FACTORS INFLUENCING THE IMPLEMENTATION OF MALNUTRITION PREVENTION PROGRAM FOR CHILDREN UNDER FIVE IN BUGESERA DISTRICT, RWANDA

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2019

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A dissertation submitted in partial fulfillment of the requirements for the degree of Masters of Science in Pediatric Nursing: College of Medicine and Health Sciences at the University of Rwanda

20th September, 2019

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DECLARATION

I do hereby declare that this dissertation submitted in partial fulfillment of the requirements for the degree of **MASTERS OF SCIENCE IN NURSING**, at the University of Rwanda/College of

Medicine and Health Sciences, is my original work and has not previously been submitted elsewhere. Also, I do declare that a complete list of references is provided indicating all the sources of information quoted or cited.

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ABSTRACT

Introduction: Child nutrition is one of the measures of health status that WHO recommends for equity in health, especially for under five years. However, undernutrition still explains around 45% of deaths among children under five, mainly in low and middle-income countries. Several strategies exist, aiming at eradicating all forms of malnutrition. Despite this, childhood malnutrition remains a public health burden mostly in sub-Saharan Africa including Rwanda.

Objective: Therefore, this study aimed to assess factors influencing the implementation of malnutrition prevention program for children under five in Bugesera District.

Methods: This was a cross-sectional study with census and convenience sampling. District to sector DPEM committee members and caregivers of children under five from 45 villages were chosen as population. Adapted questionnaires were used. SPSS was used for analysis, with Pearson's to determine correlation between the identified factors and the implementation success.
Results: The majority (154 of 165) of Bugesera DPEM committee members participated to this study, predominantly male (60%) and educated. This study found a positive relationship between program planning ($r=0.225$, $p=0.005$), funding, supervision ($r=0.214$, $p=0.008$). Furthermore, of 90 caregivers recruited, majority was female, farmers and aged less than 35 years, however with low level of education. Kitchen garden, culinary demonstration, monthly weighing were the main CBNP activities not attended at 94%, 91% and 74% respectively. And having another general activity such as market day, distance from home were the main challenges, 56 % and 51% respectively.

Conclusion: Basic knowledge about basic components of malnutrition program in Rwanda is sufficient. Program planning, funding, supervision need focus to ensure successful implementation. There is a need to improve community awareness about CBNP activities; and crucial activities like monthly weighing, culinary demonstration need more attention in order to have success of district plans of eliminating malnutrition in children under five in Bugesera District.

Keywords: *Planning, funding, supervision, malnutrition prevention, children, Bugesera, Rwanda*

DEDICATION

First and foremost, to almighty God,

To my beloved husband Sgt Hervé KARASANYI,

To my children Ella H. ISHEJA, Ora H. ICYEZA and Oren H. IKIRINGO,

I dedicate this work.

ACKNOWLEDGEMENTS

Firstly, I would like to express my sincere gratitude to my ALMIGHTY GOD and All those who have contributed towards the successful completion of this work.

Special thanks go to my beloved husband KARASANYI Hervé for his endless love, his moral and financial support, as well as his encouragement during my studies. I humbly recognize give special thanks to my sweet children for their patience during my absence.

To Dr KATENDE Godfrey and Mr. Aimable NKURUNZIZA, my supervisors: I want to express my heartfelt gratefulness to you for your expert supervision, guidance, immense knowledge, encouragement, support, accessibility, motivation and most especially, for believing in me during these project.

To the teaching staff of CMHS/UR: thank you for the knowledge you offered to me.

To the participants, thank you for participating in these studies and sharing your crucial knowledge and information.

My sincere thanks also go to you, friends and colleagues, for your insightful comments and encouragement.

May the almighty God bless you all!

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LIST OF SYMBOLS AND ACRONYMS

BMI	Body Mass Index
CBNP	Community based nutrition program
CGMP	Community Growth monitoring and promotion
CHWs	Community Health Workers
CMHS	College of Medicine and Health Sciences
DHS	Demographic and Health Survey
DPEM	District plan for the elimination of malnutrition
FOSA	Formation Sanitaire
HMIS	Health Management Information System
ICCCD	Integrated Community Child Care Diseases
MOH	Ministry of Health
MUAC	Mid-upper arm circumference and weight for age
MUAC	Mid-upper arm circumference
NSP	Nutrition Supplement program
OTP	outpatient therapy treatment program and in
PI	Principal investigator
RA	Research assistant
SD	Standards deviations
SPSS	Statistical Package for the Social Sciences
UN	United Nations
UNICEF	United Nations Children's Fund
UR	University of Rwanda
W/A	Weight for age
WHO	World Health Organization

CHAPTER ONE: INTRODUTION

This chapter highlights the background and reason behind this study. Investigator's motivations extracted from an identified existing problem in the community.

1.1. BACKGROUND OF THE STUDY

Adequate nutrition is essential in early childhood, aiming at ensuring healthy growth, proper organ formation and function, a strong immune system, and neurological and cognitive development (WHO, 2018). Child nutrition is one of the measures of health status that the World Health Organization (WHO) recommends for equity in health (WHO, 2018). However, inadequate nutrition leads to malnutrition which has been major public health problem that increases the global health burden of premature mortality and morbidities during childhood (García Cruz et al., 2017)Rapid improvements in health and nutrition in developing countries can be attributed to specific programs and interventions related to health and nutrition

However, to prevent the burden of malnutrition the organizational aspects of health and nutrition prevention program is very essential (Mason et al 2003).

Around 45% of deaths among children under 5 years of age are attributable to in developing countries, (who,2016) mostly occur in low and middle-income countries. Malnutrition programs support about 40% of the disease burden. In terms of prevention

In April 2016, the United Nations General Assembly adopted a resolution proclaiming the UN Decade of Action on Nutrition from 2016 to 2025 (UN, 2017). The decade aims to catalyze policy commitments that result in measurable action to address all forms of malnutrition. The aim is to ensure all people have access to healthier and more sustainable diets to eradicate all forms of malnutrition worldwide, with focus to under five. All countries are invited to take part of this goal (WHO, 2016).

Malnutrition is a serious problem and accounts for 3.5 million of deaths in children under five years old per- year in the world, and it is at the third level of the disease burden in the world in this age group (ARNOLD,2016). Even though, undernutrition of children under five years of age is declining at a global level but numbers in Africa are increasing, and there are significant disparities in progress at the subnational level (Randolph & D, 2012). A quarter (25%) of under five children in the developing world are malnourished and this accounts for 143 million children.

Among these 143 million malnourished children, nearly three quarters live in just 10 countries of Sub-Saharan Africa region (Belaynew, 2014). Different resource limited countries have established multi-sectorial interventions, involving the community in preventing and managing childhood malnutrition. These include community based initiatives such as growth monitoring services (Leonard, Munyanshongore, & Wilmet, 2010) (Tadesse, Ekström, & Berhane, 2016).

Despite significant strategies for implementation of malnutrition prevention and intervention, childhood malnutrition remains a public health problem mostly in sub-Saharan Africa including Rwanda (NISR, 2016).

According to DHS 2014-2015 nationally the percentage of stunted children fell from 51 percent in 2005 to 44 percent in 2010 and 38 percent in 2014-15, and currently 38 percent of children under age 5 are stunted, and 14 percent are severely stunted (National Institute of statistics, 2015). The percentage of children who are wasted declined from five percent in 2005 to three percent in 2010 and two percent in 2014-15; and the proportion of children who are underweight declined from 18 percent in 2005 to 11 percent in 2010 and 9 percent in 2014-15 (NISR, 2016).

These improvements may be attributable to various strategies among which the National Plan to Eliminate Malnutrition, which, since 2009, has included active nutrition screening of children by community health workers (Musanze, 2017).

Besides that, all districts have established plans to eliminate malnutrition (DPEM) since 2011 (NISR, 2016). This District Plan involved all stakeholders operating in various sectors as such as health, agriculture and livestock, gender and family promotion, education, emergency and early responses, etc. And this plan committed a comprehensive engagement during its implementation. and still run but some challenges are observed during the implementation. Therefore, this study was conducted to assess factors influencing the implementation of malnutrition prevention program for children under five in one of 30 Rwandan districts, Bugesera.

1.2. PROBLEMSTATEMENT

As child malnutrition remains, a significant health problem in Rwanda as well as worldwide where in 2016 an estimated 155 million children under the age of five years were suffering from stunting recent data showing that 38 percent for children under five are stunted (National Institute of Statistics of Rwanda, 2015). The government of Rwanda created and implemented a national multi-sectoral Strategy to Eliminate Malnutrition (NSEM) from 2010.The objectives were to reduce all forms of malnutrition in the country by 2013 ; and protect nutrition of young children and pregnant/lactating women (Niyonzima, 2013).

All districts in the country (30), including Bugesera district, adapted and implemented their own District Plans to Eliminate Malnutrition (DPEM) with involvement of all stakeholders, DPEM committee members (Musanze, 2017). Despite these significant efforts, recent data show that child malnutrition remained a burden among children under five in these districts including Bugesera (HMIS Rwanda, 2018). Regarding this issue there is no investigation done in Bugesera district to find out the reasons behind, therefore this research was conducted to assess factors influencing the implementation of the malnutrition prevention program of children under five within this District.

1.3. AIM

This study aimed to evaluate factors influencing the implementation of malnutrition prevention program for children under five in Bugesera District.

1.4. OBJECTIVES

Main objective

The main objective is to assess factors influencing the implementation of malnutrition prevention program for children under five in Bugesera district.

Specific objectives

1. To assess the level of knowledge about malnutrition prevention initiatives among DPEM committee members of Bugesera District
2. To determine the extent to which planning, funding, supervision influence the implementation of the program among DPEM committee members of Bugesera District

3. To determine compliance to community based nutrition program (CBNP) activities among caregivers of children under five in Bugesera District
4. To determine factors influencing the community compliance to community based nutrition program activities among caregivers of children under five in Bugesera District

Research questions

1. What is the level of knowledge about malnutrition prevention initiatives for children under five amongDPEM committee members of Bugesera District?
2. To what extent does planning, funding, supervision influence implementation of malnutrition prevention program for children under five in Bugesera District?
3. How compliant is the community to community based nutrition program activities among caregivers of children under five in Bugesera District?
4. What are factors that influence the community compliance to community based nutrition program activities among caregivers of children under five in Bugesera District?

1.5. SIGNIFICANCE OF THESTUDY

To nursing practice

The results of the study will contribute to the improvement of community health nursing practices implemented in Bugesera district, as well as other districts' catchment areas in the country.

To nursing education

The results of the study will contribute towards adjusting academic curriculum in nursing education based on the actual facts.

To nursing research

The findings from this research project will serve as references for nurses in conducting further studies mainly targeting children nutrition in resource limited settings.

To the community leaders& Local leaders

The results of this study will highlight points to target for the success and sustainability of district programs for prevention and elimination of malnutrition. And it will help community leaders identify weak points to strengthen in order to maximize the beneficiaries' contribution, and program outcomes.

To the researcher

This study findings will offer an appreciable exemplary for the future research on childhood malnutrition in other districts of the country, Rwanda.

To DPEM committee

The findings from this study will help DPEM committee members to improve the functioning of the program of prevention and elimination of malnutrition in the district.

DEFINITIONS OF CONCEPTS

Malnutrition refers to a clinical status of deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients. The term malnutrition covers two major groups: One is 'undernutrition 'which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals)(WHO, 2016). The second is 'overweight' that refers to weight-for-height above +2SD .(WHO, 2016)

Chronic malnutrition or stunting, is a form of growth failure that is defined as height for age below the fifth percentile on the WHO standard reference growth curve(MIYCN, 2016).

Community Growth monitoring and promotion (CGMP)refers to individual-level assessment in the community where the growth of infants and young children is monitored by Community Health Workers in order to identify and address growth faltering and failure in order to promote and often demonstrate the services and practices needed to ensure adequate growth(MIYCN, 2016).

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meet their dietary needs and food preferences for active and health life(MIYCN, 2016).

Undernutrition refers to an insufficient intake and/or inadequate absorption of energy, protein or micronutrients that in turn leads to nutritional deficiency (MIYCN, 2016).

Severe acute malnutrition (SAM)results from recent (short-term) deficiency of protein, energy, minerals and vitamins leading to severe loss of body fats and muscle tissues. It presents with wasting (low weight-for-height) and/or the presence of edema (i.e., retention of water in body tissues). Defined for children aged 6–60 months, as a weight-for-height below -3 standard deviations (-3SD) from the median weight-for height for the standard reference population or a mid-upper arm circumference of less than MUAC < 115 mm indicates that the child is severely malnourished; and MUAC < 125 mm indicates that the child is moderately malnourished. (MIYCN, 2016).

CHAPTER TWO: LITERATURE REVIEW

A. INTRODUCTION

This chapter presents a review of literature that was studied and which includes an overview of malnutrition and related interventions, a review of similar studies conducted worldwide, the reasons of UNICEF conceptual framework for causes of malnutrition in society; and the situation with regard to malnutrition in the world, resource limited settings such as Rwanda.

B. THEORETICAL LITERATURE

Overview of Malnutrition

According to WHO the term malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients and it addresses two broad groups of conditions: i)undernutrition, that includes wasting (low weight-for-height), stunting (low height-for-age) and underweight (low weight-for-age); micronutrient-related malnutrition, that includes micronutrient deficiencies (a lack of important vitamins and minerals); ii) micronutrient excess: overweight, obesity and diet-related non communicable diseases (e.g. heart disease, stroke, diabetes and some cancers)(WHO, 2018).Though, overweight and obesity are also rising in resource limited countries, this study focused on undernutrition which has been a public health burden for decades.

Low weight-for-height, known as wasting usually indicates recent and severe weight loss, because a person has insufficient food to eat and/or they have had an infectious disease, such as diarrhea, which has caused them to lose weight. A young child who is moderately or severely wasted has an increased risk of death, but treatment is possible (WHO, 2018).

Low height-for-age, known as stunting, is the result of chronic or recurrent undernutrition, and usually itis associated with inadequate socioeconomic conditions, poor maternal health and nutrition care, frequent illnesses, and/or inappropriate infant and young child feeding and care in early life. Stunting affects negatively children physical and cognitive functions learning capacity and school performance. Long-term consequences of stunting include decreased productivity, wages, and reproductive health.(WHO, 2018). Low weight-for-age is known as underweight; and a child who is underweight may be stunted, wasted, or both(WHO, 2018b).

Stunting being an enormous drain on child growth/ development and country's economic productivity, WHO has therefore set a target of 40% reduction in number of children under-5 stunted by 2025.To achieve this goal, policy-makers were recommended to prioritize several actions including the following actions (Randolph & D, 2012).

1. improving the identification, measurement and understanding of stunting and scale up coverage of stunting-prevention activities
2. implement interventions for improved exclusive breastfeeding and complementary feeding practices;
3. strengthen community-based interventions, including improved water, sanitation and hygiene (WASH), to protect children from diarrheal diseases and malaria, intestinal worms and environmental causes of subclinical infection.
4. And others

Several countries, including Rwanda, have since joined to achieve the above global goal. Here next, are illustrated key interventions that the government of Rwanda has initiate for this cause.

Overview of malnutrition program in Rwanda

1. Community Based Nutrition Programs (CBNP)

General objective

The general objective of CBNP is to support and in close cooperation with the local communities, the implementation of a minimum package of progressive and adjustable community based activities, particularly in the field of health, nutrition, hygiene and sanitation in order to contribute to the reduction of deaths among younger children as well as the fall in the rate of malnutrition among children under-5within project site(MOH, 2010). This project has specific objectives as follow:

1 Preventing malnutrition and contributing to the reduction of high rates of malnutrition at the sites of intervention;

2 Increasing the size rate of weighing children under-5at the community level;

3 Providing information on good practice as well as the lesson learnt for the improvement of nutritional condition of children and their mothers; contributing to the participation and adaptation of the local community for the program's sustainability(MOH, 2010).

CBNP strategies (MOH, 2010)

To achieve the above objectives, CBNP package contains the following three main strategic axes:

Community participation and the adaptation: The objective is to promote community participationwithintheframeworkofdevelopmentactivitieswhilefocusingonthesurvival, protection, child development as well as the wellbeing of a woman so that communities may adapt them and become the actors of their development.

Building capacity of the community in matters related to nutrition: This is actually strengthened through regular trainings either by the trainers or healthcare providers. The availability of all tools, materials and equipment necessary for effective implementation of the Community Based Nutrition Program must be ensured so that the protocol objectives can be achieved.

Integrating services: Other interventions that be grafted with the monthly weighing practice of children who are below five years of age include supplementation with micronutrients and deworming, follow-up of malnourished children, household food security and preschool nutrition program.

CBNP activities

Here down are clearly discussed the entire package contained in the CBNP run in Rwanda since 2010.

1. Follow up and growth promotion a well as identifying malnutrition cases at community level (MOH, 2010)

All children aged between birth and 59 months are weighed monthly at the level of each village (UMUDUGUDU) by the Community Health Workers (CHW).At this occasion, the following services are provided: I) weighing all children who are below five year; ii) recording children weight on individual record sheets and community register according to age and filling the growth charts along with interpretation; iii) checking on vaccination calendar to fill and provide scheduled vaccines; and iv)providing individual counseling service and orientation depending on the child's nutritional state.

2. Care of malnutrition at the community level

Community health workers have monthly occasions of: i) detecting children who have moderate or severe malnutrition using two indicators that are mid-upper arm circumference (MUAC) and weight for age (W/A); and other alarming signs of malnutrition such as problems in breast feeding, insufficient breast milk, loss of weight during two consecutive weighing occasions; ii) detecting any expecting or breastfeeding mother whose MUAC is lower than 210 mm (referring to the national malnutrition management protocol).Children as well as women detected to be moderately or severely malnourished are referred for care at the nearest health centre.

A CHW is also responsible for: iii) making a follow-up for children who are admitted in outpatient therapy treatment program (OTP) and in Nutrition Supplement program (NSP) through home visits using checklist for home visits; iv) Carrying out nutritional education on behavioral changes in order to give individual advice to the parents or other people who take care of children (MOH, 2010).

The above two activities constitute growth monitoring services for children under five in Rwanda.

3. Promoting Community participation by Triple Approach

This approach consists of **A**ppreciation of the problem, **A**nalysis on causes related to the problem and **A**ction, which is setting in motion solutions related to the identified problems, by rationally using the resources available. The village team in charge of these activities consists of a community based nutrition committee that includes different community health workers**:** two binomial CHWs, CHW in charge of social affairs, as well as the village chief. Therefore, after each weighing session, an analysis of a child nutritional state is made basing on the children's weight as indicated on the village community card. Then, discussions are carried out at the community level to propose available solutions to children's nutritional concerns.

The triple A approach allows the support of community initiatives that lead to bigger joint efforts by other interventions and harmonizing the vision of nutrition problems as a development challenge. It also ensures participation of beneficiaries in determining their needs, implementing, following up and evaluating the activities (MOH, 2010).

4. Education for behavioral change

One of the major roles of a CHWs is to exempt basic medical and nutritional education for behavior changes in a positive sense. This education can either be done in group discussions or individually during the time of weighing or during home visits.

5. Culinary demonstration

Monthly cooking demonstrations are carried out at the village level where local foods are identified according to nutrients to make a balanced diet and mothers are encouraged to participate as the session ends by sharing the cooked food.

6. Supplement in micronutrients and deworming

Supplement in vitamin A for children between 6 to 59 months as well as post-partum women (within eight weeks which follows childbirth), deworming of children who are 12 to 59 month old, and those at school age are systematically done during regular mass campaigns (Mother and Child Health Week or other campaigns). But also during the child weighing by Community workers, supplement in vitamin A and deworming medicines are given to children as well as women in post-partum period who may have escaped mass distribution or health training after childbirth.

For the sick children, the supplement and deworming are made through the integrated community child care diseases (ICCCD). For children who are detected as malnourished, supplement and deworming are done according to the protocol available at each FOSA level.

7. Food security within households

To ensure food and nutrition security at the household level, the following activities have to be undertaken: i) promoting kitchen garden (Akarima k' Igikoni) and fruit trees, breeding of large and smaller live-stock (e.g. cows, goats, pig, sheep, rabbits, hens and fish, bees etc.); ii) promoting dairy consumption; iii) production and consumption of a balanced diet (vegetables, fruits, meats) in order to ensure food that is rich in micronutrients (e.g. bio dressed food, orange sweet potatoes), animal proteins and other nutrients; iv)promoting modern agricultural techniques such as bio-intensive agriculture, land consolidation, seeds selection, use of the suitable inputs; v)promoting income generating activities(IGA);

and vi) offering nutritional support to children who are under five years of age, expecting and breastfeeding mothers with a special attention to children and mothers who are infected by HIV/AIDS as per the national nutrition care protocol (MOH, 2010).

8. Integration of preschool Nutrition Program in the Community

At community level, nutrition of children under five and who are in nursery schools require special attention; and the following activities need to be promoted: consumption of a nutritionally balanced food (while insisting on milk consumption, fruits and vegetables, etc.)and this will have to be in collaboration with the parents; growth monitoring; training of basic concepts of good nutrition; promoting school gardens; supplementing micronutrients and the deworming according to the national protocol as well as promoting best practices of hygiene such as hand washing and drinking portable clean water(MOH, 2010).

C. EMPIRICAL LITERATURE

After reviewing major components of malnutrition prevention and management programs worldwide and in Rwanda; this following section discuss examples of interventions and their impact on reduction of child malnutrition.

1. Knowledge about malnutrition prevention initiative

A recent study done in China aimed to assess the nutrition-related knowledge, attitudes, and practices (KAP) of kindergarten teachers in one major southeast Chinese city (Chongqing). Using a structured KAP model questionnaire administered to 222 kindergarten senior teachers from 80 kindergartens in a large part of Chong qing. They found that more than a half (54.2%) of teachers were familiar with simple nutrition-related knowledge; only one tenth (9.9%) were satisfied with their knowledge of childhood nutrition; and almost all (98%) had a positive attitude to learn nutrition-related knowledge. This concluded that Kindergarten teachers have low levels of nutrition knowledge and most teachers had a positive attitude about learning nutrition knowledge and have less training about nutritious knowledge.

Furthermore, age, type of residence, type of kindergarten, BMI, professional training of kindergarten teachers, behavior of having ever participated in childhood nutrition education knowledge courses or training, and behavior of having ever paid attention to children's nutrition knowledge were associated with nutrition-related knowledge among kindergarten teachers (Liu, 2018).

2. Planning of malnutrition prevention program

Findings from a mixed methods study from rural eastern India assessing whether the with the village health sanitation and nutrition committees (VHSNCs) fulfill their roles for decentralized health planning and action, showed that these committees offered an opportunity for bottom-up planning in community health. These committees require training, supportive supervision. Orientation to their responsibilities and local non-governmental organizations should assist them to allocate their funds rationally between health, nutrition and sanitation activities in the community. And all these impact their success towards the recommended action plan by India's national guideline (Srivastava et al., 2016).

3. Funding influence to the implementation of the malnutrition prevention program

A recent study conducted in Rwanda aimed to assess the impact of the Performance Based Financing (PBF)and other factors associated with the prevalence of three classifications of malnutrition (stunting, wasting and underweight) in children under-5 years in Rwanda, revealed that Performance Based Financing (PBF) may have a protective association with particular forms of malnutrition among children under-5 years in the country. However, these findings warrant further investigation in relation to the impact of implementing innovative financing schemes on health outcomes (Binagwaho et al, 2014).

The study conducted by Esther and colleagues aimed to determine if the types of funding sources of nutrition research are related to differences in research report quality; the research concluded that research report quality cannot be exactly predicted from the funding source (Myers et al, 2011).

4. Monitoring and evaluation system of malnutrition prevention program

A recent study done in rural Ethiopia, aiming at determining challenges in implementing the integrated Community-Based Outpatient Therapeutic Program for Severely Malnourished Children (C-OTP), adequate funding, providers training and regular supervision are critical for program success (Tadesse et al., 2016).

The study done in Malawi entitled monitoring and evaluation design of Malawi's Right Foods at the Right Time nutrition program the study concluded that the use of monitoring and evaluation systems allowed the program implementers and evaluators to expansively being aware of the circumstance in which community members and caretakers make decisions (Ruel-Bergeron et al., 2019).

5. Factors influencing community compliance to public health services and CBNP

Several studies highlight the importance of community engagement during implementation of health programs (Cyril, Smith, Possamai-Inesedy, & Renzaho, 2015).However, timing of the service sessions, length of prior notice to the community, attitude of service providers, family finance and distance to the service sites have been major factors influencing community attendance (Tadesse et al., 2016).

Another study conducted by munyanshongore et al , evaluating the utilization of community based growth monitoring services for children under five in rural Rwanda and concluded that the adequate utilization of CBNP was still low and that it decreases with the age (Leonard et al., 2010).

D.CRITICAL REVIEW AND RESEARCH GAP IDENTIFICATION

As mentioned in the above different studies, planning, funding and supervision processes , community engagement are essential for the success of any health services such as child malnutrition prevention program; but these factors are still facing challenges, one of them is the gap in the utilization and implementation of community bases nutrition programs (Binagwaho, 2014)(Aceituno et al., 2017)(Liu, 2018)**.**

E. CONCEPTUAL FRAMEWORK

The illustration below shows the relationship between the dependent and independent variables. It shows the factors that affect Implementation of the malnutrition prevention program of children under five according to Kibet (Stella, 2017). These factors include knowledge, planning, funding, monitoring and evaluation ; and the community awareness as well as its compliance (Leonard et al., 2010).

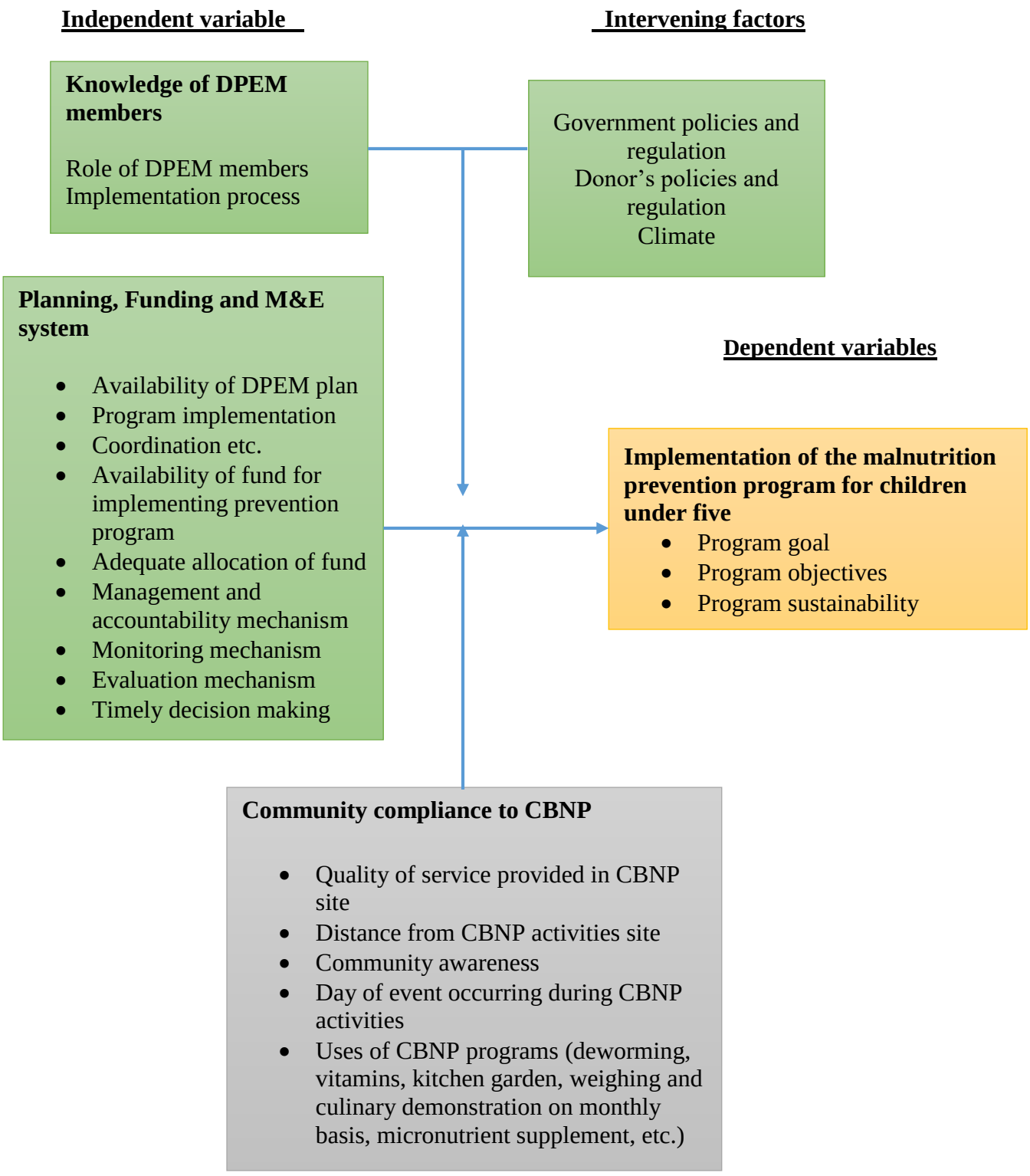

Figure2.1: Conceptual framework of the factors for implementation of malnutrition prevention program

F. CONCLUSION

In this above chapter, relevant literature review, the theoretical review, the empirical review and the conceptual framework guiding the study have been discussed. And it entirely provided an overview of previous research on malnutrition prevention programs. It also introduces the framework for the case study that comprises the main focus of this project. This literature highlights that factors influencing the implementation of malnutrition prevention program for children under five need further exploration particularly in resource limited settings such as Rwanda, where child undernutrition is still a burden.

CHAPTER THREE: METHODOLOGY

3.1. INTRODUCTION

The methodology consists of ways of obtaining, organizing and analyzing data (Francis, 2010). This chapter highlights methods used during the study; the way data was collected and processed.

3.2. RESEARCH DESIGN

This was a cross-sectional study, which is a study in which data are collected on the whole study population at a single point in time to examine the relationship between health related state and other variables of interest (Barratt & Kirwan, 2017).

Therefore, it provides a snapshot of the frequency of a disease or other health related characteristics in a population at a given point in time. This methodology can be used to assess the burden of disease or health needs of a population (Barratt & Kirwan, 2017).

3.3. RESEARCH APPROACH

Research approach is a plan and procedure that consists of the steps of broad assumptions to detailed method of data collection, analysis and interpretation (Chetty, 2016). This study used a quantitative approach, which is an approach that emphasizes on objective measurements, statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computed techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon (Peter, 2016).Its main characteristics are that the data is usually gathered using structured research instruments. All aspects of the study are carefully designed before data is collected and the researcher uses tools, such as questionnaires or computer software, to collect numerical data.

3.4. RESEARCH SETTING

The research setting is a physical, social, and cultural site in which the researcher conducts the study(Davies, 2008).

This study was conducted in Bugesera, one of seven Districts of the Eastern Province in Rwanda. It covers a total surface area of 1337 Km². The district is composed of 15 Sectors, 72 Cells and 581 Villages. With a population of 363,339 and its population average annual growth rate is 3,1% (Eastern province, 2012).

Figure 3.1 Bugesera geographic map (Bugesera,2018)

3.5. POPULATION

The population is the full amount of units from which information can be collected(Francis, 2010).

3.5.1 Target population

Target population is the entire group of people or objects to which the researcher wishes to generalize the study findings (Yountet et al, 2012).In this study, the target population was all members of DPEM committee of Bugesera district and caregivers of children attending growth monitoring services in 45 of 581 villages of the district.

3.5.2 Accessible population

Is the portion of the population to which the researcher has reasonable access; may be a subset of the target population. It may be limited to region, state, city, county, or institution (Yountet et al, 2012). Accessible population in this study was 165 members of DPEM committee at Bugesera district (15 from District committee and 10 for each sector of 15 total sectors of Bugesera district). Bugesera strategic plan 2019 – 2024, elaborated early this year showed that the entire district had 69,564 children under five (Bugesera,2018).

District level

Vice mayor in charge of Social Affairs, hospital Director general, Health Unity Director, Statistician, Agronomist, Director of Education, Hospital Nutritionist, Data manager, Monitoring and evaluation officer (M&E), CHW supervisor, in charge of conseil national des femmes (CNF), Veterinary, JADF Representative, Army, Police.

Sector level

Executive Secretary, Chairperson Social Affair, Secretary, head of health center(Coordinator), CHW HC Supervisor, Nutritionist, CHW President, CNF, Sector education officer (SEO), Church representative /JDAF/Data manager, Agronomist.

Village level

Parents or caregivers of children under five.

3.5.3 Available population

Available population was those who were available at the time of the data collection and who have consented for participation. Available population to this study was all members of DPEM committee among 165 members and 90 caregivers who were present at 45selected villages.

3.6 SAMPLING

3.6.1. Sampling strategy

3.6.1.1 Inclusion criteria

The inclusion criteria were being a member of DPEM committee in Bugesera District (district and sector levels) and consenting to participate during the data collection period and; as well as being parent or caregiver of a child under five from the selected households and consent to participate.

3.6.1.2. Exclusion criteria

We excluded caregivers and DPEM committee members who refused to consent and unavailable during the data collection period.

3.6.2. Sample size and sampling technique

The entire expected population was165 members of DPEM committee and 90 caregivers of children under five but we sampled those who met the inclusion criteria by respecting the sampling strategies.

For the DPEM committee members, we used census and convenient sampling techniques. Census sampling is a study of every unit, everyone or everything, in a population. It is known as a complete enumeration, which means a complete count(Australian Bureau of Statistics, 2013).It was used because the population was very small and it provides a true measure of the population (no sampling error). In addition, some costs such as questionnaire design and developing the sampling frame are fixed(Israel, 2003).

For the caregivers, multi-stage and cluster sampling were used to select participants where the entire population is divided into groups, or clusters and a random sample of these clusters are selected. It is typically used when it is difficult to the researcher to get a complete list of the members of a target population but can get a complete list of groups or 'clusters' of the population(Grove's, 2010)It is also used when a random sample would produce a list of subjects so widely scattered that surveying them would prove to be far too expensive.

As it was not easy to obtain the list of names or household numbers for parents/caregivers of children under-five; therefore, this study used multi-stage cluster sampling. It also has the advantage of concentrating the field of study in a specific section of the greater geographical area and thus helps to save time and cost of the study.

Since the communities in Bugesera district are clustered in certain features like villages, cell and sector a cluster sampling were used as follow:

Stage one

In the process of the sampling, the Bugesera district was clustered into sectors. Five of15 Bugesera district sectors were selected purposefully to ease the data collection process.

Stage two

In each sector, three cells were randomly selected for better collecting data from representative sample of the population of this study.

Stage three

The selected cells were further clustered into villages. The names of villages were short listed and then three villages were selected using random sampling.

Stage four

For the village randomly selected, two participants from two households were selected systematically using convenience sampling.

Sample size was calculated based on the following assumptions: •

$$N_{HH} = \frac{N_{caregivers}}{(HH\ size\ X\ \%\ of\ under\ fiveX0.9}$$

Where:

N_{HH}= sample size in terms of households

$N_{caregivers}$ = sample size in terms of caregivers

HH size = average household size

% of under 5 = proportion of under 5 years-old children in the population

0.9 = fraction of 6-59 months children within the under 5 age category

N_{HH}=90 households where one respondent will be selected in each household

7. DATA COLLECTION

7.1 Data collection instrument

Questionnaires: In this study we used questionnaires with closed ended questions, one designed from results of similar study done in Ethiopia (Tadesse et al., 2016)and the second adopted from the questionnaire used in a Kenyan study(Stella, 2017).

7.2. Data collection procedure

Validity

Validity refers to the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure(Petty, 2015). Therefore, it was assessed as follow:

Face validity also called logical validity, is a simple form of validity where you apply a superficial and subjective assessment of whether or not your study or test measures what it is supposed to measure (Petty, 2018). In this study, face-validity was addressed by formulating questions. And the questionnaire was first provided to two of my colleagues to check for any mistakes and/or variables not fitting with our research objectives before official use.

This piloting process helped mitigate questionnaire fatigue by maximizing the face content and reducing the size from seven to five, and four to two pages respectively for questionnaire one and two.

Content validity refers to the extent, which method of measurement includes all elements relevant to the concept being measured(Petty, 2018).To ensure content validity in this research, the following measures were taken: the interview schedule was formulated after reviewing the literature and other studies conducted on the topic and then cross-checked by the project supervisors concentrating on the main content.

Construct validity which is defined as the experimental demonstration that a test is measuring the construct it claims to be measured (Brown, 2000). In this study it was ensured through pre-testing/piloting the questionnaires prior to official data collection.

Reliability

It is the ability of the research tool to consistently measure what is intended to measure (Paul, 2015).Consider reliability of an instrument as the major criterion for assessing quality and adequacy of quantitative data. For the research findings to be reliable, the research instruments should accurately reflect or measure true scores of the attributes (Paul, 2015).Thus reliability in this study was ensured through correcting the data collection tools prior to raw data collection; translating it into Kinyarwanda to make them more understandable to participants; data entry and cleaning before analysis. The tools were translated in Kinyarwanda by the principal investigator (PI) and the research assistant (RA) as they are native in Kinyarwanda and are expected to understand technical terminologies.

Data collection process

Two structured questionnaires were used. The first was given to DPEM committee members to gather their opinions about factors influencing the implementation of the program; and the second was given to caregivers to gather demographic and socio-economic data, as well as challenges encountered in the program. The data collectors (PI& RA) were required to read and help those caregivers who could not either read and/or write to feel the questionnaire.

8. DATA ANALYSIS

The data was entered and analyzed using the Statistical Package for Social Sciences (SPSS) program, version 25. Data collected from the interview were analyzed and organized under the objectives of the study. Pearson's used to gain p-values and coefficient correlation between the variables.

9. ETHICAL CONSIDERATION

The protocol of this study was first reviewed and approved by the University of Rwanda College of Medicine and Health Sciences' Institutional Review Board (CMHS – IRB, ref number: CMHS/IRP/044/2019) and authorization for data collection was sought and provided by Bugesera District Hospital. Before conducting the research, the principal investigator (PI)ensured if participants understand the purpose and methods used in the study. There was freedom to refuse participation but none of participants declined participation. All data were stored and password protected in the PI's computer to ensure they are treated with most confidentially.

10. DATA MANAGEMENT

At the end of the day data collected were entered and stored in a secured computer to maintain confidentiality of information collected from participants. After analysis, data was kept in a locked and protected computer to avoid plagiarism before publication. Back-ups of data was made and protected to prevent unauthorized access to them. In addition, the final document of this study will be kept at the University library.

11. DATA DISSEMINATION

Dissemination is the process by which producers of microdata from studies , public and official statistics make their data available to other users (IHSN, 2016).The data from this study is available in English and its findings will be disseminated through scientific conferences, seminars, symposiums, and journals.

12. LIMITATION AND CHALLENGES

This study is concerned to factors affecting the implementation of the malnutrition prevention program of children under five in Bugesera District.

Results from Bugesera district are specific to this District and will inform design of prevention interventions that address malnutrition program amongst children under five in the District. Although they can serve as examples to other districts, they are not purely generalizable to them or even applicable to other health program within the country.

13. CONCLUSION TO CHAPTER THREE

This chapter offered an overview of all methods used during this research project to gather information on the factors affecting the implementation of malnutrition prevention program for children under five in Bugesera District. Important aspects of the methodology such as the study design, the research population, data collection procedures used were outlined. An overview was also given to the data management, dissemination of findings, challenges faced and the Ethical considerations.

CHAPTER FOUR: RESULTS

INTRODUCTION

This chapter highlights the results of this study, which are based on main data collected from 154 participants (93 % of members of DPEM committee of Bugesera district) and 90 parents or caregiver of children under-five at the community level. They are presented in tables with subsequent analysis and interpretations.

Table 1: Demographic characteristics of DPEM committee members

		N=154	
Variables		**Frequency**	**Percentage**
Age	41 years and above	47	30.5 %
	36-40	60	39.0 %
	31-35	37	24.0 %
	26-30	5	3.2 %
	20-25	5	3.2 %
Gender	Female	61	39.6 %
	Male	93	60.4 %
Level of Education	Degree	59	38.3 %
	Diploma	61	39.6 %
	Certificate	34	22.1 %

More than two thirds (70 %) of participants were aged between 36 years and above, and evidently the majority of participants (60.4 %) of participants are male. In terms of education level, the majority had finished university studies, bachelor's degree (38.3%) and A1 degree (three years University level, 40%).

Table 2: Demographic characteristics of caregivers

		N=90	
Variables		**Frequency**	**Percentage**
Age	18-35	77	85.5 %
	36-54	13	14.4 %
	55-70	0	0
	>70	0	0
Gender	Female	85	94.4%
	Male	5	5.6%
Level of education	Illiterate	12	13.3 %
	Primary level	63	70%
	High school level	13	14.4%
	College& university	2	2.2%
Ubudehe category	Category 1	3	3.3 %
	Category 2	30	33.3%
	Category 3	57	63.3 %
Occupation	Public servant	0	0%
	Farmer	63	70%
	Self employed	5	5.6%
	Other	0	0%
	Not employed	22	24.4%

More than three quarters (85.5%) of participants were aged between 18-35, and evidently the majority of participants (94.4 %) of participants are female. In terms of education level, the majority had finished primary education (70%); and the majority of children's families are classified in category three of Ubudehe (63.3 %).

Table 3: Level of knowledge on malnutrition program amongst DPEM committee members

	N	High level		Middle level		Upper level		Mean	Std. Deviation
		F	%	F	%	F	%		
Level of knowledge about CBNP	154	41	26.6	113	73.4	0	0	1.73	0.443
Level of knowledge about national Policies	154	38	24.7	101	65.6	15	9.7	1.85	0.569

Table 3 shows that majority of participants (73.3%) are knowledgeable about CBNP at the middle level while, and more than a half of participants (65.6 %) are knowledgeable about the national food and nutrition policy at the middle level.

Table 4: Correlation between knowledge and implementation of the program

		Program implementation	Level of knowledge about CBNP	Level of knowledge about national Policies
Program implementation	Pearson Correlation (r)	1	0.216**	0.363**
	Sig. (2-tailed)		.007	.000
	N	154		
Level of knowledge about CBNP	Pearson Correlation (r)	0.216**	1	0.256**
	Sig. (2-tailed)	0.007		0.001
	N	154		
Level of knowledge about national Policies	Pearson Correlation (r)	0.363**	0.256**	1
	Sig. (2-tailed)	0.000	0.001	
	N	154		

The finding in Table 4 indicates that program implementation strongly depends on the level of knowledge about CBNP and national policies, with r =0.216and r=0.363respectively with strong p values (<0.007 and 0.000).

Table 5: Extent at which planning, funding, supervision influence implementation of the malnutrition prevention program

Implementation			r	P value
	Frequency	Percentage		
Planning				
Moderate &Great extent	117	76	0.225	0.005
Neutral	37	24.0		
Funding				
Moderate & Great extent	154	100		
Supervision				
Moderate & Great extent	149	96.8		
Neutral	5	3.2		

Table 5 shows that more than a half of participants (52.6%) indicated that planning influences to a moderate extent on the implementation of the malnutrition prevention program; but with weak correlation (close to zero), r = 0.225. All participants and majority (96.8%) agreed that funding and supervision influence the program implementation.

Table 6. Correlation between monitoring and evaluation and the program implementation

		Program implementation	Supervision
Program implementation	Pearson Correlation	1	0.214**
	Sig. (2-tailed)		0.008
Monitoring and evaluation	Pearson Correlation	0.214**	1
	Sig. (2-tailed)	.008	
	N	154	154

The study show that the monitoring and evaluation system has a positive correlation with the implementation of the program where r=0.214.

Table 7: Awareness of CBNP activities conducted at the community level amongst caregivers

	N=90	
	Frequency	%
Growth monitoring	46	51.1%
Deworming	44	48.9%
Promotion of kitchen garden and small livestock	5	5.6%
Provision of Micronutrient supplement e.g. ONGERA	13	14.4%
Provision of milk	46	51.1%
Culinary demonstration	2	2.2%

Results presented in Table 7 reveals that caregivers were not aware CBNP activities conducted at the community at the level, with most of them known by less than half of caregivers/parents.

Table 8: The compliance to CBNP activities conducted at the community level

	N=90			
	Yes		No	
	Frequency	%	Frequency	%
Do you weigh you child monthly basis at village level?	23	26 %	67	74 %
Did you attend a culinary demonstration carried out on a monthly basis at village level?	8	9%	82	91 %
Have you ever received mebendazole or albendazole in last six month during deworming mass campaign?	65	72 %	25	28 %
Have your child ever received vitamin A last six month?	55	61 %	35	39 %
Have you placed a kitchen garden at your home?	5	6%	85	94 %

The table 8 reveals that the majority of respondents 94% do not have a kitchen garden at home, 91 % do not attend a culinary demonstration at the community level and almost three quarters (74 %) do not weigh children on a monthly basis. Though, a good number (72%) receive deworming during mass campaign.

Table 9: Factors preventing caregivers from complying with CBNP activities

	N=90	
	Yes	No
	Frequency	%
Do you attend regularly CBNP activities at the village	26(29%)	64(71%)
My family financial status prevents me from attending	6	7%
I am not aware of the activities	17	19%
The distance travelled from home to CBNP site prevents me from attending	46	51%
The day of another general important event (e.g. village market day, agriculture season) prevent me attending CBNP activities	50	56%
The quality of service provided by CBNP are not good	30	33%
Other	10	11%

The majority of caregivers (71%) did not attend regularly CBNP activities conducted at the community level. The day of another general important activity such as agriculture season, market day etc. and the distance from home were main challenges in more than half of the participants, 51% and 56 % respectively.

CHAPTER FIVE: DISCUSSION

5.1 INTRODUCTION

This chapter focuses on the discussion of results which is more crucial. By comparing our study results to other similar studies, aiming at deducing the conclusion and elaboration of recommendations about implementation of malnutrition prevention program for children under five in Bugesera district.

Though it is not easy to estimate a population that would be representative for an entire district team, for the DPEM committee members, it was not challenging to find a good number because their committee has regular quarterly meetings at the district office with important attendance. Fortunately, one meeting occurred during our study period and the number obtained was represented. The challenge was at the point of estimating a population that would be representative for 69,564 children under five. By convenience, sampling 90 caregivers were approached and none of them denied to participate.

5.2 SOCIO-DEMOGRAPHIC DATA

The DPEM committee members were predominantly male (60.4 %) and more than two thirds (70 %) aged more than 36 years, had a good level of education with 78.3% having finished University level. Although the study results did not discuss their university subjects, having in majority university training indicates that participants are knowledgeable and may have acquired basic education which is required for any health program implementation(Stella, 2017).

For the caregivers, majority was female(94.4 %), farmers and aged less than 35 years, however with low level of education, 70% of them having only finished primary school and these coincide with national statistics that showed that 71% of Rwanda have farming as primary job(NISR, 2016)Although two thirds (63.3 %) were classified in Ubudehe category 3 (middle income), the national statistics show that only twenty-three percent of households in rural areas fall into the poorest quintile(NISR, 2016)

5.3THE EXTENT TO WHICH PLANNING, FUNDING AND MONITORING INFLUENCEPROGRAM IMPLEMENTATION

The planning process, funding and supervision are critical towards successful program implementation (Stella, 2017)(Srivastava et al., 2016). More than a half of participants (52.6%) agreed that planning influences the implementation and correlate with its success (r = 0.225). All participants (100%) and almost all participants (96.8%) agreed that funding, and supervision influence the program implementation (r=0.214);and this was similar to findings from study conducted by Binagwaho and colleagues which concluded that the Performance Based Financing (PBF) may have a protective relationship with certain forms of malnutrition among children under-five in Rwanda (Binagwaho, 2014).

The significant correlation between supervision and program implementation was also a major finding in a another study done by Aceituno et al , which showed a positive influence of monitoring and evaluation system on improving participant enrollment, retention , safety, and quality service (Aceituno et al., 2017).

5.4 COMMUNITY AWARENESS AND COMPLIANCY TO CBNP ACTIVITIES

The results of this study show that less than a third of caregivers (29%) do not attended regularly CBNP activities. With monthly weighing, having kitchen gardens and attending culinary demonstration the least attended and known,26%, 6% and 9% respectively whereas a study by Cyril et al revealed that community engagement is essential in improving community health and compliancy to health programs(Cyril et al., 2015). Besides that, majority (72%) of caregivers indicated how there are complying to mass campaign activities, which are spaced in time and follow intensive advertisement. This underlines the importance of the need of improved mobilization of the community for to the CBNP activities.

5.5 FACTORS INFLUENCING THE COMMUNITY COMPLIANCE TO CBNP ACTIVITIES

Results of this study show that the two major constraints including the day of another general event (e.g. market day, morning hours for farmers) and long distance from home to the site, were found the main factors preventing the community from participating to the community based nutrition program activities.

Firstly, more than half of caregivers (56%) mentioned that having another general event (e.g. market day, morning hours for farmers) on the same day of CBNP activities prevents them from attending. This is a challenge in a setting where farming the main job of 71% of the population.

A half of caregivers (51%) mentioned long distance as constraint.This is in contrast to a study done by Tadesse et al on community compliance to Integrated Community-Based Outpatient Therapeutic Program for Severely Malnourished Children in Rural Southern Ethiopia, which revealed that distance travelled was only a big problem in the minority of participants (19%) (Tadesse et al., 2016). Difference in infrastructural challenges may play a role, added to the minority of Rwandan households using bicycles as transportation means and the fact that only one and two percent of them own a car or motorcycle respectively.

5.6 SUMMARY

The findings of this study highlighted the fact that it is important to focus on planning, funding and program supervision processes while targeting successful health program implementation. There are community challenges that should be tackled in the era the district is aiming at eliminating malnutrition of children under five.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to assess the factors influencing the implementation of malnutrition prevention program for children under five in Bugesera District.

Based on the findings from this study we can conclude that DPEM committee members in the district have an acceptable level of education to help health program implementation in their district. And they highlighted that the planning, funding, and supervision processes deserve much attention while targeting successful childhood malnutrition prevention program. Besides not being aware of existing CBNP activities in their villages, caregivers of children under five in Bugesera district participate mainly in mass campaign activities. Other crucial activities such as monthly weighing, culinary demonstration need more attention in order to have success of district plans of eliminating malnutrition in children under five in Bugesera District.

6. 1. RECOMMENDATIONS

6.1.1. Nursing practice

To organize integrated training of nurses on malnutrition prevention activities of children under five in the purpose of improving awareness to the community and health facilities level.

6. 1.2 Nursing education

Malnutrition prevention and monitoring need to be an integral part of all nursing school curricula and medical education program for undergraduate and postgraduate nurses that cover all aspects of malnutrition prevention especially on CBNP.

6.1.3. Nursing research

Further research is needed to focus on the factors related to the underlying cause of malnutrition among children under five; as well as the quality of services delivered by community health workers.

6.1.3 Bugesera district and Government authorities

It is essential to adequately finance DPEM activities, and ensure adequate program supervision. More than that, there is a need to improve community awareness about CBNP activities (using media, announcement in public meetings by involving community health workers etc.) and try to alleviate some of the challenges like activity timing and distance needed to the activity site.

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APPENDICES

1. IRB approval

UNIVERSITY OF RWANDA

COLLEGE OF MEDICINE AND HEALTH SCIENCES

CMHS INSTITUTIONAL REVIEW BOARD (IRB)

Kigali, 26/02/2019
Ref: CMHS/IRB/044/2019

KANKERA GAKWAYA Philippine
School of Nursing and Midwifery, CMHS, UR

Dear KANKERA GAKWAYA Philippine

RE: ETHICAL CLEARANCE

Reference is made to your application for ethical clearance for the study entitled ***"Factors influencing the implementation of the malnutrition Prevention Program of children under 5 Years by DPEM Committee in Bugesera District."***.

Having reviewed your protocol and found it satisfying the ethical requirements, your study is hereby granted ethical clearance. The ethical clearance is valid for one year starting from the date it is issued and shall be renewed on request. You will be required to submit the progress report and any major changes made in the proposal during the implementation stage. In addition, at the end, the IRB shall need to be given the final report of your study.

We wish you success in this important study.

Professor Jean Bosco GAHUTU
Chairperson Institutional Review Board,
College of Medicine and Health Sciences, UR

Cc:
- Principal College of Medicine and Health Sciences, UR
- University Director of Research and Postgraduate studies, UR

2.Bugesera District Hospital approval

12 April 2019

REPUBLIQUE DU RWANDA

ADEPR

HOPITAL NYAMATA
BP : 7112 Kigali
Tél : 0780637766
e-mail : nyamata.hospital@moh.gov.rw

Dear **KANKERA GAKWAYA Philippine**

RE: Approval to Collect Data in Nyamata District Hospital

After receiving your Request to collect data on "**Assessment of Factors Influencing the implementation of the Malnutrition Prevention program of children under 5 years by DPEM Committee in Bugesera District**", required for completion of your Master's Degree in Nursing Sciences, Paediatric Nursing; the Nyamata Hospital Ethics Committee has decided to give you permission to collect Data for your academic Research in Nyamata District Hospital Catchment Area.

The Ethics Committee finally recommends you to:

1. Ensure if consent forms are signed before interview and administration of questionnaires to the participants
2. Ensure confidentiality of individual information
3. Submit to the Hospital a final copy of your research findings after completion of the study
4. Consult Nyamata Hospital administration in case you need to publish the findings.

Wish you all the best,

Dr Cyrille NTAHOMPAGAZE
Chair Person of Ethics Committee

Dr. NTAHOMPAGAZE Cyrille
General PRACTITIONER
RMDC: 2002
Tel: 0739460046
ADEPR NYAMATA HOSPITAL

CC:

Heads of Health Centers (All)

Approved by: **Dr William RUTAGENGWA**
Director General of Nyamata Hospital

3.Consent message

Title of study: "Factors influencing the implementation of malnutrition prevention program for children under five in Bugesera District, Rwanda."

Researcher's name: KANKERA GAKWAYA PHILIPPINE
Phone number: 0788805291
Email: kappine07@gmail.com

Introduction: You are being asked to participate in a research study assessing FACTORS INFLUENCING THE IMPLEMENTATION OF MALNUTRITION PREVENTION PROGRAM OF CHILDREN UNDER FIVE IN BUGESERA DISTRICT**.** You were selected as a possible participant because you are a member of DPEM committee or caregiver of a child under five in Bugesera district. We ask that you read this form and ask any questions that you may have before agreeing to take part.

Purpose of the study

The purpose of the study is to assess the factors influencing the implementation of malnutrition prevention program for children under five in Bugesera District.

Description of the Study Procedures

If you agree to participate to this study, you will be asked to sign this consent form, take this a questionnaire, read it and fill it. You will be required to submit it back to the principal investigator within three days.

Risks/discomforts of being in this study: There are no reasonable foreseeable (or expected) risks.

Benefits of Being in the Study

This study will express real information to the policy maker, about the factors influencing the implementation of malnutrition prevention program for children under five in Bugesera District.

Confidentiality: The researcher will not be collecting or retaining any information about your identity. The records of this study will be kept strictly confidential. Research records will be kept in a locked file and all electronic information will be coded and secured using a password protected file. The researcher will not include any information revealing your identity in any report.

Payments: There will be no payment

Right to refuse or withdraw: The decision to participate in this study is entirely up to you. You may refuse to take part of the study at any time without affecting your relationship with the researcher or any of your authorities. You have the right not to answer any single question, as well as to withdraw completely from this research study at any point during the process.

Right to ask questions and report concerns

You have the right to ask questions about this research study and to have those questions answered by me (PI) before, during or after the research. If you have any further questions about the study, at any time feel free to contact me, either by*email:kappine07@gmail.com*or by telephone at *+250788805291*. If you like, a summary of the results of the study will be sent to you. If you have any other concerns about your rights as a research participant that has not been answered by the investigators, you may contact Prof Kato J Njunwa (Chair-person of IRB committee), (+250) 788490522.If you have any problems or concerns that occur as a result of your participation, you can report them to Prof Kato J Njunwa above. Alternatively, concerns can be reported by completing a Participant Complaint Form, which can found on the IRB website at http://www.smith.edu/irb/.

Consent

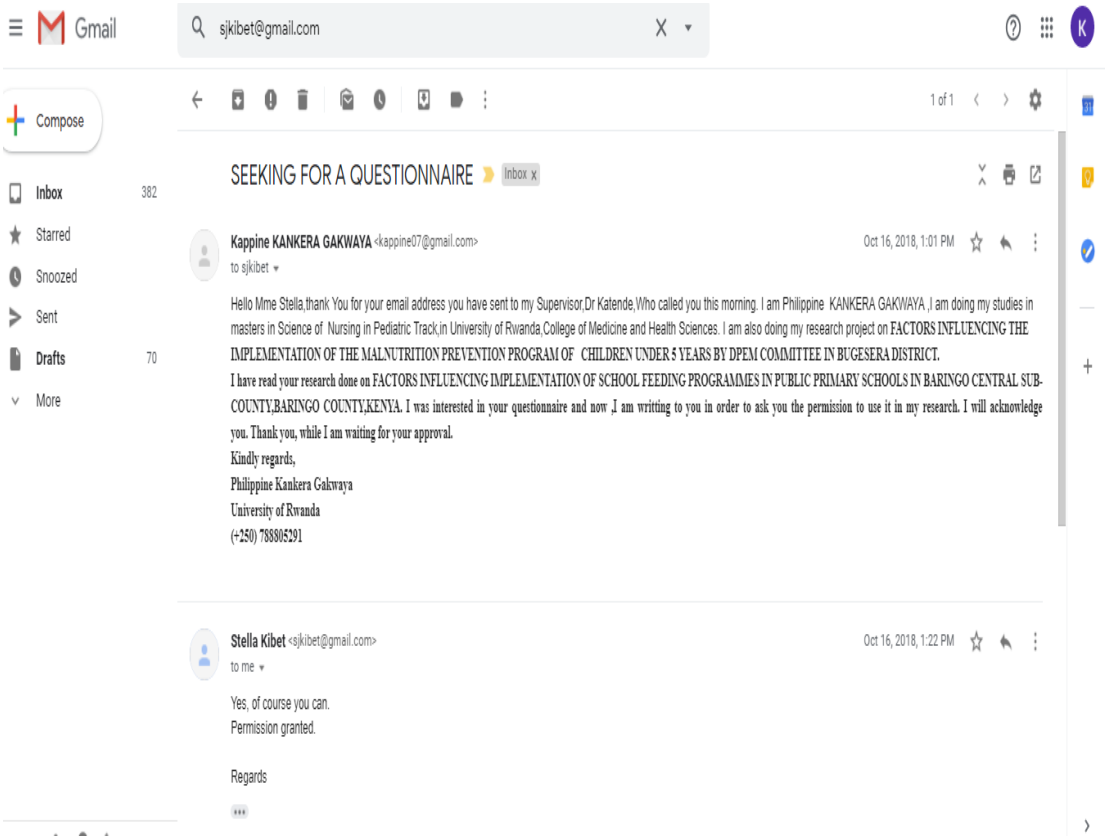
Your signature below indicates that you have decided to volunteer as a research participant for this study and that you have read and understood the information provided above. You will be given a signed and dated copy of this form to keep, along with any other printed materials deemed necessary by the researcher.

Participant's Name (print):

Participant’s Signature: ……. Date:……...

Researcher’s Signature: ……. Date:……

4. Permission to use the data collection tool number one



Gmail

sjkibet@gmail.com

Compose

Inbox 382

Starred

Snoozed

Sent

Drafts 70

More

1 of 1

SEEKING FOR A QUESTIONNAIRE Inbox x

Kappine KANKERA GAKWAYA <kappine07@gmail.com> Oct 16, 2018, 1:01 PM

to sjkibet

Hello Mme Stella,thank You for your email address you have sent to my Supervisor,Dr Katende,Who called you this morning. I am Philippine KANKERA GAKWAYA ,I am doing my studies in masters in Science of Nursing in Pediatric Track,in University of Rwanda,College of Medicine and Health Sciences. I am also doing my research project on FACTORS INFLUENCING THE IMPLEMENTATION OF THE MALNUTRITION PREVENTION PROGRAM OF CHILDREN UNDER 5 YEARS BY DPEM COMMITTEE IN BUGESERA DISTRICT.
I have read your research done on FACTORS INFLUENCING IMPLEMENTATION OF SCHOOL FEEDING PROGRAMMES IN PUBLIC PRIMARY SCHOOLS IN BARINGO CENTRAL SUB-COUNTY,BARINGO COUNTY,KENYA. I was interested in your questionnaire and now ,I am writting to you in order to ask you the permission to use it in my research. I will acknowledge you. Thank you, while I am waiting for your approval.
Kindly regards,
Philippine Kankera Gakwaya
University of Rwanda
(+250) 788805291

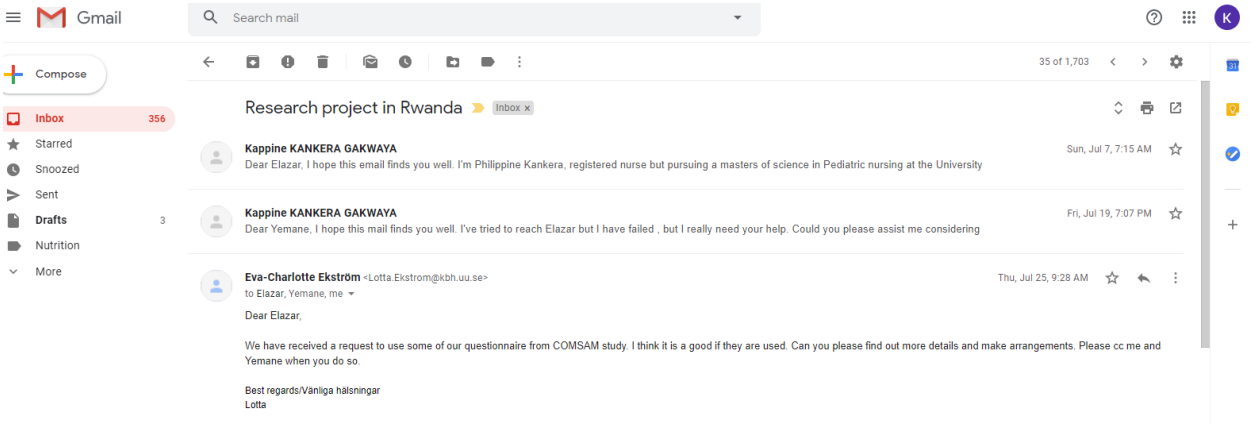
Stella Kibet <sjkibet@gmail.com> Oct 16, 2018, 1:22 PM

to me

Yes, of course you can.
Permission granted.

Regards

5.Permission to use the data collection tool number two



6. RESEARCH QUESTIONNAIRE Nº1

"Factors influencing the implementation of malnutrition prevention program for children under five in Bugesera District, Rwanda"

Date of data collection ……

Name of data collector.....

Participant Code:.....

SECTION A: Demographics characteristic of participants

1. Gender

Male 1
Female 2

2. What is your level of education?

Post graduate degree 1
Degree 2
Diploma 3
Certificate 4
Others 5

3. Indicate your age group

41 years and above 1
36 -40 2
31-35 3
26-30 4
20-25 5

SECTION B: Level of Knowledge

1. High level ☐
2. Middle level ☐
3. Upper level ☐

		1	2	3
1	**Community Based Nutrition Programs (CBNP)**			
2	**National Nutrition Policies**			

SECTION C: PLANNING

1. What is your level of agreement with the following statements regarding the planning of DPEM committee?

1. Strongly agree ☐
2. Agree ☐
3. Neutral ☐
4. Disagree ☐
5. Strongly disagree ☐

		1	**2**	**3**	**4**	**5**
1	The program process was inclusive					
2	The program planning process was adequate					
3	The program planning process had provision for managing uncertainty during implementation					
4	The program planning process developed a program implementation schedule					
5	The program implementation schedule was adequate to guide implementation of the program					
6	The planning process ensured efficient and effective coordination of resources					
7	The planning process ensured effective procurement of resources					
8	The planning process ensured effective program management					
9	The planning process ensured that timely decisions and actions were implemented on time					

2. In your opinion, to what extent do you think planning influences implementation of the malnutrition prevention program of children under 5 years in Bugesera District?

1.Great extent ☐
2.Moderate extent ☐
3.Neutral ☐
4.Little extent ☐
5.Not at all ☐

SECTION D: Funding

1. What is your level of agreement with the following statements regarding funding and DPEM program implementation? Use scale 1-5, where

1. Strongly agree ☐
2. Agree ☐
3. Neutral ☐
4. Disagree ☐
5. Strongly disagree ☐

		1	2	3	4	5
1	Funding of the project was adequate					
2	Funds were budgeted adequately					
3	Budgeted funds were allocated adequately towards program implementation					
4	Allocated funds were used optimally and efficiently towards implementation of the program					
5	A financial investment plan was available to ensure maximum utilization of the funds					
6	Management and accountability systems were in place to ensure funds were used efficiently					
7	Funds were disbursed in time					
8	Payment to supplies and service providers were made in time					
9	Funds were allocated for program variations during implementation					

2 in your opinion, to what extent do you think funding influences implementation of the malnutrition prevention program of children under 5 years by DPEM committee in Bugesera District

1.Great extent ☐
2.Moderate extent ☐
3.Neutral ☐
4.Little extent ☐
5.Not at all ☐

SECTIONN E: Monitoring and evaluation

1. What is your level of agreement with the following statements regarding Monitoring and evaluation and program implementation? Use scale 1-5, where

1. Strongly agree ☐
2. Agree ☐
3. Neutral ☐
4. Disagree ☐
5. Strongly disagree ☐

		1	2	3	4
1	Monitoring and evaluation systems were adequate to enhance successful implementation of the program				
2	Monitoring and evaluation was inclusive of all stakeholders				
3	Monitoring and evaluation schedule was available				
4	Monitoring and evaluation schedule enhanced program implementation as per the planning schedule				

2. In your opinion, to what extent do you think monitoring and evaluation influences implementation of the malnutrition prevention program of children under 5 years by DPEM committee in Bugesera District?

1.Great extent ☐
2.Moderate extent ☐
3.Neutral ☐
4.Little extent ☐
5.Not at all ☐

7. RESEARCH QUESTIONNAIRE Nº2

Title: "Factors influencing the implementation of malnutrition prevention program for children under five in Bugesera District, Rwanda"

Participant Code:
Address:
Date of assessment:
Name of data collector_____
Date_____

SECTION ONE: DEMOGRAPHIC DATA

Gender(caregiver): M ☐ F☐ unknown ☐
Gender(child): M ☐ F☐ unknown ☐
Number of person in household: _____

A1. How old are you?
18-35years = 1
36– 54years = 2
55– 70 years = 3
> 70years = 4

A2. Gender of respondent
Key: Male = 1
Female = 2

A3. Educational status
Illiterate=1
Primary education level =2
High school education level =3
College& university education level =4
Other=5

A4. Ubudehe Category

Category 1=1
Category 2=2
Category 3=3
Category 4=4

A5. Occupation

Public servant=1
Farmer=2
Self-employed=3
Other =4
Not employed=5

SECTION TWO

1. Are you aware about the CBNP activities at the community level? Yes=1No=2

If Yes, 2. what are the activities of CBNP conducted at the community level?

Growth monitoring=1
Deworming =2
Promotion of kitchen garden and small livestock=3
Provision of micronutrient supplement e.g. ONGERA=4
Provision of milk =5
Culinary demonstration=6
Others and specify……=7

3. Do you weigh you children monthly at Village level? Yes=1No= 0

4. Did you attend a culinary demonstration carried out on a monthly basis at Village level? Yes=1No= 0

5. Has your child ever received mebendazole or albendazole in last six months during deworming mass campaign? Yes=1 No=2 N/A=3

6. Has your child ever received vitamin A last six months? Yes=1 No=2 N/A=3

7. Did your child regularly receive micronutrient ONGERA or FBF at Village level? Yes=1 No=2 N/A=3

8. Did you place a kitchen garden at your home? Yes=1No=2

SECTION THREE

9. Do you attend regularly CBNP activities at the village level? Yes=1 No=2

10. What prevents you from complying with CBNP activities at community level?

1. My family financial status prevents me from complying =1
2. Am not aware of the activities=2
3. The distance travelled from home to CBNP site prevents me from attending=3
4. The day of another general important event (e.g. village market day, agriculture season) prevent me attending CBNP activities =4
5. The quality of service provided by CBNP are not good=5
6. Other and specify……..=6