 (52.5%) respondents did not give ORS to children with diarrhea. Also 29 (49.2%) respondents gave zinc tablets to children with diarrhea and 30 (30.8%) did not.

Table 19: Showing how health workers did general counselling of caregivers/mothers who had sick children of 2 months to 5 years

Variables	Frequency n=59		Percentage	
	YES	NO	YES	NO
Immunization given according to schedule	16	43	27.1	72.9
Mother counselled on feeding including breastfeeding	21	38	35.6	64.4
Mother counselled on when to return	19	40	32.2	67.8
Advise on home care giving extra fluid at home	27	32	45.8	54.2
Mother's own health assessed	14	45	23.7	76.3

Source: Primary data

As shown in the table above, 16 (27.1%) respondents counselled mothers on immunizing their children according to schedule while 43 (72.9%) did not. Also 21 (35.6%) respondents counselled mothers on feeding including breastfeeding whereas 38 (64.4%) did not.

The table further showed that 19 (32.2%) respondents counselled the mothers on when to return to the health facility and 40 (67.8%) did not.

The table also indicates that 27 (45.8%) respondents advised mothers to give extra fluids to their children while at home whereas 32 (54.2%) respondents did not.

Assessing the mother's own health was done by 14 (23.7%) respondents and 45 (76.3%) did not.

Generally, 20 (33.9%) respondents managed their cases in between 30 minutes to one hour whereas the rest 39 (66.1%) of the respondents managed their cases in more than one hour.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.0 Introduction

This chapter discusses the major findings of this study in comparison with what other researchers have found out in earlier studies. The discussion is laid down in sequence with the study objectives that were set out to be assessed. These were to assess the level of implementation of IMNCI in Busolwe hospital, to assess the knowledge of IMNCI among health workers of Busolwe hospital and to examine the practice of IMNCI among health workers of Busolwe hospital.

5.1 Knowledge of IMNCI among health workers

In this study there were more female respondents than male respondents. This is probably because most of the respondents in the study were nurses and midwives and these professions are dominated by females. Most of them fell into the age category of 26-35 years of age. These were not significant factors in the implementation of the IMNCI strategy.

In this study 29% of the respondents had not heard of IMNCI. This is in line with what Adekanye & Odetola (2014) found in their study done in Nigeria where the minority of health workers had no idea about IMNCI strategy. Probably, this is because few health workers had undergone a training on IMNCI.

Findings of this study also indicated that 81% of the health workers in Busolwe hospital had never attained any training in IMNCI strategy. These findings are contrary to the WHO recommendations (2014) that say that at least sixty percent of health workers seeing sick children in health facilities are recommended to be trained in IMNCI so as to be able to assess, classify and treat sick children using guidelines developed specifically for IMNCI. This could be due to lack enough resources to train health workers on the IMNCI strategy. Training on the IMNCI strategy is believed to have an impact on the implementation of the IMNCI strategy because research has showed that lack of any pre-service or in-service training is consistently identified as a risk factor for poor adherence to the IMNCI strategy.

Findings of this study show that less than 15% of the health workers could not identify the danger signs in sick children as the IMNCI. This finding is in line the findings of UNICEF (2010) and Ali, (2015) where about 10% and 15% of health workers respectively could identify the danger signs. This is probably because most of them had never undergone IMNCI training as earlier identified in this study. The opportunity for sick children to be

effectively assessed, classified and treated accordingly is high when the health worker is knowledgeable of the danger signs and vice versa.

The findings of this study also showed that over 60% of health workers could not identify when urgent referral is required according to the color codes. These findings are in line with the study results by Ali (2015) which showed that most health workers could not classify the sick children using the IMNCI color codes. This might be due to lack of adequate training among the health workers.

5.2 Practice of IMNCI among health workers

Results from this study showed that the majority of health workers did not use the chart books during their assessment of the sick child and yet according to Woods (2010) and IMNCI chart booklet (2014) use of a chart book during the assessment of a sick child is one of the principles that health workers must adhere to while implementing the IMNCI strategy. This is probably because health workers do not know how to use the chart books or the available versions of the chart books are too old to be used.

Most of the health workers according to the study did not comprehensively assess the sick children as per IMNCI guidelines. These findings are in line with a study done by Kruger et al (2017) in Uganda, Tanzania and Namibia where it was found that only 13% of health workers comprehensively assessed the children according to the guidelines through asking questions like name of the child, date of birth, age of the child, problems of the child and, whether it was an initial or follow up visit. It is possible that the failure of health workers to use a chart booklet whilst consulting with sick children could be a reason for doing an incomplete assessment because the use of the chart book methodology ensures that no symptom is overlooked.

The results of this study also indicated that about 48% of the health workers managed to assess the sick children for danger signs. This finding concurs with the study by Pillay (2012) in South Africa where only 38% of the health workers asked about or checked for all the general danger signs, whilst 43% did not ask about or check for any general danger signs. The health workers could have not been aware that it is important to check for the dangers during the routine and follow-up visits in the assessment of a sick child to reduce the under-five morbidity and mortality as many of them did not undertake IMNCI training. In order to

reduce under-fives morbidity and mortality it is strictly advisable to have routine checkup of danger signs and main symptoms.

This study also found out that 61% of health workers assessed sick children for the presence of main symptoms like cough, diarrhea, fever, ear problems, malnutrition and anemia. These findings are in agreement with the studies by Krüger, Heinzl-Gutenbrunner, & Ali (2017) and Venkatachalam et al, (2011) where it was observed that few health workers only assessed for the main symptoms related to the major childhood illnesses namely cough, diarrhea, fever, ear problems, malnutrition and anemia. This can possibly be attributed to lack of knowledge on how to assess for these symptoms among the health workers as earlier observed.

This study also revealed that only 37% of the health workers assessed for the immunization status of the sick children and, about 27% of the health workers immunized the children on the same day of the visit to the health facility. These results are in line with the studies done by Pillay (2012) and Pariyo, Gouws, Bryce, & Burnham, (2005) which found that although health workers were examining the road-to-health-card, only a few of them asked caregivers about the current immunization status of the child and few of those immunized the sick children that they were assessing. This study therefore indicates that most health workers missed the opportunity to immunize, as the children who should have been immunized were asked to come back on another day.

Based on this study only 34% of health workers assessed for breastfeeding/ feeding problems for sick children. The results concur with the study by Kruger et al, (2017) where most health workers did not ask about breastfeeding, or whether the sick children were taking other fluids or foods. Many of the health workers in this study seem to only focus on the problems of the sick children although nutrition plays a vital role in improving the health status of sick children. The failure by health workers to complete feeding assessments can have far-reaching consequences for sick children with feeding problems and malnourishment.

The study findings also showed that over 50% of health workers did not correctly classify the sick children according to the color codes. Although treatment protocols are clearly outlined in accordance with the classifications in the IMNCI strategy, most health workers did not treat the sick children according to the guidelines but instead used a single condition approach.

These findings are in agreement with the studies done by Pillay (2012) and Venkatachalam (2011) where most health workers did not classify their sick children correctly while others end up prescribing medication as per essential drug list instead of the IMNCI treatment protocols. The failure to treat sick children as per IMNCI guidelines could be due to lack of confidence in applying the treatment regimens in the IMNCI case management guidelines.

Antibiotics are part of the IMNCI approach. In this study 74.6% of the respondents gave an antibiotic for pneumonia, 52.5% of respondents gave an antibiotic for dysentery and 62.7% of respondents gave antibiotics for acute eye infection. These findings are contrary to the study by Pillay, (2012) who reported that severe illnesses were managed as disease specific conditions and rarely according to IMNCI protocols and health care workers failed to prescribe antibiotics when necessary. This could be due to the availability of the antibiotics in the facility at all times and also because it is stated in the IMNCI booklet.

These study findings show that 28.8% of the respondents referred severe cases and 18.6% of respondents gave the first dose of pre-referral antibiotics. These findings are in line with a study conducted by Kiplagat, (2014) in Tanzania which showed that only 25% of severely ill children were referred and 91% of health workers reported that it was not necessary to refer children with severe classification. This could probably be due to failure of the health worker to identify the need for referral or patients demand not to be referred.

These study findings have shown there was a poor counseling service. This was proven with the fact that 55.9% of the caregivers did not receive counseling on feeding including breastfeeding, 72.9% were not counseled when to come back immediately, and 76.3% were not counseled on her own health.

This is in line with the results of a study done by Pillay, (2012) in South Africa which showed that though 20% of the health workers counselled the care givers accordingly in areas related to feeding, 85% failed to provide vital information on when to return for follow up and 98% did not give the mother advice about her own health. This might have been due to the many mothers whom the health workers have to attend to and lack of counselling skills. However, counseling the caregiver is a vital component of IMCI for the sick young infants because they have special characteristics, and require certain care for disease protection, healthy growth, and development.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.0 Introduction

The chapter presents the summary, conclusions and recommendations of the study.

6.1 Conclusion

Some bottlenecks were observed which to some extent lowered the competence of health care prescribers and resulted in low percentages of effective IMNCI strategy implementation. These include: malpractice by health workers to most IMNCI assessment indicators, poor adherence of the standard treatment and misuse or overuse of antibiotics.

The study has identified that a lack of pre-referral drugs exists for urgent treatment and referral, shortage of some of the essential drugs, poor counseling and advice to the caregivers. Furthermore, the findings also show a lack of the most essential services for example oral rehydration therapy and resuscitation devices. Respondents also reported the existence of a weak referral system.

6.2 Recommendations

The Ministry of Health, the district health team together with the implementing partners should conduct trainings for health workers on the IMNCI strategy.

The district health office should ensure the regular supply and availability of the IMNCI essential recommended drugs at health care facilities which would enhance improved health care system strengthening.

The hospital administration should promote health education sessions such as continuous medical education sessions as well as strengthening routine monitoring and follow up, as these interventions are evidently effective in the provision of quality care and increase reduction of child morbidity and mortality.

REFERENCES

- Adekanye, O.E. and Titilayo, D.O., 2014. Awareness and Implementation of Integrated Management of Childhood Illness (Imci) Among Nurses in Paediatric Settings of Selected Hospitals in Ibadan, Nigeria. *J. Nurs. Heal. Sci*, 3(5).
- Ali, A.M., 2015. *Knowledge, attitudes and practices of health care workers in the implementation of integrated management of childhood illness for underfives: A case study of Wete district government owned health facilities* (Doctoral dissertation).
- Anand, K., Patro, B.K., Paul, E. and Kapoor, S.K., 2004. Management of sick children by health workers in Ballabgarh: lessons for implementation of IMCI in India. *Journal of tropical pediatrics*, 50(1), pp.41-47.
- Balika, B. (2005). *Technical Report: Lesson learned from Implementation of IMCI in Kazakhstan and other Central Asian Republic*
- Gombe, N. T., Mabaera, B., Tshimanga, M., Shambira, G., Chadambuka, A., & Nkomo, B. M. M. 2010. Evaluation of the Integrated Management of Childhood Illness strategy implementation in Bulawayo City, Zimbabwe, 2006. *South African Journal of Child Health*, 4(1), 7-10.
- Horwood, C., Vermaak, K., Rollins, N., Haskins, L., Nkosi, P., & Qazi, S. 2009. An evaluation of the quality of IMCI assessments among IMCI trained health workers in South Africa. *PloS one*, 4(6), e5937.
- Horwood, C., Voce, A., Vermaak, K., Rollins, N., & Qazi, S. 2009. Experiences of training and implementation of integrated management of childhood illness (IMCI) in South Africa: a qualitative evaluation of the IMCI case management training course. *BMC pediatrics*, 9(1), 62.
- Kader, S.M.A.H.A., Research Article Assessment of Integrated Management of Childhood Illness (IMCI) Approach in Alexandria, Egypt.

Kiplagat, T.et, al., 2014, Factors Influencing the Implementation of Integrated Management of Childhood Illness (IMCI) by health care workers at public health centers & dispensaries in Mwanza, Tanzania.

Krüger, C., Heinzl-Gutenbrunner, M., & Ali, M. 2017. Adherence to the integrated management of childhood illness guidelines in Namibia, Kenya, Tanzania and Uganda: evidence from the national service provision assessment surveys. *BMC health services research*, 17(1), 822.

Luwabelwa, M., Banda, P., & Chama-Chiliba, C. 2017. A case study of the role of an Essential health benefit in the delivery of integrated health services in Zambia.

MoH of Rwanda. 2008. Evaluation report of the Integrated Management of Childhood Illness (IMCI) strategy in the District of Kihere in Rwanda.

Nguyen, D. T. K., Leung, K. K., McIntyre, L., Ghali, W. A., & Sauve, R. 2013. Does integrated management of childhood illness (IMCI) training improve the skills of health workers? A systematic review and meta-analysis. *PloS one*, 8(6), e66030.

Pariyo, G. W., Gouws, E., Bryce, J., & Burnham, G. 2005. Improving facility-based care for sick children in Uganda: training is not enough. *Health policy and planning*, 20(suppl_1), i58-i68.

Pillay, U. (2012). *The implementation of the integrated management of childhood illnesses strategy* (Doctoral dissertation).

Rakha, M.A., Abdelmoneim, A.N.M., Farhoud, S., Pièche, S., Cousens, S., Daelmans, B. and Bahl, R., 2013. Does implementation of the IMCI strategy have an impact on child mortality? A retrospective analysis of routine data from Egypt. *BMJ open*, 3(1), p.e001852.

Rowe, S. Y., Kelly, J. M., Olewe, M. A., Kleinbaum, D. G., McGowan, J. E., McFarland, D. A., ... & Deming, M. S. 2007. Effect of multiple interventions on community health workers' adherence to clinical guidelines in Siaya district, Kenya. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 101(2), 188-202.

Schellenberg, J. R. A., Adam, T., Mshinda, H., Masanja, H., Kabadi, G., Mukasa, O., & Mgalula, L. 2004. Effectiveness and cost of facility-based Integrated Management of Childhood Illness (IMCI) in Tanzania. *The Lancet*, 364(9445), 1583-1594.

Stellenberg, E., Van Zyl, M., & Eygelaar, J. 2015. Knowledge of community care workers about key family practices in a rural community in South Africa. *African journal of primary health care & family medicine*, 7(1), 1-7.

Uganda demographic and health survey report, 2016.

United Nations 2015. Transforming our world: the 2030 agenda for sustainable development. New York (NY).

<https://sustainabledevelopment.un.org/post2015/transformingourworld>.

Venkatachalam, J., Aggarwal, A. K., Gupta, M., & Sathya, G. R. 2012. Evaluation of IMNCI Practices among Health Care Providers in a District of North India. *J Dent Med Sci*, 1(6), 46-50.

Venkatachalam, J., Kumar, D., Gupta, M., & Aggarwal, A. K. 2011. Knowledge and skills of primary health care workers trained on integrated management of neonatal and childhood illness: follow-up assessment 3 years after the training. *Indian journal of public health*, 55(4), 298.

Walter, N. D., Lyimo, T., Skarbinski, J., Metta, E., Kahigwa, E., Flannery, B. & Kachur, S. P. 2009. Why first-level health workers fail to follow guidelines for managing severe disease in children in the Coast Region, the United Republic of Tanzania. *Bulletin of the World Health Organization*, 87(2), 99-107.

WHO 2014. IMNCI chart booklet:

http://www.who.int/maternal_child_adolescent/documents/IMCI_chartbooklet/en/

WHO/UNICEF strategy of Integrated Management of Childhood Illness (IMCI). Retrieved from http://www.who.int/child_adolescent_health/en/

Woods, D. L. 2010. IMCI revisited: hot topics. *South African Journal of Child Health*, 4(2), 28-30.

World Health Organization. 2007. Child and adolescent health and development: progress report 2006.

www.unicef.org. (2000 – 2010). Evaluation of IMCI in the Republic of Moldova

APPENDIX I: INFORMED CONSENT FORM

STUDY TITLE: Knowledge and practices of IMNCI among the health workers of Busolwe Hospital Butaleja district.

I **Kagoda Tonny**, a student of International Health Sciences University pursuing A Degree in Nursing Science, I am conducting a study on knowledge and practices of IMNCI among the health workers of Busolwe Hospital Butaleja district.

You have been selected on merit for your legibility to provide necessary information required. However, any information to be provided will be used mainly for academic purposes and will be treated with utmost confidentiality.

Your participation is entirely voluntary, you have rights to decline to participate, to withdraw any statement before analysis or discontinue your participation and this will not affect you in anyway. There are no physical benefits for participation in this study but findings will help in coming up with strategies to improve IMNCI implementation strategy among health workers of Butaleja District.

Respondent

I hereby confirm that I have been explained by the researcher or research assistant, and I understood the contents and nature of the research and therefore consent to be interviewed by this researcher carrying out the above mentioned study. I have been assured of total confidentiality, and that the results of this study shall not identify me anywhere in any way since my name is not needed and it shall not appear anywhere in this questionnaire. And in any case, my refusal to answer questions shall not affect me or any member of my family.

Signature of respondent

Date

APPENDIX II: QUESTIONNAIRE

Knowledge and practices of IMNCI among the health workers of Busolwe Hospital Butaleja district.

Thank you for your willingness to complete this questionnaire. The questionnaire consists of 3 sections, and it would be appreciated if you complete the entire questionnaire.

Respond to each question by ticking [\surd] on the space provided around the code representing your appropriate answer or circling the answer you have chosen.

Serial No: _____

SECTION A

Demographic data of respondent

1. Age in years

- a. 18 - 25
- b. 26 – 35
- c. 36 and above

2. Sex

- a. Male
- b. Female

3. Job title/ Qualification

- a. Enrolled nurse
- b. Enrolled midwife
- c. Registered nurse
- d. Registered midwife
- e. Clinical officer
- f. Medical officer

4. Year of qualification

- a. Less than 5 years ago
- b. 6 – 10 years ago
- c. More than 10 years ago

SECTION B

KNOWLEDGE OF IMNCI AMONG HEALTH WORKERS

5. How long have you been practicing as a health worker?

- a. 1 – 2 years
- b. 3 – 4 years
- c. 5 years and above

6. How long have you worked in this facility?

- a. 1 – 2 years
- b. 3 – 4 years
- c. years and above

7. Have you ever heard about IMNCI?

- a. Yes
- b. No

8. If Yes in 7, where did you get the above information about IMNCI from?

- a. Training school/ college
- b. Colleagues who went to train in IMNCI
- c. Others

(Specify).....

9. Have ever undergone IMNCI training?

- a. Yes
- b. No

10. If yes, how long was it?

- a. 1 week
- b. 2 weeks
- c. 3 weeks
- d. 4 weeks

11. When did you get the training?

- a. 6 months ago
- b. More than 6 months ago
- c. Others (specify).....

12. What do you understand by IMNCI? (Tick the most appropriate one)

- a. A combined treatment of the major neonatal and childhood illness.
- b. A systematic approach to child health that focuses on the wellbeing of the whole child.
- c. The prevention of childhood illnesses through improved nutrition and immunization.
- d. I do not know.
- e. Others (specify).....

13. What is involved in IMNCI? (Put 'T' for the true statement and 'F' for the false statement)

- a. Assessing the sick child
- b. Classifying the diseases
- c. Checking for danger signs
- d. Treating the child
- e. Counselling
- f. Follow-up

14. What are the diseases identified by IMNCI? (Tick all that apply)

- a. Pneumonia and diarrhea
- b. Dysentery and malnutrition
- c. Skin diseases and ear infections
- d. Measles and malaria
- e. HIV

15. Do you think IMNCI is better than single condition approach?

- a. Yes
- b. No
- c. I do not know

If yes, why? Because

- a. It accounts for a variety of factors that put children at risk.
- b. It ensures combined treatment of major childhood illnesses.
- c. It emphasizes prevention of diseases through improved nutrition and immunization.
- d. Others (Specify).....

16. How do you begin assessing the child? (You can circle more than one response)

- a. Check every sick child for general danger signs.
- b. Ask for the child's name and age
- c. Check for the child's weight and nutritional status

17. What are the IMNCI danger signs? (You can circle more than one response)

- a. Child is not able to drink or breastfeed.
- b. Child vomits everything.
- c. Child has had more than one convulsion or is convulsing now.
- d. Child is lethargic or unconscious.
- e. Wasting

18. What are the main symptoms that you are needed to assess when a sick child is brought at your facility? (You can circle more than one response)

- a. Cough or difficulty in breathing
- b. Fever
- c. Diarrhea
- d. Ear problems
- e. HIV status
- f. Check for immunization status

19. What do you do if a child shows one or more danger signs? (You can circle more than one response)

- a. Complete assessment immediately
- b. Provide urgent pre-referral treatment
- c. Refer the child to a higher level facility.

20. When is urgent referral required in review of the classification table?

- a. Yellow classification
- b. Red classification
- c. Green classification

21. How do you urgently refer the child? (You can circle more than one response)

- a. Explain to the caregiver the need for referral and get her agreement to take the child.
- b. Calm the caregiver's fears and help her to resolve any problems.
- c. Write a referral note for the caregiver to carry.
- d. Give supplies and instructions needed to care for her child on the way to the hospital.

22. What measures shall you provide if referral is not possible? (You can circle more than one response)

- a. If referral is not possible, you should do whatever you can to help the family care for the child.
- b. If referral is not possible, continue with pre-referral treatment until the child is able to leave for the hospital.

23. What chart will you use during the assessment of an infant?

- a. Chart with the age category from birth to 2 months.
- b. Chart with age category from 2 months to 5 years.
- c. Chart with the category from 2 months to 2 years.

24. Why do infants require special immediate attention? (You can circle more than one response)

- a. They become ill and die quickly for serious bacterial infections.
- b. Special risk for low birth weight infants.
- c. Infants often show only danger signs when seriously sick.
- d. Newborn infants are often sick from conditions related to labor and delivery.

25. As a service provider, what are the good communication skills you need to have? (You can circle more than one response)

- a. Listen carefully
- b. Simplify words
- c. Be clear
- d. Give him/ her time to answer
- e. Praise the caregiver

26. Why is good communication with the caregiver important? (You can circle more than one response)

- a. Caregivers can be very stressed and emotional
- b. Helps to reassure the caregiver that his/ her child will receive good care.

APPENDIX III: OBSERVATIONAL CHECKLIST FOR HEALTH WORKERS' PRACTICES ABOUT IMNCI

To be completed by the researcher/ research assistant.

Observe the health worker and note his/ her practice towards assessment of the following

ASSESSMENT INFANTS 0 – 2 MONTHS OF AGE	YES	NO	N/A
Does the health work use the IMNCI chart book			
Assessing for diarrhea			
Assessing for jaundice			
Assessing for eye problem			
Assessing for HIV infection			
Assessing for feeding problem or malnutrition			
Assessing for breastfeeding			
Checked for birth weight and gestational age			
Correctly checked immunization status			
TREATMENT			
Treatment of severe cases			
Severe cases referred			
First dose pre-referral antibiotic given			
Infant treated prevent low blood sugar			
Mother advised to keep infant warm			
Treatment of non-severe cases			
Amoxicillin give if local bacterial infection			
Tetracycline eye ointment given for eye infection			
Kangaroo mother care give to low birth weight/ premature			
General counselling			
Immunization given according to the schedule			
Mother counselled on feeding including breastfeeding			
Mother counselled on when to return			
Mother's own health assessed			
Time taken to manage the case			

For a child 2 months to 5 years

ASSESSMENT	YES	NO	N/A
Does the health worker use the IMNCI chart book			
Correctly assessed for danger signs			
Assessed for presence of all main symptoms (Cough, diarrhea, fever, ear problem)			
Correctly checked for measles			
Correctly checked for anemia			
Correctly checked for malnutrition			
Assessed for HIV infection			
Assessed for mouth and gum conditions			
Correctly checked for immunization status			
TREATMENT			
Treatment of severe cases			
Severe cases referred			
First dose pre-referral antibiotic given			
First dose of IM/ IV artesunate given			
Treatment of non-severe cases			
Antibiotic given for pneumonia			
Antibiotic given for dysentery			
Antibiotic given for acute ear infection			
ORS given for diarrhea			
Zinc given for diarrhea			
General counselling			
Immunization given today according to schedule			
Mother counseled on feeding including breastfeeding			
Mother counseled when to return			
Advise on home care giving extra fluid at home			
Mother's own health assessed			
Time minutes taken to manage case			

APPENDIX IV: INTRODUCTORY AND CORRESPONDENCE LETTER



making a difference in health care

Office of the Dean, School of Nursing

Kampala, 29th May 2018

THE MEDICAL SUPERINTENDENT
BUSOLWE HOSPITAL.....
BUTALEJJA DISTRICT.....

*Considered to do the research
in Busolwe Hospital as per topic*

Dear Sir/Madam,

RE: ASSISTANCE FOR RESEARCH

Greetings from International Health Sciences University.

This is to introduce to you **Kagoda Tonny** Reg. No. 2015-BNS-TU-012 who is a student of our University. As part of the requirements for the award of a Bachelors degree in Nursing of our University, the student is required to carry out research.

The topic of research is: **Knowledge and practice of integrated management of neonatal and childhood illnesses among health workers of Busolwe Hospital, Butalejja District.**

This therefore is to kindly request you to render the student assistance as may be necessary for the research.

I, and indeed the entire University are grateful in advance for all assistance that will be accorded to our student.

Sincerely Yours,

Ms. Agwang Agnes
Dean, School of Nursing



The International Health Sciences University
P.O. Box 7782 Kampala - Uganda
(+256) 0312 307400 email: aagwang@ihsu.ac.ug
web: www.ihsu.ac.ug