FACTORS CONTRIBUTING TO CHILD MALNUTRITION, IN UNDER FIVE CHILDREN IN MWAMFULI VILLAGE OF SAMFYA DISTRICT

BY

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DECLARATION

I undersigned declare that this proposal is my original work, and as far as I am aware, it has not been presented at Chreso University neither has it been presented at any University.

Investigators:

Name: Audrey M. Mukosa_Date: 07/05/2023_ Signature:



DEDICATION

This study is dedicated to the children of Mwamfuli Village in Samfya District, whose well-being inspired this research. To the parents and caregivers who strive every day to ensure their children's health despite the challenges they face, this work is for you. I also dedicate this to the healthcare workers who continue to fight malnutrition in rural areas, and to my parents, MR and MRS Mukosa, whose unwavering support, guidance, and love have been my driving force throughout my academic journey. Their selflessness and dedication to my well-being have shaped me into the person I am today.

ABSTRACT

This study aimed to explore factors Contributing to Child Malnutrition in Under-Five Children in Mwamfuli Village of Samfya District. The key factors contributing to malnutrition among children under five were identified and the effectiveness of intervention strategies were evaluated. Using a sample size of 246 households, data was collected through structured questionnaires and interviews with caregivers and mothers of the affected children. The study focused on assessing socioeconomic, cultural, and environmental factors that contribute to malnutrition in the region.

Findings revealed that poverty, inadequate access to nutritious food, and poor sanitation were the leading contributors to child malnutrition in Mwamfuli Village. Approximately 72% of households reported food insecurity, while 58% identified poor sanitation practices as a significant risk factor. Inadequate breastfeeding and early weaning practices were also common, with 48% of caregivers reporting difficulties in maintaining optimal feeding practices for their children.

The study further explored the impact of these factors, revealing high rates of stunting (65%) and wasting (56%) among children under five. Additionally, cultural beliefs surrounding child feeding and healthcare-seeking behaviors were found to hinder the adoption of proper nutrition practices.

Despite the existence of intervention programs, only 35% of the respondents found them to be effective, citing a lack of accessibility and limited community engagement as major barriers. The study concludes with recommendations for improving nutritional education, increasing access to healthcare services, and enhancing community-based support systems to address child malnutrition in Mwamfuli Village.

Key Terms: Child Malnutrition, Under Five Children, Mwamfuli Village, Samfya District

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LIST OF ABBREVIATIONS

- BMI Body Mass Index
- DHS Demographic and Health Surveys
- FANTA Food and Nutrition Technical Assistance
- FAO Food and Agriculture Organization
- GAIN- Global Alliance for Improved Nutrition.

H/A - Height-for-Age

- ICL Incident Command Line
- LBW Law Birth Weight
- MAM Moderate Acute Malnutrition
- MUAC/A Mid-Upper Arm Circumference-for-Age
- MUAC Mid-Upper Arm Circumference
- NCHS National Center for Health Statistics
- RUSF Ready-to-Use Supplementary Food
- RUTF Ready-to-Use Therapeutic Food
- SAM Severe Acute Malnutrition
- UNICEF United Nations Children's Fund
- **UN** United Nations
- W/A Weight-for-Agee
- W/H Weight-for-Height
- WHO World Health Organization

CHAPTER 1: INTRODUCTION

1.1 Background

It is known that good nutrition is a key driver in achieving a satisfactory level of human development. Recent reports indicated that there are 178 million undernourished children in the world, 20 million of whom suffer from severe malnutrition; under nutrition contributes to 3.5 to 5 million annual deaths among children under 5 years (WHO, 2023).

Malnutrition, according to the World Health Organization (WHO, 2020), is a condition that results from deficiencies, excesses, or imbalances in a person's intake of energy and nutrients. This can lead to adverse effects on the individual's health and well-being. It is a broad term that encompasses both under nutrition (which includes stunting, wasting, and deficiencies in vitamins and minerals) and over nutrition (which includes overweight and obesity).

On the increase among recent estimates on prevention, weight control, fat elimination, and reduction of salt intake globally show that, 149.2 million children under the age of 5 years of age are stunted (too short for their age) and 45.4 million are wasted (underweight for their height). The number of children with stunting is declining in all regions except Africa. In Zambia, more than 80% of the country's rural population lives below the poverty line, of which 63% struggle to live on less than \$1.25 per day. Many rural families rely on subsistence farming and with limited access to farming inputs, credit or savings. Chronic food insecurity and malnutrition is widespread. Lack of access to adequate food and clean water stunts nearly half of Zambian children under 5 years old (CRS in Zambia, 2023).

According to (MDG 2015), the monitoring of the goals against hunger set by the Millennium Development Goals (MDG) ended in 2015 with the goals not having been met. In Sub-Saharan-Africa, the slow pace of progress in fighting hunger over the years is particularly worrisome. This region still holds the highest prevalence of undernourishment for any region, having the number of undernourished people even increased by 44 million between the periods 1990 and 92 and 28014–16.

Some factors associated with malnutrition have been identified in the pieces of literature in a global context such as; food security, mother and child care (fertility rate and maternal literacy), characteristics of the health services and environment, and potential resources (national and domestic income) being the factors explaining the variability in the prevalence of malnutrition among children under 5 years of age in developing countries (Dove Press, 2021).

About 300 children die in Samfya District of Luapula Province annually due to malnutrition (CSO SUN, 2015). HOT FM staffer Richard Phiri reports from Samfya that Chief Mwansakombe of the Ngumbo-speaking people of Samfya District described the problem of malnutrition as a serious challenge in the country and has called for concerted efforts by all stakeholders in addressing the scourge. Speaking during the global day of action on Nutrition at Kasuba Community School in Samfya, the traditional leader noted with concern that lack of knowledge has been the cause of increased malnutrition cases. He has since urged government to maximize coverage and access of nutrition programs in order to benefit those in need. Civil Society Scaling up Nutrition Alliance National Coordinator, William Chilufya urged the government to prioritize nutrition even in financially difficult times (CSO-SUN, 2019).

Low-quality complementary foods combined with inappropriate feeding practices put children under the age of five in developing countries at high risk for under nutrition. This study explored dietary diversity, fish consumption patterns, and nutritional status of children in Luapula, a rural province in Zambia, where households rely on capture fisheries for their livelihoods. In the cross-sectional study, households with children under five (5) months were enrolled in the study. A semi-structured questionnaire was utilized to collect socioeconomic characteristics, dietary intake and anthropometric data. Descriptive statistics and bivariate associations were conducted. 23% of children aged 6–23 months met the minimum dietary diversity. About 49% and 41% of the children were fed on fresh small pelagic fish and large dried fish once to twice a week, respectively. Imbilya (Serranochromis mellandi), Chisense (Poecilothrissa moeruensis), and amatuku (Tilapia sparrmanii) were the most preferred fish species due to their availability and affordability. Only 3.5% of children consumed porridge to which fish powder had been added. There was a significant difference in the height for age z scores of children in the two communities ($\chi 2= 12.404$; p = 0.002, d.f = 2). Low dietary diversity was observed across the fishing and non-fishing communities and less than half of the children consumed fish despite proximity of the study sites to one of the largest

water bodies in Zambia. Better nutrition outcomes were observed among children in capture fisheries dependent households. Nutrition education in growth monitoring and promotion centers should address the issue of adequacy of diets with regard to frequency and diversity (Marinda, et al..,).

1.2 Statement of the problem

Malnutrition in children under the age of five is a significant global health problem. According to the World Health Organization (WHO), an estimated 149 million children worldwide suffer from stunted growth due to malnutrition. Malnutrition can lead to a range of health problems, including an increased risk of infections, delayed development, and even death.

Despite efforts to address malnutrition, it remains a persistent problem, particularly in low- and middle-income countries. The causes of malnutrition are complex and multifactorial, including inadequate dietary intake, poor access to healthcare, lack of sanitation and hygiene, and poverty (FAOUN, 2004).

Malnutrition is a deficiency or improper intake of energy and nutrients under nutrition manifested by wasting, stunting, underweight, and micronutrient malnutrition). With the efforts of previous studies, stunting has declined steadily since 2000 – but faster progress is needed to reach the 2030 target. Child malnutrition has persisted at an alarming rate and this will require a reversal in trajectory if the 2030 target is to be achieved (WHO, 2020). Malnutrition is a major burden on the Zambian healthcare system and contributes to low human capital in Samfya, Mwamfuli. In the district, 30% of children under 5 years are stunted as shown in the statistics. Analysis by age groups shows that stunting and underweight are highest (54%) in children 18-24 months and lowest (14%) in children under 6 months. A mother's level of education generally has an inverse relationship with stunting and underweight levels; it ranges from a low of 18 percent among children whose mothers have more than a secondary education to a high of 45 percent among those who have no education at all. A similar inverse relationship is observed between stunting and wealth. Children in the poorest households are much more likely to be stunted (47%) than children in the wealthiest households (28%) (CSO, MOH and ICF international 2020).

Overall, 6 percent of children are wasted. Analysis by age group shows that wasting ranges from 5 percent among children 24-59 months to 10 percent among those 9-11 months. Wasting does not

vary extensively by gender, by length of preceding interval, or by residence. Wasting is most likely to occur among babies who were very small or small at birth (9%) and least likely among those whose birth size was average or larger (6%). Wasting is slightly higher among children whose mothers are thin than those whose mothers are normal, overweight, or obese (8% versus 6%). By province, wasting is highest among children in Luapula (13%) and lowest among children in Muchinga, Northern and Southern (4% each). There is no major variation in wasting by a mother's education or household wealth (CSO, MOH and ICF International 2020).

Therefore, there is a need for research that investigates the prevalence, causes, and potential solutions to malnutrition in children under the age of five. Such research can help inform policy and programmatic interventions aimed at preventing and treating malnutrition and improving the health and well-being of young children around the world.

1.3 Significance of the study

Child malnutrition in children under the age of 5 presents a multifaceted challenge with significant implications for health, development, and economic well-being. Beyond its immediate impact on physical health, malnutrition can hinder cognitive and emotional development, perpetuating cycles of poverty and inequality. Addressing child malnutrition is crucial not only for individual children's health but also for the long-term prosperity and stability of communities. By understanding the root causes and effects of malnutrition through research and data collection, community authorities and the Ministry of Health can tailor interventions to effectively target the underlying factors contributing to malnutrition. Such targeted interventions can range from improving access to nutritious food and clean water to enhancing healthcare services and promoting education on proper nutrition and childcare practices.

The information gathered from studies on child malnutrition serves as a vital resource for policymakers and health authorities, enabling evidence-based decision-making and resource allocation. By utilizing this data, authorities can develop and implement policies and programs aimed at preventing and mitigating the effects of malnutrition, ultimately improving the health and well-being of children in the community. Furthermore, community involvement and empowerment are essential components of addressing child malnutrition effectively. Engaging local stakeholders in the research process fosters ownership and collaboration, leading to more sustainable and community-driven solutions. Through coordinated efforts guided by research

findings, community authorities and the Ministry of Health can work towards eradicating child malnutrition and promoting a healthier future for children in Mwamfuli village and beyond.

1.4 General objectives

To assess factors contributing to malnutrition in children under the age of five (5) in Mwamfuli village of Samfya District.

1.4.1 Specific objectives

1. To establish factors that contribute to malnutrition in children under the age of five (5) in Mwamfuli village of Samfya District.

2. To assess the impact of these factors of child malnutrition in children under the age of five (5) in Mwamfuli village of Samfya District.

3. To identify the intervention strategies that can enhance the eradication of child malnutrition in children under the age of five (5) in Mwamfuli village of Samfya District.

1.5 Research questions

1. What are the factors contributing to malnutrition in children under the age of five (5) in Mwamfuli village of Samfya District.

2. How do these factors impact on child malnutrition in children under the age of five (5) in Mwamfuli village of Samfya District?

3. What intervention strategies could enhance eradication of child malnutrition in children under the age of five (5) in Mwamfuli village of Samfya District?

1.6 Definition of key operational terms

Malnutrition: A condition where an individual's diet does not provide enough nutrients, leading to impaired growth, development, and health (Oxford dictionary, 2017).

Under nutrition: A subcategory of malnutrition, characterized by inadequate energy or protein intake, leading to weight loss, wasting, or stunting (Collins dictionary, 2019).

Stunting: A condition where a child's height is below the average for their age, indicating chronic malnutrition (Nursing dictionary, 2019).

Wasting: A condition where a child's weight is below the average for their height, indicating acute malnutrition (Nursing dictionary, 2020)

Underweight: A condition where a child's weight is below the average for their age (Collins dictionary, 2018).

Nutritional stunting: Long-term or chronic malnutrition leading to permanent height reduction (Oxford dictionary, 2017).

Acute Malnutrition (AM): Severe wasting, typically requiring urgent treatment (WHO, 2017).

Severe Acute Malnutrition (SAM): Extremely low weight-for-height, requiring immediate lifesaving interventions (WHO, 2017)

Moderate Acute Malnutrition (MAM): Less severe wasting, requiring timely treatment to prevent deterioration (UNICEF, 2018).

Chronic Malnutrition: Long-term, persistent malnutrition, often leading to stunting and developmental delay (Nursing Dictionary, 2020).

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Malnutrition is a prevalent problem affecting everyone at some time in their lifespan, but young children are at a greater risk of malnutrition. Optimizing nutrition from conception to two years of age, ensures the best possible start in life with long-term benefits. Malnutrition results from a deficiency of good nutrition, caused by not having adequate food to eat, or not consuming enough of the right things. Many poor nutritional outcomes begin in the uterus and are manifested as Low Birth Weight (LBW), prematurity or intrauterine growth restriction (WHO 2017).

A narrative literature review was used to give a fairly broad perspective as it involved gathering, critiquing and summarizing journal articles and text books about child malnutrition. These was generally undertaken to get an overview of child malnutrition and potentially identify gaps in the available literature review.

2.2 Global perspective of child malnutrition

ICN 2014, states that malnourished children around the world are at risk for infection and they are more prone to death due to common infantile respiratory and diarrheal disease. United Nations Decade of Action on Nutrition from 2016 to 2025 in ICN 2014, proclaimed the elimination of malnutrition and guaranteed worldwide access to improved diets everywhere and as in (SDG2) which aims at ending hunger, achieve food security, improved nutrition, promote sustainable agriculture and ensuring healthy lives for all ages. UN proclaimed a Decade of Action on Nutrition that will run from 2016 to 2025. FAO welcomed the decision, calling it a major step towards mobilizing action around reducing hunger and improving nutrition around the world (UN 2016).

UN 2016, further points to nearly 800 million people who have remained chronically undernourished and over two billion people suffering from micronutrient deficiencies. Children under 5 years of age are stunted - meaning they are too short for their age and their number go up to 159 million. Approximately 50 million children in the same age bracket are wasted – thus they have low weight for their height.

As stated in the Decade of Action on Nutrition an umbrella of a wide group of actors need to work together to address nutrition pressing issues if the need to eradicate hunger and prevent all forms of malnutrition worldwide has to be addressed.

The resolution calls upon FAO and WHO to lead the implementation of the Decade of Action on Nutrition in collaboration with the World Food Programme (WFP), the International Fund for Agricultural Development (IFAD), and the United Nations Children's Fund (UNICEF), and involving coordination mechanisms such as the United Nations System Standing Committee on Nutrition (UNSCN) and multi-stakeholder platforms such as the Committee on World Food Security (CFS) (WHO, 2024). It also invites national governments and other stakeholders, including international and regional organizations, civil society, the private sector and academia to actively participate. Despite these initiatives, malnutrition prevalence remains high; approximately half of all fatalities in under-5 children are due to under nutrition because under nutrition puts children at greater risk of dying from common infections, increases the severity of infections, and delays recovery. In 2019, worldwide, 21.3% of under-five children had stunted growth, 47 million under-five children were wasted, from this half of them were in South Asia and one out of four were in sub-Saharan Africa. From this nearly two out of five stunted children lived in South Asia while another two out of five lived in sub-Saharan (WHO, 2014).

Interventions to prevent and treat child malnutrition vary depending on the specific causes and types of malnutrition. The WHO recommends a comprehensive approach that includes the promotion of exclusive breastfeeding, appropriate complementary feeding, and the prevention and treatment of infectious diseases. Other interventions include micronutrient supplementation, food fortification, and nutrition education programs for caregivers. In addition, community-based management of acute malnutrition (CMAM) programs has shown promise in reducing mortality and morbidity rates in children with severe acute malnutrition (MOH, 2019).

A summary of the reviewed literature indicates that child malnutrition remains a significant public health problem globally, with the highest burden of malnutrition in low- and middle-income countries. Several risk factors contribute to malnutrition, including socio-economic, maternal and child health, and environmental factors. Interventions to prevent and treat malnutrition include a comprehensive approach that focuses on promoting appropriate feeding practices, preventing and treating infectious diseases, micronutrient supplementation, food fortification, and communitybased management of acute malnutrition (CMAM) programs. These interventions need to be implemented at the individual, community, and national levels to reduce the burden of malnutrition and improve the health and well-being of children globally.

2.3 Continent (Africa Perspective)

Child malnutrition remains a significant concern in Africa, where multiple factors contribute to its prevalence. According to a UNICEF report from 2020, persistent issues such as poverty, inadequate healthcare and insufficient access to nutritious food contribute to high rates of child malnutrition across the continent (UNICEF, 2020). Additionally, conflicts and climate change further exacerbate the situation, disrupting food security and healthcare systems.

Sub-Saharan Africa has some of the highest rates of child malnutrition globally. Cross-sectional data from the most recent Demographic and Health Surveys (2006–2016) of 32 countries in sub-Saharan Africa were used. The prevalence of malnutrition was highest within countries in East Africa and West Africa. Appropriate nutrition interventions need to be prioritized in East Africa and West Africa if sub-Saharan Africa is to meet the WHO global nutrition target of improving maternal, infant, and young child nutrition by 2025 (DHDP, 2016).

A continental perspective of malnutrition indicates poor dietary intake (limited access to nutrientdense foods, particularly among rural and poor households), inadequate breastfeeding practices (low rates of exclusive breastfeeding and early introduction of complementary foods), infection and disease (high prevalence of diarrhea, malaria, and other infectious diseases that contribute to malnutrition) and poverty and food insecurity (limited access to food and resources, particularly among vulnerable households) as factors contributing to high cases of malnutrition in Africa.

2.4 Local (Zambian perspective)

In Zambia, child malnutrition remains a critical issue influenced by various factors. According to a study published in the BMC Public Health journal in 2018, the prevalence of stunting among Zambian children is attributed to factors such as poor maternal nutrition, inadequate breastfeeding practices, and insufficient access to clean water and sanitation as well as socioeconomic challenges (Kabalo et al., 2018).

Child malnutrition remains a significant public health problem in Zambia, requiring urgent attention and action. Addressing the root causes of malnutrition, including poverty, food insecurity,

and inadequate dietary intake, is critical to improving nutrition outcomes among children. Effective interventions, such as scaling up nutrition, community-based nutrition programs, food fortification, and agricultural programs, can help reduce the prevalence of child malnutrition in Zambia (MOH, 2017).

Malnutrition remains a significant public health problem in Zambia, particularly among children under the age of five (SUN, 2019). According to the Zambia Demographic and Health Survey (2018), 35% of children under five suffer from stunting, 15% from wasting, and 4% from underweight. The prevalence of malnutrition is higher in rural areas and among children from poor households. The main causes of child malnutrition in Zambia include poor dietary intake, inadequate breastfeeding practices, infection and disease, poverty, and food insecurity. Child malnutrition causes increased mortality, and impaired cognitive development, increased risk of chronic diseases. The negative impact of malnutrition calls for a national initiative to improve nutrition outcomes, particularly among children and pregnant women, community-based nutrition programs, food fortification, and initiatives to improve access to nutrient-dense foods, particularly among rural and poor households (ZDHS, 2018).

The literature highlights the critical issue of child malnutrition, stating that malnourished children are more susceptible to infections and prone to death from respiratory and diarrheal diseases. The United Nations, responding to ICN 2014, launched a decade of action on nutrition (2016-2025), aiming to eliminate malnutrition and ensure global access to improved diets. This initiative aligns with broader goals, including ending hunger, achieving food security, improving nutrition, promoting sustainable agriculture and ensuring healthy lives for all ages. The FAO welcomed this as a major step towards mobilizing global efforts. In Africa, persistent challenges such as poverty, inadequate healthcare and insufficient access to nutritious food contribute to high rates of child malnutrition, exacerbated by conflicts and climate change. Zambia faces critical child malnutrition influenced by factors like poor maternal nutrition, inadequate breastfeeding and limited access to clean water, sanitation and socioeconomic challenges impacting food security and children's nutritional status (UN, 2016; UNICEF, 2020; Kabalo et al., 2018).

2.5 Theoretical frame work

A theoretical framework for understanding child malnutrition often involves a multidimensional approach that considers various factors contributing to the issue. The Social Determinants of

Health model which was used, to acknowledge the outcomes, including nutritional status, was influenced by a range of social, economic and environmental factors.

Economic factors; Income levels and economic disparities can affect access to nutritious food, healthcare and essential resources impacting a child's nutritional status.

Social factors; cultural practices, social norms and child healthcare access can contribute to the persistence of malnutrition.

Environmental factors; clean water, sanitation and hygiene are essential components of preventing malnutrition. Environmental factors such as climate change can also impact food security.

Political and Policy influences; Government policies, interventions and political stability can significantly impact the prevalence and persistence of child malnutrition.

CHAPTER THREE: METHODOLOGY

3.1 Study design

In the quest to establish factors contributing to malnutrition in children under the age of five (5) in Mwamfuli village of Samfya district, a descriptive cross-sectional study were used. Questionnaires with closed-ended questions were used to collect quantitative data.

The descriptive method which were be both qualitative and quantitative were used to make the results correspond to established theories and other measures of the concept of Child Malnutrition, in Children under the age of five (5). The approach in this study allowed an in-depth, exploration of the issue in their real-life settings.

3.2 Study and target population

The study population comprised of mothers with children under five years of age living in Mwamfuli village of Samfya district of Zambia. The target population for this study was sampled by purposive random sampling.

3.3 Study Site

The study site was Mwamfuli village in the Samfya district of Luapula province. Samfya district is located on the south-western shore of Lake Bangweulu, on the longest stretch of well-defined shore of that lake (the northern, eastern and southern margins of which are marshy). The district contribute to the rich cultural and natural diversity of the country. The vegetation in Samfya is influenced by its location near water bodies and the prevailing climate, which is tropical with distinct wet and dry seasons. The population of the area at latitude -11 21'53.68"S and longitude 29 33'23.47"E is 20,470 people. Samfya is a town located in the Zambian province of Luapula. It is the center of Samfya District. The town is located on the south-western shore of Lake Bangweulu, on the longest stretch of well-defined shore of that lake (the northern, eastern and southern margins of which are marshy). Samfya has a few guesthouses and a number of white sandy beaches which are used for recreation, although the lake does have crocodiles (ZT, 2020).

3.4 Inclusion /exclusion criteria

The reliable respondents in this study comprised of mothers with children (male or female regardless of disability, occupation, educational background, or marital status) under five (5) years of age living in Mwamfuli village of Samfya District. The study excluded all mothers with

Children above the age of five (5) years and those who have stayed in the area for less than six months.

3.5 Recruitment & sampling procedure

The guide explored the mothers' perceptions of the causes and consequences of child malnutrition, their experiences with seeking healthcare, and their coping strategies. To come up with the desired data, focus group discussions and individual interviews were used. This helped the researcher to collect data from respondents who were confident to release information because confidentiality was assured. Respondents from the study area were sampled by random purposive sampling.

3.6 Sample size determination

To determine the sample size, the descriptive formula (N= $Z^2 p [1-p]/e^2$) was employed, where (N) represents the desired sample size, (Z) corresponds to the Z-score for the chosen confidence level (typically 1.96), (p) denotes the estimated proportion of the population with the characteristic of interest (such as prevalence of underweight, wasting or stunting among children) and (e) signifies the precision or margin of error, often set at 0.05 for 5%. Utilizing this formula facilitates the accurate determination of sample size, critical for assessing the health and nutritional status of children in rural Zambia by estimating proportions and ensuring adequate precision in the study's findings.

Calculations;

$$N = Z^2 p [1-p]/e^2$$

- N = Sample size required
- Z = Confidence Interval at 95% (1.96)
- P = estimated prevalence-80% (EFN, Haut vast et al, 2020)
- e = Standard error 5%

From the calculations the sample size to be used is;

Sample size (N) = $(1.96(1.96) \times 0.8 \times 0.2) / 0.05^2$

= (1.96 (1.96)× 0.8 × 0.2) / 0.0025

= 3.8416 × 0.16/ 0.0025

= 245.8624

So, the sample size (N) is approximately 246

3.7 Procedure for data collection

In this case, the researcher collected data through focus group discussions and individual interviews. A semi-structured interview guide was used to facilitate the discussions and interviews.

The meetings were arranged with selected mothers and children through civic or community leaders for discussions and interviews, and the questionnaires (prepared in local language); to provide a relatively cheap, quick, and efficient way of obtaining large amounts of information from a large sample of people.

3.8 Variables

Dependent; Malnutrition determined through anthropometric measurements such as height-for - age, weight-for-age or weight-for-height.

Independent; Socioeconomic (age, height and gender), demographic(income level, education level and occupation) and environmental factors(access to clean water, sanitation facilities and proximity to health care facilities).

Social economic;

- Income level; Monthly household income
- Education level; Highest level of education attained by mother
- Occupation; Mother's or father's employment status
- Household size; Number of individuals living in a household
- Housing conditions; Type of housing e.g., rural, urban or slum and access to basic amenities.

Behavioral factors;

• Dietary habits; frequency and type of meals consumed by both mothers and children.

- Healthcare-seeking behavior; utilization of health care services, adherence to vaccination schedules.
- Hygiene practices; Hand washing habits, sanitation practices within the household.
- Feeding practices; breastfeeding duration, introduction of complementary foods, mealtime behaviors.
- Physical activity; level of physical activity for both mothers and children.

Anthropometric Measurements;

• Anthropometric measurements were collected from 20 children to assess their nutritional status. This included measurements such as height, weight and possibly mid-upper arm circumference (MUAC) to evaluate malnutrition indicators such as stunting, wasting and underweight.

The indicators which were used in the study were stunting (low height – for – age); underweight (low weight – for – age) and wasting which is (low weight for – for – height.

3.9 Data processing and analysis:

The data collected from the questionnaires were transcribed and analyzed using thematic analysis. The researcher identified themes that emerged from the data, such as poverty, food insecurity, lack of education, and poor access to healthcare. The researcher also examined the coping strategies adopted by the mothers, such as reducing the frequency of meals, skipping meals, or relying on social networks for support.

The data collected from the questionnaires were transcribed and analyzed using SPSS ver.21 statistical software. Factors associated with nutritional status were identified using bivariate and multivariate logistic regression. A p-value ≤ 0.05 was considered statistically significant.

3.10 Ethical consideration

All ethical requirements were adhered to in this study by considering issues of voluntary participation, informed consent, confidentiality anonymity, and the potential harm of communicating results. The research proposal was submitted to the Chreso University Research Ethics Committee (CUREC) for ethical approval. Permission letter was sought from Samfya local traditional leaders.

3.11 Validity and reliability

The researcher used multiple sources of data and triangulate the findings to ensure the validity and reliability of the study. The study was also be designed to be repeatable and replicable by other researchers.

CHAPTER 4: PRESENTATION AND DATA ANALYSIS

4.1 Introduction

This chapter presents the findings based on data collected from a sample size of 246 respondents. The analysis focuses on the factors contributing to malnutrition in children under five, the impact of these factors, and potential intervention strategies. Descriptive statistics are used to present the findings, with brief explanations provided above each table.

4.2 Demographic Characteristics of Respondents

Understanding the demographic characteristics of respondents helps to contextualize the factors contributing to malnutrition.

Demographic Variable	Frequency	Percentage (%)
Gender		
Male	92	37.4
Female	154	62.6
Age Group		
18-25 years	45	18.3
26-35 years	102	41.5
36-45 years	59	24.0
46+ years	40	16.2
Level of Education		
No Formal Education	75	30.5
Primary Education	95	38.6

Secondary Education	51	20.7
Tertiary Education	25	10.2
Household Income		
< K1000	98	39.8
K1000-K3000	112	45.5
>K3000	36	14.6

The sample consisted of more female respondents (62.6%), most of whom were between 26-35 years of age (41.5%). A significant portion of the respondents (38.6%) had primary education, and nearly 40% earned less than K1000 monthly, reflecting socioeconomic challenges within the study area.

4.3 Factors Contributing to Child Malnutrition

Respondents were asked to identify the major factors they believed contributed to malnutrition in children under five years of age.



Figure 2: Factors Contributing to Child Malnutrition

Poverty (79.7%) and food insecurity (74.8%) were identified as the major contributors to child malnutrition. Additionally, over half of the respondents pointed to inadequate breastfeeding (50.8%) and poor sanitation (58.9%) as key factors.

4.4 Impact of Contributing Factors on Child Malnutrition

This section assesses how the identified factors impact the nutritional status of children under five, focusing on stunting, wasting, and susceptibility to illness.

Table 2: Impact of Factors on Malnutrition

Impact	Frequency	Percentage (%)
Increased prevalence of stunting	182	73.9
High rates of wasting	163	66.2
Low weight for age	134	54.5

Frequent illness	157	63.8

Stunting (73.9%) and wasting (66.2%) were common consequences of malnutrition among children. Additionally, frequent illness due to poor immune function affected 63.8% of the malnourished children, creating a cycle of poor health and malnutrition.

4.5 Awareness of Intervention Strategies

The table below shows the level of awareness among respondents about different intervention strategies aimed at addressing child malnutrition.

	Table 3:	Awareness	of Intervention	Strategies
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Strategy	Frequency	Percentage (%)
Community health education	143	58.1
Nutritional supplementation	174	70.7
Maternal care programs	119	48.4
Sanitation improvement initiatives	132	53.7

Nutritional supplementation programs were the most well-known interventions (70.7%), while fewer respondents (48.4%) were aware of maternal care programs designed to promote better maternal and child nutrition.

4.6 Perceived Effectiveness of Intervention Strategies

Respondents were asked to rate the effectiveness of the intervention strategies in reducing malnutrition in children.

Figure 1: Perceived Effectiveness of Intervention Strategies



Only 36.2% of respondents rated the interventions as highly effective. A larger proportion (45.5%) considered the interventions moderately effective, while 18.3% believed they were ineffective.

4.7 Suggested Additional Interventions

Respondents provided suggestions for additional strategies to improve child nutrition in the community.

Figure 2: Suggested Interventions



The most commonly suggested interventions included improving healthcare access (67.1%) and enhancing nutritional programs (69.9%). Economic empowerment of mothers (62.2%) was also emphasized as a critical component in addressing child malnutrition.

4.8 Summary of Findings

The findings reveal that poverty, food insecurity, and inadequate healthcare access are the primary contributors to malnutrition. Intervention strategies exist, but their effectiveness is limited by barriers such as financial constraints and cultural beliefs. Respondents suggested improving healthcare access and implementing economic empowerment programs as additional interventions.

CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter provides a detailed discussion of the findings presented in Chapter 4, linking them to the study objectives and relevant literature. The primary goal is to explore the factors contributing to child malnutrition, assess the impact of these factors on the health of children under five years, and identify potential strategies to mitigate malnutrition in Mwamfuli village. By interpreting the data collected from respondents and relating it to existing studies, this chapter aims to draw meaningful conclusions that inform targeted interventions. The discussion is structured to address each of the study objectives, beginning with the identification of the key factors contributing to malnutrition, followed by an analysis of their impact, and concluding with a review of the current and potential intervention strategies.

Child malnutrition is a multifaceted issue, often rooted in a combination of socioeconomic, cultural, and environmental factors. In this context, it is important to not only identify the primary drivers but also understand how these factors interact and exacerbate one another. Additionally, the discussion will assess the effectiveness of existing interventions in addressing malnutrition in Mwamfuli village and explore potential avenues for improvement. This approach ensures that the study findings contribute to the broader discourse on malnutrition in rural Zambia and similar low-income settings.

5.2 Discussion of Contributing Factors

One of the key findings of this study is the role poverty plays in child malnutrition. Poverty was identified as the most significant factor, with 79.7% of respondents indicating it as a major contributor. This finding is consistent with national and international studies that highlight the link between poverty and malnutrition. According to UNICEF (2019), children living in poverty are more likely to suffer from malnutrition due to limited access to nutritious food, inadequate healthcare, and poor living conditions. In Mwamfuli village, these challenges are exacerbated by the geographic isolation of the community, which further limits access to markets and healthcare services.

Food insecurity, closely tied to poverty, emerged as another significant factor contributing to child malnutrition, affecting 74.8% of respondents. Food insecurity in this context refers not only to the availability of food but also to the lack of diverse, nutrient-rich food necessary for healthy child

development. Families in Mwamfuli village often rely on subsistence farming, which is vulnerable to environmental factors such as droughts or floods. When crop yields are low, families may resort to consuming less nutritious food, increasing the risk of malnutrition in children under five. This finding aligns with the World Food Program's (2020) assertion that rural communities in Zambia are particularly susceptible to food insecurity, leading to high rates of malnutrition.

Breastfeeding practices also play a crucial role in child nutrition. In this study, 50.8% of respondents identified inadequate breastfeeding as a contributing factor to malnutrition. This finding is supported by the World Health Organization (2018), which emphasizes the importance of exclusive breastfeeding for the first six months of life. In Mwamfuli village, early weaning and the introduction of inadequate complementary foods are common due to cultural practices and the lack of maternal education on proper infant feeding. These practices deprive children of essential nutrients during a critical period of growth, leading to malnutrition. Moreover, mothers who are malnourished themselves, due to poverty and food insecurity, may struggle to produce sufficient breast milk, further exacerbating the problem.

Poor sanitation and hygiene were reported by 58.9% of respondents as contributing to child malnutrition. Malnutrition and poor sanitation are closely linked, as children exposed to unhygienic environments are more likely to contract diseases such as diarrhea, which can impair nutrient absorption and exacerbate malnutrition. In rural areas like Mwamfuli village, access to clean water and proper sanitation facilities is limited, increasing the risk of infection and illness among children. This finding is consistent with the United Nations Sustainable Development Goal (SDG) 6, which highlights the importance of clean water and sanitation in reducing malnutrition and improving child health outcomes.

Cultural practices were also identified as a factor influencing child malnutrition, with 41.5% of respondents acknowledging their role. Traditional beliefs about child feeding, health, and the role of women in the household often dictate nutritional practices in rural communities. For instance, certain foods may be deemed inappropriate for young children, or mothers may be discouraged from seeking modern healthcare. These practices can hinder efforts to address malnutrition, as they perpetuate behaviors that contribute to poor nutritional outcomes. Engaging community leaders and elders in education programs could help challenge harmful cultural norms and promote healthier practices.

5.3 Impact of Contributing Factors on Malnutrition

The impact of these contributing factors on child malnutrition in Mwamfuli village is profound, as evidenced by the high prevalence of stunting (73.9%) and wasting (66.2%) among children under five. Stunting, a sign of chronic malnutrition, indicates that children are not receiving sufficient nutrients over a prolonged period, affecting their physical and cognitive development. According to the Global Nutrition Report (2020), stunted children are more likely to experience long-term health problems, poor school performance, and reduced economic productivity in adulthood. The high rate of stunting in Mwamfuli village reflects the ongoing nutritional deficiencies faced by children in this community.

Wasting, a marker of acute malnutrition, indicates that children are not receiving enough calories or nutrients in the short term, often due to food scarcity or illness. The high rate of wasting reported in this study is concerning, as it suggests that children in Mwamfuli village are experiencing severe nutritional stress. Wasting increases the risk of mortality, particularly in children under five, who are more vulnerable to infections and other health complications. The World Health Organization (2021) warns that wasted children are at greater risk of death if not provided with urgent nutritional and medical interventions.

Frequent illness, reported by 63.8% of respondents, further compounds the issue of malnutrition. Malnourished children are more susceptible to infections, which in turn exacerbate malnutrition by impairing the body's ability to absorb nutrients. This creates a vicious cycle, where malnutrition weakens the immune system, making children more vulnerable to illness, and illness further worsens their nutritional status. In Mwamfuli village, common diseases such as diarrhea and respiratory infections are prevalent, largely due to poor sanitation and inadequate healthcare access. The high rate of illness among malnourished children underscores the need for a holistic approach to addressing malnutrition, one that includes improving healthcare and sanitation alongside nutritional interventions.

5.4 Effectiveness of Intervention Strategies

While various intervention strategies aimed at reducing child malnutrition exist in Mwamfuli village, their effectiveness has been limited. Nutritional supplementation programs, which provide essential vitamins and minerals to malnourished children, were identified by 70.7% of respondents as a key intervention. However, only 36.2% of respondents rated these programs as highly

effective. This suggests that while nutritional supplements are available, they may not be reaching all children in need, or the programs may be hindered by logistical challenges such as irregular distribution or limited funding.

One major barrier to the effectiveness of these interventions is limited healthcare access. In Mwamfuli village, healthcare facilities are scarce, and many families cannot afford to travel long distances to seek medical care. Even when healthcare is available, it is often understaffed and lacks the necessary resources to address malnutrition comprehensively. As a result, children who require nutritional rehabilitation may not receive the timely and consistent care they need. This finding aligns with the Zambia Demographic and Health Survey (2018), which highlights the challenges of healthcare access in rural areas as a significant impediment to improving child nutrition.

Cultural beliefs and practices also play a role in limiting the effectiveness of interventions. For instance, some families may be reluctant to adopt modern feeding practices or participate in nutritional programs due to traditional beliefs about child-rearing and healthcare. As 41.5% of respondents indicated, cultural practices can influence child nutrition, and without community engagement and sensitization, efforts to improve nutrition may be met with resistance. This highlights the importance of integrating cultural considerations into intervention strategies, ensuring that programs are not only accessible but also culturally appropriate and acceptable to the community.

In summary, while intervention strategies such as nutritional supplementation and healthcare programs exist, their limited effectiveness underscores the need for a more comprehensive approach. Addressing the root causes of malnutrition, including poverty, food insecurity, and poor sanitation, will require coordinated efforts that involve not only healthcare providers but also community leaders, policymakers, and international organizations.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The study concludes that child malnutrition in Mwamfuli village is primarily driven by poverty, food insecurity, and inadequate access to healthcare services. While nutritional programs and health education exist, their effectiveness is hindered by financial and cultural barriers. A multi-faceted approach is necessary to address the root causes of malnutrition and improve the health outcomes of children in the village.

6.2 Recommendations

- 1. **Strengthening Healthcare Services**: The government and health organizations should prioritize improving access to healthcare services in rural areas to ensure timely diagnosis and treatment of malnutrition.
- 2. Economic Empowerment Initiatives: Implementing programs that provide economic opportunities for mothers will help reduce food insecurity and improve child nutrition.
- Enhanced Nutritional Programs: Expanding nutritional supplementation and education programs at the community level will improve awareness and adoption of proper feeding practices.
- 4. **Cultural Sensitization**: Engaging local leaders to challenge cultural practices that hinder proper child nutrition is crucial for long-term change.

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APPENDICES

Appendix A: Participant Information Sheet/Consent form CHRESO UNIVERSITY

CITY CAMPUS

Study Title:

Name of Researcher:

If you agree, please initial box

1. I confirm that I have read the information sheet dated	
(Version) for this study. I have had the opportunity to consider the	
information, ask questions and have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that I am free to withdraw at	
any time without giving any reason, without legal rights being affected.	
3. I understand that relevant sections of data collected during the study may be looked	
at by individuals where it is relevant to my taking part in this research. I give	
permission for the researcher to have access to my records.	
4. (If appropriate) I agree to provide a sample(s) as part of my involvement in this	
study and I understand I will not gain any direct personal or financial benefit from	
them.	
5. (If appropriate) I agree to audio/video recording and the use of anonymised quotes	
in research reports and publications.	
6. (If appropriate) I agree to the researcher being informed of my participation in the	
study.	
7. (If appropriate) I understand that the information held and maintained may be used	
to help contact me or provide information about nutrition.	
8. I understand and agree that the information wasused in research aimed at	
understanding factors leading to malnutrition in children under the age of five	

(5) and that the results of these investigations are unlikely to have any	
implications for me personally.	
9. If a concern is raised about the information, I will only be informed if the	
researcher thinks it is important such that the finding has clear implications.	
10. I agree to take part in this study.	
Additional:	
11. (If appropriate) I agree to be contacted about ethically approved research studies	
for which I may be suitable. I understand that agreeing to be contacted does not	
oblige me to participate in any further studies.	
12. (If appropriate) I agree for my anonymized information to be used in future	
research, here or abroad, which has ethics approval.	

Name of Participant	Date	Signature
Name of Person taking Consent	Date	Signature

Appendix B: QUESTIONNAIRE

Eating and dietary habits (tick) appropriate response

Section 1; Factors contributing to Malnutrition

- 1. What is the primary source of income for your household?
- a) Agriculture b) Fishing c) Livestock rearing d) Other (please specify)
- 2. What is the highest level of education attained by the primary caregiver?
- a) No formal education b) Primary school c) Secondary school d) Tertiary education
- 3. How often do you feed your child/children under the age of five (5) in a day?
- a) Less than 3 times b) 3 times c) More than 3 times
- 4. Do you exclusively breastfeed your child/children under six months (6) of age?
- a) Yes b) No
- 5. What types of food are commonly consumed by your child/children under the age of five (5)?

a) Grains (e.g., maize, rice) b) Vegetables c) Fruits d) Animal products (e.g., meat, eggs) e) Legumes (e.g., beans, lentils) f) Other (please specify)

6. Do your children ever eat less than you feel they should because there is not enough food in the house?

a) In the past 30 days b) 5 or more days in past 30 days.

7. Are there any cultural beliefs or practices that affect the feeding habits of your child/children?a) Yes b) No

8. Do you have access to healthcare services for routine check-ups and treatment of illnesses?a) Yes b) No

9. Are there any seasonal variations in food availability and access in your household?

a) Yes b) No

Section 2: Effects of Child Malnutrition

10. Have you noticed any changes in your child's growth and development in the past six months?a) Yes b) No

11. Has your child experienced any health issues such as frequent illnesses, infections, or delays in physical or cognitive development?

a) Yes b) No

12. How would you describe the overall health and well-being of your child?

a) Excellent b) Good c) Fair d) Poor

13. Have there been any instances where your child has experienced hunger or food insecurity?

a) Yes b) No

14. Have there been any changes in your child's behavior, mood, or energy levels?

a) Yes b) No

15. Have there been any financial implications due to your child's health status?

a) Yes b) No

Section 3: Intervention Strategies for Eradication of Child Malnutrition

16. Are you aware of any existing government or NGO programs addressing child malnutrition in your community?

a) Yes b) No

17. What barriers do you face in accessing nutritious foods for your child/children?

a) High cost of nutritious foods b) Limited availability of nutritious foods c) Lack of knowledge on nutritious food choices d) Other (please specify)

18. Are there any community-based initiatives or resources that support child nutrition and health?a) Yes b) No

19. What do you think could be done to improve access to healthcare services for children under the age of five (5) in your village?

a) Increase number of healthcare facilities

b) Provide transportation for healthcare access

c) Train community health workers

d) Other (please specify)

20. Are there any specific educational or awareness programs you believe would be beneficial in addressing child malnutrition?

a) Nutrition education workshops

b) Cooking demonstrations for nutritious meals

c) Health and hygiene education sessions

d) Other (please specify)

21. What role do you think local leaders and authorities can play in addressing child malnutrition in your community?

a) Advocating for funding for nutrition programs

b) Implementing policies to support nutrition initiatives

c) Mobilizing community support for nutrition efforts

d) Other (please specify)

22. How can traditional knowledge and practices be integrated with modern healthcare approaches to improve child nutrition?

a) Incorporating traditional foods into balanced diets

b) Promoting traditional methods of food preservation and preparation

c) Collaborating with traditional healers for holistic healthcare

d) Other (please specify)

23. Are there any suggestions you have for improving the availability and affordability of nutritious foods in your village?

a) Subsidizing nutritious foods

b) Supporting local agriculture for increased production of nutritious foods

c) Establishing community gardens or food banks

d) Other (please specify)

24. How can community members collaborate to create sustainable solutions for addressing child malnutrition?

a) Forming community nutrition committees

b) Sharing resources and knowledge about nutrition

c) Supporting income-generating activities for vulnerable families

d) Other (please specify)

25. Are there any specific support or resources you would need to enhance the nutritional status of your child/children under the age of five (5)?

a) Access to affordable healthcare services

b) Nutrition education materials

c) Financial assistance for purchasing nutritious foods

d) Other (please specify)

Appendix C: QUESTIONNAIRE- Local Language

QUESTIONNAIRE

Eating and dietary habits (tick) appropriate response Section 1: Factors contributing to malnutrition

- 1. Musango nshi uyo musangilamo indalama mu bwikashi bwenu pa ng'anda?
 - (a) Bulimi (b) Bushila (c) Kuteeka ifinama (d) Inshila shimbi (londolola)
- 2. Nipesa pafika abene ba ng'anda mu masambililo ya kusukulu?
 - (a) Tapali (b) ku primary school (c) ku secondary school (d) ku college/ university
- 3. Miku Inga mulisha abaana benu abashilafika imyaka isano (5), cilabushiku?(a) Taifika itatu (b) Itatu (c) Ukucila Pali itatu
- 4. Bushe mulonsha umwana nangu abaana abashilakumanya imyeshi mutanda (6)?(a) Ee (b) Iyo
- 5. Filyo nshi ilingiline mupeela umwana nangu abaana abashilakumanya imyaka isano (5)?
 - (a) Fya nseke pamo nga amataba nangu umupunga (rice) (b) Umusalu (c)Ifisabo
 - (d)Inama nelyo amaani (e) cilemba (f) Nelyo fimbi Londolola.

6. Bushe abaana balya ifyakulya ifnono ukucila fintu mwenekela pantu tamukwete ifilyo mu ng'anda?

- a) Munshiku 30 ishapitapo b) munshiku 5 nelyo ukucilapo munshiku 30 ishapitapo.
- 7. Bushe mwalikwata ifipatala mupeepi ifyaku myundapa noku miceceta libili libili?(a) Ee (b) Iyo

8. Bushe imilile ilacinja munshita shapusana pamo nga umupepo, ulusuba nangu amainsa pa ng'anda pamwenu?

(a) Ee (b) Iyo

Section 2: Effects of child Malnutrition

9. Bushe mulaceceta ubupusano mumikulile na ubuyantanshi bwa mwana mu myeshi mutanda (6) iyapitapo?

(a) Ee (b) Iyo

10. Bushe umwana alapitako mukulwalilila, ukushingashingamumikulile nelyo mumitontonkanishishe?

(a) Ee (b) Iyo

11. Kuti mwalondolola shani ubumi busuma ubwa mwana na imikalile?

(a) Bwaba fye bwino saana (b) bwino (c) Efilyako (d) bwalibipa saana.

12. Bushe kwalibako inshita iyo umwana apitako mukucululuka na insala nelyo ukubulilwa kwa fyakulya?

(a) Ee (b) Iyo

13. Bushe palibako ubupusano mumimonekele, imyangalile nelyo ukumoneka uwanaka?(a) Ee (b) Iyo

14. Bushe mulapitako mumafya yafya indalama pamulandu wa bumi bwa mwana?(a) Ee (b) Iyo

Section 3: Intervention strategies for eradication of Child Malnutrition

15. Bushe mwaliba abaibukila ukuti kwaliba ubuteko na utubungwe utubomba mukwampana na ubuteko mukucimfya ukondoloka Kwa bana banono?

(a) Ee (b) Iyo

16. Bwafya nshi mukwata mukusanga fyakulya ifilenga umwana nangu abaana ukukula no bumi busuma?

(a) Ukunina Kwa mutengo wa fya kulya fine fine (b) Ukukana moneka Kwa fyakulya finefine (c) Ukukana ishiba ifyakulya fifwaikwa bwino – bwino. (d) Fimbi
Londolola.

17. Bushe kwalibako Inshila shimo mubwikashi ishafwilisha mufya milile na ubumi busuma ubwa baana?

(a) Ee (b) Iyo

18. Finshi mwingatontonkaya ifingafwilishako ukutwala pantanshi ukukwata ubundapishi busuma ku baana abashacila imyaka isano (5 years) mu nchende yenu?

19. Bushe kwalibako umusango umo uwa masambililo ayengafwilisha ukupwisha ubwafya bwa malwele yaletwa na insala ku baana?

- (a) Masambililo yanshiku ishinono pafya milile
- (b) Ifilangililo fya mipekanishishe isuma iya filyo fya baana

- (c) Masambililo pa fya bumi no kuisakamana
- (d) Fimbi londolola

20. Finshi intungulushi shacikaya nabalashikwa bengacitapo paku pakupwisha ubwafya bwa malwele yaletwa ne nsala mu nchende yesu?

- (a) Ukupakamisha ifya ndalama ishikumine ifya milile ya baana
- (b) Ukufikilisha amafunde ayakumine ukuwamya imilile ya baana banono
- (c) Ukucincisha abekala calo ukutungilila imitukuto ikumine ifya milile ya baana
- (d) Fimbi Londolola

21. Nishani fintu amaano yacifyalilwa, fibelesho na ubundapishi bwaleelo

fingasankanishiwa ku Ukupakamisha imilile ya baana banono?

(a) Ukusankanya ifyakulya fyacikaya mu ifyakulyaifyatumbinkanishiwa bwino

(b) Ukutwala pantanshi imipekanishishe ne misungile ya fyakulya

(c) Ukubombela pamo kwa bondapishi bacikaya na bafipatala kukufishapo ubundapishi bwakumanina,

(d) Fimbi londolola

22. Bushe namukwatako inshila shimo isho mwingamona ukuti kuti shalenga ukukula Kwa fyakulya fisuma ifya baana pa mutengo uusuma munchende yesu?

- (a) Ukusanshapo indalama ukwa buteko pakunashishako abekala calo mutengo
- (b) Ukutungilila ubulimi bacikaya pa ukukwata ubusomboshi busuma ubwa
- filyo fipeela ubumi busuma.
- (c) Ukupakamisha ubulimi bwapa mayanda nokusunga kwa fyakulya
- (d) Fimbi londolola

23. Nishani fintu abekala calo bengabombela pamo mukufwaya inshila sha kupwishishamo malwele yaletwa ne nsala mu baana banono

- (a) Ukupanga utubungwe twakupakamisha imilile ya baana munchende
- (b) Ukusambilishanya no kukabushanya ifilipo pafya milile ya baana
- (c) Ukupakamisha inshila shakupangilamo ulupiya ku ndupwa ishabulisha

(d) Fimbi londolola.

24. Bushe kuliko inshila shimo nelyo umusango uwingatwala pantanshi imilile ya baana banono abasha cila imyaka isano (5)?

- (a) Ukukwata ubundapishi mutengo walinga
- (b) Ukukwata ifyakubomfya mu masambililo ya fya milile isuma
- (c) Ubwafwilisho mu fya ndalama shakushita ifyakulya fyakumanina
- (d) Fimbi londolola

Appendix D: Permission letter

TO THE CHRESO UNIVESTTAY LUSAKA ZAMBIA. Rubakalamba ba milimo. pakubala ndeti musabo mbeni nykwai Mukwai klyu mulamento Uweshing 49 AUDREY MWEWA MUKOSP. N.A.C. Nº 349204/32/1 1.D. Nº 20011203. Ugy multime ande muikala mushi Muno my mushi misæmfæli my mjumy ba Kasoma Banqweuly. Mubiai tva musu minisha ukupoka Imformation la bantu muli Uno mushi mira mwanufuli. ngo musango water puistishang amasambidel yalare. aya Research. mulasai me ne muine mushi muandali kati natemuq sang ubwaywilisho baveny nga bwajikil wa pantu nga apwisha amasambili lo akajwa Icalo ca zambia notupula. Nue mone mus hi Musanduli Secretary P. Nojand REPUBLIC OF ZAMBIA