

**FACTORS CONTRIBUTING TO ANAEMIA AMONG CHILDREN UNDER FIVE IN
PEADIATRIC WARD AT KITAGATA HOSPITAL**

**A RESEARCH REPORT SUBMITTED TO UGANDA NURSES AND MIDWIVES
EXAMINATIONS BOARD**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR AWARD OF THE
DIPLOMA IN NURSING**

AGABA DISON

REASERCH STUDENT

MAY, 2018

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Abstract

The continuing rates of anaemia among children under 5 years has left many wondering whether mothers or caretakers of these children are knowledgeable about the factors contributing to anaemia among children under 5 years in paediatric ward in Kitagata hospital. The study was conducted to explore the factors contributing to anaemia among children under 5 years at Kitagata hospital.

It was a descriptive and cross sectional study design and a total of 30 respondents who were care takers with children under 5 years admitted in paediatric ward at the time of the study were selected using simple random sampling procedures.

The findings indicate that the respondents interviewed, majority 12(40%) reported to have attained at least primary education, which was not surprising as half 15(50%) of the respondents interviewed were house wives. They also faced various economic factors where by majority 8(32%) never had enough money and that the sun burnt the crops they cultivated, 20 (80%) ate one meal a day to save, majority 25(83.3%) never had enough food in their families, this inadequacy of food predisposed to anaemia. Furthermore, the findings showed that respondents incurred many cultural factors in that most of them 26 (87%) reported of some foods their culture forbade them to eat and 3(23.1%) reported of times culture forbade breast feeding children.

In conclusion, respondents faced various factors which contributed to anaemia among children under 5 years and these hence required practical and local interventions such as sensitization and health education of mothers of children under 5 years, encouragement to get involved in income generating activities among other measures to improve food security in the home.

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AUTHORIZATIONS

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Author: AGABA DISON

Address: agabadison@gmail.com.

Supervisor: MR. BALUKU YOSIAH

Address: balyos766@gmail.com.

Signature.....

SR. KABANYORO ANNET

Dean school of nursing KIU-Western Compass

Signature:

Date:

DEDICATION

I dedicate this research to the Almighty God, my family, friends Moit Dorah, Isaakwa Nathan, Katureebe Simon and my supervisor Mr. Baluku Yosiah for the support they have accorded me throughout the writing and compiling of this research report.

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Operational definitions

- Anaemia** : Is a condition where there is lower than normal level of hemoglobin blood.
- Children** : This is any one below the age of 18 years.
- Hunger** : This is the body's signal that it needs food.
malnutrition
- Malnutrition** : This is defined as inadequate nutrition or over nutrition
- Mothers** : These are women who are in relation to their children.
- Over nutrition** : This refers to the intake of nutrients in excess of what the body uses.
- Stunting** : This is abnormal height-for age and is often seen with chronic
- Under nourished** : This is falling short of daily nutritional requirements,
- Underweight** : This is a situation where an infant has lower weight-for the age
- Wasting** : This is low weight-for-height and it is often seen with malnourished
Children.

Operational abbreviations

AIDS	:	Acquired Immune Deficiency Syndrome
BMI	:	Body Mass Index
FAO	:	Food and Agriculture Organization
HIV	:	Human Immunodeficiency Virus
KIU	:	Kampala International University
OPD	:	Out Patient Department
PEM	:	Protein Energy Malnutrition
PMTCT	:	Prevention of Mother to Child Transmission
UN	:	United Nations
UNMEB	:	Uganda Nurses and Midwives Examination Board
VAD	:	Vitamin A Deficiency
VCT	:	Voluntary Counseling and Testing
WHO	:	World Health Organization

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter presents the introduction, problem statement, purpose of the study, specific objectives, research questions and significance of the study.

Anaemia remains a serious public health and nutrition problem globally. Anaemia is defined as a lower than normal level of hemoglobin in the blood (Caulfield *et al.*, 2014). Iron deficiency affects a significant part, and often a majority, of the population in nearly every country in the world (Faqih, A., 2015).

1.1 Background

Globally, it is estimated that above two billion people are affected by anaemia (WHO, 2014). In Latin America, the proportion of the population suffering from anemia by the end of the past decade was estimated to reach more than 100 million (nearly 20% of the total) and this included 22 million children less than 5 years (Lozoff *et al.*, 2012).

Anaemia is one of the largest killers of children admitted to hospital in sub-Saharan Africa (Allen, L & Alhuwalia, T., 2013). More than 100 million African children are thought to be anaemic and community-based estimates of anaemia prevalence in children in settings where malaria is endemic range between 49% and 76% (Main, B., 2012). The consequences, in terms of years of life lost, of such a high level of anaemia are hard to quantify, although the burden of malaria-associated anaemia has been estimated at 190 000–974 000 deaths per year in children under 5 years of age (Nokes *et al.*, 2012).

In East Africa, anaemia continues to be a serious public health problem, especially among children under 5 years of age and recent estimates from countries such as Tanzania and Kenya range from 20% - 56% in rural and urban areas (Mwadime *et al.*, 2015).

Similarly, in Uganda, it is estimated that up to (53%) of children under 5 years of age are anemic (Mugenyi, I. P., 2009). Furthermore, in Uganda, four out of 10 children below 5 years of age or (23%) suffer from underweight and (6%) suffer from acute malnutrition (Bimenya, T., 2015). Further still, micronutrient malnutrition also remains widely prevalent, specifically deficiencies in iodine and Iron-Deficiency Anaemia (IDA), and IDA affects (73%) of preschool children (Sserunjogi, L., & Harvey P., 2011).

1.2 Problem Statement

Unfortunately, 14% of the global burden of disease affects school-aged children, specifically children under 5 years of age, many of whom suffer from micronutrient deficiencies (Nsabagasani *et al.*, 2013).

Anemia among children under 5 years of age is a public health problem in most countries, especially those in Africa, Asia and Uganda is not an exception (Wamsele, J & Kisenge, R., 2012). However, successful education depends in part on good health, and in turn good health requires adequate nutrition and since more children than ever are attending school, and for longer periods of their lives, if children are to take full advantage of the education they are offered, their ability to attend school and to learn must not be compromised by ill health (Namaalwa *et al.*, 2014). In Uganda, anemia is a recognized public health problem and its prevalence in some parts of the country is as high as 100% (MoH, 2016). Parasitic infections such as intestinal worms,

schistosomiasis and malaria, low dietary intake and chronic illnesses are the commonest causes of anaemia (Nuwaha, F and Mukulu, A., 2012).

According to Health management Information System (HMIS, 2016) records at Kitagata Hospital, an average of 35% children under 5 years are received per month with severe anaemia. The continuing rates of anaemia among children under 5 years leaves one wondering whether mothers/caretakers of children under 5 years are knowledgeable about the factors contributing to anaemia among children under 5 years in pediatrics ward at Kitagata Hospital. No known study has been carried out at Kitagata Hospital to identify the factors contributing to anaemia among children under 5 years, thus a study is to be carried out.

1.3 Purpose of the study

The purpose of the study is to identify the factors contributing to anaemia among children under 5 years in pediatrics ward at Kitagata Hospitals as to develop mechanisms to ensure that anemia among children under 5 years is prevented.

1.4 Specific objectives

- 1) To assess social demographic factors contributing to anaemia among children under 5 years in pediatrics ward at Kitagata Hospital.
- 2) To determine economic factors contributing to anaemia among children under 5 years in pediatrics ward at Kitagata Hospital.
- 3) To identify the cultural factors contributing to anaemia among children under 5 years in pediatrics ward at Kitagata Hospital.

1.5 Research Questions

- 1) What are social demographic factors contribute to anaemia among children under 5 years in pediatrics ward at Kitagata Hospital?
- 2) How does economic factors contribute to anaemia among children under 5 years in pediatrics ward at Kitagata Hospital?
- 3) How does cultural factors contribute to anaemia among children under 5 years in pediatrics ward at Kitagata Hospital?

1.6 Justification of the study

This study served the purpose of identifying the factors that contributed to anemia among children under 5 years. This greatly assisted the administration of Kitagata Hospital to come up with more appropriate sensitization and health education of mothers and care takers on how to prevent anemia among children under 5 years.

The findings might assist the Ministry of Health and Health Planners and Policy makers by identifying the potential areas which still required policy improvements as well as the development of national policy on child health services including the prevention of anemia.

The study also provided a valuable point of reference for researchers carrying out similar studies in future and also contributed to the available literature on the factors that contributed to anemia among children under 5 years.

The study helped the researcher in accomplishing the course as it was for a partial requirement to be fulfilled for the award of a Diploma in Nursing.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter presented the literature review that was cited by other scholars about the factors that contributed to anemia among children under 5 years. The literature was presented according to the study objectives and it commenced with the social demographic factors that were associated to anemia among children under 5 years.

2.1 Social demographic factors associated to anemia among children under 5 years

2:1:1 level of education

According to Villalpando *et al.* (2010) who did a study on social demographic factors that contributed to anemia under-fives in Mexico stated that mothers who had a high level of education had children with normal hemoglobin levels than their counterparts who had low level of education and further stated that educated mothers were more conscious of their childrens' health and thus introduced scientifically proved feeding practices which helped to improve their childrens' nutritional status.

2:1:2 Marital Status

In a study carried out by Allen, L. (2012) she found that marital status of the couple as well as lack of support from the husband or partner to ensure inadequate nutrition of all children was a major factor that contributed to anemia among children under-fives.

2:1:3 Age

According to a study which was done by Aizhao and Peiyo Wang (2009) in Burna on prevalence of anemia and its risk factors among children 6-36 months, it was found out that anemia was associated with the young mothers, children.

2.1.4 Occupation

Children from families with parents who were employed with a good job were less susceptible to anemia than those whose parents were not employed or had low income jobs, this was a study done in Burna on prevalence of anaemia and its risk factors among young children 6-36 months (Aizhao and Peiyo Wang, 2009).

2.1.5 Number of people living in a house hold.

A study that was carried out in India by Baranwal,A and Roy, N (2014) on association of household environment and prevalence of anemia among children under five found out that children who belonged to a nuclear family had a less chance to be anemic since their family members were few and well planned for.

2.1.6 Place of residence

Place of residence was a strong determinant factor of anemia in children under-fives. The children who lived in villages in accordance to the study that was done by Elijah Yendow *et al.* (2014) on determinants of anaemia among under- fives in Ghana.

2.2 Economic factors contributing to anaemia among children under 5 years

2:2:1 Lack of enough food

A study done in India on factors that contributed to anemia by Caballero *et al.* (2013) found out that non availability of food of which most people could afford only one meal a day was one of the major causes of anaemia. They quoted that protein-energy malnutrition (PEM) and micronutrient deficiencies were the major contributors to anaemia among children under 5 years and child morbidity and mortality (Caballero *et al.*, 2013).

In a study about the dimensions and causes of child malnutrition among preschool children in Raipur and Chattisgarh in India, it was revealed that the causes of anemia among children under five years of age included poor food distribution, lack of sanitation, economic downturns, erratic health care provision (Mitra *et al.*, 2014).

2:2:2 Poor economies and climatic conditions.

According to Barrios, R *et al* (2013) who did a study about the nutritional status of children under 5 years of age in three hurricane-affected areas of Honduras found out that anemia among children under 5 years was caused by poor economies or environmental crises, such as droughts or weather disasters which causes a shortage of critical foodstuffs.

In a study about nutritional status as a predictor of child survival, it was reported that anemia was caused by eating unbalanced diets, digestion problems or other medical conditions (Schroeder, D and Brown, K ., 2010). Similarly, Madzingira, A. (2011) who did a study about malnutrition in children under five in Zimbabwe found out that hunger was one of the most common causes of malnutrition and anemia, with poverty as the main factors.

2:2:3 Lack of balance diet

It was found out that in terms of dietary factors, anemia was induced by lower levels of consumption of dietary foods like meat and less intake of nutrients involved in iron metabolism such as vitamins and animal proteins, getting energy from more carbohydrates than fats in a study done in Korea on effects of maternal education on diet, anemia and iron deficiency in preschool aged children (Hyeon- Jeong Choi *et al.*, 2011). Rice was the major source of iron together with reddish leaves and a diet less in meat, fish and having more vegetables makes the child prone to iron deficiency anaemia (National Health and Nutrition Examination III Korea, 2008).

2.3 Cultural factors contributing to anemia among children under 5 years

2:3:1 Delayed introduction of supplementary foods to the baby

According to Greer, F. *et al.* (2013) in study on the effects of nutritional interventions in infants and children under 5 years, found out that the role of maternal dietary restriction, breastfeeding, timing of introduction of complementary foods were cultural factors as well as prolonged duration of breast feeding and delayed introduction of complimentary foods beyond 6 months contributed to anemia among children under 5 years.

2:3:2 mothers' attitude towards breast feeding.

In a study about mother's attitudes towards breast feeding it revealed that mothers were forbidden to breastfeed when attending burial ceremonies and when newly married, this led to inadequate breast feeding of children which led to malnutrition and open the way for severe conditions such as anemia (Nakazzi, R., 2008).

2:3:3 Taboos on some food stuffs

A study about breast feeding practices in urban and rural health centers in Ile-Ife, Nigeria found out that some mothers did not offer foods such as milk and meat to children and this was linked to the presence of cultural factors which prohibited eating of these foods and this potentially gave rise to conditions such as anemia (Ojofeitimi *et al.*, 2013).

Similarly, in another study about the factors that affected prevalence of malnutrition among children under 3 years of age in Botswana, it was discovered that some tribes did not allow foods such as milk pork and fish to be consumed and this was related to cultural beliefs and practices which also contributed to the development of anemia among children under 5 years (Salah *et al.*, 2014).

A study about nutritional status of children in Lao PDR found out that some of the cultural factors that contributed to anaemia and malnutrition among children under 5 years included selective feeding of children on some types of food due to food taboos about some food types such as meat (Phimmasone, K., 2012).

In a study about nutritional status as a predictor of child survival as well as summarizing the association and quantifying its global impact, it showed that some of the cultural factors that contributed to anemia among children under 5 years was the perceived danger of some types of food to the growth and development of children (Schroeder, D and Brown, K., 2010).

2:3:4 Early cessation of breast feeding

According to Servent , M. (2012) who did a study in Tanzania about cultural factors that contributed to anemia found out that early cessation of breast feeding was a major cause of serious

malnutrition in under-fives that led to anemia as well as withholding some types of food especially at commencement of weaning.

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter presented the introduction, study design and rationale, study setting and rationale, study population, sample size determination, sampling procedure, inclusion criteria, definition of variables, research instruments, data collection procedure, data management, data analysis and presentation, pilot study, ethical consideration, limitation of the study and dissemination of results.

3.1 Study Design and rationale

The study was descriptive cross sectional employing quantitative data collection methods. This study design was selected because it assisted in easily getting the required data for the study.

3.2 Study setting and rationale

The study was conducted at the Paediatric Ward, Kitagata Hospital which was found in Sheema district western Uganda, bordered by Buhweju district in north, Mbarara district in north, Ntungamo district in South, Mitoma district in south west Bushenyi district in west. It was 233 km from Kampala and it had an estimated population of 389,650 people (UBOS, 2012). The main tribes were Banyankole and Bakiga. The main food was matooke, and the main economic activity done was farming. The hospital was the biggest health care provider in the district and it offered many health care services including immunization, child health services, obstetrics and emergency care, HIV/AIDS management services, general patient management, laboratory services, mental health services, nutrition services, family planning services, antenatal and post natal services, EMTCT program as well as RCT services among many others. The study setting was selected because it was well known to the researcher and the required number of respondents were easy to get while also because there was a high number of anemia cases that were registered every month.

3.3 Study Population

The study included caretakers of children under 5 years that were admitted in the Pediatric Ward, Kitagata Hospital at the time of data collection and a total of 30 caretakers representatives were involved in the study.

3:3:1 Sample Size

3.4.1 Sample size determination.

The sample size was determined using Fisher's (1990) method in which the sample size is given by the expression

$$n = \frac{Z^2 Pq}{d^2}$$

n= Desired sample size

Z= Standard normal deviation usually set as 1.96 for maximum sample size at 95% confidence interval.

P=50% (constant) or 0.5 since there is no measures estimated

Q= 1-p =1-0.5= 0.5 and,

d=degree of accuracy desired 0.12 or 0.12 probability level (at 95% confidence level)

Therefore by substitution in the formula,

$$\frac{1.96^2 \times 0.5 \times 0.5}{0.12 \times 0.12} = 30$$

There the sample size was 30 respondents.

3:3:2 sampling procedure

The researcher utilized simple random sampling procedure to obtain the sample size for the study. The researcher gave all potential respondents who met the study criteria an opportunity to participate in the study by picking papers from an enclosed box and any respondent who picked a paper with the word YES written on it was requested to participate in the study. This continued until the total of 30 respondents was achieved.

3:3:3 Inclusion criteria

The study included only caretakers of children under 5 years admitted in the Pediatric Ward, Kitagata Hospital who were free and were willing to voluntarily consent to participate in the study.

3.3.4 Exclusion criteria

All care takers of children under 5 years admitted in paediatric ward, Kitagata Hospital who are present and never consented for the study were excluded.

3.4 Definition of Variables

The dependent variables for the study will include:

Anaemia among children under 5 years

The independent variables for the study will include:

Social demographic factors that contributed to anemia among children under 5 years.

Economic factors that contributed to anemia among children under 5 years.

Cultural factors that contributed to anemia among children under 5 years.

3.5 Research Instruments

Data was collected using an approved semi-structured interview guide which consisted of both open and closed ended questions. This tool was selected because the study involved mixed groups of respondents, whereby some respondents were literate while others were illiterate and thus unable to read, write and understand English that used to develop the questionnaire.

3.6 Data Collection Procedure

Before approaching and collecting data from respondents in the ward, the researcher was accompanied and introduced to the respondents by the in-charge of the Paediatric ward, Kitagata Hospital. The researcher administered interview guides to caretakers at the Paediatric ward, Kitagata Hospital. This improved efficiency and confidentiality during data collection. The researcher hoped to sample 10 respondents per day for a total of 30 respondents for 3 days.

3:6:1 Data management

Data management included data editing before leaving the area of study to ensure that there were no mistakes or areas left blank, and if any was found, they were corrected before leaving the area of study.

3:6:2 Data analysis and presentation

The collected data was first analyzed manually by the use of papers and pens and tallying, after which the researcher presented them in tables, graphs and pie charts generated by Microsoft Excel.

3:6:3 Pilot Study

The interview guide was pretested among 6 caretakers of children under 5 years who were admitted with anaemia at another hospital which enabled the researcher to assess its clarity, accuracy and reliability and make the necessary adjustments.

3.7 Ethical Consideration

A letter of introduction was obtained from Kampala International University, which introduced the researcher to the medical director of Kitagata Hospital and sought permission to carry out the study. After permission was granted, the medical director introduced the researcher to the in-charge of the paediatric ward who in turn introduced the researcher to the respondents. Respondents were assured of maximum confidentiality and only numbers instead of names were used to identify the respondents. The study commenced after the objectives of the study were well explained to participants and they consented to participate in the study.

3.8 Limitation of the study

The researcher encountered time constraints in the course of the study, balancing the research study and other demanding course works.

The researcher also faced difficulty in obtaining information from some unco-operative respondents for whatever reason.

3.9 Dissemination of results

The findings of the study were compiled into a dissertation report that will be submitted in partial fulfilment for the award of Diploma in nursing by UNMEB .Four copies of the research report will be disseminated the library of KIU as follows; one copy of the report will be submitted to UNMEB, KIU, the administration of Kitagata Hospital , supervisor and researcher. Efforts will be made to present the findings of the study in any health and educational conferences geared towards reducing the incidence of anemia among children bellow 5 years.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter deals with the analysis and presentation of data collected in form of graphs, pie charts and frequency tables on factors contributing to anaemia among children under five in paediatric ward at Kitagata hospital. Out of 30 respondents interviewed, 30 returned completely filled questionnaires giving a response rate of 100%.

4.1 SECTION A: Bio demographic profile.

Table 1 showing bio demographic profile of the respondents (N=30).

Social demographic data		Frequency (N=30)	Percentage (%)
Age	18-25	10	33.3
	26-35	9	30
	36-45	6	20
	45 and above	5	16.7
Marital status	Single	7	23.3
	Married	20	66.7
	Divorced	3	10
Highest level of education	Primary	12	40
	Secondary	6	20
	Tertiary	4	13.3
	Never attended school	8	26
Occupation	House wife	15	50
	Civil servant	5	16.7
	Peasant	10	33.3
Number of people residing in the house	1-4 people	8	26.7
	4-8 people	12	40
	8 people and above	10	33.3
Place of residence	Town	10	33.3
	Village	20	66.7

According to the research findings majority of the respondents 10(33.3%) studied were within the age range of 18-25 compared to 5(16.7%) who were within the age range of 46 years and above, more than half of the respondents 20(66.7%) interviewed were married while 3(10%) who were

widowed, most of the respondents 12(40%) studied attained at least primary as their highest level of education while to 4(13.3%) had attained tertiary as their highest level of education, half of the respondents 15(50%) interviewed were housewives compared to 5(16.7%) who were civil servants , majority of the respondents 12(40%) studied had a range of 4-8 people living in their houses while 8(26.7%) lived with a range of 1-4 people in their houses, most of the respondents 20(66.7%) interviewed lived in the village compared to 10(33.3%) who lived in town.

4.2 SECTION B: Economic factors contributing to anaemia among children under five (N=30).

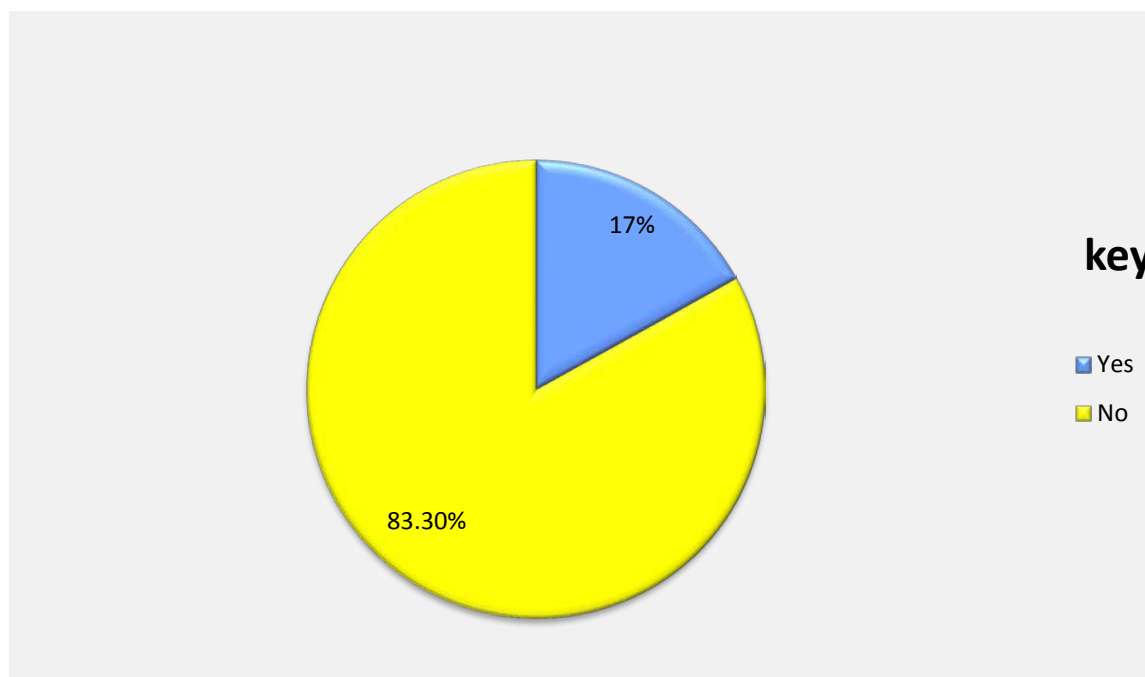


Figure 1 showing whether the respondents had enough food in their families (N=30).

According to the study findings most of the respondents 25(83.3%) studied never had enough food in their families while 5(17%) had enough food in their families.

Table 2 showing the number of meals the respondents ate in a day (n=5).

Number of meals	Frequency(N)	Percentage (%)
2 meals. Lunch and supper	1	20
3 meals, breakfast, lunch and supper	3	60
4 meals. Breakfast lunch evening tea and supper	1	20
Total	5	100

The data in table 2 showed that majority of the respondents 3(60%) interviewed had three meals in a day compared to 1(20%) who only had two and four meals a day.

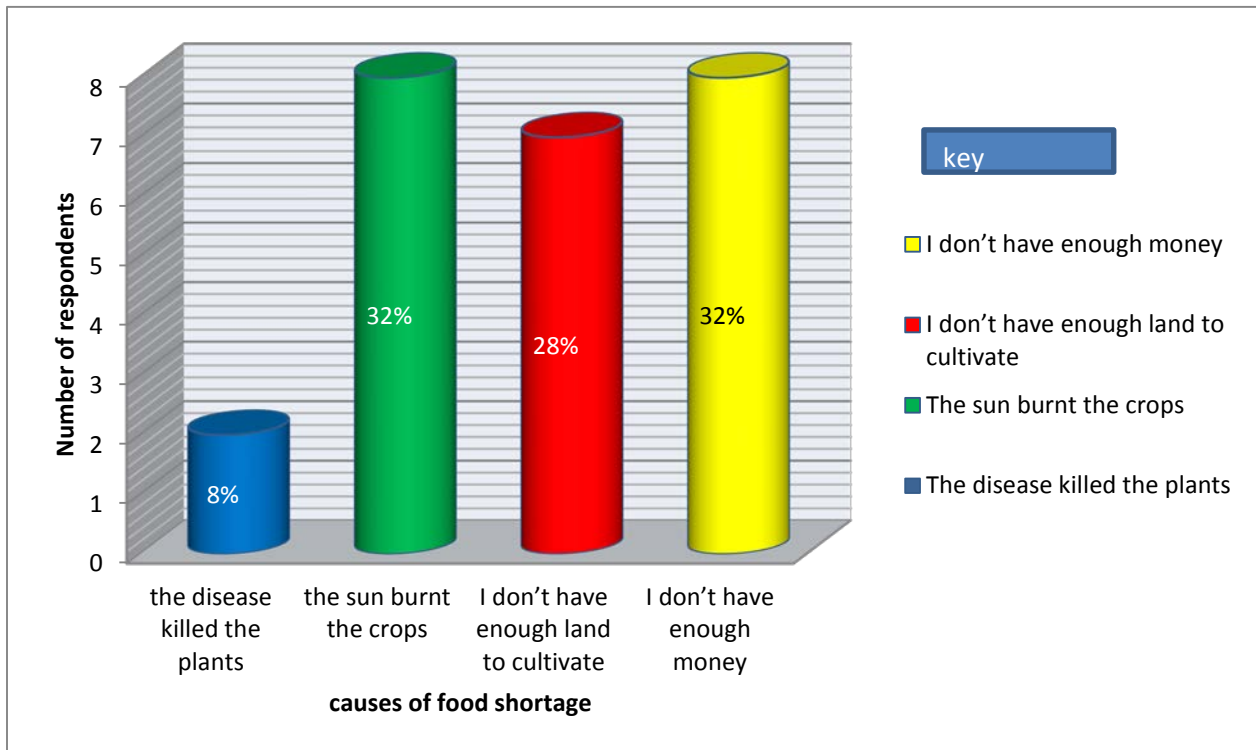


Figure 2 showing the cause of the food shortage in the respondents families (n=25).

According to the findings in the study most of the respondents 8(32%) studied said that the cause of food shortage in their families was the sun burnt the crops and not having money compared to the 2(8%) who mentioned that the disease killed the plants as the cause of food shortage in their families.

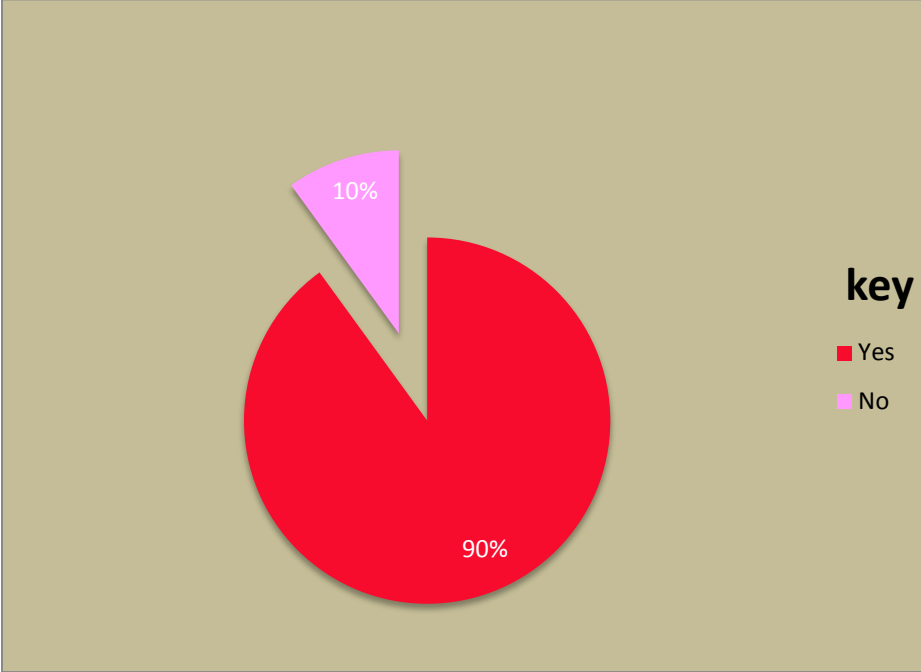


Figure 3 showing whether weather affected the crops that the respondents cultivated (N=30).

According to the study finding most of the respondents 27(90%) said that the weather affected the crops they cultivate compared to 3(10%) who mentioned that that weather did not affect the crops they cultivated.

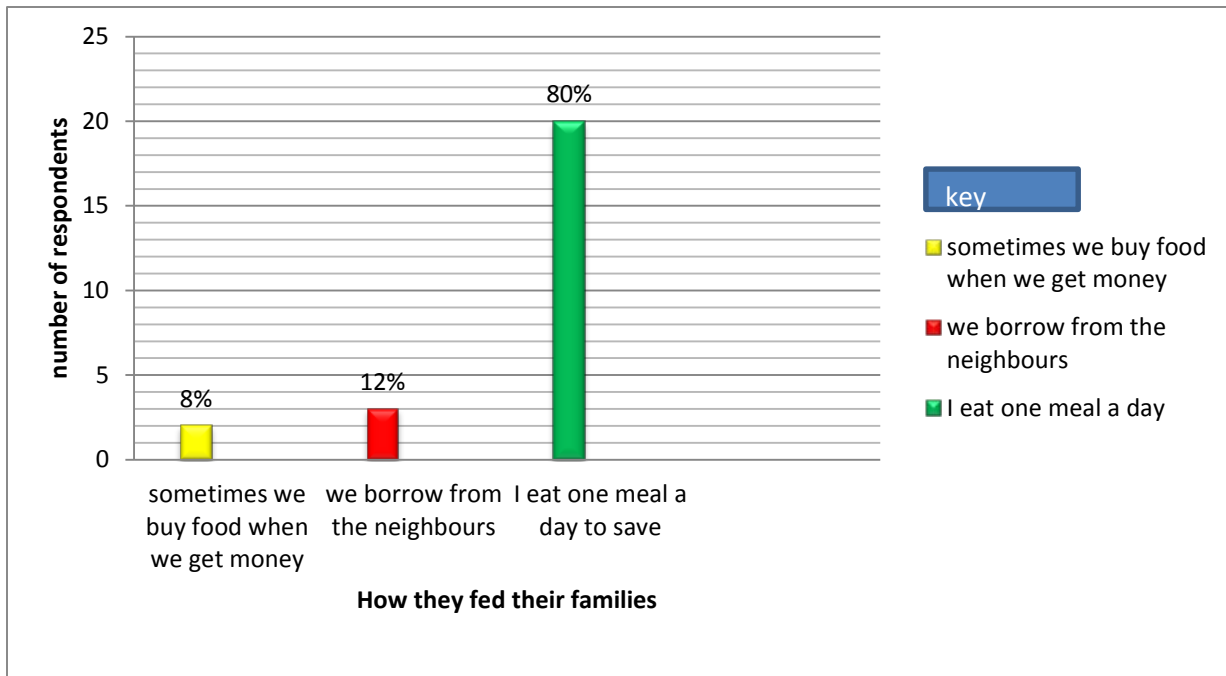


Figure 4 showing how the respondents fed their families (n=25).

According to the results of the study majority of the respondents 20(80%) studied fed their families by at times buying food when they got money while 2(8%) fed their families on one meal a day to save.

Table 3 showing the types of meals the respondents ate (N=30).

Type of meal	Frequency(N)	Percentage (%)
Meat	3	10
	9	30
Cassava	1	3.3
Vegetables and fruits	6	20
matooke	11	36.7
Total	30	100

According to the study findings majority of the respondents 11 (36.7%) interviewed ate matooke whereas 1(3.3%) ate cassava.

Table 4 showing the other types of foods the respondents ate apart from those stated in table 3 above (N=30).

Type of meal/food	Frequency(N)	Percentage (%)
Millet	9	30
silverfish	5	16.7
G .nuts	4	13.3
Shabwe/milk	11	40
Total	30	100

The data shown in table 4 shows that more than three quarters of the respondents 11(40%) asked, ate shabwe/milk apart from the foods stated in table 3 above compared to 4(13.3%) who ate G.nuts apart from the food stated above in table 3 above.

4.3 SECTION C: Cultural factors contributing to anaemia in children under five.

Table 5 showing the time when respondents introduced other feeds to their babies (N=30).

Time	Frequency(N)	Percentage (%)
Less than six months	10	33.3
At 6 months	15	50
Immediately after birth	0	0
Beyond 6 months	5	16.7
Total	30	100

According to the study findings most of the respondents 15(50%) studied introduced other feeds to their babies at less than six months whereas 5(16.7%) introduced other feeds to their babies at 6 months.

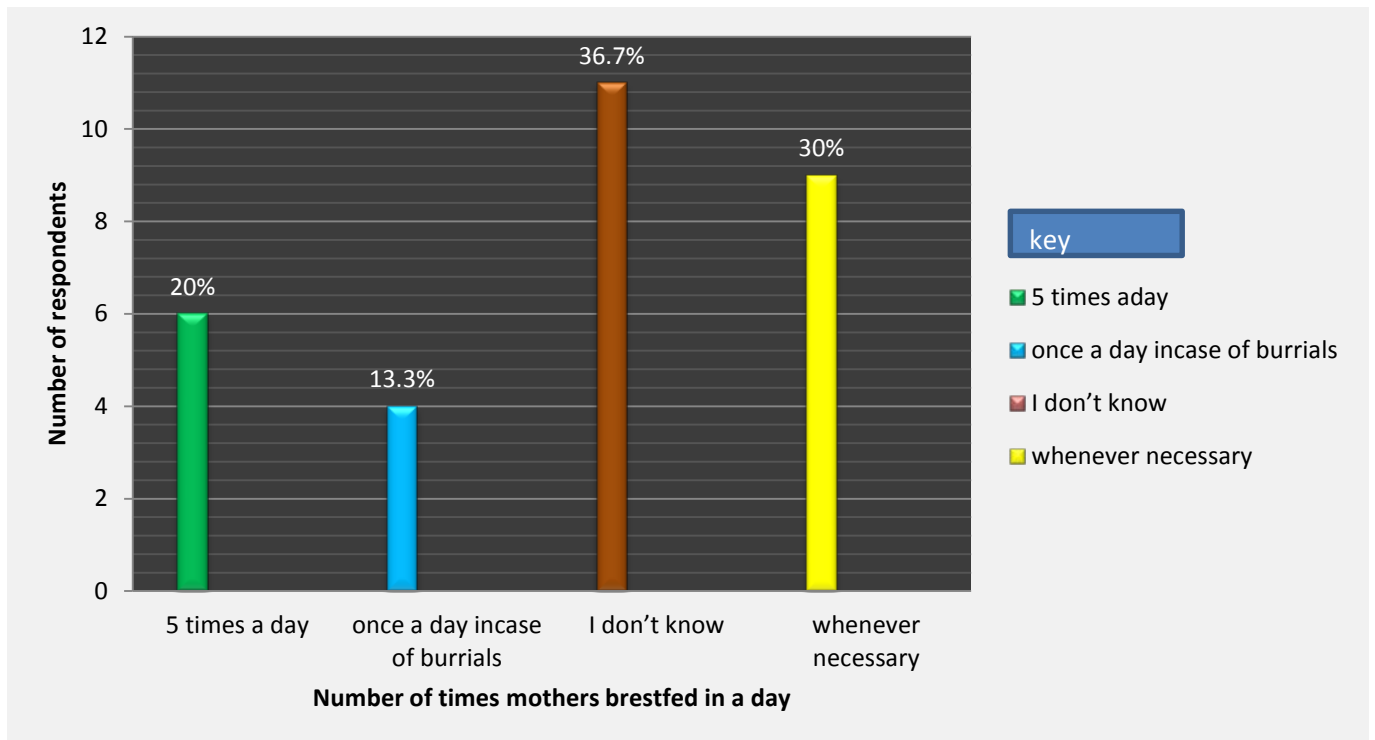


Figure 5 showing the number of times the respondents breastfed in a day (N=30).

According to the study findings most of the respondents 11(36.7%) interviewed never knew how many times they breast fed compared to 4(13.3%) who breast fed once a day during burials.

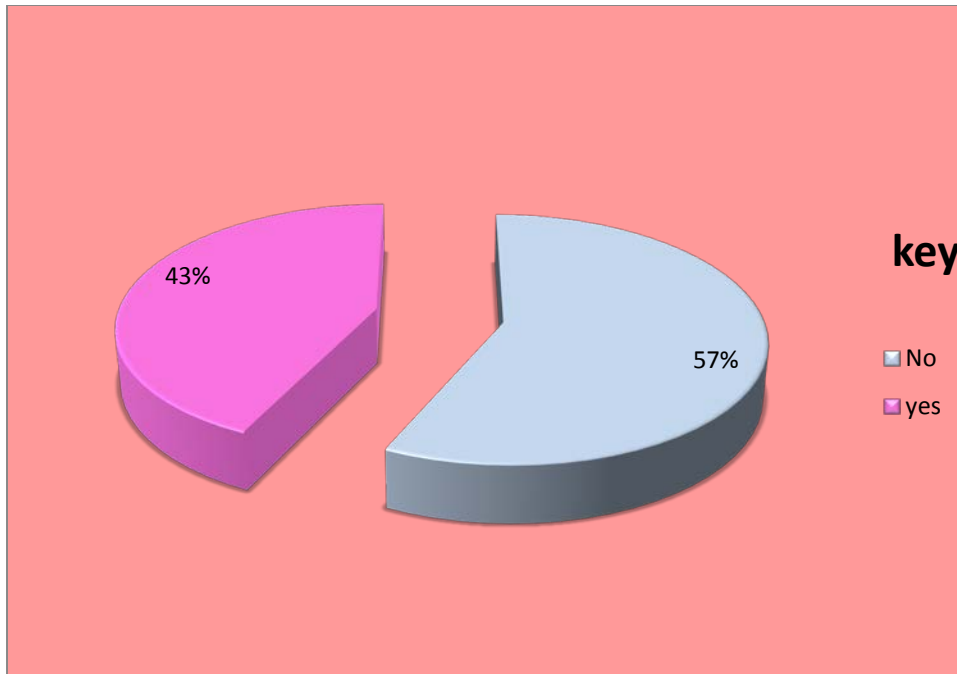


Figure 6 showing whether the respondents had a problem with breast feeding their babies (N=30).

According to the study findings majority of the respondents 17(57%) interviewed did not have any problem with breast feeding their babies while 13(43%) had a problem with breast feeding their babies.

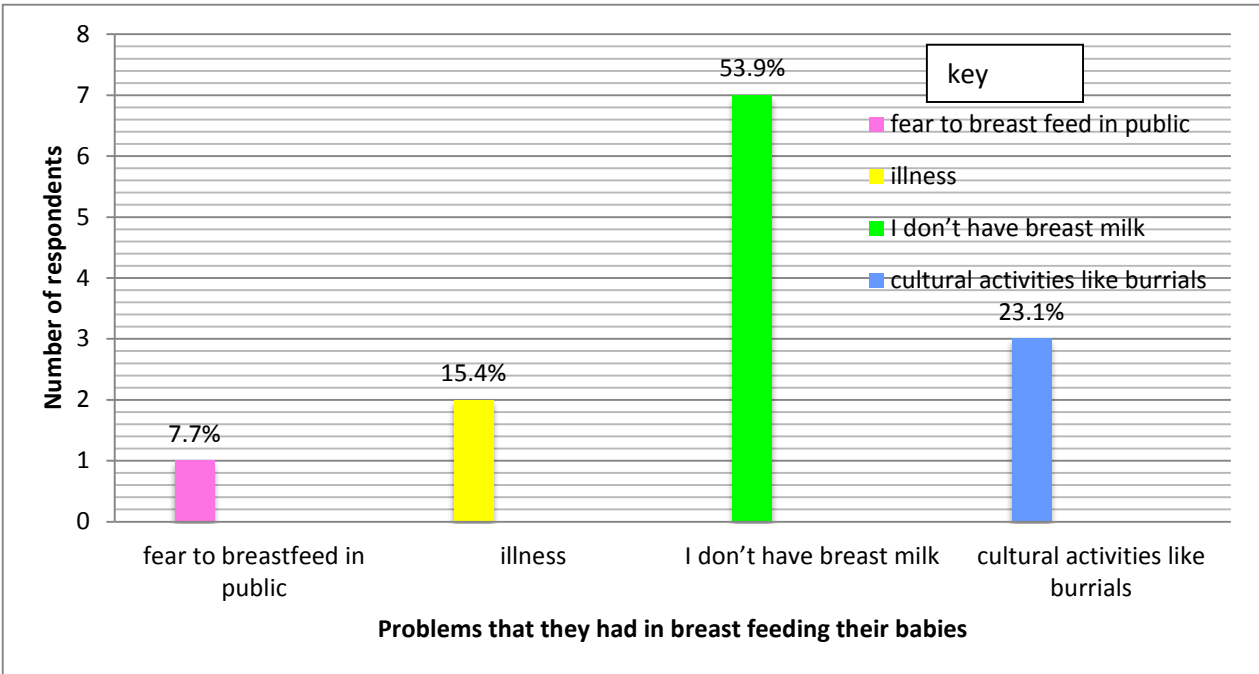


Figure 7 showing the problems that the respondents had in breastfeeding their babies (n=13).

The data in figure 7 shows that more than half of the respondents 7(54%) interviewed had a problem of as not having enough breast milk whereas 1(8%) had a problem with breastfeeding their babies as fear to breast feed the baby in public.

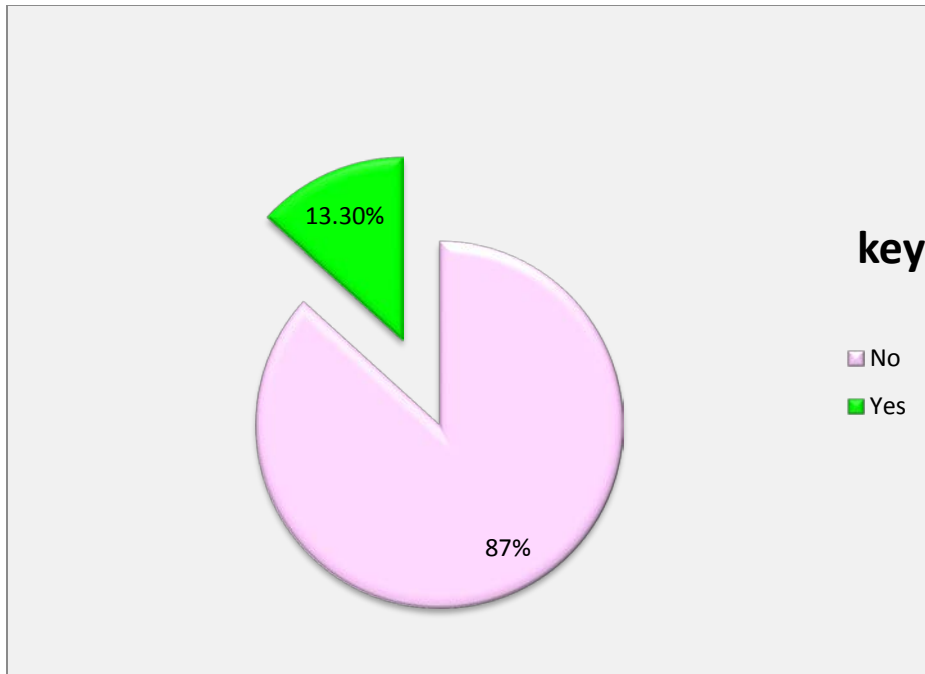


Figure 8 showing whether there were any food staffs that the respondents were not allowed to eat (N=30).

According to the study findings, majority of the respondents 26(87%) studied said that there were some foods they were not allowed to eat compared to 4(13.3%) the who said that there weren't any food staffs they were not allowed to eat.

Table 6 showing the types of foods the respondents were not allowed to eat and their reasons (n=26).

Food	Reason	Frequency(N)	Percentage (%)
Pig	It is dirty	6	23.1
Fish	They ate our ancestors	5	19.23
Meat	I will get a goats' beards	11	42.3
Grasshoppers	No reason	4	15.4
Total		26	100

According to the study findings most of the respondents 11(42.3%) interviewed were not allowed to eat meat because they would get beards like those of the goats compared to 4(15.4%) who were not allowed to eat grasshoppers for no reason.

Table 7 showing the age at which the respondents planned to stop breastfeeding their babies (N=30).

Age	Frequency(N)	Percentage (%)
Less than one year	3	10
More than one year	12	40
At one year	10	33.3
When the baby wants	5	16.7
Total	30	100

According to the study findings most of the respondents 12(40%) studied planned to stop breast feeding their babies at more than one year while 3(10%) planned to stop breastfeeding their babies at less than one year.

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSION RECOMMENDATION AND NURSING IMPLICATION.

5.0 Introduction.

This chapter presented the discussion of findings in relation to the literature review to answer questions conclusions and recommendations of the study which were obtained after the data analysis.

5.1 Discussion of study findings

According to the research findings majority of the respondents 10(33.3%)studied were within the age range of 18-25, these findings are similar to those of Aizhao and Pieyo Wang (2009) who conducted a study in Burna and reported that anaemia was associated with the young mothers. This could be because the young mother's knowledge and awareness was impaired on how to ensure adequate nutrition and prevent anaemia among children under five.

The findings of the study showed that more than half of the respondents 20 (66.7%) interviewed were married, these findings are consistent with Allen. (2012) which revealed that among the causes of anaemia, that some social factors contributing to anaemia among under-fives was marital status of the couple as well as lack of support from the husband/ partner to ensure adequate nutrition for all the children under five. This could be because these married women relied on their partners to ensure adequate nutrition for their children.

According to the research findings, most of the respondents 12(40%) interviewed attained at least primary as their highest level of education and this is in disagreement with Villalpando *et al.*(2009) in Mexico who documented in their study that mothers with a high level of education had children with normal haemoglobin levels than their counter parts with low level of education and further stated that highly educated mothers are more conscious of their children's health and introducing scientifically proved feeding practices which help to improve their children's nutritional status . This implies that most of the respondents attained little or no education which could have affected their level of knowledge about the causes of anaemia among under-fives and its prevention.

According to the research findings, half of the respondents 15(50%) asked were housewives, this is in disagreement with the study findings of Aizhao and Pieyo Wang (2009) who conducted a study in Burna reported that children from families whose parents are employed with good jobs are less susceptible to anaemia than those whose parents are not employed or have low income jobs. This however could be because most respondents relied on their husbands for support to ensure adequate nutrition for their children and prevent nutrition for anaemia though at times what the spouse earns may not be enough to cater for the whole family.

The findings showed that majority of the respondents 12(40%) studied had a range of 4-8 people living in their houses and this is not in line with the study done by Baranwal, A and Roy, N (2014) in a study done in India where they revealed that children who belonged to a nuclear family had a less chance to be anaemic since their family members are few and well planned for. This implies that the higher the number of people living in the house hold the more difficult it would be for the respondents to ensure adequate nutrition.

The findings show that most of the respondents 20(66.7%) interviewed lived in the village and the findings are in line with Elijah Yendow *et al.* (2014) in Ghana stated that the children who live

in villages are more susceptible to anaemia. This could be due to poverty and so their parents are not able to afford the adequate nutritional requirements for their children.

According to the study findings most of the respondents 25(83.3%) studied never had enough food in their families and these findings are similar to the ones in a study done in India by Caballero *et al.* (2013) which found out that non availability of enough food of which most people can afford only one meal a day is one of the major causes of anaemia. This could be because of poverty.

The data showed that majority of the respondents 3(60%) interviewed had three meals in a day and these findings are not supported by the ones in a study done in India on factors contributing to anaemia by Caballero *et al.* (2013) found out that non availability of enough food of which most people can afford only one meal a day is one of the major causes of anaemia. This could be due to poverty.

In addition to the findings in the study most of the respondents 8(32%) studied mentioned that the cause of food shortage in their families was the sun burnt the crops and not having money and the results are in line with Barrios *et al.* (2013) who did a study on nutritional status of children under five years of age in three hurricane affected areas of Honduras that anaemia is caused by poor economies or environmental crises such as droughts or weather disasters which causes a shortage of critical food staffs. This implies that there is failure to have money to purchase food leading to food insecurity in the home.

According to the study finding, most of the respondents 27(90%) interviewed mentioned that weather affected the crops they cultivate and the results are in line with Barrios *et al.* (2013) who did a study in three hurricane affected areas of Honduras and said that anaemia is caused by poor economies or environmental crises such as droughts or weather disasters which causes a shortage

of critical food staffs. This implies that there is failure to have money to purchase food leading to food insecurity in the home.

According to the results of the study, minority of the respondents 2(8%) interviewed, fed their families on one meal a day to save. and the findings are similar to the ones in a study done in India on factors contributing to anaemia by Caballero *et al.* (2013) found out that non availability of enough food of which most people can afford only one meal a day is one of the major causes of anaemia. This implies that mothers are not able to guarantee food security in their households, a situation that can lead to malnutrition of which malnutrition leads to anaemia.

The study findings show majority of the respondents 11 (36.7%) interviewed ate matooke and the findings are in disagreement with Hyeon-Jeong Choi *et al.* (2012) in a study done in Korea and stated that in terms of dietary factors, anaemia is induced by lower levels of consumption of dietary foods like meat and less intake of nutrients involved in iron metabolism such as vitamins and animal proteins, getting energy from carbohydrates than fats. This could be attributed to poverty and so the mothers cannot afford those foods.

The data shows that more than three quarters of the respondents 11(40%) interviewed stated to be eating shabwe/milk apart from the foods stated ,the results are not consistent with the ones in a study done in Korea where it was stated that rice is a major source of iron together with reddish leaves and a diet less in meat, fish and having more vegetables makes the child prone to iron deficiency anaemia(National Health and Nutrition Examination III Korea,2008).This showed that the respondents' children did not receive adequate feeding and nutrition which could predispose to anaemia and this could be because of reasons like poverty and ignorance.

According to the study findings few of the respondents 5(16.7%) studied introduced other feeds to their babies at 6 months and the findings are consistent with Geer *et al.* (2013) who documented in their study, that the role of maternal dietary restriction, breastfeeding, timing of introduction of complementary foods as well as prolonged duration of breastfeeding and delayed introduction of complementary foods beyond 6 months contributed to anaemia among children under five. This could be because these few mothers had some knowledge on the time of starting complementary feeding to their babies.

The study findings show less than a quarter of the respondents 4(13.3%) interviewed mentioned to have breast fed their babies once a day during burials since culture forbade it, these findings are in line with another study done by Nakazzi,R. (2008) in Uganda which found out that cultural activities like attending burial ceremonies and breast feeding when newlywed led to inadequate breast feeding of children which led to malnutrition and open the way for severe conditions like anaemia. This could be because of superstitions and beliefs that these mothers had a strong attachment too thus not breast feeding their babies.

According to the study findings minority of the respondents 13(43%) studied had a problem with breast feeding their babies, this is in line with the findings in another study done by Nakazzi,R. (2008) in Uganda which found out that cultural activities like attending burial ceremonies and breast feeding when newlywed led to inadequate breast feeding of children which led to malnutrition and open the way for severe conditions like anaemia. This could be because of superstitions and beliefs that these mothers had a strong attachment too thus not breast feeding their babies.

The data showed that more than half of the respondents 7(54%) interviewed had a problem of not having enough breast milk but this disagrees with some literature for instance of Salah *et al.*

(2014) where they found out that in some cultures, in Botswana, some tribes did not allow foods like milk, pork and fish to be consumed which contributed to anaemia among under-fives. This could be because the respondents in this case did not have breast milk or had but very insufficient for the necessities of the child.

The findings of the study show majority of the respondents 26(87%) studied mentioned to be having some foods they were not allowed to eat which is in agreement with the findings in a study carried out in Nigeria by Ojofeitimi *et al.* (2013) reported that some mothers did not offer foods such as milk and meat to children and this was linked to the presence of cultural factors which prohibited eating of these foods and this potentially gave rise to conditions such as anaemia. This could be because the because of superstitions and beliefs that these mothers had a strong attachment too thus not breast feeding their babies.

In addition to the study findings, most of the respondents 11(42.3%) interviewed were not allowed to eat meat, the findings tally with the study about nutritional status in Lagos where it was found that some of the cultural factors contributing to anaemia and malnutrition among children under five years include selective feeding of children on some types of food due to food taboos about some food types such as meat (Phimmasone, K., 2012). This could be because the because of superstitions and beliefs that these mothers had a strong attachment too thus not feeding the children with the essential foods their bodies need.

According to the study findings most of the respondents 12(40%) studied planned to stop breast feeding their babies at more than one year and the findings are not consistent with Geer *et al.* (2013) who documented in their study that the role of maternal dietary restriction, breastfeeding, timing of introduction of complementary foods as well as prolonged duration of breastfeeding and delayed introduction of complementary foods beyond 6 months contributed to anaemia among

children under five. This could however be because there is probably no cultural attachment to the age at which to stop breast feeding and malnutrition which could be attributed to other factors other than cultural factors.

5.2 Conclusion

Basing on the results of the study, the following conclusions were made:

The study found out that respondents faced various social factors contributing to anaemia among children under 5 years. Although most respondents were knowledgeable about anaemia, its signs and symptoms as well as the causes of malnutrition. Furthermore, the majority had adequate nutritional knowledge. However, the fact that most did not adequately breast feed their children and the fact that the majority only sometimes had adequate food security in their households tainted their high level of knowledge towards anaemia among children under 5 years and its prevention.

On the economic factors contributing to anaemia among children less than 5 years, most respondents purchased their food and most were not involved in other income generating activities. However, since most respondents were not involved in income generating activities, it would lead to poorer provision of required food stuffs. Furthermore, most respondents only sometimes ensured that their family ate a balanced diet every day as the majority said 1 meal was eaten per day, most fed their children after 6 hours which was inadequate and all contributed to the increased risk of anaemia among children under 5 year of age.

On cultural factors contributing to anaemia among children less than 5 years, the majority of respondents said there was no cultural attachment to the age at which to stop breast feeding. However, the overwhelming majority of respondents said there were times their culture forbade them from breast feeding such as during funerals and if newly married. There is thus a serious

need for concerned authorities to offer regular sensitization of mothers of children under 5 years of age and help them be able to translate the high levels of knowledge they possess on anaemia and its causes into adequate and protective practices which prevent anaemia such as ensuring that children eat a balanced diet every day, they are fully breast fed and food security is ensured in their households.

5.3 Recommendations.

5.3.1 Recommendations to the Ministry of Health.

The Ministry of Health should improve and reenergize its campaigns and programs for the prevention of malnutrition in children less than 5 years in an effort to improve mothers' knowledge about the prevention of malnutrition.

5.3.2 Recommendations for health workers at Kitagata Hospital.

Health workers at Kitagata Hospital should endeavour to offer on-going sensitization and training of mothers on nutrition education.

5.3.3 Recommendations for mothers attending Kitagata Hospital

Mothers should ensure that their children less than 5 years of age eat a frequent, nutritious and balanced diet every day as well as ensuring that children eat adequate quantities of food daily as well as adhering to best recommended practices in ensuring a good nutrition status of their children.

Mothers should be encouraged to get involved in more income generating activities as this helps to ensure that they have the ability to purchase recommended food items as well as ensuring food security in their households.

5.4 Implications to nursing practice

Nurses have an important role to play in ensuring that anaemia in children under 5 years of age is prevented and this includes frequent interaction and sensitization of mothers/caretakers about how to ensure adequate nutrition and diet for their children

It's our role to provide outreach services on nutrition for the mothers living nearby.

It's our role to emphasize that the MoH reenergises the campaigns for prevention of malnutrition which brings about anaemia in children below 5 years so as to boost the mothers knowledge on its prevention

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Appendix I: Consent Form

My name is **Agaba Dison**, a student of Kampala International University and I am carrying out a study to identify the factors contributing to anemia in children under five in pediatric ward at Kitagata Hospital. You have voluntarily consented to participate in the study and all the information you give will be kept confidential. You are under no obligation to participate in the study, and refusal to participate will not block your access to any social or health services at the hospital.

I have explained the study the purpose and objectives of the study to the participant, and they have understood and voluntarily consented to participate in the study.

Researcher’s Signature.....**Date**.....

(RESEARCHER)

The topic and its objectives have been fully explained to me, and I have understood and voluntarily agreed and consented to participate in the study.

Respondents

Signature.....Date.....

Appendix II: Interview Guide

My name is **Agaba Dison**, a student of Kampala International University and I am carrying out a study to identify the factors contributing to anemia in children under five in pediatric ward at Kitagata Hospital. You have voluntarily consented to participate in the study and all the information you give will be kept confidential.

Serial no. Date,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

Instructions

Please endeavor to respond to all the questions asked

Please answer as accurately as possible to enhance data quality

Section A: Demographic and Social Characteristics

1) Age

- a) 18-25 years
- b) 26 – 35 years
- c) 36-45 years
- d) 46 years and above

2) Marital status

- a) Single
- b) Married
- c) Divorced
- d) Widowed

3) Level of education

- a) Primary only

- b) Secondary
- c) Tertiary
- d) Never attended school

4) Occupation

- a) House wife
- b) Professional
- c) Peasant farmer
- d) Others (specify).....

5) How many people reside in your house hold?

- a) 1-4 people
- b) 4-8 people
- c) 8 people and more

6) Where do you stay?

- a) Town
- b) Village

Section B: Economic characteristics associated to anaemia under five years

8 a) Do u have enough food for your family?

- i)Yes
- ii)No

8 b) If **YES**,How many meals do you eat in a day?

.....

8 c) If **NO**, what causes the shortage and why?

.....

9) Does weather affect the food crops you cultivate?

i) Yes,

ii) No,

9a) If **YES**, how do you feed your family?

.....

10) What types of meals do you eat?

a) meat

b) beans

c) cassava

d) Vegetables and fruits

e) Matooke

11) If none of the above, what type of food do you usually eat at home?

.....

Section D: Cultural factors associated to anemia among children under 5 years

12) When do you introduce other feeds to your baby?

a. less than six months

b. at six months

c. Immediately after birth

d. After one year

13) How many times do breast feed your baby in a day?

.....

14a) Do you have any problem in breast feeding your baby?

i) Yes

ii) No

14b) If **YES** , what is the problem?

.....

15a) Do you have any food staff you are not allowed to eat ?

i) Yes

ii) No

15b) If **YES**, what type of food is it and for what reason?

.....

16) What age do you stop or plan to stop breast feeding your baby?

a. Less than one year

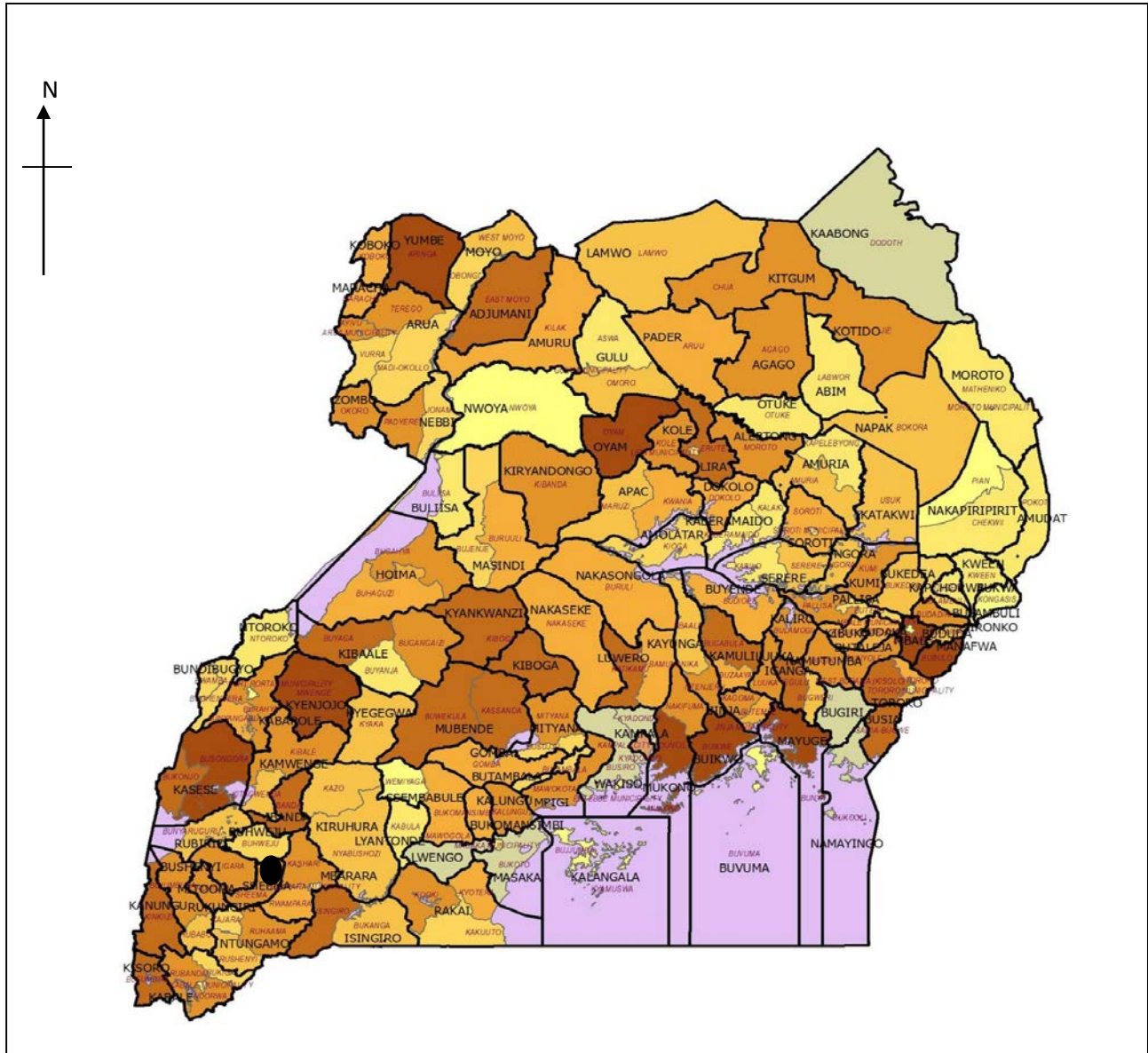
b. More than one year

c. At one year

d. When then baby wants

Thanks for your patience!

**APPENDIX III: MAP OF UGANDA SHOWING LOCATION OF SHEEMA DISTRICT
WHERE KITAGATA HOSPITAL IS FOUND.**



Key:

● Sheema District

Appendix IV: Map of Sheema district showing Kitagata Hospital



KEY:

■ Kitagata Hospital