KNOWLEDGE AND PRACTICES OF MOTHERS TOWARDS
PREVENTION OF ANAEMIA AMONG CHILDREN
UNDER FIVE YEARS OF AGE IN KITAGATA
HOSPITAL, SHEEMA DISTRICT

A RESEARCH REPORT SUBMITTED TO UGANDA NURSES
AND MIDWIVES EXAMINATIONS BOARD

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BY

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Knowledge and Practices of Mothers towards prevention of Anaemia among children under five

ABSTRACT

Globally childhood anaemia poses a big health problem to less than five years of age. Anaemia affects nearly 2 billion people worldwide and about 50% of all children less than 5 years old. The prevalence of anaemia in children less than 5 years is 67% in Africa, about, 28% anaemia is found in sub-Saharan Africa.

Purpose of the study was to establish knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.

The researcher used a quantitative design and the study was carried out in Paediatric ward in Kitagata Hospital. Purposive sampling method was used.

Only 45 respondents/mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia and admitted on pediatric ward of Kitagata hospital were enrolled. Results revealed that 89% (40) said Yes have ever heard of. out of 40 respondents who have ever heard of anaemia according to the table 4 above show most respondents’ source of information with 42.2% got from health workers, 35.0% others (radio, village members), 12.5% older person at home, 10.0% from friends. Nearly 86% (38) of the respondents reported Yes that their children have ever suffered from disease causing anaemia while 16% (7) No they never suffered.

The study revealed many respondents ever heard of anaemia but few never heard of and their sources of information were got from health workers, others (radio, village members), older person at home, and friends. Health education programs to be done.
Knowledge and Practices of Mothers towards prevention of Anaemia among children under five years of age in Kitagata Hospital, Sheema District

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Knowledge and Practices of Mothers towards prevention of Anaemia among children under five

DEDICATION

I dedicate this piece of work to the Almighty God and my parents for they have been source of inspiration, engine of courage and secret of my achievements since my childhood. I also dedicate it to my sisters and brothers for all the support.
ACKNOWLEDGEMENT

To the almighty God for his everlasting gift of life to me.

Acknowledgement to Dean of School of Nursing Science Ms. Kabanyoro Annet to the supervisor Mr. Turyasingura Johnan from the school of Nursing Science, Kampala International University-Western Campus for the fundamental knowledge which inspired and motivated my accomplishment to this report.
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LIST OF ABBREVIATIONS

AIDS Acquired Immunodeficiency syndromes

g/dl gram per deciliter

Hb Haemoglobin

HIV Human Immunodeficiency Virus

IYCF Infant Young Child Feeding

KIU-WC Kampala International University-Western Campus

MoH Ministry of Health

SDHT Sheema District Health Team

UBOS Uganda Breuer of Statistics

UDHS Uganda Demographic and Health Survey

WHO World Health Organization
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OPERATIONAL DEFINITIONS

Anaemia: refer as a state in which there are an insufficient number of red blood cells to cater for the body’s physiologic demand. The definition of anaemia in this study was varies by age, sex, race, altitude, geographic location, smoking and pregnancy status.

Haemoglobin: refer to as the oxygen-carrying protein in red blood cell.

Knowledge: refer to the awareness and understanding something as facts, information, descriptions and skills which is acquired through experience and education by perceiving or learning.

Practice: is the actual manual performance of a specific task in relation to the standard conventional guidelines to prevent anaemia in children.

Prevention of anaemia: refer to the action to stop anaemia in children under five years of age from happening.
CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter describes the background of the study, problem statement, and purpose of the study, specific objectives, research questions and justification of the study on knowledge and practices of mothers towards prevention of anaemia among children under five years of age.

1.1 Background of the study

The World Health Organization defined anaemia as a state in which there are an insufficient number of red blood cells to cater for the body’s physiologic demands and prevention of anaemia as action to stop anaemia from happening or occurring (WHO, 2011). Anaemia can be mild, moderate and severe based on the Haemoglobin (Hb) level and a combination of clinical signs and symptoms where Hb is the oxygen-carrying protein in red blood cells; generally it is used to quantify the level of anaemia (WHO, 2011).

Globally childhood anaemia poses a big health problem to less than five years of age. The 2008 WHO estimate of anaemia in Europe found was 16.4% higher than that in North America which had 3.4% (WHO, 2008). In the same report WHO expects all children below five years of age to have a haemoglobin level of 11.3 g/dl or more in order to be considered anaemia free but due to number of factors, different practices by mothers, haemoglobin levels have continued to reduce below the optimum range for age in children under five years of age putting anaemia on rise (WHO, 2008).
The prevalence of anaemia in children less than 5 years is 67% and anaemia is classified as a severe health problem in most parts of African continent like Malawi, Sudan excerpter (WHO, 2011). About 83 million are found in sub-Saharan Africa, representing about 67.6% of the total population of children of this age group (Ewusie et al., 2014). In Somalia, more than 70% of agro-pastoral mothers children suffers from anaemia due to believe that there is no milk in the breast in the first three days and that the nipples are still blocked unable to produces milk (www.fsausomali.org).

According to Chatterje e et al. (2010), reported that East Africa still register about 75% of children under five years old who are suffering from anaemia. Anaemia is responsible for a diverse range of effects on growth, work capacity, cognitive and behavioral development and contributes significantly to maternal and child mortality (Haile et al., 2015). In Uganda, an estimate showed that prevalence of severe anaemia varies greatly ranging from a high of 9.0% among children living in east-central region to a low of less than 1.0% in the South-west region (UDHS, 2011).

According to Kitagata Hospital (2016), report showed that out of 420 children admitted on pediatric ward, 14.3% children under five years of age were diagnosed and admitted, 6.2% presented cases of anaemia despite other conditions with 1.2% morbidity and mortality of this aggressive anaemia in the age group. This study had established knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema district.
1.2 Problem Statement

Anaemia affects nearly 2 billion people worldwide and about 50% of all children less than 5 years old (WHO, 2007). The prevalence of anaemia in children less than 5 years is 67% in Africa (WHO, 2011). About, 28% of childhood anaemia is found in sub-Saharan Africa (Haile et al., 2015). The Tanzania Demographic Health Survey reported the prevalence of anaemia in children under five years of age was 55% in the Lake zone which carter for about eight regions (Chatterjee et al., 2010).

According to UDHS (2011), reveal 5.0% children age 6-59 months old are severely anaemic in Uganda, 13% of young children 6-8 months are much more likely to be severely anaemic than older children. A study done eight years back by Kikafunda et al. (2008), on anaemia and associated factors among under-fives and their mothers in Bushenyi district did not tell any results about the knowledge or practices of mothers towards prevention of anaemia.

However, no clear survey has yet been done in Kitagata Hospital elucidating clear information on knowledge and practice of mothers towards prevention of anaemia, these could be the reasons of continuous suffering because of anaemia. This study was needed to establish knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema district.
1.3 **Purpose of the study**

The study purpose was to establish knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.

1.4 **Study objectives**

1.4.1 **Main objective**

To establish knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.

1.4.2 **Specific objectives**

   i. To assess the level of knowledge of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.

   ii. To find out the practice of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.

1.5 **Research questions**

   i. What do mothers know about prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District?

   ii. What were the practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District?
1.6 Justification of the study

Mothers are usually the primary care providers for their children, their ability to recognize anaemia preventive measures early determine the success of controlling childhood morbidity and mortality (Haile et al., 2015). Given the mothers’ essential role in home-based treatment, education programmes need to ensure that they still seek appropriate medical care immediately for children with signs of anaemia, broadly need to understand the importance of prevention of the anaemia.

It was therefore, very necessary to assess the knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District. The findings alerted health workers to improve on health education be view as a pillar to successful reduction of micronutrient conditions. The results also help the Uganda MoH, SDHT, Kitagata Hospital authorities and other organization to identify policies that are crucial in prevention of anaemia. It can as well be used as study references by other researcher in the similar field.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviewed the available literature from different authors in relation to the knowledge and practices of mothers towards prevention of anaemia among children under five years of age according to the research objectives.

2.2 Knowledge of mothers towards prevention of anaemia among children under five years

The bivariate analysis revealed that the use of institutional deliveries decreases with age, whereas use of non-institutional deliveries increases with woman’s age. Most young women use institutional deliveries compared to adults. Tsawe et al. (2015), noted that woman’s age has a significant influence on antenatal and delivery services usage.

Anaemia is a global public health problem affecting both developed and developing countries with more prevalent in children under five years and pregnant women (McLean et al., 2009). The global estimate indicates that 293.1 million of children under five years, approximately 43% are anaemic worldwide (McLean et al., 2009).

Anaemia can occur in all stages of life cycle at any time, in the early stages of life it results to several severe negative effects on the growth and development, immunity, cognitive function and activity of a child, which may persists even after treatment
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leading to morbidity, mortality, poor school performance and work capacity in later years (Haile et al., 2015).

The age of introduction of complementary foods significantly associated with the children’s anaemia status. According to Joyce et al. (2009), children who were introduced to complementary foods before 6 months having higher rates of anaemia (41.6%) compared with those who started complementary foods after 6 months (5.0 %). In addition, the poor access to information about enriching a child’s food also contributed significantly to anaemia among the children.

Mothers who had no knowledge about enriching children’s food (for example, the use of triple mixture ingredients from locally available foods) had significantly higher proportions of anaemic children compared with mothers who were knowledgeable in this respect (Joyce et al., 2009). Furthermore, in the same study done by Joyce et al. (2009), reveal children whose first complementary foods were composed of mostly cereal porridges were significantly more anaemic than children those whose first complementary foods were animal products like cow’s milk.

A study done by Saou et al. (2011), reported that anaemia can be caused by a variety of etiological factors, and this should be kept in mind when planning for interventions. While iron deficiency is an important cause of anaemia in resource-limited settings, it is not the only cause of anaemia and can exist alone independently of anaemia. The estimated 37% of anaemia cases in the preschool children are common in three West
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African countries namely; Ghana, Mali and Burkina Faso however; it can be averted by treating nutrition related factors alone (Magalhaes & Clements, 2011).

According to World Health Organization (2008), report revealed that iron deficiency is the most leading causes of anaemia worldwide with 50% due to inadequate intake in the diet, malabsorption of dietary iron, period in life when iron demand are required like growth. The adequacy of dietary iron depends on the intake and the bioavailability, which in turn are contingent to the nature of food and composition of the overall diet (Saou et al., 2011).

The 2007 UDHS reported that almost all children (96%) 0-6 months were breastfed at least six times in the 24 hours before the interview, a significant proportion of women understood “on-demand feeding” to mean “feeding the child when they cry” which would mean that the more passive infants, like low-birth babies, might not be fed frequently enough (UDHS, 2007).

However, even in the context of the exclusively breastfed, term infant, iron deficiency and iron deficiency anemia may be observed, with population estimates in the range of 0%-15% (ID) and 0%-4% (IDA) of six-month-old infants in different settings worldwide (Ziegler et al., 2011). The most prevalence of childhood anaemia worldwide is found in malaria endemic regions suggested that between 31% and 90% of children in malaria-endemic areas in Africa suffers from anaemia (WHO, 2008).

Because of its low cost and feasibility, the WHO has included clinical assessment of palmer pallor as an initial tool to detect severe anaemia. Although clinical examination
is not accurate enough to detect mild to moderate anaemia with a sensitivity of 65% and specificity of 82%, the sensitivity and specificity were better in severe anaemia, 84% and 99% respectively (WHO, 2011).

The clinical signs and symptoms of anaemia vary among children under five; the most common ones are weakness, the skin appear pallor, and paleness of the conjunctiva and palm, shortness of breath and heart palpitations (Vanden, 2014). In severe conditions it is associated with dizziness; dyspnea and the patient may experience circulation disturbances and tachycardia (Vanden, 2014).

Generally, men have little knowledge of IYCF practices and do not support women in the nurturing process. Male involvement in child care and household productive activities is a critical element in the prevention and control of malnutrition.

2.3 The practices of mothers towards prevention of anaemia among children under five years

Cultures have values that give meaning and provide guidance to humans as they interact with the social world but these values and beliefs affects men and women living in the same society about what are considered appropriate behaviours and a number of cultural factors, which limit men’s ability to take an active role in the maternal child health problems have been noted (Personal experiences).

The World Health Organization recommendation for treatment of anaemia in children is through improvements in dietary diversity; food fortification with iron, folic acid and other micronutrients; daily supplementation of iron and folic acid to each pregnant
women and control of infections (WHO, 2011). Most sub-Saharan African countries, including Tanzania, currently, have national policies to prevent and treat anaemia and malarial prophylaxis for all pregnant women (Mutagonda, 2012).

According to Dwumfour (2013), revealed that Centres for Disease Control and Prevention (CDC) recommend screening for anaemia in pregnant women and universal iron supplementation to meet the iron requirements in pregnancy. The interventions required to be delivered in health systems include general supportive measures to improve environmental and social conditions as well as interventions that address maternal nutrition (Brooker et al., 2008).

Nevertheless, Breastfeeding is a key factor in child survival. Children who are optimally breastfed are three times more likely to survive by the end of the first year of life compared to children who are sub optimally breastfed. In a study done by Joyce et al. (2009), reveal children whose first complementary foods were composed of mostly cereal porridges were significantly more anaemic than children those whose first complementary foods were animal products like cow’s milk.

Optimal breastfeeding is defined as exclusive breastfeeding for the first six months and continued breastfeeding with adequate complementary foods from six months to two years or beyond. Uganda’s culture is positive toward breastfeeding. Initiation of breastfeeding is nearly universal in Uganda; 98% of women initiate breastfeeding of their infants (WHO, 2011).
For breastfeeding to be effective, infants should be breastfed on demand. In most communities, infants remain close to their mother, which facilitates breastfeeding on demand, children who were fed food prepared specially for them (that is to say enriched food) had significantly lower rates of anaemia than children who were usually fed family food with no special foods prepared for them (Joyce et al., 2009).

HIV-positive mothers tend to breastfeed for a shorter period than the general population, 64% of the mothers mentioned being HIV-positive as the major reason of stopping breastfeeding before the child was 2 years (UDHS, 2007). Other reasons included pregnancy, no milk in breasts, the child refused the breast or was refusing food, or the mother got sick.

In malaria-endemic regions, the provision of malaria chemoprophylaxis and intermittent preventive therapy in pregnant women (IPTp), infants (IPTi) and in children (IPTc) along with iron and folic acid supplementation have been shown to be beneficial, even in HIV infected individuals (WHO, 2011).

Furthermore, the use of insecticide treated nets and case management of pregnant women, elderly and young children with clinical signs of malaria but these interfere with maternal belief (Simon et al., 2009). Anaemia prevention programmes can contribute significantly in achieving the Millennium Development Goals (MDGs) including MGD-4 that is about child mortality reduction, and MGD-5 that is about improved maternal health (de Benoist et al., 2008).
This recommendation is impractical in resource-limited settings, as simple, affordable and reliable tests for the determination of iron status are not available and ferritin, which is also a marker of the acute phase response, is difficult to interpret due to inflammation (Ojukwu, 2009).

Iron supplementation is still used to treat anaemia in children living in resource-limited settings, including HIV-infected children, but the potential benefits or risks of iron supplementation in HIV-infected children are not known (Adetifa and Okomo, 2009).

Women are overburdened, balancing the competing tasks of producing food and incomes, bearing and rearing children, and other domestic responsibilities. This results in less time and capability to provide optimum care to each of their children and subsequently to implement actions to reduce and prevent malnutrition. Women also lack access to and control over resources and control over their fertility (Personal experience).

2.3 Summary of the literature

Anaemia can occur in all stages of life cycle at any time. Mothers who had no knowledge about enriching children’s food had significantly higher proportions of anaemic children compared with mothers who were knowledgeable in this respect. Anaemia can be caused by a variety of etiological factors, and this should be kept in mind when planning for interventions. The treatment of anaemia in children is through improvements in dietary diversity; food fortification with iron, folic acid and other micronutrients; daily supplementation of iron and folic acid to each pregnant women
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and control of infections. Prevent and treatment of anaemia and malarial prophylaxis can also be done through national policies formulation.
CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter constituted the study design, study setting in geographical terms, study design, population, sample size determination, sampling procedure, inclusion criteria, study variables, research instrument, data collection procedures, data management, data analysis and presentation, ethical considerations, study limitations and dissemination of the results.

3.2 Study design and rationale

A descriptive cross sectional study employed quantitative method of data collection was used. This design was considered because it develop explanations about social phenomena that aimed at helping the researcher why things were the way they were.

3.3 Study setting and rationale

The study was carried out in Paediatric ward in Kitagata Hospital. Kitagata Hospital is located in Kitagata business town of Sheema District in Ankole sub-region, western Uganda. The hospital is about 62km south west of Mbarara and about 17km south of Ishaka town, Ishaka – Bushenyi municipality on Rukungiri highway. Kitagata hospital is a government, public institute with a bed capacity of about 120 (www.Globefeed.com).

The hospital offers health services like orthopedic services, out-patient and inpatient departments such as medical, surgical, gynaecological, obstetrics, paediatrics and child
health, family planning, laboratory, x-ray, HIV/AIDS related services. The hospital has about 4 health workers in the department offering paediatrics services. The paediatric ward has a capacity of 70 admission beds.

The study area was selected because of its strategic location and status, in a rural district and being a government facility where many patients are believed to be getting health services from.

3.4 Study population

The target population was mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia and admitted on pediatric ward of Kitagata hospital. This group was considered for being frontline care of the child.

3.4.1 Sample size determination

My sample sizes of the study respondents were determined using Kish and Leslie’s formula of 1965 which state that: \[ n = \left( \frac{Z^2pq}{d^2} \right) \]

Where; \( n \) = Desired sample size,

\( Z \) = Standard deviation at desired degree of accuracy which was 95%, the standard deviation was 1.96.

\( p \) = Proportion of Mothers/caretakers of children under five years of age diagnosed with anaemia. Since no survey were done to establish knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District. \( p \) was estimated at 50% = 0.5 thus, \( p = 0.5 \)
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q = 1 - p, (1 - 0.5) = 0.5

d = the marginal error to be allowed at 5%, d = 0.05

\[ n = \left( \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} \right) \]

\[ n = 384 \]

In this case, the sample size for them others/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia on pediatric ward of Kitagata hospital were 384. But this was too big for my study population since they were less than (<) 10,000

The sample size estimation of the study population less than 10,000

\[ nf = \left( \frac{n}{1 + \frac{n}{N}} \right) \]

N = Population size of mothers/caretakers of children under five years of age on pediatric ward of Kitagata hospital in the last 3 months of year 2016 (December, November and October) = 51.

n = calculated sample size above = 384

\[ nf = \text{target population} < 10,000 \text{ (mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia on pediatric ward of Kitagata hospital).} \]
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\[ nf = \left( \frac{384}{1 + \frac{384}{51}} \right) \]

\[ nf = 45 \text{ respondents} \]

Basing on the calculations above, the study used sample size of 45 respondents.

3.4.2 Sampling procedure

The researcher used purposive sampling method because every member of the population who had a known chance but not necessary equal of being selected in the sample. Mothers/caretakers of children under five years of age suffering from anaemia were interviewed in the study until a required respondents is reached.

3.4.3 Inclusion criteria

The study considered mothers/caretakers of children under five years of age of both sex who would come with their children presenting with any form of anaemia whether mild, moderate or severe, diagnosed at outpatient by clinicians/doctors, and admitted because of anaemia on pediatric ward of Kitagata hospital, they responded on behalf of their children at the time of interviews.

3.5 Study variables

3.5.1 Dependent variable

Prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.
3.5.2 Independent variables

Knowledge of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.

Practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.

3.5.3 Confounding variables

Confounding variables were used in order to give the true picture of the possible effects of mothers’/caretakers’ knowledge and practice towards prevention of anaemia among children under five years. These included; age of the respondents, tribe, education level, marital status, religion and occupation.

3.6 Research instruments

The research instrument were semi-structured questionnaire written in English consisting of open and close ended questions to interview with the respondents. It was translated to Runyankole language for those who did not understand English.

3.7 Data collection procedures

The self-administered questionnaire was used to obtain information from mothers/caretakers of children under five years of age. However, those who did not understand English were interviewed with the help of Researcher so that they were translated the questions into local Language (Runyankole). Data was collected in the morning from 9:00am up to mid-day until the required members were reached.
3.7.1 Data management

The study participants received a unique participant identification number that were recorded on the questionnaire. Collected data from the study were thoroughly checked and validated for accuracy and completeness. Data on the questionnaire would be kept by only the Researcher to avoid access by unauthorized person.

3.7.2 Data analysis and presentation

The data was collected using a questionnaire were compiled, coded by using Microsoft excel and analyzed using Statistical Package for Social Sciences (SPSS) version 17.0. Descriptive statistics including mean, standard deviations, cross tabulation and frequencies were performed. Data were presented in form of tables, pie-charts and graphs. This formed the basis for the interpretation and conclusion.

3.8 Ethical considerations

When this project was approved by the research committee of KIU-WC, School of nursing sciences and the Supervisors, an introductory letter from the Research coordinator of the school of Nursing Science was addressed to the Principal Nursing Officer of Kitagata hospital that introduced the researcher to start data collection.

Verbal and written consents during the study process were sought from respondents by explaining and reading the purpose of study. Client’s rights, and privacy were respected and the information that were got from the respondents were not shared by any unauthorized person.
3.9 Limitations of the study

Time since the study has to be done alongside other school academic programs. Translating the questionnaire to Mothers/caretakers who did not understand English language in local language was tiresome but the researcher overcame it by following the planned schedule.

3.10 Dissemination of results

After approval of this research report, copies were submitted to;

i. KIU-Western Campus, School of Nursing Sciences.

ii. Library of KIU-Western Campus

iii. Uganda Nurses and Midwives examination board as partial fulfillment of the award of Diploma in Nursing Sciences.
CHAPTER FOUR: RESULTS AND FINDINGS

4.1 Introduction

This chapter has findings and displayed the results inform of table, graphs and pie charts on Knowledge and Practices of Mothers towards prevention of Anaemia among children under five years of age in Kitagata Hospital, Sheema District.

Only 45 respondents/mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia and admitted on pediatric ward of Kitagata hospital freely consented to participate in this study, their responses were collected and presented as seen below.

4.2 Socio-demographic characteristics respondents

Table 1: Show the distribution of respondents according to the age range

<table>
<thead>
<tr>
<th>Age range of the respondents</th>
<th>Frequency (n)</th>
<th>Percentage / (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24 years</td>
<td>17</td>
<td>38</td>
</tr>
<tr>
<td>25-34 years</td>
<td>17</td>
<td>38</td>
</tr>
<tr>
<td>35 years and above</td>
<td>11</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>100</td>
</tr>
</tbody>
</table>

Source of data: field data, 2017

Table 1 above show, 17 (38%) of respondents were age range 25-34 years, age range 15-24 years were 17 (38%) and only 11 (24%) were age range 35 years and above.
Figure 1: A graph showing respondent’s level of education

![Graph showing respondent's level of education](image)

Source of data: field data, 2017

Figure 1 showed, majority of the respondents 31% had primary education, followed by 27% secondary, 20% went to university, 11% college and also 11% none.

Table 2: Show distribution of respondent according to their marital status

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Frequency (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>30</td>
<td>67%</td>
</tr>
<tr>
<td>Separated</td>
<td>12</td>
<td>27%</td>
</tr>
<tr>
<td>Divorced</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Widow</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source of data: field data, 2017

Table 2 results of respondent’s show, majority 67% were married followed by 27% separated, 4% divorced and 1% widow mother.
Figure 2: A pie chart showing the distribution of the respondent’s religion

n=45

Source of data: field data, 2017

Majority of the respondents 47% were Catholics followed by 29% Protestant, 20% were Muslim and least were 4% other (Seventh day Adventist).

Table 3: Show distribution of respondents according to occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peasant</td>
<td>17</td>
<td>38%</td>
</tr>
<tr>
<td>Businessperson</td>
<td>7</td>
<td>16%</td>
</tr>
<tr>
<td>Housewife</td>
<td>5</td>
<td>11%</td>
</tr>
<tr>
<td>Civil servant</td>
<td>14</td>
<td>31%</td>
</tr>
<tr>
<td>Others (students)</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source of data: field data, 2017

Tables 3 above, out of 45 respondents, 38% were peasants followed by 31% civil servants while businessperson was 16%, housewife 11% and 4% others (students)
4.3 Knowledge of mothers towards prevention of anaemia among children under five years

Figure 3: A graph showing the respondents who have ever heard of anaemia

\[ n=45 \]

Source of data: field data, 2017

Most respondents 89% (40) said Yes have ever heard of anaemia while few 11% No.

Table 4: Show distribution of respondent’s source of information on anaemia

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Frequency (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health worker</td>
<td>17</td>
<td>42.5%</td>
</tr>
<tr>
<td>Older person at home</td>
<td>5</td>
<td>12.5%</td>
</tr>
<tr>
<td>Friend</td>
<td>4</td>
<td>10.0%</td>
</tr>
<tr>
<td>Others (radio, village members)</td>
<td>14</td>
<td>35.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Source of data: field data, 2017

Table 4 above show most respondents’ source of information with 42.2% got from health workers, 35.0% others (radio, village members), 12.5% older person at home, 10.0% from friends.
Figure 4: *A graph showing the causes of anaemia according to respondent*  

<table>
<thead>
<tr>
<th>Causes of anaemia</th>
<th>Frequency (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over bleeding</td>
<td>20</td>
<td>42.5%</td>
</tr>
<tr>
<td>Poor dietary intake</td>
<td>20</td>
<td>42.5%</td>
</tr>
<tr>
<td>Infection</td>
<td>10</td>
<td>25%</td>
</tr>
<tr>
<td>Other (Pneumonia)</td>
<td>10</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Source: field data, 2017*

Figure 4 shows majority of 40 respondents, 42.5% over bleeding followed by 27.6% infection, 20% poor dietary intake and only 10% were other (pneumonia).

Table 5: *Show respondents anaemia affect children while still breast feeding*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>24</td>
<td>60%</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>14</td>
<td>35%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Source of data: field data, 2017*

Majority, of 40 respondents 60% ‘Yes’ that anaemia affect children while breast feeding followed 35% I don’t know and 5% ‘No’ only that anaemia do not affect children while breast feeding.
Figure 5: A graph of those who know that her child is suffering from anaemia

![Bar chart showing knowledge of anaemia symptoms.](chart.png)

Source of data: field data, 2017

Most mothers reported 37.5% that hand pale followed by 25.0% others (body weakness, 20.8% said body skin pale and few 16.7% said dyspnea, heart palpitation.

Table 6: Show the effect of anaemia in children

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of blood</td>
<td>10</td>
<td>25%</td>
</tr>
<tr>
<td>Poor growth and development</td>
<td>13</td>
<td>33%</td>
</tr>
<tr>
<td>Mental retardation</td>
<td>7</td>
<td>18%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>10</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td><strong>40</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: field data, 2017

Majority, 33% reported poor growth and development followed 25% lack of blood, 25% I don’t know and least with 18% mental retardation.
Knowledge and Practices of Mothers towards prevention of Anaemia among children under five

Figure 6: A pie chart show whether anaemia can be treated

\[ n = 40 \]

![Pie chart showing the percentage of respondents' views on whether anaemia can be treated.]

Source: field data, 2017

Majority, 85% (42) said ‘Yes’ respondent that anaemia can be treated followed by 12.5% who were not sure and 2.5% said No.

Table 7: Show respondents’ view how anaemia can be treated

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using hospital treatment</td>
<td>26</td>
<td>76%</td>
</tr>
<tr>
<td>Using traditional healer</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Other (feed rich in iron)</td>
<td>6</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source of data: field data, 2017

Most respondents 76% that anaemia can be treated using hospital treatment, 18% that can be treated using traditional healer and 6% other (feed rich in iron).
Knowledge and Practices of Mothers towards prevention of Anaemia among children under five

n=40

Source of data: field data, 2017

Majority, 45% of the respondents said all of the above, 30% said eating meat, green vegetables, fruits while 12.5% said exclusive breast feeding up to 6 months, 10% that sleeping under insecticide treated bed net and 2.5% treating malaria, deworming.

4.4 The practice of mothers towards prevention of anaemia among under five years

Table 8: Show respondents who ever checked anaemic status of her child before

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>20</td>
<td>44%</td>
</tr>
<tr>
<td>No</td>
<td>25</td>
<td>56%</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source of data: field data, 2017

Out of 45, most 56% of respondents said No (never checked anaemic status of her child) while 44% said Yes (ever check anaemic status of her child).
Knowledge and Practices of Mothers towards prevention of Anaemia among children under five

Figure 7: A pie chart showing children who ever suffered from disease causing anaemia like malaria $n=45$

![Pie chart showing children who ever suffered from disease causing anaemia like malaria](image)

Source of data: field data, 2017

The figure 8 above, 86% (38) of the respondents reported Yes that their children have ever suffered from disease causing anaemia while 16% (7) No they never suffered.

Table 9: Show place where the child were taken for treatment

<table>
<thead>
<tr>
<th>Place</th>
<th>Frequency (n)</th>
<th>Percentage / (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health institution</td>
<td>21</td>
<td>55.3</td>
</tr>
<tr>
<td>Traditional healer</td>
<td>4</td>
<td>10.5</td>
</tr>
<tr>
<td>Other (private clinic, home)</td>
<td>6</td>
<td>34.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Source of data: field data, 2017

Table 9 above show, majority 21 (55.3%) of respondents reported health institution 6 (34.2%) other (private clinic, home) and least 4 (10.5%) traditional healer.
Figure 8: A graph showing whether using insecticide treated bed net \( n=38 \)

![Graph showing whether using insecticide treated bed net](image)

**Source of data: field data, 2017**

Figure 9 above, out of 38 respondents, majority 55\% (21) Yes had been using insecticides treated bed nets meanwhile 45\% (17) No have not been using it.

**Table 10: Show whether respondents were breast feeding their children \( n=45 \)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (n)</th>
<th>Percentage / (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>21</td>
<td>47</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>53</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Source of data: field data, 2017**

Table 10 above shows 53\% (24) No (respondent who were not breast feeding their children) while 47\% (21) Yes (those who were breast feeding their children).
Figure 9: A graph showing the source of food the respondents give to their children  

Source of data: field data, 2017

Results above in figure 10 shows that out of 45 participant’s majority of respondents with 58% (26) their source of food is both from the plant and animal followed by 31% (14) from plant source and least 11% (5) source of food is from animal sources.
CHAPTER FIVE: DISCUSSION, CONCLUSION, RECOMMENDATIONS

5.1 Introduction

This chapter is made up of discussion, conclusion and recommendation on the findings of established knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District according to the objectives.

5.2 Discussion

5.2.1 Socio-demographic characteristics respondents

The study findings showed that only 45 respondents/mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia and admitted on pediatrics ward of Kitagata hospital freely consented to participate in this study. According to the table 1 above show, 17 (38%) of respondents were age range 25-34 years, age range 15-24 years were 17 (38%) and only 11 (24%) were age range 35 years and above, majority of the respondents with 31% had undergone primary education, followed by 27% secondary, 20% went to university, 11% college and also 11% none (did not go to school). Education is the determinant in prevention of anaemia in children under five years.

On the table 2 results of respondent’s show, majority 67% were married followed by 27% separated, 4% divorced and 1% widow mother. Married parent care for their very well and therefore recognized early problem affecting their children hence seeking
medical care early. Forty seven percent (47%) were Catholics followed by 29% Protestant, 20% were Muslim and least were 4% other (Seventh day Adventist). Meanwhile on tables 3 above, out of 45 respondents, 38% were peasants followed by 31% civil servants while businessperson was 16%, housewife 11% and 4% others (students). Occupation of the parents also play greater role in children’s care especially when it comes to financial support.

5.2.2 Knowledge of mothers towards prevention of anaemia among children under five years

Anaemia is a global public health problem affecting both developed and developing countries with more prevalent in children under five years and pregnant women (McLean et al., 2009). It is important for the caretaker to know this aggressive condition however in this study most respondents on figure 3 above 89% (40) said have ever heard of anaemia (Yes) while few 11% (5) never heard of anaemia (No). Furthermore, out of 40 respondents who have ever heard of anaemia according to the table 4 above show most respondents’ source of information with 42.2% who obtained information from health workers, 35.0% others (radio, village members), 12.5% older person at home, 10.0% from friends. These results contradict with Joyce et al. (2009), whom they found out that the poor access to information about enriching a child’s food also contributed significantly to anaemia among the children because most respondents got information from the health workers.
Figure 4 shows suggestion by the mothers/caretakers on the causes of anaemia. Majority of 40 respondents nearly 42.5% said due over bleeding followed by 27.6% that the cause of anaemia is due infection like malaria, 20% reported that poor dietary intake and only 10% were other (said pneumonia). In agreement with Saou et al. (2011), who reported that anaemia can be caused by a variety of etiological factors and this, should be kept in mind when planning for interventions and the findings is also in similarity with World Health Organization (2008), report.

Results showed that out of 40 respondents 60% ‘Yes’ that anaemia affect children while breast feeding followed 35% I don’t know and 5% ‘No’ only that anaemia do not affect children while breast feeding. In addition most mothers/caretakers reported that they can know when their children is suffering from anaemia with 37.5% who said that when hand is pale followed by 25.0% others (body weakness), 20.8% said body skin pale and few 16.7% said when child is having dyspnea, heart palpitation. This coincides with the study done by Vanden, (2014), found out that the clinical signs and symptoms of anaemia vary among children under five; the most common ones are weakness, the skin appear pallor, and paleness of the conjunctiva and palm, shortness of breath and heart palpitations.

On table 6 above revealed effect of anaemia in children nearly 33% reported poor growth and development followed 25% lack of blood, 25% I don’t know and least with 18% mental retardation similar to Haile et al. (2015), study findings. Majority, 85% (42) said ‘Yes’ respondent that anaemia can be treated followed by 12.5% who were not sure and 2.5% said No. in addition most respondents 76% reported that anaemia
Knowledge and Practices of Mothers towards prevention of Anaemia among children under five

can be treated using hospital treatment, 18% that can be treated using traditional healer and 6% other (feed rich in iron). Where 45% of the respondents when asked on protection of child from getting anaemia said all of the above, 30% said eating meat, green vegetables, fruits while 12.5% said exclusive breast feeding up to 6 months, 10% that sleeping under insecticide treated bed net and 2.5% treating malaria, deworming. These results concur with Joyce et al. (2009).

5.2.3 The practice of mothers towards prevention of anaemia among under five years

Out of 45 mothers/caretakers, most 56% of respondents said No (never checked anaemic status of her child) while 44% said Yes (ever check anaemic status of her child) and on the figure 8 above, 86% (38) of the respondents reported Yes that their children have ever suffered from disease causing anaemia while 16% (7) No they never suffered. This is similar to Dwumfour (2013), statement revealed that Centres for Disease Control and Prevention (CDC) recommend screening for anaemia in pregnant women and universal iron supplementation to meet the iron requirements in pregnancy. According to Figure 9 above, out of 38 respondents, majority 55% (21) ‘Yes’ had been using insecticides treated bed nets meanwhile 45% (17) ‘No’ have not been using, it concur with Simon et al. (2009), report however nearly 45% of the respondents were not using insecticides treated bed net, this was very big gaps from the study. Table 9 above show place where mothers/caretaker takes the child with anaemia for treatment,
majority 21 (55.3%) of respondents reported health institution 6 (34.2%) other (private clinic, home) and least 4 (10.5%) traditional healer.

Results above in figure 10 shows that out of 45 participant’s majority of respondents with 58% (26) their source of food is both from the plant and animal followed by 31% (14) from plant source and least 11% (5) source of food is from animal sources slightly agreed with WHO (2011), because some plant diets contain natural iron nutrients as well as animal diet too.

5.3 Conclusion

Basing on the knowledge of mothers/caretaker towards prevention of anaemia in children under five years of age in Kitagata hospital results from the study revealed that have ever heard of anaemia while few never heard of anaemia. Those respondents who have ever heard of anaemia according their source of information were got from health workers, others (radio, village members), older person at home, and friends.

According to mothers/caretakers practices towards prevention of anaemia in children under five years of age in Kitagata hospital nearly most of the respondents reported that their children have ever suffered from disease causing anaemia. Majority respondents had been using insecticides treated bed nets meanwhile very have not been using it.

5.4 Recommendations

The anaemia control and prevention approach should be revised so that the preventive strategies are put in place targeting all children under five years irrespective to their clinical status.
Among the preventive strategies include continuous use of insecticides treated bed nets, iron supplements to low birth weight infants and all other children, counseling on the type of feeding and weaning.

Continuous health education programs should be maintained after accessing the mothers/caretakers’ knowledge and practice or belief on anaemia in children particularly under five years of age.

5.4.1 Further research topic

The researcher suggests that challenges faced by mothers/caretakers in prevention and management of anaemia in children less than five years of age should be establish.

5.5 Implications to Nursing Practice

Midwives and nurses should assess the knowledge and practices of mothers towards prevention of anaemia among children under five years of age most especially on children been admitted and discharged following the treatment of any type of anaemia.

Follow up to monitor the child progress nutritionally and growth and development.
REFERENCES


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Appendices

Appendix I: Consent Form

TOPIC: Knowledge and practice of mothers towards prevention of Anaemia among Children under five years of age in Kitagata Hospital, Sheema District.

INTRODUCTION

Hello, I’m KIRABO PENINAH, a student of Kampala International University-Western Campus, School of Nursing Sciences who is carrying out a research study on the above topic. The aim of this study is to assess Knowledge and find out Practice of Mothers towards Prevention of Anaemia among Children under five years of age in Kitagata Hospital, Sheema District. Your participation in this study is entirely voluntary. The study will not result in any loss of benefits you need from this hospital. If you accept proceed to sign the consent form. No name is required. For any information contact the principal researcher;

……………………………………………………..

Kirabo Peninah, (Principal researcher)

Kampala International University-Western Campus

School of Nursing Sciences

P. O. Box 71, Bushenyi, Uganda.

Contact: 0752842952
INFORMED CONSENT FORM

I have been requested by the Principal researcher/Research assistant to participate in the above study and I have been explained the purpose of the study in the Language I do understand, I hereby willingly accept to participate.

Signature or Thumb print: ……………………… Date: ………………………………..

Participant.

Witness: …………………………………………….. Signature: ………………………

Principal researcher/Research assistant
Appendix II: Questionnaire

Dear Respondents; this study is to establish knowledge and practice of mothers towards prevention of anaemia among Children under five years of age in Kitagata Hospital, Sheema District.

Serial Number: ......................... Date of interview: .........................

Section A: Socio-demographic characteristics

1. Age range
   a) 15-24 years ( )
   b) 25-34 years ( )
   c) 35 years and above ( )

2. Level of education
   a) None ( )
   b) Primary ( )
   c) Secondary ( )
   d) College ( )
   e) University ( )

3. Marital status?
   a) Married ( )
   b) Separated ( )
   c) Divorced ( )
   d) Widow ( )

4. Religion?
   a) Protestant ( )
   b) Catholic ( )
   c) Muslim ( )
   d) Other specify ...........................................

5. Occupation?
   a) Peasant ( )
   b) Business person ( )

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Knowledge and Practices of Mothers towards prevention of Anaemia among children under five

b) Housewife ( )

c) Other specify……………………………………………………………………

e) Civil servant ( )

Section B: Knowledge of mothers towards prevention of anaemia among children under five years

6. Have you ever heard of anaemia?
   a) Yes ( )
   b) No ( )

If ‘Yes’ answer question 7-14 from this section, if ‘No’ go to section C

7. From which source did you get the information about anaemia
   a) Health worker ( )
   b) Older person at home ( )
   c) Friend ( )
   d) Other specify …………………………………………..

8. How can someone get anaemia?
   a) Infections like malaria, HIV, Human worms etc.( )
   b) Poor dietary intake ( )
   c) Over bleeding ( )
   d) Other specify …………………………………………………………………

9. Do anaemia affect children while the children are still breast feeding?
   a) Yes ( )
   b) No ( )
   c) I don’t know ( )

10. How do you know that your child is suffering from anaemia?
    a) Body skin is pale( )
    c) Hand is pale ( )
b) Dyspnea, heart palpitation (  )  d) Other specify ………………………………

11. What could be the effect of anaemia in the child?
   a) Lack of blood (  )  c) Mental retardation (  )
   b) Poor growth and development (  )  d) I don’t know (  )

12. Can anaemia be treated?
   a) Yes (  )  c) Not sure (  )
   b) No (  )

13. If Yes to question 12, how is anaemia treated?
   a) Using hospital treatment (  )  c) Other specify ……………………………
   b) Using traditional healers (  )

14. How can one protect her child from getting anaemia?
   a) Exclusive breast feeding up to 6 months (  )
   b) Sleeping under insecticide treated bed net (  )
   c) Treating malaria, deworming (  )
   d) Eating meat, eggs, green vegetables and fruits (  )
   e) All the above (  )

Section C: The practice of mothers towards prevention of anaemia among children under five years

15. Have you ever checked you child before to know the anemic status?
   a) Yes (  )  b) No (  )

16. Has your child ever suffered from any diseases causing anaemia like malaria?
   a) Yes (  )  b) No (  )
17. If Yes to question 16, where did you seek for treatment?
   a) Health institution ( )  c) Other specify ........................................
   b) Traditional healer ( )

18. If Yes to question 16, were you using insecticide treated nets?
   a) Yes ( )                          b) No ( )

19. Is the child breast feeding?
   a) Yes ( )                            b) No ( )

20. What is the source of food you feed with your child?
   a) Plant sources ( )                   c) Both ( )
   b) Animal sources ( )

“THANK FOR YOUR PARTICIPATION AND TIME”
Appendix III: Letter of Approval

TO WHOM IT MAY CONCERN

Dear Sir/Madam

RE: KIRABO PENINAH - DNS/E/2625/153/DU

The above mentioned is a student of Kampala International University - School of Nursing Sciences undertaking Diploma in Nursing Science and she is in her final academic year.

She is recommended to carry out her data collection as a partial fulfillment for the award of the Diploma in Nursing Science.

Her topic is KNOWLEDGE AND PRACTICES OF MOTHERS TOWARDS PREVENTION ON ANAEMIA AMONG CHILDREN UNDER FIVE YEARS OF AGE IN KITAGATA HOSPITAL, SHEEMA DISTRICT

Any assistance rendered to her will be highly appreciated.

Thank you in advance for the positive response.

[Signature]

[Date]

[Title]

[Institution]
Knowledge and Practices of Mothers towards prevention of Anaemia among children under five

The Dean of Students
School of Nursing Sciences.

RE: ACCEPTANCE LETTER

In response to your request for placement to carry out Data collection, I am pleased to inform you that we have accepted Ms. Kirabo Peninah to do her Research in Kitagata Hospital.

Any assistance rendered to her will be highly appreciated.

Sincerely,

Kyaligonza Imelda Amooti
Ag.PNO
Kitagata Hospital.
Appendix IV: A map of Uganda showing location of Sheema District
Appendix V: A map of Sheema district showing location of Kitagata hospital