

# **KIBOGORA POLYTECHNIC**

**FACULTY OF HEALTH SCIENCES**

**DEPARTMENT OF GENERAL NURSING**

## **ASSESSMENT OF MOTHERS' KNOWLEDGE, ATTITUDES, AND PRACTICES TOWARD THE PREVENTION OF MALNUTRITION AMONG CHILDREN UNDER FIVE YEARS OLD.**

**Case study: Kibogora Cell, Nyamasheke District**

**Period: 6<sup>th</sup> – 18<sup>th</sup> June 2022**

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

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**Kibogora, July, 2022**

## **DECLARATION**

### **Declaration by the Candidates**

We UWIZEYE Siphola, and DUSHIMUMUREMYI Aimé Régis hereby declare that this is my own original work and not a duplication of any similar academic work. It has therefore not been submitted to any other institution of higher learning. All materials cited in this paper which are not my own have been duly acknowledged.

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### **Declaration by the Supervisor**

I declare that this work has been submitted for examination with my approval as KP Supervisor

NAME: NSENGIYUMVA Jean Paul

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## ABSTRACT

This study aimed at assessing mother's knowledge, attitudes, and practices toward the prevention of malnutrition among under-five children in Kibogora cell of Nyamasheke district. It targeted specifically to assess the level of mother's knowledge toward the prevention of malnutrition, evaluating the attitude of mothers toward the prevention of malnutrition, and identifying the level mother's practices toward the prevention of malnutrition. The study adopted a cross sectional study design with a quantitative approach where 132 mothers with under-five children were enrolled in the study. The study proved that mothers enrolled have a positive attitude with a higher level of knowledge at 90% above among all factors assessed except for immunization where only 65.9% have adequate knowledge on its role in malnutrition prevention. But even though mothers have a higher level of knowledge and attitude, they practice is low as among all 6 variables assessed, they present a low level of practice toward 4 variables where only about 81.9% can't afford enough balanced diet while they are pregnant, only 21.2% of mothers can provide to their children a balanced diet on every meal, only 18.2% of mothers can afford an adequate balanced diet for children and about 30.3% mothers can't space birth as recommended by WHO. This study also has proved that there is a statistical significant association between: food accessibility and balanced diet at a chi square of 43.321 at df of 1, and p value of 0.000, appropriate breastfeeding and appropriate breastfeeding practices at a chi-square of 23.100 and p-value of 0.000 at degree of freedom of 2, and infectious diseases prevention and early access to health care with Chi square of 4.119 at df of 2, and P-value of 0.043 at df of 1. Association between variables were found at CI of 95% at P-value of <0.05. Generally, the study concluded that mothers have a high level of knowledge with a positive attitude but a poor practices. This study recommended that government and health authorities should work together to raise awareness of such factors related to the improvement of mothers practice toward the prevention of malnutrition which are adequate balanced diet during pregnancy and for children, early access to health care, routine immunization, and appropriate birth spacing.

## **DEDICATION**

To almighty God

To our parents

To Our sisters and Brothers

UWIZEYE Siphola

Aimé Régis DUSHIMUMUREMYI

## **ACKNOWLEDGEMENT**

We are almost thankful to our almighty God for blessing us all days of our life, especially during our studies. It would be nothing without his will.

We are also thankful to numerous individuals and institutions if they were not present our research would not be possible. Though it is by here we thank the executive secretary of Kibogora cell and all mothers living in this cell for their incomparable support in progress of this study.

We take this opportunity to express our high gratitude to our supervisor for his efforts and limitless advice during this project, Mr. NSENGIYUMVA Jean Paul it was great to work under his supervision.

We would like to thank also the faculty of Health Sciences, the General Nursing department at Kibogora Polytechnic, especially the lecturers and staff, for their close guidance, knowledge, and technical advice throughout our studies.

Special thanks to our parents, brothers, and sisters for their encouragement during our studies and for providing all the requirements and supports.

Finally, our thanks go to our colleagues, classmates, and friends whose moral and support was vital to the success of our studies at Kibogora Polytechnic.

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## LIST OF ABBREVIATIONS AND ACRONYMS

<b>KAP:</b>	KNOWLEDGE, ATTITUDES, AND PRACTICES
<b>KP:</b>	KIBOGORA POLYTECHNIC
<b>WHO:</b>	WORLD HEALTH ORGANISATION
<b>WHZ:</b>	WEIGHT FOR HEIGHT Z-SCORE
<b>HAZ:</b>	HEIGHT FOR AGE Z-SCORE
<b>df:</b>	DEGREE OF FREEDOM
<b>CI:</b>	CONFIDENCE INTERVAL.



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## **CHAPTER ONE: GENERAL INTRODUCTION**

### **1.0.INTRODUCTION**

This chapter is going to discuss the background of the study, the statement of the problem, the purpose of the study, the objectives of the study, the ones to benefit from the study, the significance of the study, and the scope of the study.

### **1.1.BACKGROUND**

Worldwide malnutrition is a public health concern. Globally 462 million adults are malnourished (Natisha Dukhi, 2020). Globally among under-five in 2020, 149 million were stunted, 45 million were wasted, It was estimated that globally around 45% of deaths in under-five children are corresponding to malnutrition (WHO, 2021). About 230 million under-five children in developing countries are experiencing chronic malnutrition and it was indicated that about 54% of under-five deaths in developing countries are associated with malnutrition (Hwot Yisak et al, 2020). Poor knowledge of primary care givers is among the factors contributing to malnutrition as a study conducted in India revealed that mothers need appropriate knowledge which should affect their attitudes and practices in prevention of malnutrition (M Edith et al, 2016).

In sub-Saharan Africa the proportion of children with stunting rose from 50.3 million to 58.8 million children from 2015 to 2018 (Phillips Edomwonyi Obasohan et al, 2020). Now it is indicated that about 45% of all child death in Africa are linked to malnutrition and this justify that Sub-Saharan African children are 14 times more likely to die in their first five years than those children in developed countries (WHO: Regional Office for Africa, 2021).

In 2013 the government of Rwanda launched a continuous campaign for improving families nutritional conditions mainly focusing on pregnant and breastfeeding mothers, and children in their first 1000 days and this program includes community based activities such as cooking demonstrations, Model kitchen, feeding demonstrations which targets pregnant and breastfeeding mothers and under 2 years old children and this was targeting to enhance the development of appropriate mother's knowledge, attitudes and practices for better feeding (Ministry of Health, 2014).

Even if this was done, In Rwanda 33% of children are stunted, (short for their age), 1% are wasted (thin for their height), 8% are underweight (thin for their age). Of these children 36 % of them are from rural areas and 20% are from urban areas. Of these children 40% of them are from western province (National Institute of Statistics of Rwanda, 2020). In Rwanda It has been elaborated that there is a great relationship between the high prevalence of malnutrition and little knowledge of mothers as primary care givers for children under-five years old as a cross-section study from Rwanda Demographic and Health Survey of 2010 indicated that 42% of under-five children with stunting are of mothers with no education (Nzayirambaho, 2018). In Nyamasheke district among all under-five children 34% of them were stunted in 2018 (Nyamasheke District, 2018).

A screening done in the catchment area of Kibogora District Hospital in March 2022 among 2063 under-five years' old children indicated that 3% of them have malnutrition and among these with malnutrition 82% have acute moderate malnutrition and 18% have acute severe malnutrition. Also this screening indicated that among 660 children screened in the catchment area of Kibogora health center 1% has malnutrition. (Kibogora District Hospital, 2022).

Even though in Kibogora till now there is a problem of malnutrition, there was no study conducted to assess mother's knowledge, attitude, and practice toward the prevention of malnutrition as primary care givers in families.

## **1.2.PROBLEM STATEMENT**

Healthy citizens build a healthy nation. Children as future country's focal persons once they are neglected the future nation can become a nation of unhealthy people. Malnutrition in under-five children has a long-lasting effect on the mental and physical health of the children. It was revealed that mothers need appropriate knowledge which should affect their attitudes and practices in prevention of malnutrition (M Edith et al, 2016)

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appropriate mother's knowledge, attitudes and practices for better feeding to prevent malnutrition in children (Ministry of Health, 2014). Even if this was done, In Rwanda 33% of children are stunted (National Institute of Statistics of Rwanda, 2020) and 34% of under-five children in Nyamasheke district are stunted (Nyamasheke District, 2018)

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Even though in Kibogora till now there is a problem of malnutrition, there was no study conducted to assess mother's knowledge, attitude, and practice toward the prevention of malnutrition as primary care givers in families.

Therefore, our study intends to identify the status of this problem at it will provide recommendations that may be used by Health care providers as well as community health workers to address the issue of poor attitudes, lack of knowledge and insufficient practices regarding the prevention of malnutrition and it will also provide baseline information for further studies.

### **1.3.PURPOSE OF THE STUDY**

The aim of this study is to determine mother's knowledge, attitudes, and practices toward the prevention of malnutrition among under-five children in Kibogora cell of Nyamasheke district.

### **1.4.RESEARCH QUESTIONS**

- What is the level of mother's knowledge toward the prevention of malnutrition?
- What is the attitude of mothers toward the prevention of malnutrition?
- What are the level of mothers' practices toward the prevention of malnutrition?

### **1.5.OBJECTIVES OF THE STUDY**

- To assess level of mother's knowledge toward the prevention of malnutrition.
- To evaluate the attitude of mothers toward the prevention of malnutrition.
- To identify the level mother's practices toward the prevention of malnutrition.

### **1.6.SIGNIFICANCE OF THE STUDY**

This research will be of great value to different researchers who seek knowledge in appropriate prevention of malnutrition with consideration of appropriate knowledge, attitudes, and practices needed for an effective prevention of malnutrition in different families. Families in Kibogora cell and in Rwanda as whole will benefit in knowing the effect of knowledge, attitudes, and practices on prevention of malnutrition.

On the other hand, this study will be beneficial to local government authorities especially those in Kibogora cell to address the level of their citizens regarding the level of knowledge, attitudes, and practices on prevention of malnutrition and this will allow them to evaluate the effectiveness of their programs/interventions on this issue. In addition, this study will also demonstrate to the health authorities including community health centers and community health workers where there is a success to appreciate and where there is a need to be satisfied.

It will also provide needed information to other researchers who seek information in this field of study.

### **1.7.SCOPE OF THE STUDY**

The study was conducted on mothers who have under-five children in families of Kibogora cell which is located in Nyamasheke district of Western province in the Republic of Rwanda during the period of June 2022.

## CHAPTER TWO: LITERATURE REVIEW

### 2.0. INTRODUCTION

This chapter provides the definition of the key terms used in this study, the literature related to the research objectives, any other necessary literature to support the study, and the framework for data analysis.

### 2.1. DEFINITION OF KEY TERMS AND CONCEPTS

**Knowledge** is defined as an understanding of information about a subject that you get by experience or study, either known by one person or people generally (Cambridge Dictionary, 2021).

**Attitude** is a feeling or opinion about something or someone (Cambridge Dictionary, 2021)

**Practices** are actions rather than thoughts or ideas (Cambridge Dictionary, 2021).

**Malnutrition** in this study stands for deficiencies, or imbalances in person's intake of energy and/or nutrients (WHO, 2021).

### 2.2. MOTHERS' KNOWLEDGE TOWARD MALNUTRITION PREVENTION

Mothers' as primary care givers plays a critical role in children development including health maintenance such as the prevention of malnutrition, so their knowledge about the prevention of malnutrition is necessary in managing this issue as Poor knowledge of primary care givers is among the factors contributing to malnutrition as a study conducted in India revealed that mothers need appropriate knowledge which should affect their attitudes and practices in prevention of malnutrition (M Edith et al, 2016).

A study conducted on mothers with under-five children in a slum area of New Delhi indicated that 40% of them had poor knowledge, 33.3% had average knowledge and 26.7% had good knowledge about malnutrition and its prevention and it has concluded that generally these mothers have poor knowledge (Alka Mishra et al, 2017).

A study conducted in Nigeria indicated that mother's knowledge is independently and positively associated with HAZ and WHZ scores in young children. Where mothers with higher level of education, typically above primary, have a significant, positive association with their children's HAZ and WHZ scores and the researchers suggested that they should be out of school mothers



nutritional education in order to facilitate them gain adequate knowledge, attitudes, and practices which will bring a good children's nutritional outcomes.

A demographic and health survey conducted in Rwanda during 2019-2020 indicated that The proportions of children who are stunted and underweight rise as the mother's educational level is low. By this the study indicated that the prevalence of stunting among children whose mothers have no education is 45% compared with 6% among those whose mothers have more than a secondary education (National Institute of Statistics of Rwanda, 2020).

A study conducted on mothers with malnourished children in Kitui County Hospital has indicated them as with poor knowledge on breastfeeding as a way of malnutrition prevention. This was marked by that among respondents in the study only 46.3% know that proper initiation of breastfeeding should be done in the first hour of birth. On the other side also mothers who have not completed primary level of education or another formal education was about 80% and was the one to present improper complementary feeding initiation than their counterparts. So by this, this study concluded that mothers' nutritional knowledge is low but education can positively affect the correct timing of initiation of breastfeeding (IMERA, 2016).

A Study to Assess the Level of Knowledge Regarding Malnutrition among Mothers of under Five Children at Selected Area of Guduvancherry has revealed that most of the mothers (46.7 %) has moderate knowledge and 23.3 % has low knowledge about malnutrition and Its prevention. The study also proved that mothers' level of knowledge was associated with their educational level where those with higher education present high knowledge compared to those with low education level, the study also proved that mothers with appropriate birth spacing was the one to give good results (Bharathi, 2021).

### **2.3. MOTHERS' ATTITUDE TOWARD MALNUTRITION PREVENTION**

Mother's attitudes are of great importance in malnutrition prevention as a study conducted in South Tarawa, Kiribati indicated that women with under five children who are malnourished has a middle level of attitude and practice on breastfeeding, weaning, diet and immunization which are the important factors in the prevention of malnutrition in children and also they attitude positively correlates with their knowledge (Antje Reiher et al, 2020).

A study conducted among 300 mothers with under-five children who visited Primary Health Centre of Miran Sahib in India indicated that even though the majority of mothers had fair to good Knowledge, attitude, and practice toward malnutrition prevention and under-five nutrition; mothers attitude and practice toward the prevention of malnutrition will be enhanced by mothers' knowledge (Sangra S, et al, 2019).

A study conducted in the Department of Pediatrics, Hindu Rao Hospital and North Medical college of Delhi in India, indicated that among 65 mothers/care givers who have Under-five children with severe malnutrition admitted in the hospital has fair attitude toward the prevention of malnutrition through antenatal visits required, medication required in antenatal period and place of delivery, immunization, growth monitoring. Also the mothers presented a poor attitude toward breastfeeding and complimentary feeding as a way of preventing malnutrition. The study concluded by showing that there is a need of having a community based strong Infant and Young Children Feeding programs emphasizing on the knowledge of mothers on this important child care aspect and counselling of mothers to improve their knowledge and practices with attitude change (Tahilramani G, et al, 2021).

A study conducted on mothers of malnourished children in Kitui County Hospital indicated that they feeding practices were influenced by some negative attitudes including negative cultural belief toward certain food (IMERA, 2016).

### **2.4.MOTHERS' PRACTICES TOWARD MALNUTRITION PREVENTION**

Mothers practice on prevention of malnutrition has been proven to have a strong association with their knowledge, educational status and socio-economic class as a study conducted on mothers of pre-school children of Trivandrum district of India indicated that only 19.1% of mothers had good knowledge and 34.8 % of mothers had poor knowledge. Only 24.3 % of mothers reported

to have good practice while 36.6 % of mothers reported to have poor practice (M. Ragab et al, 2021).

A study conducted on care givers of under-two years children in Ventaquemada of Colombia indicated that even if most caregivers have good knowledge and attitudes of infant nutrition, they knowledge is not applied and this was due to community beliefs, values, and individual and collective emotions (Oscar Orlando et al , 2019).

Early initiation of complementary feeding is of great value in prevention of malnutrition in under-two years old children. A study conducted in Nepal revealed that only 64.4% mothers' knows the correct time of initiating a complementary feeding but only 55.6% of them are the one who do It, and about 9.6% of mothers delay complementary feeding beyond 6 months and all those are putting thy children in higher risk of developing malnutrition (Sabina Shrestha et al , 2021).

In Rwanda proper breastfeeding practices and complementary food initiation was found to be included in the most preventive factors for malnutrition as a cross-sectional study from the 2010 Rwandan Demographic and health survey indicated that there is an increased risk of child hood stunting in children who are Breastfeed for only 1 year, also there is no association between child hood stunting and proper solid food initiation and early initiation to breastfeeding (Nzayirambaho, 2018).

A study conducted on mothers of malnourished children in Kitui County Hospital revealed that among mothers who have children who were above 6 months, about 51.9% do not continue to breastfeed their babies after the initiation of complementary food, hence the study concluded that there is a gap in mothers feeding practices (IMERA, 2016).

A study conducted on mothers of under two years children at Kathmandu Medical College and Teaching Hospital have presented that among two hundred and fifty mothers interviewed even if 60.4% mothers knew initiation of breastfeeding soon after birth, 71.6% were knowledgeable about exclusive breastfeeding for 6 months and 64.4% mothers knew the proper age of initiating complementary feeding but only 55.6% mothers practiced it (Sabina Shrestha et al, 2020).

## **2.5. OTHER RELEVANT AND RELATED LITERATURE TO SUPPORT THE STUDY CAUSES OF MALNUTRITION**

### **2.5.1. CAUSES OF MALNUTRITION**

There are 3 categories of malnutrition causes which are: immediate, underlying, and root causes.

**Immediate causes:** these causes are directly related to poor food intake and infectious diseases where diarrhea diseases and HIV/AIDS were found to be the most infectious diseases to accelerate malnutrition due to that they reduce nutrient absorption and utilization (Rwandan Ministry of Health, 2007).

**Underlying causes:** these factors include food insecurity such as inadequate food availability and accessibility. Underlying causes also include inappropriate care for children and women which is composed by inadequate feeding practices such as improper breast feeding and complementary feeding practices, and poor diet composition for infants and/or children. Among the underlying causes also inadequate primary health care plays an important role in the increased rates of malnutrition because of that children get poor facilities for growth and nutritional monitoring, support and treatment in case of malnutrition. (Rwandan Ministry of Health, 2007).

**Root causes:** these include economic imbalances and weaknesses, inadequate institutional support to nutrition interventions, adverse climate changes, lack of arable land, ownership and control over family resources and, low literacy rates, particularly, among women (Rwandan Ministry of Health, 2007).

### **2.5.2. MEASURES OF MALNUTRITION PREVENTION**

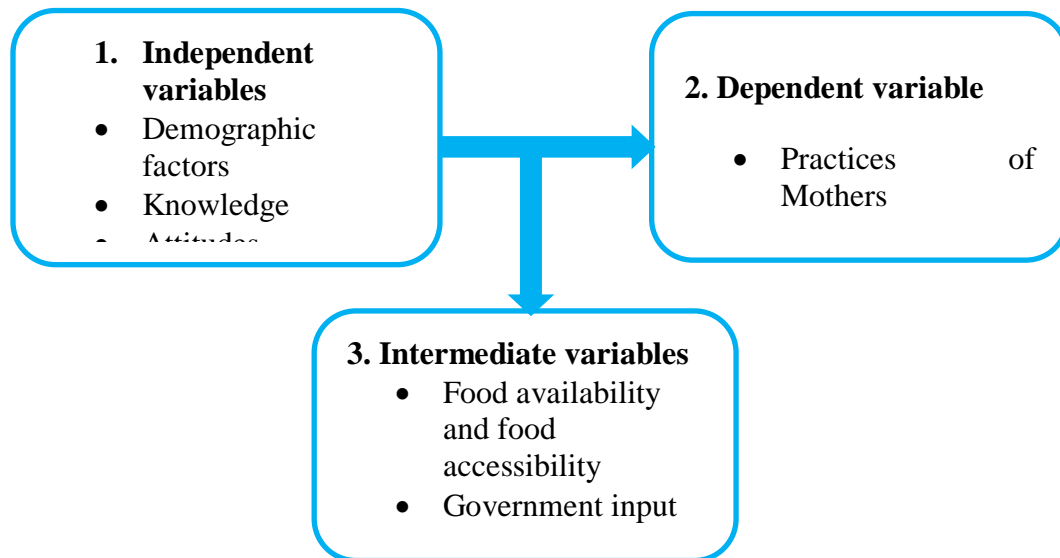
The ministry of health recommend the following for the prevention of malnutrition: Regular monitoring of under five children for growth at health center and community levels; Doing regular weight gain monitoring for pregnant women, through the ANC at health center and community levels; Promoting good and balanced nutrition among the population, especially in specific and vulnerable groups such as children under-five years, orphans and other vulnerable children, pregnant and lactating women, old people, refugees (Rwandan Ministry of Health, 2007).

Also the following was indicated as the activities included in prevention of malnutrition in under-five children: growth monitoring, oral rehydration, breastfeeding, immunization, female education, family spacing, food supplementation, nutrition for children under five years of age, and control of nutritional deficiencies (Mohsen M. et al, 2019)

## 2.6. RESEARCH GAP

Based to the information obtained to the literature review, it is visible that there is a gap of current information related to our study specifically in the area of the study.

## 2.7. CONCEPTUAL FRAMEWORK



*Figure 1: Conceptual Framework*

Based on this figure, the dependent variable is practices of mothers toward malnutrition prevention where it depends on independent variables such as Demographic factors, knowledge, and attitude. And the intermediate variables are food availability and accessibility, and attendance in community based nutritional education programs. This means that mothers practices can change or appear in a given way due to mothers' Demographic factors, Knowledge, and attitudes without forgetting the effect of food availability and accessibility and government inputs.

This means that mainly mothers practices are shaped in such a way due to how they are demographically (this wants to mean their age, educational level, marital status, etc), their knowledge which may be low or high due to their scoring on different factors assessed, and their attitudes which may be positive or negative basing on their scoring on various factors assessed. But mothers' practices may also appear in a given way due to the change which may be due to intermediate variables which are food availability and food accessibility and government input.

## **CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY**

### **3.0.INTRODUCTION**

This chapter is composed of the study area, study design and approach, study population and sampling procedures and sample size, data collection tool and procedure, ethical consideration, suspected data analysis procedures, reliability, and validity measures.

### **3.1.RESEARCH APPROACH AND DESIGN**

This study applied a cross-sectional design with a quantitative approach to assess mother's knowledge, attitudes, and practices toward the prevention of malnutrition in Kibogora cell.

### **3.2.TARGET POPULATION**

This study targeted mothers living in Kibogora cell who have under-five children during June 2022.

### **3.3.SAMPLING PROCEDURES**

This study has used a purposive sampling where researchers relied on their own judgments through choosing all population to involve in study.

### **3.4.SAMPLE SIZE**

The sample size is the same as the total population of 132 Mothers.

### **3.5.RESEARCH INSTRUMENTS FOR DATA COLLECTION**

This study used a questionnaire to gather data.

### **3.6.DATA COLLECTION PROCEDURES**

Researchers used to find mothers in places where they used to be in higher numbers such as in market placed, at health facilities, and in their homes. The researchers firstly explained to the respondent the research objectives and the questionnaire with clear and concise instruction. The researchers offered the questionnaire to the responded and allow him/her. Each research-participant filled the questionnaire in a place where he/she is comfortable of.

### **3.7.ETHICAL CONSIDERATION**

This study was conducted under the permission granted by both Kibogora cell and the ethical committee of Kibogora polytechnic. Eligible participants who signed consent were the ones enrolled in the study. The right to privacy and confidentiality was respected through not filling the names on the questionnaires. The information provided by a respondent in the study will not be shared to anyone else without a permission of the respondent.

### **3.8.DATA ANALYSIS**

Researchers reviewed raw data from the checklists by checking that the checklists are properly filled. Then Data were entered, cleaned, checked, and analyzed using statistical package for social sciences (SPSS) software version 16.

### **3.9.RELIABILITY AND VALIDITY MEASURES**

#### **3.9.1. Validity**

Items of the questionnaire cover all research objectives. The questionnaire was observed to test whether it's complete. Data entry has been accomplished and analyzed to check the achievement of research objectives. Adjustments were made accordingly, in case required, with the guidance of the supervisor.

#### **3.9.2. Reliability**

Our questionnaire consistency was checked through pre-testing it in 2 families of Gako Cell at different time interval (2 weeks apart) in other to check for the stability of responses provided by the questionnaire over time in the same group of respondents. Researchers collected information using the questionnaire to the same individual at two different points in time, two weeks apart.



## **CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, INTERPRETATION, AND SUMMARY**

### **4.0. INTRODUCTION**

This chapter is concerned with the presentation, analysis, and interpretation of data collected with providing a summary of the findings.

### **4.1. PRESENTATION OF FINDINGS AND INTERPRETATION**

In this study mothers have been said to have: low level of knowledge when they score less than 70%, high level knowledge when they score above 70%, positive attitude when they score above 70%, negative attitude when they score less than 70%, low level of practices when they score lower than 60%, and high level of practices when they score above 60%.

#### **4.1.1. DEMOGRAPHIC DATA**

<b>Variable</b>	<b>Range</b>	<b>Frequency</b>	<b>%</b>
<b>Age</b>	15-20	4	3
	21-35	93	70.5
	36-45	35	26.5
<b>Marital status</b>	Married	98	74.2
	Divorced	31	23.5
	Widowed	1	0.8
	Single	2	1.5
<b>Educational level</b>	None	26	19.7
	Primary	77	58.3
	Secondary	19	14.4
	University	10	7.6

<b>Umudugudu kitchen program attendance</b>	Yes	62	47
	No	70	53
<b>Food availability</b>	Yes	132	100
	No	0	0
<b>Food accessibility</b>	Yes	31	23.5
	No	101	76.5

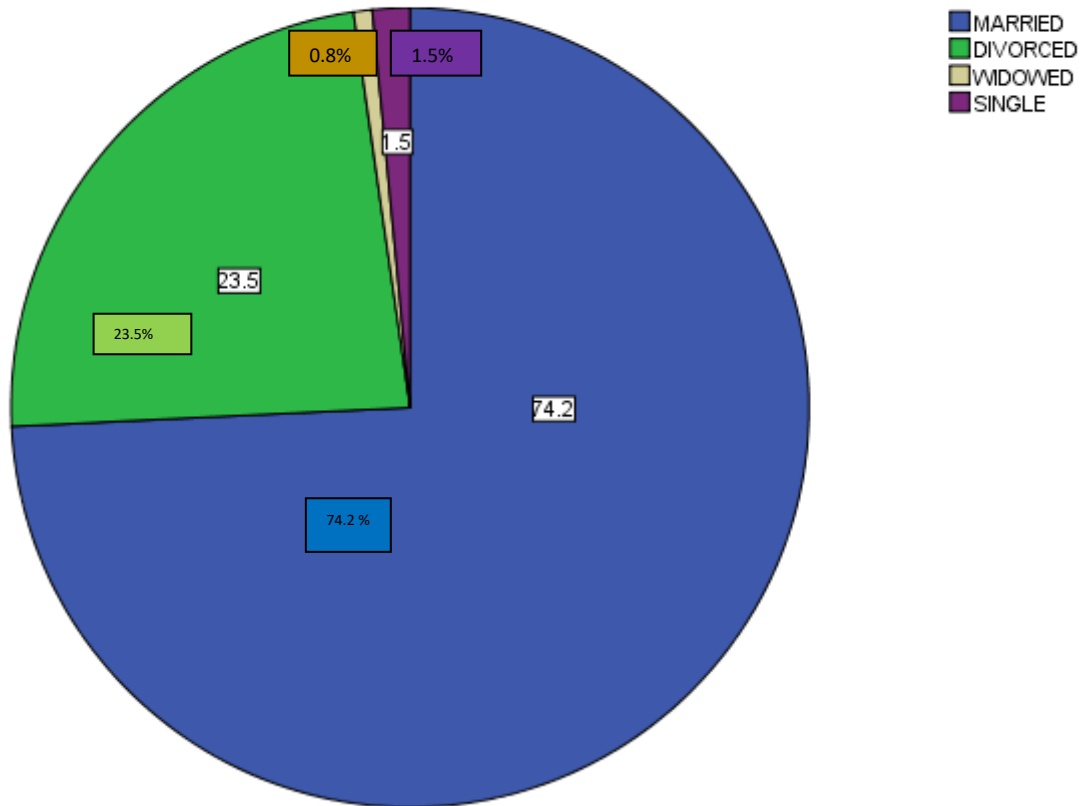
Table 1: **Demographic data.**

**Source: Primary data**

Among all mothers enrolled in the study of them 3% were in the age ranging from 15 to 20, 70.5 % are aged between 21 to 35, and 26.5% were aged between 36 to 45. This wants to show us that a greater proportion of study respondents are aged between 21 to 35. Also Among respondents, 74.2 % mothers are married, 23.5 % are divorced, 1.5 % are single mothers, while 0.8% mothers are widowed. This clearly marks that there is a greater proportion of divorced mothers in the cell. In all study respondents, only 7.6% have attended University education, 14.4% have completed secondary education, 19.7% mothers have not completed any education institution, and 58.3 % have completed primary education. This clearly indicates that the education is low among respondents as a higher proportion of them have attended only primary school. This result also shows us that a higher proportion of study respondents who are about 53% have not attended UMUDUGUDU KITCHEN Program while only 47% have attended the program.

In this cell it is clear that food is available to all as the data presents that food is available to all mothers at 100% but only 23.5% can access needed food while 76.5% can't access food as needed.

## MARITAL STATUS

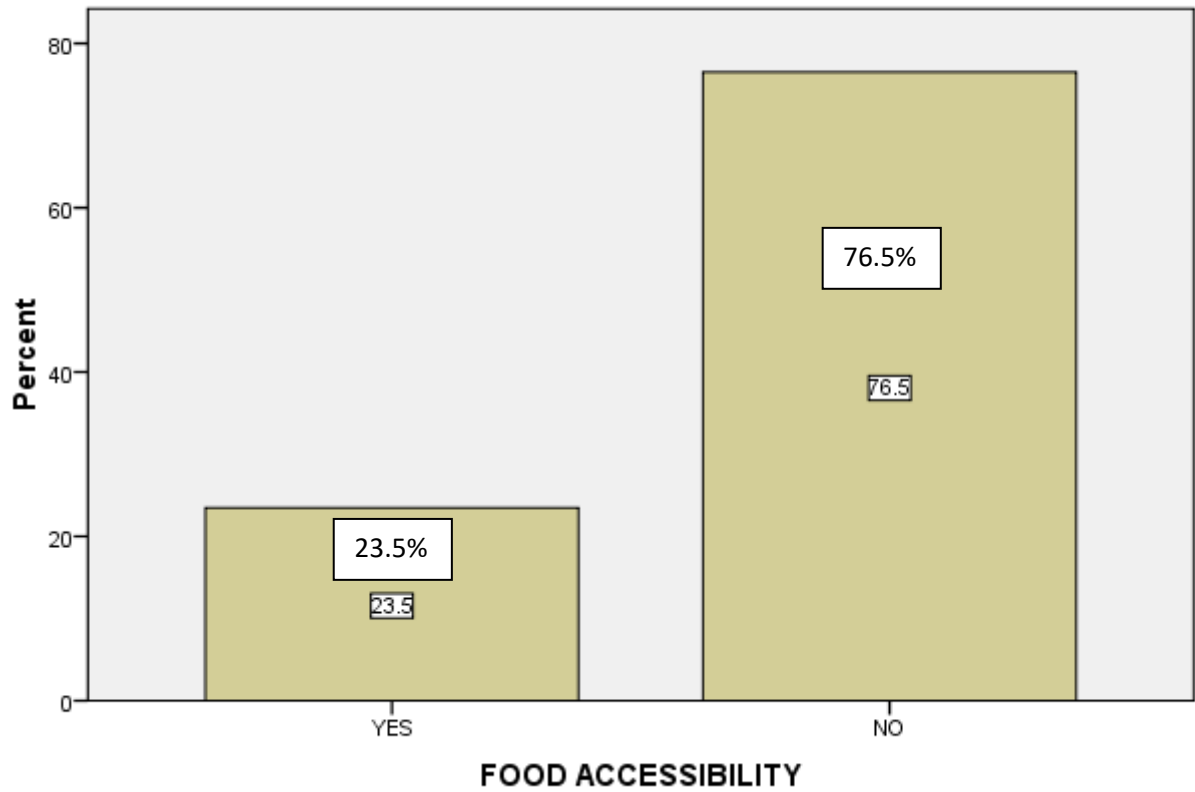


*Figure 2: Pie-chart of Distribution of Martial status among respondents*

**Source: Primary data.**

The above pie-chart presents that a higher proportion of mothers (74.2%) are married, But also there is a higher proportion of divorced mothers (23.5%), 1.5% mothers are single, and 0.8% mothers are widowed.

### FOOD ACCESSIBILITY



*Figure 3: Bar- graph of Distribution of food accessibility among respondents.*

**Source: Primary data.**

The above bar-graph proves that there is a higher proportion of mothers (76.5%) who are not food accessible compared to 23.5% of them who are food accessible.

**4.1.2. ASSESSMENT OF MOTHER’S KNOWLEDGE TOWARD THE PREVENTION OF MALNUTRITION**

<b>Variable</b>	<b>range</b>	<b>frequency</b>	<b>%</b>
<b>Appropriate nutrition is necessary during pregnancy for foetal growth</b>	Correct	130	98.5
	Incorrect	0	0
	Don't know	2	1.5
<b>Routine antenatal care plays a great role in foetal growth monitoring</b>	Correct	131	99.2
	Incorrect	0	0
	Don't know	1	0.8
<b>Role played by immunization in prevention of malnutrition</b>	Correct	87	65.9
	Incorrect	9	6.8
	Don't know	36	27.3
<b>Role played by exclusive breast feeding for first six months.</b>	Correct	128	97.0
	Incorrect	2	1.5
	Don't know	2	1.5
<b>The importance of post-natal growth check-up in malnutrition prevention</b>	Correct	131	99.2
	Incorrect	0	0
	Don't know	1	0.8
<b>The role played by initiating complementary feeding on time.</b>	Correct	124	93.9
	Incorrect	3	2.3
	Don't know	5	3.8

<b>Protection of children against infectious diseases such as diarrhoea and malaria</b>	Correct	119	90.2
	Incorrect	3	2.3
	Don't know	10	7.6
<b>Children needs a balanced diet for growth and development</b>	Correct	132	100
	Incorrect	0	0
	Don't know	0	0
<b>Birth spacing at least 2 years between birth of one child and conception of another</b>	Correct	121	91.7
	Incorrect	0	0
	Don't know	11	8.3

Table 2: **Mothers' knowledge**

**Source: Primary data**

For above tables which presents to us mothers knowledge status toward the prevention of malnutrition in all 9 measures used for examination where mothers presented a high knowledge toward appropriate nutrition during pregnancy which is about 98.5%, whereas 99.2 % have adequate knowledge concerning routine antenatal care as recommended by World Health Organization, 97% of mothers are aware of the role of exclusive breast feeding in prevention of malnutrition, also 99.2% of mothers understands the role played by post-natal growth checkups in prevention of malnutrition, though it was found that 93.9% of mothers are aware of the role played by appropriate complementary feeding in malnutrition prevention, furthermore 90.2% mothers was found to have high level of knowledge concerning the role played by protecting children against infectious diseases in prevention of malnutrition. Even though the above mothers have appropriate knowledge on the issues addressed also 34.1% of them are not aware of the role played by vaccination in malnutrition prevention while only 65.9% of them are the one who are aware of it. Furthermore, among those women only 91.7% are aware of the importance of appropriate birth spacing in prevention of malnutrition while 8.3% are not aware of such issue.

### 4.1.3. MALNUTRITION PREVENTION ATTITUDE RELATED FACTORS OF DOMESTIC MOTHERS

Concerning the attitude of mothers all of them present a positive attitude toward all the factors examined which are also the same as those used in assessment of their knowledge.

### 4.1.4. MALNUTRITION PREVENTION PRACTICES RELATED FACTORS AMONG MOTHERS.

Variable	range	frequency	%
Can mother get enough balanced diet during pregnancy	Yes	25	18.9
	No	107	81.9
Appropriate breastfeeding practices	Yes	112	84.8
	No	20	15.2
Early access to health care	Yes	100	75.8
	No	32	24.2
Can prepare to their children balanced diet on every meal	Yes	28	21.2
	No	104	78.8
Can give to their children an adequate diet on every meal	Yes	24	18.2
	No	108	81.8
Appropriate birth spacing	Yes	92	69.7
	No	40	30.3

*Table 3: Mothers' practices*

**Source: Primary data**

As an infant can experience an intra-uterine malnutrition, only 18.9% can access an adequate balanced diet while they are pregnant, and about 81.1 % can't afford such adequate balanced

diet. This issue strongly is associated with the higher prevalence of low birth weight at Kibogora District Hospital April 2022 which was 10.93 % of all neonates born in the whole month at the hospital (KIBOGORA DISTRICT HOSPITAL, 2022). The above data also indicates that among all mothers, about 15.2% can't practice well breastfeeding as recommend by the World Health Organization as every child should be breastfed exclusively for first 6 months and continue to be breastfed with taking complementary feeding along to at least 2 years, and only 84.8% can practice it as recommended.

Further-more there is still a problem in early access of children to health care where about 24.2% of children can't access health care early and this result in attendance of children at health settings while they are in severe and/or complicated disease conditions which affect negatively they nutrition status. It is also estimated that only 21.2% mothers are the one who can afford a well-balanced diet in good quality needed for their children, and about 78.8% can't afford such diet. Also among only 18.2% of respondents their children can afford a better quantitative diet for their children which are a very low percentage while 81.8% can't afford that.

There is still a problem with appropriate birth spacing as about 30.3% can't space birth from 2 years and above between the birth of 1 child and the conception of the other one as recommended by the World Health Organization.



## 4.2.ASSOCIATIONS BETWEEN VARIABLES

### 4.2.1. FOOD ACCESSIBILITY AND ADEQUATE BALANCED DIET FOR CHILDREN

			adequate balanced diet for children		total
			Yes	No	
Food accessibility	Yes	Frequency	18	13	31
		% Within food accessibility	58.1	41.9	
		% Within adequate balanced diet for children	75	12	
		% Total	13.6	9.8	23.5
	No	Frequency	6	95	101
		% Within food accessibility	5.9	94.1	
		% Within adequate balanced diet for children	25	88	
		% Total	4.5	72	76.5
Totals		Frequency	24	108	132
		% Totals	18.2	81.8	100
<b>Test</b>		<b>Value</b>		<b>df</b>	
<b>Chi square</b>		<b>43.321</b>		<b>1</b>	
<b>p-value</b>		<b>0.000</b>		<b>1</b>	

Table 4: Food accessibility \* Balanced diet availability for children

Source: primary data

The above clearly indicates to us that the availability of adequate balanced diet to children is highly related to food accessibility as 81.8% of children can't afford an adequate balanced diet

and among of them 94.1% are food inaccessible so there is a statistical significant association between food accessibility and balanced diet as the chi square is 43.321 at df of 1, and p value is 0.000. Association between variables were found at CI of 95% at P-value of <0.05. So there is a higher need of tackling this issue of inaccessibility to adequate balanced diet so that we will achieve Zero Hunger as indicated by the Sustainable Development Goals as indicated in the targets of United Nations.

#### 4.2.2. ASSOCIATION BETWEEN EXCUSIVE BREAST FEEDING KNOWLEDGE AND APPRORIATE BREAST FEEDING PRACTICES

			Appropriate breastfeeding practices		Totals
			Yes	No	
<b>Exclusive breast feeding is necessary in prevention of malnutrtion</b>	<b>correct</b>	<b>Frequencies</b>	112	16	128
		<b>% Within exclusive breast feeding knowledge</b>	87.5	12.5	
		<b>% Within appropriate breastfeeding practices</b>	100	80	
		<b>% Totals</b>	84.8	12.1	97
	<b>incorrect</b>	<b>Frequencies</b>	0	2	2
		<b>% Within exclusive breast feeding knowledge</b>	0	100	
		<b>% Within appropriate breastfeeding practices</b>	0	10	
		<b>% Totals</b>	0	1.5	1.5
	<b>don't know</b>	<b>Frequencies</b>	0	2	2

		<b>% Within exclusive breast feeding knowledge</b>	0	100	
		<b>% Within appropriate breastfeeding practices</b>	0	10	
		<b>% Totals</b>	0	1.5	1.5
<b>Totals</b>		<b>Frequency</b>	112	20	132
		<b>Percentage</b>	84.8	15.2	100

<b>TEST</b>	<b>VALUE</b>	<b>Df</b>
Chi square	23.100	2
P-value	0.000	2

**Table 5: Exclusive breastfeeding knowledge\*Appropriate breast feeding practices**

**Source: Primary data**

Among all study respondents about 15.2% cannot practice appropriate breast-feeding as recommended and a higher proportion of those who do not practice appropriately have adequate knowledge on breast feeding as 12.1 % of all study respondents can't breast feed appropriately though they have adequate knowledge concerning it. Also they study reveals that there is a statistical significant association between knowledge on appropriate breastfeeding and appropriate breastfeeding practices as the chi-square is 23.100 and p-value of 0.000 at degree of freedom of 2. Association between variables were found at CI of 95% at P-value of <0.05.

#### 4.2.3. INFECTIOUS DISEASES PREVENTION AND EARLY ACCESS TO HEALTHCARE

			Early access to health care		Totals
			Yes	No	
<b>A child should be protected against infectious diseases as a way of preventing malnutrition</b>	<b>Correct</b>	<b>Frequency</b>	93	26	119
		<b>% Within knowledge on protection against infectious diseases</b>	78.2	21.8	
		<b>% Within early access to health care</b>	93	81.2	
		<b>% Totals</b>	70.5	19.7	90.2
	<b>Incorrect</b>	<b>Frequency</b>	2	1	3
		<b>% Within knowledge on protection against infectious diseases</b>	66.7	33.3	
		<b>% Within early access to health care</b>	2.0	3.1	
		<b>% Totals</b>	1.5	0.8	2.3
	<b>Don't know</b>	<b>Frequency</b>	5	5	10

		<b>% Within knowledge on protection against infectious diseases</b>	50	50	
		<b>% Within early access to health care</b>	5	15.6	
		<b>% Totals</b>	3.8	3.8	7.6
<b>Totals</b>		<b>Frequency</b>	100	32	132
		<b>percentage</b>	75.8	24.2	100

<b>TEST</b>	<b>VALUE</b>	<b>Df</b>
Chi square	4.119	2
P-value	0.043	2

*Table 6: infectious diseases prevention\*early access to health care*

**Source: Primary data**

Within all study respondents 24.2% of them can't access health care early as a way of appropriate management of such disease conditions which can trigger malnutrition, even though a higher proportion of them (19.7% of study respondents) knows that early access to health care is necessary in prevention of malnutrition though they do not practice it due to different barriers mainly low socio-economic factors. The results also statistical significant association between infectious diseases prevention and early access to health care as the Chi square is 4.119 at df of 2, and P-value of 0.043 at df of 1. Association between variables were found at CI of 95% at P-value of <0.05

#### **4.3.DISCUSSION OF FINDINGS**

The aim of this study was to assess mother's knowledge, attitudes, and practices toward the prevention of malnutrition among under-five children in Kibogora cell of Nyamasheke district where It found that most of the study respondents were aged between 21-35 years (70.5%) where 23.5% of them (respondents) were divorced mothers. These mothers presented a high level of knowledge, concerning all factors assessed in the study at 90 % and above except for Immunization where about 27.3 % mothers do not know the role played by immunization in malnutrition prevention. In addition, all mothers presented a positive attitude toward all factors assessed which are the same as for their knowledge.

Even though mothers have a higher knowledge with a positive attitude, their practice is poor as they have low level of practices at 4 out of 6 factors assessed mainly the factor that children can't get balanced diet on every meal, where only 18.2% can get adequate diet on every meal. This contradicts with our expectations because we expected that a mother with higher level of knowledge and a positive attitude should have a higher level of practice toward the prevention of malnutrition and this lead us to suspect that there can be some limiting factors to appropriate practice.

A cross-sectional study from the 2010 Rwandan Demographic and health survey indicated that there is an increased risk of child hood stunting in children who are Breastfeed for only 1 year, also there is no association between child hood stunting and proper solid food initiation and early initiation to breastfeeding (Nzayirambaho, 2018). This study also proves this finding as about 12.5% of mothers can't practice appropriate breastfeeding even though they have adequate knowledge concerning it, and this why further studies are needed to reveal different factors which limit them to this appropriate breastfeeding practice.

Also many of the studies presented in the literature review have proved that mothers' attitudes and practices are influenced by the knowledge as a mother with higher knowledge should present good practices and positive attitude, but this contradicts with the results of our study, as even though mothers have a higher level of knowledge, they presented poor practices mainly due to an intervening factor which is poor food accessibility.

#### **4.4.SUMMARY OF FINDINGS**

Among this study, respondents most of them were aged between 21-35 years (70.5%) but among them there is a higher proportion of divorced mothers (23.5%) even if it was clear that food is available at 100% but only 23.5% can access them as needed, also the study have proved that only 47% of people have attended the UMUDUGUDU Kitchen Program.

All mothers enrolled in the study shows a higher level of knowledge concerning all factors assessed in the study at 90 % and above except for Immunization where only 65.9% knows the role played by immunization in malnutrition prevention. Also mothers presented a positive attitude toward all factors assessed which are the same as for their knowledge.

Even though mothers have a higher knowledge with a positive attitude, their practices is low as they have low level of practices at 4 out of 6 factors assessed mainly the factor that children can't get balanced diet on every meal, where only 18.2% can get adequate diet on every meal.

This study also has proved that there is a statistical significant association between: food accessibility and balanced diet at a chi square of 43.321 at df of 1, and p value of 0.000, appropriate breastfeeding and appropriate breastfeeding practices at a chi-square of 23.100 and p-value of 0.000 at degree of freedom of 2, and infectious diseases prevention and early access to health care with Chi square of 4.119 at df of 2, and P-value of 0.043 at df of 1. Association between variables were found at CI of 95% at P-value of <0.05

## **CHAPTER FIVE: GENERAL CONCLUSION AND RECOMMENDATIONS**

### **5.0.INTRODUCTION**

This chapter provides, the general conclusion of the study, recommendation, and suggestion for further studies.

### **5.1.CONCLUSION**

In a nut shell, this study proved that mothers enrolled have a positive attitude with a higher level of knowledge at 90% above among all factors assessed except for immunization where only 65.9% have adequate knowledge on its role in malnutrition prevention. But even though mothers have a higher level of knowledge and attitude, they practice is low as among all 6 variables assessed, they present a low level of practice toward 4 variables among them and this mainly comes as a result of poor food accessibility.

### **5.2.RECOMMENDATIONS**

#### **TO GOVERNMENT AUTHORITIES**

- ✓ Government should help mothers in engaging in such income generating activities which will help them becoming food accessible and developing themselves.
- ✓ Government should help families in prevention and management of divorce.
- ✓ Government should support families to gain ways which will help them in accessing health care early including supporting them in payment of Community Based Health Insurance.
- ✓ Government should ensure availability of UMUDUGUDU Kitchen program to all.

#### **TO HEALTH AUTHORITIES**

- Health authorities should increase families' awareness on child immunization as a way to prevent diseases and malnutrition
- Health authorities should increase families' awareness on family planning as a way of ensuring appropriate birth spacing.
- Health authorities should increase families' awareness toward the care of children in his/her first 1000 days of his/her life.



### **5.3.SUGGESTION FOR FURTHER STUDIES**

- University and student colleagues should extend research in this field to find out more limitations to appropriate prevention of malnutrition in this area.

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**APPENDICES.**

**APPENDIX1: INFORMED CONSENT**

title of the study: Assessment of mother’s knowledge, attitude, and practices toward the prevention of malnutrition among under-five children.

We are DUSHIMUMUREMYI Aimé Régis and UWIZEYE Siphola, student at KIBOGORA POLYTECHNIC University, studying Bachelor in Science of Nursing. We are conducting this study in partial fulfilments of the requirements for the Bachelor with honors in Science of Nursing. The purpose of the study is to determine mother’s knowledge, attitudes, and practices toward the prevention of malnutrition among under-five children in Kibogora cell of Nyamasheke district, Rwanda. You have been selected to take part in activity of this research. Your involvement is willing, and you have the right to remove from participating at any time.

The feedback from you and other participants will provide information regarding knowledge, attitude and practice of malnutrition prevention among under-five children in Kibogora cell of Nyamasheke district, Rwanda. This questionnaire will take only about 15 minutes of your time. If you don’t want to participate, it doesn’t matter. If you agree to participate, you shall indicate your name and signature/ or thumbprint. The information you give will be rigidly secrete, and your names shall not be published in may form whatever.

If you have problems concerning this research, you should ask the researcher to the following addresses: -DUSHIMUMUREMYI Aimé Régis : (+250)780784577

-UWIZEYE Siphola: (+250)781902822

Do you consent to participate?                      Yes                                           

If yes: Code of participant .....Signature ..... Date.....

Name of interviewer (writer’s name) ..... Signature ..... Date .....

**APPENDIX2: QUESTIONNAIRE (ENGLISH)**

Instruction: Please answer each of the following questions. Please tick the most appropriate answer using (V) sign in the corresponding box. This research aims to determine Knowledge, attitude and practice of mother toward the prevention of malnutrition in under-five children in Kibogora cell of Nyamasheke district, Rwanda

**SECTION I: DEMOGRAPHIC DETAILS**

1. Age: .....

2. Village: .....

3. Marital status

- i. Married /still together
- ii. Divorced
- iii. Widowed
- iv. Single /Never Married

4. What is your educational category?

- i. None
- ii. Primary
- iii. Secondary
- iv. Other (specify)

5. are you located in an urban, center or in rural area of Kibogora Cell?

- i. Urban
- ii. Centre
- iii. Rural

6. Have you attended community kitchen?

- a. Yes
- b. No

7. Are you food secured?

a. Yes

b. No

8. Can you access enough and appropriate food?

a. Yes

b. No

## **SECTION II: MALNUTRITION PREVENTION KNOWLEDGE RELATED FACTORS OF MOTHERS IN KIBOGORA CELL**

Malnutrition most of the time result from nutrients deficit.

1. Appropriate nutrition during pregnancy is necessary for good fetal growth?

a. Correct

b. Incorrect

c. Don't know

2. A routine antenatal care is necessary on fetal health including intrauterine growth retardation prevention?

a. Correct

b. Incorrect

c. Don't know

3. Delivery in a health facility and routine vaccination of a new born is of great value in prevention of infant malnutrition?

a. Correct

b. Incorrect

c. Don't know

4. Exclusively breast feeding for first 6 months is of great importance in prevention of infant malnutrition?

a. Correct

b. Incorrect

c. Don't know

5. For every infant and children routine post-natal checkup of growth at a skilled health provide (ex a nurse or a community health worker) is needed for early prevention of malnutrition?
- d. Correct
  - e. Incorrect
  - f. Don't know
6. Appropriate initiation and performance of complementary food from 6 months to 2 years with continuity of breast feeding must be done for malnutrition prevention?
- g. Correct
  - h. Incorrect
  - i. Don't know
7. children should be protected against and treated early contagious diseases such as malaria and diarrhea because they can affect negatively they nutrition profile?
- j. Correct
  - k. Incorrect
  - l. Don't know
8. Children need a well-balanced diet for their proper growth and development?
- m. Correct
  - n. Incorrect
  - o. Don't know
9. Children need proper birth spacing with at least 2 years between one birth and the following pregnancy for to gain enough time for first 1000 days' care?
- p. Correct
  - q. Incorrect
  - r. Don't know



### SECTION III: MALNUTRITION PREVENTION ATTITUDE RELATED FACTORS OF DOMESTIC MOTHERS

1. Mothers must take adequate nutrition during their pregnancy life time for fetal growth retardation prevention
  - i. Strongly agree
  - ii. Agree
  - iii. Disagree
  - iv. Not sure
2. Intra-uterine malnutrition can be screened and managed early during routine antenatal care?
  - v. Strongly agree
  - vi. Agree
  - vii. Disagree
  - viii. Not sure
3. Your newborn can have born with undiagnosed malnutrition due to home delivery with an unskilled provider?
  - i. Not likely
  - ii. Likely
  - iii. Not sure
4. Your infant may catch some contagious diseases such as Rotavirus and lead to malnutrition due to poor feeding and can come as a result of refusal of the routine vaccination?
  - iv. Not likely
  - v. Likely
  - vi. Not sure
5. Infants who are poorly fed in their first 2 years are exposed to chronic malnutrition
  - i. Strongly agree
  - ii. Agree
  - iii. Disagree
  - iv. Not sure

6. Your children can catch an under-diagnosed malnutrition due to lack of routine growth monitoring by a skilled provider

v. Strongly agree

vi. Agree

vii. Disagree

viii. Not sure

7. Your children will develop malnutrition due to undertreated contagious disease such as malaria or diarrhea diseases.

ix. Strongly agree

x. Agree

xi. Disagree

xii. Not sure

8. Your children can catch malnutrition due to not getting enough food every time he/she needs it.

xiii. Strongly agree

xiv. Agree

xv. Disagree

xvi. Not sure

9. Your child can get malnutrition due to insufficient care resulting from being followed by another baby in a short-time mainly below two years.

xvii. Strongly agree

xviii. Agree

xix. Disagree

xx. Not sure

**SECTION IV: MALNUTRITION PREVENTION PRACTICES RELATED FACTORS  
AMONG DOMESTIC MOTHERS.**

1. Do you take a balanced diet and on appropriate basis while you are pregnant?
  - a. Yes
  - b. No
2. Do you attend all recommended 4 routine antenatal care visits while you are pregnant?
  - c. Yes
  - d. No
3. Do you have your baby immunized with all vaccines recommended by the Rwandan routine vaccination schedule?
  - e. Yes
  - f. No
4. Do you exclusively breast feed your baby for the first 6 months and give him/her complementary food from 6 months to 2 years?
  - g. Yes
  - h. No
5. Do you routinely monitor your baby's growth parameters with help of a skilled provider?
  - i. Yes
  - j. No
6. Do you take your baby to a health facility in case of any disease mainly contagious diseases such as malaria and/or diarrhea?
  - k. Yes
  - l. No
7. Do you every time prepare for your child a meal composed of body-building, energy giving, and body protecting food?
  - m. Yes
  - n. No
8. Do you often feed your child enough food and every time he/she need it?
  - o. Yes
  - p. No

9. Is your birth spacing between the birth of one child and conception of another one at least not below 2 years?

q. Yes

r. No

### APPENDIX 3: CONSENT FORM (KINYARWANDA)

#### Ifishi itanga uburenganzira

Umutwe w'icyigwa (ubushakashatsi): ibyo ababyeyi b'abagore b'akagali ka Kibogora bakora, baba bashaka gukora cg ubumenyi bafite mu gukumira imirire mibi mu bana bari muni y' imyaka itanu.

Twebwe DUSHIMUMUREMYI Aimé Régis na UWIZEYE Siphola, Abanyeshuli bo muri kaminuza ya KIBORA POLYTECHNIC, biga mu cyiciro cya kabiri cya kaminuza (bachelor) mu ishami ry igiforomo rusange, Turi gukora ubushakashatsi muri gahunda yo kugira ngo twuzuze ibisabwa kugira ngo tubashe guhabwa impamyabumenyi yo mu cyiciro cya kabiri cya kaminuza mu ishami ry' igiforomo rusange.

Intego nyamukuru y'ubu bushakashatsi ni ukureba ibyo ababyeyi b'abagore b'akagali ka Kibogora bakora, baba bashaka gukora cg ubumenyi bafite mugukumira imirire mibi mu bana bari muni y' imyaka itanu.

Mwatoranyijwe mu kugira uruhare muri ubu bushakashatsi. Uruhare rwanyu ni ubushake, kandi mufite uburenganzira bwo kuva muri iki gikorwa igihe cyose bibaye ngombwa. Amakuru uributange n'andi aributangwe nabandi kubijyanye n' ibyo ababyeyi b'abagore b' akagali ka Kibogora bakora, baba bashaka gukora cg ubumenyi bafite mu gukumira imirire mibi mu bana bari muni y' imyaka itanu. Iri bazwa rirabatwara iminota cumi n'itanu (15minutes). Udashaka kugira uruhare muri iri bazwa, ntacyo bitwaye. Niwemera kugira uruhare muri iri bazwa, uragaragaza amazina yawe, umukono cyangwa igikumwe byawe. Amakuru uributange aragirwa ibanga kandi amazina yawe ntazatangazwa mu buryo ubwo aribwo bwose. Uramutse ufite ibibazo kuri ubu bushakashatsi, wabaza Abashakashatsi kuri aderesi zikurikira:

**Amazina:** - DUSHIMUMUREMYI Aimé Régis,      **Telefoni:** (+250) 780784577

- UWIZEYE Siphola,      **Telefoni:** (+250) 781902822

Wemeye kubazwa?      Yego       a       Niba ari yego,

code y'ubazwa.....Umukono.....itariki.....

Izina Ry'ubaza .....Umukono.....itariki.....

**APPENDIX 4: QUESTIONNAIRE (KINYARWANDA)**

**IBIBAZO BIBAZWA ABABYEYI B'ABAGORE MU NGO**

Amabwiriza: subiza buri kibazo.

**ICYICIRO CYA I: AMAKURU AJYANYE N'IMITURIRE**

1. Ufite imyaka ingahe?.....
2. Wubatshe? Umudugudu ..... akagali.....
3. Iranga mimerere
  - (i) warashatse/ muracyarikumwe
  - (ii) Mwaratandukanye
  - (iii) urumupfakazi
  - (iv) Ingaragu
4. Nuruhe rwego rwawe rwamashuli ufite?
  - (i) Ntayo
  - (ii) Abanza
  - (iii) Ayisumbuye
  - (iv) Ayandi yavuge
5. Ese wigeze/cyangwa ujya witabira igikoni cy' umudugudu
  - a. Yego
  - b. Oya
6. Ese mutuye mumugi cyangwa mucyaro?
  - (i) Umugi
  - (ii) umugimuto
  - (iii) icyaro
7. Ese ibyo kurya bihagije hano mutuye biraboneka?
  - a. Yego
  - b. Oya
8. Ese mushobora kubona ibyo ubushobozi bwo kugura ibiryo mukeneye
  - a. Yego
  - b. Oya

## SECTION II: AMAKURU YEREKEYE UBUMENYI

1. Indyo yuzuye ni ngombwa ku mubyeyi utwite kugirango umwana uri munda akure neza?
  - d. Nibyo
  - e. Sibyo
  - f. Simbizi
2. Gupimisha inda inshuro 4 zagenywe zose ni ngombwa mu kubungabunga ubuzima bw'umwana ukiri munda kandi hanirindwa igingira rye akiri munda?
  - g. Nibyo
  - h. Sibyo
  - i. Simbizi
3. Kubyarira kwa muganga no gukingiza umwana inking zose zagenywe nibyagaciro kanini mu gukumira imirire mibi mu bana bato?
  - j. Nibyo
  - k. Sibyo
  - l. Simbizi
4. Konsa umwana amashereka gusa ntakindi umuvangiye kuva akivuka kugeza ku mezi atandatu bifite akamaro kanini mu gukumira imirire mibi?
  - m. Nibyo
  - n. Sibyo
  - o. Simbizi
5. Kuri buri mwana gupimwa imikurire ye (uburebure, umuzenguruko w'akaboko, ibiro, n'ibindi) n' umukozi ushinzwe ubuzima birakenewe kugirango hirindwe hakiri kare imirire mibi?
  - p. Nibyo
  - q. Sibyo
  - r. Simbizi
6. Gutangiza umwana indyo y'inyunganirabere ku gihe ndetse no gukomeza kumwonsa kugeza ku gihe cy' imyaka ibiri bigomba gukorwa hirindwa imirire mibi mu bana?
  - s. Nibyo
  - t. Sibyo
  - u. Simbizi

7. Abana bagomba kurindwa ndetse no kuvuzwa hakiri kare indwara zandura nka Malariya n'indwara z' impiswi kuberako zisubiza inyuma cyane imirire yabo?
- v. Nibyo
- w. Sibyo
- x. Simbizi
8. Abana bakeneye indyo yuzuye kugirango bakure neza mu gihagararo ndetse no mu bwenge?
- y. Nibyo
- z. Sibyo
- aa. Simbizi
9. Abana bakeneye umwanya uhagije wo kwitabwaho mu gihe cy'iminsi 1000 yambere y' ubuzima bwabo, bityo gukurikiza umwana utaragira imyaka ibiri ni bibi?
- bb. Nibyo
- cc. Sibyo
- dd. Simbizi

### SECTION III: AMAKURU YEREKEYE IMYUMVIRE

(Subiza ibibazo bikurikira wemeza cg uhakana, kosora mukazu gahwanye nimyumvire yawe)

1. Ababyeyi bagomba gufata indyo yuzuye mu gihe batwite kugirango birinde igwingira ry' umwana ukiri munda
- a. Ndabyemera cyane
- b. Ndabyemera
- c. Simbyemera
- d. Simbizi/Simbyibuka
2. Igwingira ry' umwana ukiri munda rishobora kugaragara kandi rikavurwa hakiri kare igihe umuntu apimisha inda uko biteganyijwe.
- e. Ndabyemera cyane
- f. Ndabyemera
- g. Simbyemera
- h. Simbizi/Simbyibuka



3. Umwana wawe ashobora kuvukana ikibazo cy' imirire mibi kandi ntibimenyekane kuberako yavukiye mu rugo ahatari abakozi babihuguriwe
- i. Ndabyemera cyane
  - j. Ndabyemera
  - k. Simbyemera
  - l. Simbizi/Simbyibuka
4. Umwana wawe ashobora kurwara indwara zikomeye nka Rotavirusi zishobora no kumuviramo imirire mibi kuberako utamukingije inkingo zisabwa?
- m. Ndabyemera cyane
  - n. Ndabyemera
  - o. Simbyemera
  - p. Simbizi/Simbyibuka
5. Umwana urya/ugaburirwa nabi mu gihe cy' imyaka 2 ya mbere y' ubuzima bwe bishobora kumuviramo kugira imirire mibi y' akarande
- q. Ndabyemera cyane
  - r. Ndabyemera
  - s. Simbyemera
  - t. Simbizi/Simbyibuka
6. Umwana wawe ashobora kugira imirire mibi kandi ntibimenyekane kuber ko atigeze apimwa ngo anakurikirannwe mu mikurire ye.
- u. Ndabyemera cyane
  - v. Ndabyemera
  - w. Simbyemera
  - x. Simbizi/Simbyibuka
7. Umwana wawe ashobora kugira imirire mibi kubera kurwara kandi ntavurwe neza indwara zandura nka Malaria ndetse/cyangwa impiswi.
- y. Ndabyemera cyane
  - z. Ndabyemera
  - aa. Simbyemera
  - bb. Simbizi/Simbyibuka

8. Umwana wawe ashobora kugira ikibazo cy' imirire mibi kubera kutabona indyo ihagije mu gihe ayikeneye

cc. Ndabyemera cyane

dd. Ndabyemera

ee. Simbyemera

ff. Simbizi/Simbyibuka

9. Umwana wawe ashobora kugira ikibazo cy' imirire mibi kubera ko atitaweho neza kubera ko wamukurikije imburagihe (munsi y' imyaka ibiri)

gg. Ndabyemera cyane

hh. Ndabyemera

ii. Simbyemera

jj. Simbizi/Simbyibuka

#### **ICYICIRO CYA IV: AMAKURU AJYANYE NIBYO ABABYEYI BAKORA KUGIRANGO BIRINDE IMIRIRE MIBI MU BANA BARI MUNSI Y' IMYAKA ITANU**

Subiza ibibazo bikurikira ukurikije imirimo ukora yaburimunsi. Kosora kuri yego niba ubikora nokuri oya niba utabikora.

1. Ese ufata indyo yuzuye ku kigero gikwiye igihe utwite?

a. Yego

b. Oya

2. Ese upimisha inda inshuro 4 zose zateganyijwe igihe utwite?

c. Yego

d. Oya

3. Ese wakingije cyangwa ukingiza umwana wawe inkingo zose zisabwa na gaunda y' ikingira y' igihugu?

e. Yego

f. Oya

4. Ese wonsa umwana wawe ntacyo umuvangiye mu gihe cy' amezi 6 ukanamuha inyunganirabere kuva ku mezi 6 kugeza ku myaka 2?

g. Yego

h. Oya

5. Ese upimisha umwana wawe imikurire ku mukozi w'ubuzima nk uko bisabwa?
- i. Yego
  - j. Oya
6. Ese ujya uvuza umwana wawe ku gihe igihe yagize indwara zandura nka Malariya cyangwa Impiswi?
- k. Yego
  - l. Oya
7. Ese buri gihe utegurira umwana wawe indyo igizwe n' ibiryo byubaka umubiri, ibitera imbaraga, ndetse n' ibirinda indwara?
- m. Yego
  - n. Oya
8. Ese ugaburira umwana wawe indyo ihagije igihe cyose ayikeneye?
- o. Yego
  - p. Oya
9. Ese ukurikiza umwana nyuma y uko agize imyaka 2?
- q. Yego
  - r. Oya

## APPENDIX 5: CONFIRMATION OF PROJECT DATA COLLECTION BY STUDENTS

REPUBLIC OF RWANDA  
WESTERN PROVINCE  
NYAMASHEKE DISTRICT  
KANJONGO SECTOR  
KIBOGORA CELL

ON *22<sup>nd</sup> / 06 / 2022*

TO

KIBOGORA POLYTECHNIC  
HEALTH SCIENCES FACULTY  
GENERAL NURSING DEPARTMENT

**RE: CONFIRMATION OF PROJECT DATA COLLECTION BY STUDENTS**

We humbly confirm that your student, UWIZEYE Siphola and DUSHIMUMUREMYI Aimé Régis, have collected data in our institution related to their topic entitled: ASSESSMENT OF MOTHERS' KNOWLEDGE, ATTITUDES, AND PRACTICES TOWARD THE PREVENTION OF MALNUTRITION AMONG UNDER FIVE CHILDREN. from *3-10/6/2022*

The purpose of data collection is based to their academic purpose in order get their bachelor's degree in Nursing science. We allowed them to analyse the data they have collected and we wish to get copy of their findings after the analysis.

We appreciate daily partnership among our institution.

*NYONSENGA Jean Pierre*  
EXECUTIVE SECRETARY OF KIBOGORA CELL



## APPENDIX 6: RESEARCH LETTER FOR DATA COLLECTION AUTHORISATION



Granted Accreditation and Legal Personality by The Ministerial Order N°7/2015 Official Gazette N°03 of 19/01/2015  
P.O.Box: 50 Nyamasheke-Rwanda Tel:(+250)783751294 E-mail:info@kp.ac.rw Website : www.kp.ac.rw

### RESEARCH LETTER

May 18<sup>th</sup> 2022

To whom it may concern:

We write this letter to humbly request to allow **Mrs.UWIZEYE Siphola and Mr. DUSHIMUMUREMYI Aimé Régis** to conduct research in your organization /institution, territory entity.

The above mentioned are bonafide students of Kibogora Polytechnic pursuing Bachelor's degree in General Nursing Department.

These students are currently conducting a research topic **"ASSESSMENT OF MOTHERS' KNOWLEGDE, ATTITUDES, AND PRACTICES TOWARD THE PREVENTION OF MALNUTRITION AMONG UNDER FIVE CHILDREN/ KIBOGORA CELL "**

We are convinced that your organization /institution, territorial entity will constitute a valuable source of information pertaining to their research, the purpose of this letter is to humbly request you to avail them the pertinent information they may need. we pledge to ensure that all provided information will be confidential and used in the strict academic purpose.

Any assistance rendered to the candidates will be highly appreciated.

Yours,

Dr. NDABARORA Eleazar,  
Dean of Health Sciences Faculty  
Kibogora Polytechnic



**APPENDIX 7: PRAGIARISM APPROVAL**



# Plagiarism Checker X Originality Report

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KIBOGORA POLYTECHNIC **FACULTY OF HEALTH SCIENCES** DEPARTMENT OF GENERAL NURSING ASSESSMENT OF MOTHERS' KNOWLEGDE, ATTITUDES, AND PRACTICES TOWARD THE **PREVENTION OF MALNUTRITION AMONG** UNDER FIVE CHILDREN. Case study: Kibogora Cell, Nyamasheke District Period: 6th – 18th June 2022 The undergraduate thesis presented in partial fulfillment of the requirements for the bachelor's degree with honor in Science of Nursing. RESEARCH PROJECT BY: NAMES: 1. UWIZEYE Siphola REG N0: 1800326 2.

DUSHIMUMUREMYI Aimé Régis REG N0: 1800112 SUPERVISOR: Mr. NSENGIYUMVA Jean Paul (MPH) Kibogora, June, 2022

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KABWE FREDA

