

**FACTORS CONTRIBUTING TO MALNUTRITION IT'S CONSEQUENCES AND  
PREVENTION AMONG CHILDREN UNDERFIVE YEARS OF AGE  
ADMITTED AT KAMPALA INTERNATIONAL UNIVERSITY  
TEACHINGHOSPITAL, BUSHENYI DISTRICT**

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**BY**

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## ABSTRACT

Uganda has one of the highest levels of childhood stunting in sub-Saharan Africa. Western Uganda has persistently registered highest levels of childhood malnutrition despite being referred to as “*the food basket*” of the country. To assess factors contributing to malnutrition, its consequences and prevention among children under five years of age admitted at Kampala International University Teaching Hospital (KIU-TH), a descriptive cross-sectional study design quantitative in nature was used in which 96 respondents were given questionnaires. 55.2% of the respondents agreed that lack of parental knowledge about infantile and childhood diet could contribute to malnutrition among children under five, 71% the respondents strongly agreed that malnutrition among children under five years of age could contribute to and perpetuate poverty due to costs of treatment and 70.8% of the respondents agreed that effective nutrition programs could help scale down prevalence of malnutrition among children under five years. The researcher concluded that the factors contributing to malnutrition among children under five years of age included; lack of parental knowledge about infantile and childhood diet, improper nutrition and dietary practices and infections. The consequences of malnutrition included; increased mortality, anaemia, Poverty and effects on education and intellectual performance of children. Preventive measures of malnutrition identified included; Exclusive breast feeding for the first six month, effective nutrition programs and promoting good hygiene practices.

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## **DEDICATION**

This research work is dedicated to my beloved mum, Mrs. Kyatengwa Jane and dad Mr. Nsheijja Joseph for their great support and encouragement in my academic endeavors.

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## **LIST OF ACRONYMS**

BEDM	- Bachelor in Medical Education
HIV/AIDS	- Human Immune Virus/Acquired Immune Deficiency Syndrome.
KIU-TH	-Kampala International University Teaching Hospital.
LBW	-Low Birth Weight.
SPSS	-Statistical Package for Social Scientists.
UDHS	- Uganda Demographic and Health Survey.
UNDP	- United Nations Population Division.
UNICEF	-United Nations International Children's' Emergency Fund.
UNSD	- United Nations Statistics Division.
WHO	-World Health Organization.

### **OPERATIONAL DEFINITION OF TERMS**

- Antibodies -Large protein that defend the body against foreign antigens.
- Deworming -Killing worms by use of anthelmintic drugs.
- Helminthes - Parasitic worms which when mature can be seen by naked eyes.
- Infections -Successful invasion of the body by microorganisms.
- Low birth weight - Birth weight less than 2500g.
- Micro nutrients -Elements required in trace amount for normal growth and development.
- Stunting -Tendency to become shorter than normal for age.
- Supplementary feeding -Additional supply of feed.

## CHAPTER ONE

### 1.0 Introduction.

This chapter contains background, problem of the statement, purpose of the study, specific objectives, research questions and justification.

### 1.1 Background.

Malnutrition is the cellular imbalance between the supply of nutrients, energy and the body's demand for them to ensure growth, maintenance and specific functions. The causes of malnutrition are multi-factorial. Dietary and environmental factors contribute to the risks of malnutrition in children (Oniset *al.*, 2013).

The global number of child deaths under the age of five due to malnutrition recorded in 2008 by United Nations International Children's Emergency Fund (UNICEF), WHO, United Nations Population Division (UNPD) and United Nations Statistics Division (UNSD), was around 10 million. During 2009, UNICEF recorded 9.2 million malnutrition related child deaths under the age of five, globally (Venture *et al.*, 2010). Globally, per region, 4.8 million child deaths were recorded in Sub-Saharan Africa; 900, 000 in East Asia and the Pacific; 3.1 million in South Asia; 400, 000 in the Middle East and North Africa and 300, 000 in Latin America and the Caribbean, (Yambi and Belbase, 2013).

Africa shows rising numbers of stunted children due to population increase and an almost stagnant prevalence of stunting over the past two decades that accounts for 90% of the global burden of malnutrition. In Africa, the estimated prevalence of under-five overweight increased from 4% in 1990 to 7% in 2011 and this trend is expected to continue (Brown, 2013).

Despite Uganda's favorable natural and human resource capacity, malnutrition remains one of the most important health and welfare problems (Bachou, 2009). The country has one of the highest levels of stunting in Sub-Saharan Africa (Jitta *et al.*, 2012). The 2008/09 Uganda Demographic and Health Survey (UDHS) showed that stunting was 39%, underweight 23% and wasting 4% among under-five children. The nutritional situation of the children has not significantly changed since the previous Demographic and Health Surveys of late 1980's and mid 1990s (Bryan, 2012).

It is important to note that malnutrition is the underlying cause of as many as 45% of child deaths in Uganda. Children who are malnourished are at greater risk of infections (such as diarrhoea and pneumonia), which in turn increases the risk of malnutrition. Malnourished children also have a greater risk of developing chronic diseases (such as diabetes and heart disease) in adulthood (Grantham *et al.*, 2011).

A survey by UDHS, (2009) showed that the prevalence of malnutrition among children under 5 varied significantly by region in Uganda. The prevalence of stunting was highest in Karamoja followed by the Southwest and North, underweight was highest in East Central and the North and wasting was highest in Karamoja, East Central, the Southwest and West Nile regions (Vella, *et al.*, 2012).

Malnutrition in children is the consequence of much food insecurity, which stems from poor food quality and quantity, severe repeated infections or combinations of all three. These conditions are linked to the standard of living and whether basic needs can be met (Wright, 2007). The lack of knowledge on the nutritional needs of children and the benefits of breastfeeding contributes to childhood malnutrition (Walsh and Joubert, 2009). The extent

of hunger has also been associated with low energy intake, low micronutrient intake and poor income levels. This affects growth patterns negatively (Labadarios, 2015). Malnutrition can cause physical, cognitive and psychological impairment, which over time causes permanent learning disabilities (Pelletier *et al.*, 2009).

A study conducted in Kabarole district by Knaiet al., (2008) found that factors with a significant association with child stunting under two years included education level of caretaker and if the caretaker had received information on child feeding.

### **1.2 Statement of the Problem.**

The prevalence rate of global stunting is estimated at 39.1%, underweight 22.8% and global wasting 4.1% (Bhutta and Salam, 2012). Protein energy malnutrition is a major cause of morbidity and mortality in children in sub-Saharan Africa. The prevalence of malnutrition is high in Africa, with 38.6% of the children under five years stunted, 28.4% underweight, and 7.2% wasted (Zottarelli *et al.*, 2007).

Uganda has one of the highest levels of childhood stunting in sub-Saharan Africa. Under nutrition in Uganda remains severe. The Ministry of Health (MoH) indicates that under nutrition directly and indirectly contributes up to 60% of child mortality in Uganda, which makes it a great contributor to childhood mortality in the country (Pitt and Rosenzweig, 2009).

Meanwhile Black and Robert, (2008) noted that Western Uganda has persistently registered highest levels of childhood malnutrition despite being referred to as “*the food basket*” of the country. Almost half (46%) of children below 5 years were stunted, which is comparable to national prevalence of 47.8% for Western Uganda and this is unacceptably high.

Similarly at Kampala International University Teaching Hospital (KIU-TH) though no published study has been conducted about contributing factors for malnutrition among children under five years, unpublished statistics indicate a high level of malnutrition of up to 30% in both in and out patients records hence a need to carry out the study.

### **1.3 Purpose of the study.**

To assess factors contributing to malnutrition, its consequences and prevention among children under five years of age admitted at Kampala International University-Teaching Hospital.

### **1.4 Specific objectives.**

- i. To assess factors contributing to malnutrition among children under five years of age admitted at Kampala International University-Teaching Hospital.
- ii. To find out consequences of malnutrition among children under five years of age admitted at Kampala International University-Teaching Hospital.
- iii. To determine the preventive measures for malnutrition among children under five years of age admitted at Kampala International University-Teaching Hospital.

### **1.5 Research questions.**

- i. What are the factors contributing to malnutrition among children under five years of age at Kampala International University-Teaching Hospital?
- ii. What are the consequences of malnutrition among children under five years of age at Kampala International University-Teaching Hospital?
- iii. What are the preventive measures of malnutrition among children under five years of age at Kampala International University-Teaching Hospital?

### **1.6 Justification of the study.**

It is well documented that the nutritional status of young children is one of the most sensitive indicators of sudden changes in health status and food availability, acting as an indicator of socio-economic development. Uganda is heavily hit by malnutrition and poses heavy burden to the health sector in managing malnourished children and associated complications.

The study findings will therefore be beneficial to;

#### **The community.**

The community members will be encouraged to embrace infant and child feeding practices that promote healthy growth and development.

#### **Nursing research.**

The study findings will be used as a reference for other researchers with similar interest in assessing factors contributing to malnutrition among children under five years.

#### **Nursing education.**

The recommendations generated from this study may be integrated into nursing curriculum in order to address malnutrition among children under five years of age.

#### **Nursing practice.**

Before interventions can be planned to the malnourished children, it is necessary to understand the causes, consequences and preventive measures of malnutrition, the findings of this study will therefore help the nurses in the prevention and management of malnutrition among children less than five years of age.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction.**

This chapter deals with review of literature relevant to the study that was obtained from various sources that include; Medical and nursing journals, text books and internet and is presented in relation to the study objectives that include; To assess factors contributing to malnutrition among children under five years, to find out consequences of malnutrition among children under five years and to determine preventive measures of malnutrition among children under five years of age.

#### **2.1 Factors contributing to malnutrition among children under five years of age.**

Kruger and Gericke, (2013) identified parental factors associated with malnutrition in children to include; parents being unaware of the fact that children's diet is versatile and if the importance of breast feeding is not fully understood, mothers suffering from malnutrition give birth to malnourished children and because their breast milk does not contain the important nutrients that the infant needs, malnutrition will be exacerbated.

It is important to note that several factors play a role in malnutrition in children which include but not limited to poor dietary practices such as inadequate infant and young child feeding, high disease burden especially from malaria, diarrhea, tuberculosis, HIV and AIDS, widespread poverty and gender inequality in most of Ugandan societies (Danton *et al.*, 2014).

Similarly, Horton *et al.*, (2008) found out that proper nutrition and dietary practices were uneven in Uganda, while 98% of children are breastfed for some period of time, only 63%

of children less than 6 months were exclusively breastfed. Among all children aged 6-23 months, only 13% were fed with the correct diet.

The substantial reasons for children's malnutrition are caused by three aspects namely immediate, underlying and basic causes. First are immediate causes which are related to poor diet and diseases, examples of diseases being HIV, measles, diarrhoea among other infections and hookworm infestations (Grantham *et al.*, 2011). Secondly are underlying causes including food insecurity, unhygienic living conditions and inadequate health services and finally the basic causes are as a result of war, poverty, lack of information and in adequacy of resources (Brabin, 2012).

The level of food insecurity within the household determines the nutritional status of children, and is the immediate cause of malnutrition. The caregivers and parents make most food choices for meals consumed at home. These choices are based on culture, beliefs, cost, time restraints and availability (Pelletier *et al.*, 2009). Household food insecurity (mainly related to poor access to the range of foods needed for a diversified diet) with an added element that the foods that households frequently consume are relatively deficient in micronutrients. Seasonality in food production, variable food prices and seasonal earning patterns exacerbate the instability and the poor quality of the diet the household consumes throughout the year (Binengank, 2012).

Similarly, care related constraints lead to both inadequate dietary intake and a high disease burden in young children. These constraints include the heavy workload that women as primary caregivers in the household "shoulder" every day. Women do both farm and household chores and might engage in small business (Kabubo *et al.*, 2009).

## **2.1 Consequences of malnutrition among children under five years.**

Malnutrition kills many children in Uganda each year. Low Birth Weight (LBW) is rampant in Uganda due to maternal malnutrition thus more than 16,000 children who were born weighing less than 2.5 kg died in 2009. Other forms of malnutrition were associated with more than 67,500 child deaths in 2009 (Pitt and Rosenzweig, 2011).

A study in Nigeria found that anaemia affected 49% of children with malnutrition. Without any intervention, 15,000 children would die of anaemia related causes between 2006 and 2015. One in three of these deaths could be prevented if coverage of nutrition programs was doubled (Smith and Haddad, 2012).

It is worth noting that malnutrition contributes to poverty for example Uganda loses US\$310 million worth of productivity per year due to the high levels of stunting, iodine-deficiency disorders, iron deficiency, and low birth weight contributes to a loss of about 4.1 percent of the gross domestic product per year. Malnutrition is expensive to treat. For instance, treating severe acute malnutrition costs more than US\$120 per child (Armar, *et al.*, 2010).

Similarly, malnutrition affects the education and intellectual potential of children during school years. Stunting causes children to start school late because they look too small for their age. In 2006, one in four 7-year-olds had not started school, even with the Universal Primary Education programme. Malnutrition will also be a cause of absenteeism and repetition of school years (Wamani *et al.*, 2008).

## **2.3 Preventive measures of malnutrition among children under five years.**

Onis *et al.*, (2013) stated that exclusive breast feeding for the first six month then continued up to 2 years after weaning is one of the best strategies to minimize malnutrition among

children. During the first six months of breast feeding the infant receives enough nutrients for growth and development. The risk of acquiring infections is reduced due to immune benefits or antibodies contained in milk.

Meanwhile Klugman (2012) stated that, identifying and implementing cost effective nutrition programme models that are scalable at both district and national levels could help minimize prevalence of malnutrition among children. Such models would involve behaviour change and social marketing, fortification of common staple foods, use of bio-fortified produce and micronutrient supplementation programmes, among others.

Similarly planning nutrition programmes appropriately and whenever possible, the programmes should be planned, managed and implemented at community and local government levels in a cross sectoral manner targeting geographic areas where young child and mothers are most vulnerable to malnutrition. This would help to reduce prevalence of malnutrition among children according to Pelletier *et al.*, (2009).

Promoting good hygiene practices increases community awareness and reduces helminth-related diseases. Regular hand washing and promotion of this through awareness can reduce diarrhoea morbidity which contribute to and complicates malnutrition (Grantham *et al.*, 2011).

Bryan, (2012) urged that promotion of maternal nutrition education programs could be beneficial in reducing childhood malnutrition as the child's survival is dependent on promoting maternal knowledge on appropriate feeding practices.

Growth monitoring promotion programs with intent to support families to monitor and address nutrition and health related problems is important in addressing issues to do with malnutrition in children (Vella, *et al.*, 2012).

Similarly, supplementary feeding with provision of foods to certain groups with particular nutritional requirements is important in the fight against childhood malnutrition. Supplementation has been proven to assist in reducing nutrition-related deficiencies in Ethiopia by 50% (Wright, 2007).

In a related finding in Kenya, addressing severe child malnutrition in institutions or community settings through community based programs such as immunization, vitamin A supplementation and deworming against helminthes showed 30% reduction in malnutrition (Toole and Waldman, 2007).

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction.**

This chapter presents the research methodology which is the detailed procedure of the study. The chapter comprises of the following sections: study design, study setting, study population, selection criteria, and sample size determination, sampling technique, study variables, data collection techniques, research instruments, data management, data analysis, quality control techniques and ethical considerations of the study.

#### **3.1 Study Design and rationale.**

This study was conducted through a descriptive cross-sectional study design quantitative in nature. The study design was selected because it aids in rapid data collection and allows a snap short interaction with a small group of respondents at a certain point in time thus allowing conclusions about phenomena across a wide population to be drawn. This method is also relatively inexpensive for the researcher as it takes a little time to conduct. The study

design was used to examine mothers and care givers of children under five years of age about factors contributing to malnutrition among children under five years of age.

### **3.2 Study setting.**

The study was carried out at Kampala International University-Teaching Hospital opened in January 2007 to help the already compromised health infrastructure in western Uganda. It is located in Ishaka municipality, Bushenyi district. It is approximately 375km by road south west of Kampala, Uganda's largest city and capital. The hospital has a capacity of 500 beds receiving both inpatient and outpatients with ultramodern technology and advanced patient care. It's comprised of both private and public wing. The hospital is used to enhance learning of nursing and medical students. The hospital receives approximately 400 admissions per month in the paediatrics ward. Of these, 20% of are due to malnutrition and its complications.

### **3.4 Study Population.**

The study population consisted of mothers and caregivers of children aged 0-5 years who are admitted in the paediatric ward.

#### **3.4.1 Sample size determination.**

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 at 1.96 for maximum sample at 95% confidence level.

$p = 50\%$  (constant) or  $0.5\%$  since there were no measures estimated.

Therefore  $P = 1 - 0.5$

$$= 0.5$$

$q = 1 - p = 1 - 0.5 = 0.5$  and,

$d =$  Degree of accuracy desired  $0.1$  Or  $10\%$  error acceptance (at  $95\%$  confidence level or  $0.09$  probability level)

By Substitution we get:

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.1 \times 0.1} = 96$$

$n = 96$ . Therefore, the sample size was  $96$ .

### **3.4.2 Sampling procedure and rationale.**

The researcher used a convenient sampling method which is a nonprobability sampling method which involves selecting participants that are easily accessible to participate in the research. Convenient sampling is cheap as it facilitates data collection in a short period of time.

### **3.4.3 Selection criteria.**

#### **Inclusion criteria.**

The study included all mothers or caregivers of children aged  $0-5$  years admitted at Kampala International University-Teaching Hospital paediatric ward who were present at the time of the interview and willing to consent for the study.

#### **Exclusion criteria.**

Respondents who were very sick, mentally ill, the deaf, those with very sick children and those who did not consent were excluded from the study.

### **3.5 Definition of variables.**

#### **3.5.1 Dependent variable.**

Prevalence of malnutrition among children aged 0-5 years.

#### **3.5.2 Independent variable.**

Factors contributing to malnutrition among children under five years of age. Consequences of malnutrition among children under five years of age. Preventive measures of malnutrition among children under five years of age.

### **3.6 Research Instruments**

A structured questionnaire was used as a tool for gathering information. The structured questionnaire was divided into four sections; The first section was used to collect data about socio-demographic profile, the second section assessed factors contributing to malnutrition among children under five years of age, the third section assessed consequences of malnutrition among children under five years of age and the fourth section assessed preventive measures of malnutrition among children under five years of age.

#### **3.7 Data collection procedure.**

After the approval of the proposal by the research committee of school of nursing sciences, an introductory letter was issued which the researcher used for seeking permission from Kampala International University-Teaching Hospital. Before sampling process was done, the researcher introduced himself to the prospective participants and read to the individual participant the consent form that detailed the title and purpose of the study as well as the

rights of the participant. Whenever a participant agreed to be interviewed he/she was asked to provide written consent by signing or fingerprinting. If they refused to participate the interview would not proceed.

After obtaining the written consent, the researcher entered the questionnaire serial number and date of interview and proceeded from the first up to the last question using a language understood by the participant. The researcher entered responses given by the participant by ticking the appropriate responses and entering the same number in to the coding box. This was done to ensure data quality as the response number ticked was supposed to be the same as the one entered in the coding box. If the numbers were different it would not be valid response. The researcher reviewed the questionnaires on a daily basis to ensure they were being completed correctly and any errors corrected to avoid being repeated. The process of data collection continued until every effort to contact every study participant in the sample. All completed questionnaires were kept safe by the researcher until time of analysis.

### **3.7.1 Data management.**

Completed questionnaires were checked for accuracy, for any missing data and completeness on a daily basis after data collection at the end of the day. This was followed by coding and entry of the data using Epi info 3.4.1 software for Windows and double entry into Statistical Package for Social Scientists (SPSS) version 16.0 software for analysis.

### **3.7.2 Data analysis and presentation.**

Data was analyzed by descriptive statistics using SSPS version 16.0 software and presented in frequency tables, pie charts and bar graphs.

### **3.8 Quality control techniques.**

For reliability and validity, the questionnaires was pretested with a tenth of the sample size outside study area. The questionnaire was then be revised and content adjustments made accordingly. After data collection, questionnaires were checked daily, for completeness, clarity, consistency and uniformity by the researcher.

### **3.9 Ethical consideration.**

A letter of introduction was obtained from Kampala International University Western Campus School of Nursing sciences to permit the researcher to carry out the research.

Permission was obtained from the Executive Director of Kampala International University-Teaching Hospital and ward in charge paediatrics ward.

All participating respondents were selected on the basis of informed consent.

The study was on voluntary basis and information was kept private and confidential. Participants' anonymity will be kept by use of codes instead of their names. The study was conducted while upholding the professional cord of conduct in a manner that did not compromise the scientific inclinations of the research.

### **3.10 Study Limitations.**

It was hard to obtain audience from the mothers or caregivers as were having other duties to perform, this was however overcome by creating rapport and administering a questionnaire as quickly as possible.

Climate changes such as unpredictable rains, interfered with the process of data collection, this was however overcome by use of gumboots, umbrellas and a rain coat.

### **3.11 Dissemination of results.**

After the study a copy of results was disseminated to the Uganda Nurses and Midwives Examinations Board (UNMEB) for marking, Bushenyi district health office for appropriate interventions, School of nursing science at Kampala International University Western Campus and the researcher.

## CHAPTER FOUR

### DATA ANALYSIS, INTERPRETATION AND PRESENTATION

#### 4.0 Introduction.

This chapter is concerned with analysis, interpretation and presentation of data collected.

Out of 96 respondents interviewed, 96 returned completely filled questionnaires thus giving a response rate of 100%.

#### 4.1 Bio demographic data

**Table 1.1: Shows bio demographic data of the respondents (n=96)**

Bio demographic parameter		Frequency(n)	Percentage (%)
Age(Years)	18-23	19	19.8
	24-29	49	51
	30-35	24	25
	36-41	4	4.2
	>42	-	-
	<b>Total</b>	<b>96</b>	<b>100</b>
Sex	Male	23	24
	Female	73	76
	<b>Total</b>	<b>96</b>	<b>100</b>
Tribe	Munyankole	89	92.7
	Mukiga	7	7.3
	Others	-	-
	<b>Total</b>	<b>96</b>	<b>100</b>
Religion	Christian	86	89.6
	Moslem	10	10.4
	Others	-	-
	<b>Total</b>	<b>96</b>	<b>100</b>

Marital status	Married	96	100
	Single	-	-
	Divorced	-	-
	Widowed	-	-
	concubined	-	-
	<b>Total</b>	<b>96</b>	<b>100</b>
Employment status	Employed	8	8.3
	Un employed	76	79.2
	Self employed	12	12.5
	<b>Total</b>	<b>96</b>	<b>100</b>
Education	None	14	14.6
	Primary	74	77.1
	Secondary	6	6.3
	Tertiary	2	2.1
	<b>Total</b>	<b>96</b>	<b>100</b>

More than half of the respondents (51%) were of the age range between 24-29years while only 4.2% were between 36-41 years. Most of the respondents 76% were female while only 24% were male. Majority of the respondents 92.7% were Banyankole while only 7.3% were Bakiga. Greater proportion of the respondents (89.6%) were Christians while only 10.4% were Moslems. All the respondents (100%) were married. Majority of the respondents (79.2%) were unemployed while only 8.3% were employed. About three thirds of the respondents (77.1%) attained primary level of education while only 2.1% attained tertiary level of education.

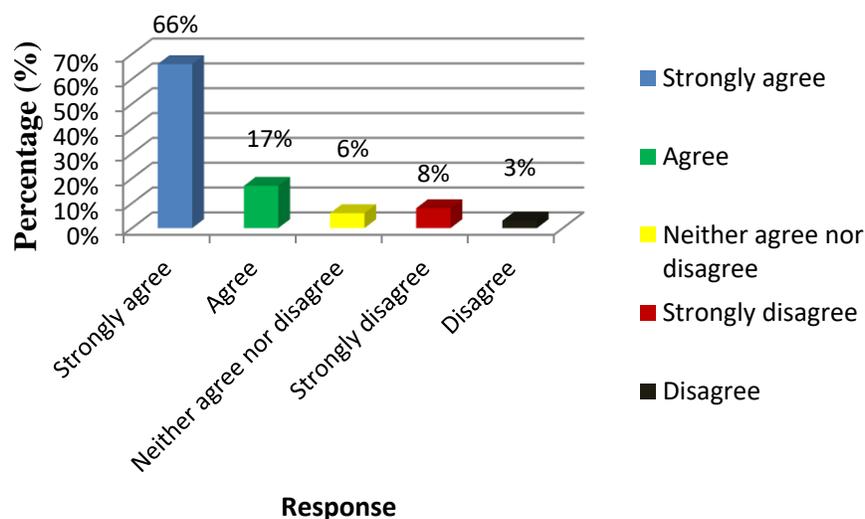
#### 4.2 Factors contributing to malnutrition among children under five years.

**Table 2.1: Shows response on whether lack of parental knowledge about infantile and childhood diet contributes to malnutrition among children under five years of age (n=96).**

<b>Response</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Strongly agree	15	15.6
Agree	53	55.2
Neither agree nor disagree	-	-
Strongly disagree	9	9.4
Disagree	19	19.8
<b>Total</b>	<b>96</b>	<b>100</b>

More than half of the respondents (55.2%) agreed that lack of parental knowledge about infantile and childhood diet could contribute to malnutrition among children under five years of age while only 9.4% strongly disagreed and 19.8% disagreed.

**Figure 2.1: Shows response on whether improper nutrition and dietary practices contributes to malnutrition among children under five years of age (n=96).**



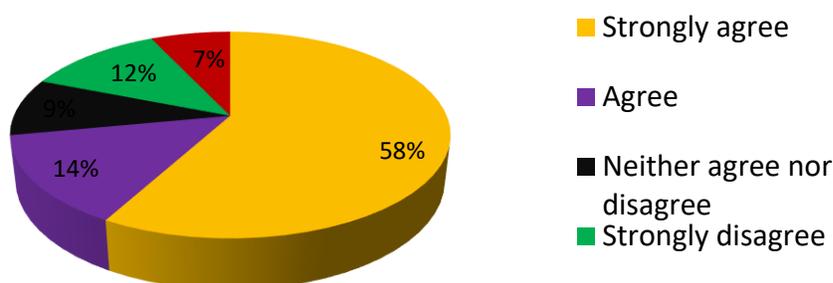
Most of the respondents (66%) strongly agreed that improper nutrition and dietary practices could contribute to malnutrition among children under five years of age while only 3% disagreed.

**Table 2.2: Shows response whether infections and infestations contribute to malnutrition among children under five years of age (n=96).**

Response	Frequency(n)	Percentage (%)
Strongly agree	60	62.5
Agree	16	16.7
Neither agree nor disagree	-	-
Strongly disagree	12	12.5
Disagree	8	8.3
<b>Total</b>	<b>96</b>	<b>100</b>

Most of the respondents (62.5%) strongly agreed that infections and infestations could contribute to malnutrition among children under five years of age while only 8.3% disagreed.

**Figure 2.2: Shows response on whether household food insecurity is one of the contributing factors to malnutrition among children under five years of age (n=96).**



More than half of the respondents (58%) strongly agreed that household food insecurity was one of the contributing factors to malnutrition among children under five years of age while only 7% disagreed.

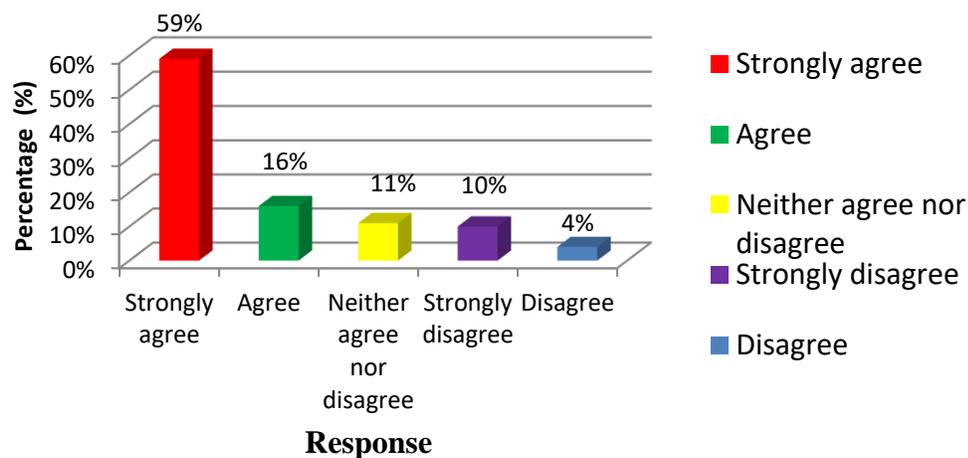
**Table 2.3: Shows response on whether irresponsible parenting and negligence contributes to malnutrition among children under five years of age (n=96).**

Response	Frequency(n)	Percentage (%)
Strongly agree	70	72.9
Agree	15	15.6
Neither agree nor disagree	-	-
Strongly disagree	7	7.3
Disagree	4	4.2
<b>Total</b>	<b>96</b>	<b>100</b>

Most of the respondents (72.9%) strongly agreed that irresponsible parenting and negligence contributes to malnutrition among children under five years of age while only 4.2% disagreed.

### 4.3 Consequences of malnutrition among children under five years.

**Figure 3.1: Shows response on whether malnutrition leads to increased mortality among children under five years of age (n=96).**



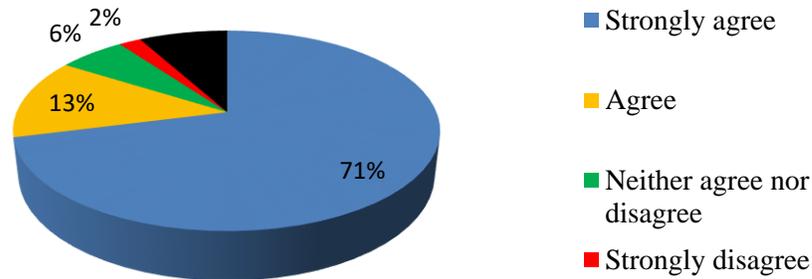
More than half of the respondents (59%) strongly agreed that malnutrition leads to increased mortality among children under five years of age while only 4% disagreed.

**Table 3.1: Shows response on whether malnutrition can cause anaemia among children under five years of age (n=96).**

Response	Frequency(n)	Percentage (%)
Strongly agree	67	69.8
Agree	15	15.6
Neither agree nor disagree	-	-
Strongly disagree	8	8.3
Disagree	6	6.3
<b>Total</b>	<b>96</b>	<b>100</b>

Most of the respondents (69.8%) strongly agreed that malnutrition can cause anaemia among children under five years of age while only 6.3% disagreed.

**Figure 3.2: Shows response on whether malnutrition among children under five years of age can contribute to and perpetuate poverty due to costs of treatment (n=96).**



Most of the respondents (71%) strongly agreed that malnutrition among children under five years of age can contribute to and perpetuate poverty due to costs of treatment while only 2% strongly disagreed.

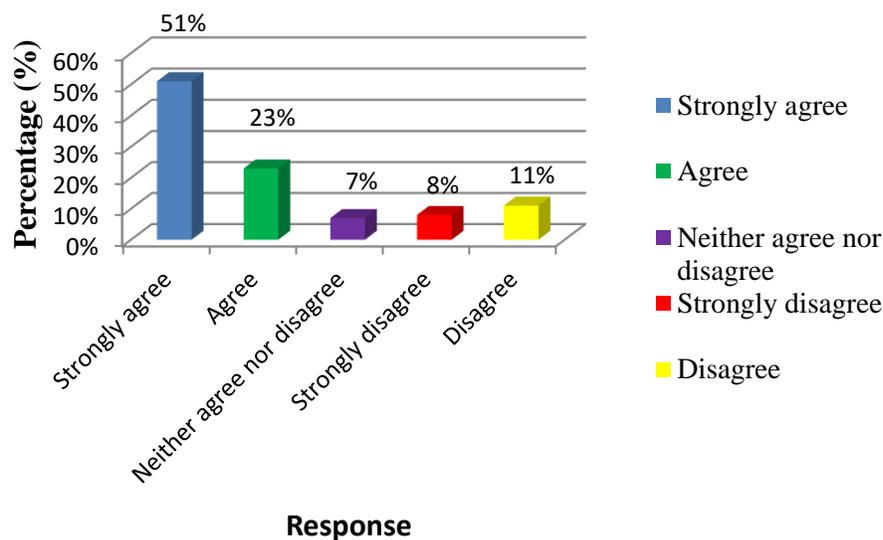
**Table 3.2: Shows response on whether malnutrition affects education and intellectual performance of children (n=96).**

Response	Frequency(n)	Percentage (%)
Strongly agree	55	57.3
Agree	22	22.9
Neither agree nor disagree	-	-
Strongly disagree	10	10.4
Disagree	9	9.4
<b>Total</b>	<b>96</b>	<b>100</b>

More than half of the respondents (57.3%) strongly agreed that malnutrition could affect education and intellectual performance of children while only 9.4% disagreed.

#### 4.4 Preventive measures of malnutrition among children under five years.

**Figure 4.1:** Shows response on whether exclusive breast feeding for the first six month could help prevent malnutrition among children under five years of age (n=96).



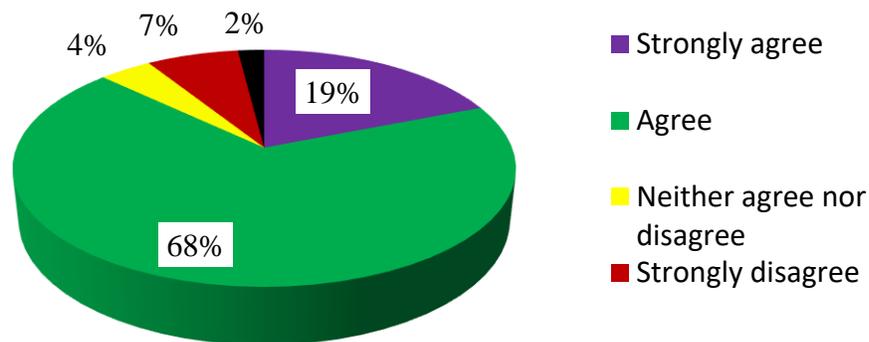
More than half of the respondents (51%) stated that exclusive breast feeding for the first six month helps in preventing malnutrition among children under five years of age while only 7% disagreed.

**Table 4.1:** Shows response on whether effective nutrition programs could help in scaling down the prevalence of malnutrition among children under five years (n=96).

Response	Frequency(n)	Percentage (%)
Strongly agree	16	16.7
Agree	68	70.8
Neither agree nor disagree	3	3.1
Strongly disagree	7	7.3
Disagree	2	2.1
<b>Total</b>	<b>96</b>	<b>100</b>

Greater proportion of the respondents (70.8%) agreed that effective nutrition programs could help in scaling down the prevalence of malnutrition among children under five years while only 2.1% disagreed.

**Figure 4.2: Shows response on whether promoting good hygiene practices could help in preventing malnutrition among children under five years of age (n=96).**



Most of the respondents (65%) agreed that promoting good hygiene practices could help in preventing malnutrition among children under five years of age while only 2% neither agreed nor disagreed.

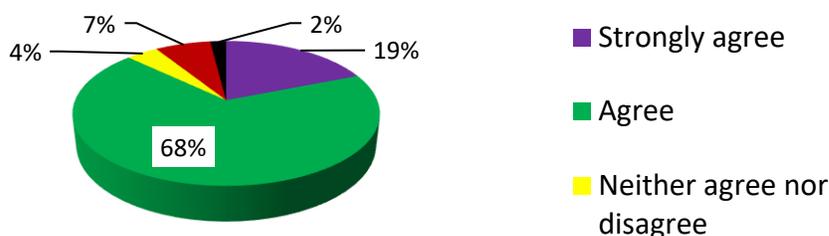
**Table 4.2: Shows response whether promoting maternal nutrition education and growth monitoring programs could help in the fight against malnutrition among children under five years of age (n=96).**

Response	Frequency(n)	Percentage (%)
Strongly agree	21	21.9
Agree	54	56.3
Neither agree nor disagree	8	8.3
Strongly disagree	3	3.1
Disagree	10	10.4

<b>Total</b>	<b>96</b>	<b>100</b>
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More than half of the respondents (56.3%) agreed that promoting maternal nutrition education and growth monitoring programs could help in the fight against malnutrition among children under five years of age while only 3.1% and 10.4% disagreed and strongly disagreed respectively.

**Figure 4.3: Shows response on whether community based programs such as immunization, micronutrient supplementation and deworming could help prevent malnutrition among children under five years of age (n=96).**



Most of the respondents (68%) agreed that community based programs such as immunization, micronutrient supplementation and deworming could help in preventing malnutrition among children under five years of age while only 2% disagreed.

## **CHAPTER FIVE**

### **DISCUSSION OF STUDY FINDINGS, CONCLUSION, RECOMMENDATIONS AND IMPLICATIONS TO THE NURSING PRACTICE.**

#### **5.0 Introduction.**

This chapter deals with interpretation and discussion of the findings objectively in relation to the study background, statement of the problem and literature review to answer research questions, concludes and makes recommendations about factors contributing to malnutrition among children under five years of age, consequences of malnutrition among children under

five years of age and preventive measures for malnutrition among children under five years of age admitted at Kampala International University-Teaching Hospital. Out of 96 respondents recruited in the study, 96 questionnaires were returned completely filled thus a response rate of 100%.

## **5.1 Discussion of findings.**

### **5.1.1 Bio demographic data.**

More than half of the respondents (51%) were of the age range between 24-29 years while only 4.2% were between 36-41 years. The age of the parent or caregiver can have influence in the nutritional status of the child due to experience generated over time and it is common for young parents or caregivers to seek guidance from elders though it may not be professional but might benefit them basing on experience.

Most of the respondents 76% were female while only 24% were male. Although this study did not correlate between gender of the parents and malnutrition in children, it is worth noting that the female gender in African societies is the one that is most of the time in contact with the young children and are therefore the first people to notice any changes in the health status of the child and seek medical interventions while the male genders is concerned with meeting the costs of treatment and managing other family affairs they therefore only pay short visits to the hospital to see the progress of medical treatment and meet any necessary costs.

Majority of the respondents 92.7% were Banyankole while only 7.3% were Bakiga. Certain tribes have cultural practices that may encourage malnutrition among children for example tabooing children from consuming certain foods such as eggs. These findings also support

the fact that the Banyankole and Bakiga are the indignant tribes of the study area and are the majority.

Majority of the respondents (89.6%) were Christians while only 10.4% were Moslems. Religion can as well influence the nutritional status of the child and medical interventions for example some religions discourage certain types of food as well medical intervention such as blood transfusion which is very crucial in managing a severe malnourished child with anaemia.

All the respondents (100%) were married. Married couples share collective responsibility of taking care of the child and share costs of treating the child hence better management of childhood infections which also pose a risk for malnutrition.

Majority of the respondents (79.2%) were unemployed while only 8.3% were employed. Employment status of the respondents can influence his ability to afford the cost of feeding the child and meeting the treatment costs in case of any illness therefore they are better prepared for the care compared to the un employed parents or caregivers. This study findings agree with the findings of Labadarios, (2015) who linked malnutrition to poor income levels. Majority of the respondents (77.1%) attained primary level of education while only 2.1% attained tertiary level of education. Educational status of the respondent determines his or health seeking behavior in that educated parents or caregivers tend to have better health seeking behavior and take up health messages positively hence are more likely to participate in nutritional programs compared to the un educated ones. This study findings are in line with the finding in a study conducted in Kabarole district by Knaiet *al.*, (2008) that revealed

that factors with a significant association with child stunting under two years included education level of caretaker and if the caretaker had received information on child feeding.

### **5.1.2 Factors contributing to malnutrition among children under five years.**

More than half of the respondents (55.2%) agreed that lack of parental knowledge about infantile and childhood diet could contribute to malnutrition among children under five years of age while only 9.4% strongly disagreed. Parental knowledge about malnutrition is vital as it influences selection of food choices for the child as well as the frequency of feeding the child, Its further important in that it influences the nutritional status of the mother from the time of pregnancy up to the time of breast feeding which in turn indirectly influences the nutritional status of the infant. The high percentage of 55.2 shows that parents had awareness got from health workers. This study findings concur with the findings of Kruger and Gericke, (2013) who identified parental factors associated with malnutrition in children to include parents' being unaware of the fact that children's diet is versatile and if the importance of breast feeding is not fully understood and that mothers suffering from malnutrition give birth to malnourished children and because their breast milk does not contain the important nutrients that the infant needs, malnutrition will be exacerbated.

Most of the respondents (66%) strongly agreed that improper nutrition and dietary practices could contribute to malnutrition among children under five years of age while only 3% disagreed. Improper nutrition practices such as early weaning or delayed weaning, poor dietary choices for children for example feeding them with too much of one food type as well as underfeeding could contribute to malnutrition. The higher parental awareness from the findings is as result of increased number of malnourished children being admitted and

education talks by health workers. This study findings agree with the findings of Danton *et al.*, (2014) who stated that several factors play a role in malnutrition in children which include but not limited to poor dietary practices such as inadequate infant and young child feeding. The study findings also agree with the findings of Horton *et al.*, (2008) who found out that proper nutrition and dietary practices were uneven in Uganda, while 98% of children were breastfed for some period of time, only 63% of children less than 6 months were exclusively breastfed and that among all children aged 6-23 months, only 13% were fed with the correct diet.

Most of the respondents (62.5%) strongly agreed that infections and infestations could contribute to malnutrition among children under five years of age while only 8.3% disagreed. It is true that infections decrease the child's appetite and interfere with absorption of nutrients whereas infestations for example hook worm infestations compete with the host for nutrients and as well causing complications like anaemia which make malnutrition worse. This study findings concur with the findings of Grantham, *et al.*, (2011) who mentioned diseases like HIV, measles, diarrhoea and infestations like hookworms among others are the underlying causes of malnutrition among children. More than half of the respondents (58%) strongly agreed that household food insecurity was one of the contributing factors to malnutrition among children under five years of age while only 7% disagreed. Availability is crucial in determining the frequency of feeding and therefore the nutritional status of the child. This study findings agree with the findings of Brabin, (2012) who mentioned food insecurity as one of the second group of the underlying causes of malnutrition among children. The findings also agree with the finding of Pelletier *et al.*,

(2009) who stated that the level of food insecurity within the household determines the nutritional status of children and is the immediate cause of malnutrition. The findings further concur with the findings of Binengank, (2012) who stated that seasonality in food production, variable food prices and seasonal earning patterns exacerbate the instability and the poor quality of the diet the household consumes throughout the year and could lead to malnutrition in children.

Most of the respondents (72.9%) strongly agreed that irresponsible parenting and negligence contributes to malnutrition among children under five years of age while only 4.2% disagreed. Irresponsible parenting such as poor child spacing, inadequate provision of basic needs such as food and health care as well as having large family sizes could contribute to malnutrition among children. This study findings are in line with the findings of Kabuboet *al.*, (2009) who stated that care related constraints lead to both inadequate dietary intake and a high disease burden in young children all of which are associated with malnutrition.

### **5.1.3 Consequences of malnutrition among children under five years.**

More than half of the respondents (59%) strongly agreed that malnutrition leads to increased mortality among children under five years of age while only 4% disagreed. It is true malnutrition is associated with complications, some of them can be so severe and acute that if not appropriately intervened in time could lead to mortality. This study findings are in line with the findings of Pitt and Rosenzweig, (2011) who stated that malnutrition kills many children in Uganda each year and that Low Birth Weight (LBW) is rampant in Uganda due to maternal malnutrition.

Most of the respondents (69.8%) strongly agreed that malnutrition could cause anaemia among children under five years of age while only 6.3% disagreed. Anaemia is one of the most common and important cause of mortality among the malnourished if the causes are not corrected in time. This study findings are tandem with the findings of a study in Nigeria by Smith and Haddad, (2012) that found that anaemia affected 49% of children with malnutrition and that without any intervention, 15,000 children would die of anaemia related causes between 2006 and 2015.

Most of the respondents (71%) strongly agreed that malnutrition among children under five years of age could contribute to and perpetuate poverty due to costs of treatment while only 2% strongly disagreed. Malnutrition like any disease has a lot of costs in trying to regain the normal state of functioning of the body as in treatment and rehabilitation costs. This study findings agree with the findings of Armar, *et al.*, (2010) who stated that malnutrition contributes to poverty for example Uganda loses US\$310 million worth of productivity per year due to the high levels of stunting, iodine-deficiency disorders, iron deficiency, and low birth weight.

More than half of the respondents (57.3%) strongly agreed that malnutrition could affect education and intellectual performance of children while only 9.4% disagreed. Malnutrition not only impairs physical development but also intellectual development which causes poor performance in both social and academic aspects of life. This study findings concur with the findings of Wamani *et al.*, (2008) who stated that malnutrition affects the education and intellectual potential of children during school years and that stunting causes children to start school late because they look too small for their age.

#### **5.1.4 Preventive measures of malnutrition among children under five years.**

More than half of the respondents (51%) stated that exclusive breast feeding for the first six month could help prevent malnutrition among children under five years of age while only 7% disagreed. Breast milk contains all the food nutrients that the baby requires for proper growth and development therefore infants should be exclusively breastfed for the first six month and then gradually weaned off since by six month of age breast milk alone will no longer be sufficient to provide adequate amount of nutrients for infant growth. This study findings are in line with the findings of Onis *et al.*, (2013) who stated that exclusive breast feeding for the first six month then continued up to 2 years after weaning is one of the best strategies to minimize malnutrition among children and that during the first six months of breast feeding the infant receives enough nutrients for growth and development and the risk of acquiring infections is reduced due to immune benefits or antibodies contained in milk.

Most of the respondents (70.8%) agreed that effective nutrition programs could help scale down prevalence of malnutrition among children under five years while only 2.1% disagreed. To prevent malnutrition, it is important to deal with the root causes of malnutrition operating locally in the community by designing and implementing appropriate interventions and programs involving the community members rather only focusing on curative approach. This study findings are in line with the findings of Klugman, (2012) who stated that identifying and implementing cost effective nutrition programme models that are scalable at both district and national levels could help minimize prevalence of malnutrition among children and that such models would involve behaviour change and social marketing, fortification of common staple foods, use of bio-fortified produce, and micronutrient

supplementation programs among others. The study findings also agree with the findings of Pelletier *et al.*, (2009) who stated that planning nutrition programs appropriately and whenever possible, the programs should be planned, managed and implemented at community and local government levels in a cross sectoral manner targeting geographic areas where young child and mothers are most vulnerable to malnutrition.

Most of the respondents (65%) agreed that promoting good hygiene practices could help prevent malnutrition among children under five years of age while only 2% neither agreed nor disagreed. Good hygiene or sanitation practices helps to prevent malnutrition by minimizing the risk of acquiring infections and worm infestations. This study findings are in line with the findings of Grantham *et al.*, (2011) who stated that promoting good hygiene practices increases community awareness and reduces helminth related diseases and that regular hand washing and promotion of this through awareness can reduce diarrhoea morbidity which contributes to and complicates malnutrition.

More than half of the respondents (56.3%) agreed that promoting maternal nutrition education and growth monitoring programs could help in the fight against malnutrition among children under five years of age while only 3.1% disagreed. It is important to note that the more knowledgeable the mother is about nutrition of the child and herself, the more likely that she will translate this knowledge into practice and improve her nutritional status and that of her baby. This study findings are in line with the findings of Bryan, (2012) who urged that promotion of maternal nutrition education programs could be beneficial in reducing childhood malnutrition as the child's survival is dependent on promoting maternal knowledge on appropriate feeding practices.

Most of the respondents (68%) agreed that community based programs such as immunization, micronutrient supplementation and deworming could help prevent malnutrition among children under five years of age while only 2% disagreed. In addressing the problem of malnutrition, it is prudent to tailor approach that tackles the causes of malnutrition by designing programs such as mass immunization and deworming of children. This study findings are in line with the findings of Vella, *et al.*, (2012) who stated that growth monitoring and promotion programs with intent to support families to monitor and address nutrition and health related problems is important in addressing issues to do with malnutrition in children . The study findings are also in line with the findings of Wright, (2007) who stated that. Supplementation was beneficial in reducing nutrition-related deficiencies in Ethiopia by 50%. The study findings further agree with the findings of Toole and Waldman, (2007) who found out in Kenya that addressing severe child malnutrition in institutions or community settings through community based programs such as immunization, vitamin A supplementation and deworming against helminthes showed 30% reduction in malnutrition.

## **5.2 Conclusion.**

The following conclusions were drawn as result of the research work carried out to assess the factors contributing to malnutrition, its consequences and preventive measures among children under five years of age:

i) The study findings revealed factors contributing to malnutrition among children under five years of age such as; lack of parental knowledge about infantile and childhood diet, improper

nutrition and dietary practices, infections and infestations, household food insecurity and irresponsible parenting and negligence.

ii) The study findings also revealed consequences of malnutrition such as; increased mortality, anaemia, Poverty and affects education and intellectual performance of children.

iii) Preventive measures of malnutrition identified in the study findings included; Exclusive breast feeding for the first six month, effective nutrition programs, promoting good hygiene practices, promoting maternal nutrition education and growth monitoring programs and community based programs such as immunization, micronutrient supplementation and deworming.

### **5.3 Recommendations.**

Basing on the study findings and conclusions, the researcher derived the following recommendations;

i) Maternal education about infantile and childhood nutrition should continue in order to strengthen the existing knowledge of mothers about nutrition and therefore prevention of malnutrition.

ii) The government through the policy makers should continue providing the adequate facilities like therapeutic feeding units, maintaining the equipment, supplying drugs and providing adequate staffing will further strengthen the existing knowledge and practice among parents on malnutrition.

iii) More research needs to be done about risk factors for malnutrition in other regions of Uganda so as to come up with more comprehensive report that will benefit the entire country.

#### **5.4 Implications to the nursing practice.**

The study findings will be used by nurses in paediatrics department, maternal and child clinics to promote healthy practices through education about the importance of exclusive breastfeeding, immunization, hygienic preparation of food and food security so as minimize the burden of malnutrition in the communities and health facilities in managing the cases of malnutrition.

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## APPENDIX I: INFORMED CONSENT

Good morning/afternoon/evening?

My name is **Abagye Frank** from Kampala International University Western Campus School of Nursing Sciences. I am here to conduct research **factors contributing to malnutrition, its consequences and preventive measures among children under five years admitted at Kampala International University Teaching Hospital Bushenyi district** as a partial fulfillments of the requirements for the award of diploma in nursing science. You have been selected at random (by chance) to participate in this study. The information gathered here will remain confidential and I will not write down your name or any information that can identify where you live or who you are. Your participation in the study is voluntary and you will not be affected in any way if you decide not to participate. You do not have to answer a question that you do not want to. You can stop the interview at any time. The relevancy of this study will depend so much on your honest response to the questions asked. If you agree to participate, the interview will take about thirty minutes. Any questions or clarification you need before we begin? I agree [  ]/I do not agree [  ]

Signature of the respondent .....or thumb print.....

Date: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

**APPENDIX II: QUESTIONNAIRE ON FACTORS CONTRIBUTING TO  
MALNUTRITION, IT'S CONSEQUENCES AND PREVENTION AMONG  
CHILDREN UNDER FIVE YEARS OF AGE ADMITTED AT KIU-TH**

**Instructions.**

Dear respondent, please tick appropriate response.

**SECTION A: BIO DEMOGRAPHIC DATA**

<b>BIO DEMOGRAPHIC PARAMETER</b>		<b>RESPONSE(TICK)</b>
Age (Years)	18-23	
	24-29	
	30-35	
	36-41	
	>42	
Sex	Male	
	Female	
Tribe	Munyankole	
	Mukiga	
	Others(Specify)	
Religion	Christian	
	Moslem	
	Others(Specify)	
Employment status (Indicate if a student)	Employed	
	Self employed	
	Un employed	
Marital status	Married	
	Single	
	Divorced	
	Cohabiting	
Level of education	None	
	Primary	
	Secondary	
	Tertiary	

**SECTION B: FACTORS CONTRIBUTING TO MALNUTRITION AMONG CHILDREN UNDER FIVE YEARS.**

<b>Please tick appropriate response either strongly agree, agree, neither agree nor disagree, strongly disagree or disagree.</b>		
<b>Contributing factor to malnutrition</b>		<b>Response(Tick)</b>
1	Lack of parental knowledge about infantile and childhood diet contributes to malnutrition among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
2	Improper nutrition and dietary practices contributes to malnutrition among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
3	Infections and infestations contribute to malnutrition among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
4	Household food insecurity is one of the contributing factors to malnutrition among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
5	Irresponsible parenting and negligence contributes to malnutrition among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree

**SECTION C: CONSEQUENCES OF MALNUTRITION AMONG CHILDREN UNDER FIVE YEARS.**

<b>Please tick appropriate response either strongly agree, agree, neither agree nor disagree, strongly disagree or disagree.</b>		
<b>Consequence of malnutrition</b>		<b>Response(Tick)</b>
1	Malnutrition leads to increased mortality among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
2	Malnutrition can cause anaemia among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
3	Malnutrition among children under five years of age can contribute to and perpetuate poverty due to costs of treatment	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
4	Malnutrition affects education and intellectual performance of children	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree

**SECTION D: PREVENTIVE MEASURES OF MALNUTRITION AMONG CHILDREN UNDER FIVE YEARS.**

<b>Please tick appropriate response either strongly agree, agree, neither agree nor disagree, strongly disagree or disagree.</b>		
<b>Preventive measure</b>		<b>Response(Tick)</b>
1	Exclusive breast feeding for the first six month helps to prevent malnutrition among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
2	Effective nutrition programs can help scale down prevalence of malnutrition among children under five years	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
3	Promoting good hygiene practices can help prevent malnutrition among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
4	Promoting maternal nutrition education and growth monitoring programs can help in the fight against malnutrition among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree
5	Community based programs such as immunization, micronutrient supplementation and deworming can help prevent malnutrition among children under five years of age	Strongly agree
		Agree
		Neither agree nor disagree
		Disagree
		Strongly disagree



**APPENDIX III: INTRODUCTORY LETTER**



KAMPALA INTERNATIONAL  
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**OFFICE OF THE DEAN SCHOOL OF NURSING SCIENCES**

**TO WHOM IT MAY CONCERN**

Dear Sir /Madam

**Re: ABAGYE FRANK DNS/0001/133/DU**

The above mentioned is a student of Kampala International University undertaking Diploma in Nursing Sciences Direct program and he is in his final academic year.

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

His topic is; **FACTORS CONTRIBUTING TO THE MALNUTRITION IT'S CONSEQUENCES AND PREVENTION AMONG CHILDREN UNDER FIVE YEARS OF AGE ADMITTED AT KAMPALA INTERNATIONAL UNIVERSITY TEACHING HOSPITAL BUSHENYI DISTRICT.**

Any assistance rendered to him will be highly appreciated

Thank you in advance for the positive response

  
**Apondi Winfred**  
**Administrator school of Nursing Sciences**



*"Exploring the Heights"*

## APPENDIX IV: MAP OF UGANDA SHOWING BUSHENYI DISTRICT





KAMPALA INTERNATIONAL UNIVERSITY TEACHING HOSPITAL.