**ASSESSMENT OF CHILD MALNUTRION IN DEVELPING COUNTRIES IN SOUTH SUDAN, CASE STUDY OF AKOBO COUNTY**

**DOO3**

**BY**

**BUAY RAMBANG WUR**

**A PROPOSAL SUBMITTED IN PARTIAL FULFILMENT FOR THE REQUIRED AWARD OF DIPLOMA IN HUMAN NUTRITION AT AFRICA INSTITUTE FOR PROJECT MANAGEMENT STUDIES IN KENYA.**

**AUGT, 2O19**

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# **DECLARATION AND CERTIFICATION**

## Declaration

I Buay Rambang Wur **hereby** declared that, this research proposal is my own work and it has not been presented to any other institute for a similar or any other award.

**Signature ………………… Date …………………**

## Certification Statement

I the undersigned, certify that this proposal is the work of the student carried out during his studies under my direct supervision from my supervisor. I therefore certify that l have read and hereby recommend for examination, the topic entitled; Assessment of malnutrition among children under 5 years of age in Akobo.

Signature……………… Date ………

Supervisor

# **LIST OF ACRONYMS AND ABBREVIATIONS**

**ACF**; Action Contre la Faim (Action against Hunger)

**ACT:** Artemisinin- based Combination Therapy AFOD Action for Development

**AIDS:** Acquired Immunodeficiency Syndrome

**ALOS:** Average Length of Stay

**ANC:** Antenatal Care

**ART**: Anti-Retroviral Therapy

**BHC:** Boma Health Committee

**BHT**: Boma Health Team

**BMI:** Body Mass Index

**BPHNS:** Basic Package of Health and Nutrition Services

**BSFP**: Blanket Supplementary Feeding Programme

**CBDs:** Community Base Distributor

**CHD:** County Health Department

**CHWs:** Community Health Workers

**CMAM**: Community management of acute malnutrition

**CMAM-**TWG Community Management of Acute Malnutrition Technical Working Group **CPD:** Continuous Professional Development

**CSB:** Corn Soy Blend

**DHIS2:** District Health Information System 2

**EPI**: Expanded Programme on Immunization

**F100:** Formula 100 therapeutic milk

**F75:** Formula 75 therapeutic milk

**FAO:** Food and Agriculture Organization

**GOSS:** Government of South Sudan

**Hb**: Haemoglobin

**HFA:** Height for Age

**HHPs**: Home Health Promoters

**HIV:** Human Immunodeficiency Virus

**HMIS:** Health Management Information System

**ICCM:** Integrated Community Case Management

**IDA:** Iron Deficiency Anaemia

**IDDs:** Iodine Deficiency Disorders

**IDPs:** Internally Displaced Persons

**IMNCI:** Integrated Management of Newborn and Common Childhood Illnesses

**ITP**: Inpatient Therapeutic Program

**KAP**: Knowledge, Attitudes and Practices

**LLITN:** Long Lasting Insecticide Treated bed Nets

**MAM:** Moderate Acute Malnutrition

**MIYCF:** Maternal Infant and young child nutrition

**MOH:** Ministry of Health

**MUAC:** Mid Upper Arm Circumference

**NGO:** National non-Governmental Organization

**OPD**: Outpatient Department ORS Oral Rehydration Solution

**OTP:** Outpatient therapeutic program

**PHCC:** Primary Health Care Centre

**PHCU**: Primary Health Care Unit

**RUSF**: Ready used Supplementary food

**RUTF:** Ready used Therapeutic Food

**SAM:** Severe Acute Malnutrition

**SC:** Stabilization Center

# **DEFINITION OF TERMS**

**Malnutrition:** is medical condition that characterized by over and underweight.

**Nutrition assessment** refers to an evaluation of nutrition status of individual.

**Community mobilization: is** the process that engage all sectors in the community to health related issues.

**Exclusive breastfeeding:** is process giving only breast milk to baby from birth to six months.

**Oedema**: is a condition characterized by an excess of watery fluid collecting in the cavities or tissues of the body or an excessive accumulation of serous fluid in the intercellular spaces of tissue

**Anthropometric measurement**: are systematic **measurements** of the size, shape and composition of the human body. ... For example, body mass index, or BMI, is a **measurement** of a person's weight-to-height ratio, and waist-to-hip ratio is a **measure** of the waist circumference divided by the hip circumference.

**Mid-Upper Arm Circumference:** (MUAC) is the circumference of the left upper arm, measured at the mid-point between the tip of the shoulder and the tip of the elbow (olecranon process and the acromium). MUAC is used for the assessment of nutritional status.

**SMART Methodology:** is an improved **survey** method that balances simplicity (for rapid assessment of acute emergencies) and technical soundness. ... The **SMART** Methodology is based on the two most vital and basic public health indicators for the assessment of the magnitude and severity of a humanitarian crisis.

**Antenatal care:** is the routine health control of presumed healthy pregant women without symptoms (screeening), in order to diagnose diseases or complicating obstetric conditions without symptoms, and to provide information about lifestyle, pregnancy and delivery.

**Primary healthcare:**  is a basic care rather than specialized level for people making an initial approach to a doctor or nurse for treatment.

**Iodine deficiency**: A lack of sufficient **iodine** in the diet, which can lead to inadequate production of thyroid hormone (hypothyroidism) and enlargement of the thyroid gland (goiter). Since the addition of **iodine** to table salt became common, **iodine deficiency** has rarely been seen in the US.

**Nutrients**: is a substance that provides nourishment essential for growth and the maintenance of life.

"fish is a source of many important nutrients, including protein, vitamins, and minerals"

**RUTF:** (Ready-to-Use Therapeutic Food) is a vitamin and mineral fortified peanut paste mixed with dry milk products. It has been heralded by Doctors Without Borders as a miracle cure for children suffering from Severe Acute Malnutrition.

**ABSTRACT/EXECUTIVE SUMMARY**

Assessment of malnutrition refers to the process of evaluating nutrition status of individuals specifically children.

Nutrition has long been at the core of UNICEF’s work. In 2018, we helped provide life-saving therapeutic feeding for 4.1 million children with severe acute malnutrition; we improved the quality of diets for over 15.6 million children through home-based fortification; we supported programmes to prevent anaemia and other forms of malnutrition for 58 million adolescent girls and boys; and we ensured that over 300 million children received services for the prevention of stunting and other forms of malnutrition (*UNICEF, 2019*).

The purpose of this study is to assessment malnutrition among children under 5 years of age in Akobo.

Non-intervention descriptive study which involved both quantitative and qualitative approaches. Simple random sampling method will be used.

The findings from this study may raise the awareness of county health department and community on malnutrition. The proposed study sample of household will be selected by simple random sampling method on daily based. Date will be collected by interview, questionnaires MUAC, weighing scales, and height/length boards.

Both qualitative and quantitative will be analyzed manually.

An estimated budget of **244080 will** be spent during research study.

# **CHAPTER ONE: INTRODUCTION**

## Introduction

This chapter comprises; background information to the study topic, statement of the problem, study justification/significance, study questions, study objectives.

## 1.1 Background information

Assessment of malnutrition refers to the process of evaluating nutrition status of individuals specifically children.

Nutrition has long been at the core of UNICEF’s work. In 2018, we helped provide life-saving therapeutic feeding for 4.1 million children with severe acute malnutrition; we improved the quality of diets for over 15.6 million children through home-based fortification; we supported programmes to prevent anaemia and other forms of malnutrition for 58 million adolescent girls and boys; and we ensured that over 300 million children received services for the prevention of stunting and other forms of malnutrition (*UNICEF, 2019*).

Malnutrition permeates all aspects of health, growth, cognition, motor and social development of young children in developing countries. More than 50% of deaths in these children can be attributed to malnutrition, most often in conjunction with serious infection. Irreversible and lifelong sequel prevent children from reaching their full potential (*Neumann et al, 2017*).

Many sub-Saharan African countries saw increases in under nutrition among young children; across the continent there was a 23% rise in the number of children under five experiencing Stunting (i.e. low height for age, a measure of chronic food deprivation) with around 58 million children affected (*UNICEF, WHO, and World Bank,*[*2015*](https://link.springer.com/article/10.1007/s12187-019-09671-1#CR42)).

## 1.2 Statement of problem

Nearly half of all deaths in children under 5 are attributable to under nutrition; under nutrition puts children at greater risk of dying from common infections, increases the frequency and severity of such infections, and delays recovery (*UNICEF, 2019*).

The combination of malnutrition and infection is the leading cause of death among young children in developing countries. Malnutrition alone is estimated to account for over half of children’s deaths annually. In developing countries, approximately 183 million children are underweight-for-age, 67 million are underweight-for-height (wasted), and 226 million are low height-for-age (stunted). Other leading causes of deaths are malaria, acute respiratory infections, diarrheal disease, tuberculosis and HIV/AIDS, frequently complicated by varying degrees of malnutrition (*Charlotte et al, 2018).*

Malnutrition has long been associated with poor diet and inadequate access to health and sanitation services. Malnutrition remains a major public health problem particularly in the developing countries where it accounts for more than 90 % of all nutritional related conditions with two third of all cases originating from Sub Saharan Africa, and morbidity and mortality due to malnutrition is high among children under 5 years of age (Omar et al, 2016).

The last anthropometric SMART survey in the area conducted by IMC in May 2014 showed a Global Acute Malnutrition (GAM) Rate of 31.8%, 95% and a Severe Acute Malnutrition Rate (SAM) of 9.5% indicating a critical nutrition situation in the area ([*International Medical Corps*](https://reliefweb.int/organization/imc)*, 2015).*

## 1.3 Justification of the study

Despite the above strategies, malnutrition is major problem to children under 5 years of age. Therefore, the purpose of this study is to assess malnutrition rate among children in Akobo.

## 1.4 Significance of the study

The findings from this study may raise the awareness of county health department and community on malnutrition.

## 1.5 Study questions

### **1.5.1 Broad question**

What number of children affect by malnutrition in Akobo?

### **1.5.2 Specific questions**

What are the nutrition issues in Akobo?

What percentage of child population is suffering from malnutrition in Akobo?

What is an estimated number of children that are affected by malnutrition in Akobo?

## 1.6 Study objectives

## 1.6.1 Broad objective

To assess malnutrition among children under 5 years of age in Akobo.

### **1.6.2 Specific objectives**

To assess nutrition issues among children in Akobo.

To identify number of that are affected by malnutrition in Akobo.

To assess the percentage of children suffering from malnutrition in Akobo.

# **CHAPTER TWO: LITERATURE REVIEW**

## 2.1 Introduction

This chapter discus the literature review from previous studies around the world about malnutrition among children under five years of age based on the three specific objectives as below, social demography, history taking and anthropometry measure.

## 2.2 Overview of malnutrition and its assessments

According to the World Health Organization (WHO), cut-off values for public health significance differ for each indicator. While a prevalence of 20% for underweight may suggest a high level of malnutrition, a similar figure for stunting would appear to merit less concern. A 20% rate for wasting would reflect a critical level of malnutrition, requiring rapid mobilization and nutrition interventions, in order to prevent premature mortality (UNICEF [2015](https://link.springer.com/article/10.1007/s12187-019-09671-1#CR41)).

South Sudan experiences a malnutrition burden among its under-five population. As of 2010, the national prevalence of under-five overweight is 5.8%, which has decreased from 10.9% in 2006. The national prevalence of under-five stunting is 31.3%, which is greater than the developing country average of 25%. South Sudan's under-five wasting prevalence of 24.3% is also greater than the developing country average of 8.9%. In South Sudan, 44.5% of infants under 6 months are exclusively breastfed, this is well below the Eastern Africa average of 58.5%. There is insufficient data on low birth weight (WHO, 2018).

## 2.3 Percentage of children affected by malnutrition

According to the study conducted by Omar et al (2016) in Tanzania overall proportion of stunting, underweight and wasting was 8.4, 5.7 and 1.4 % respectively. Boys were significantly more stunted, underweight and wasted than girls.

According to study conducted by Fanzo et al (2018) in India Indicated that 38 per cent of children under five are affected by stunting — children too short for their age due to lack of nutrients, suffering irreversible damage to brain capacity.

## 2.4 Malnutrition issues among children

According to the study conducted by Omar et al (2016) in Tanzania that poverty, inadequate access to a balance diet and underlying diseases (tuberculosis, malaria, diarrhea, etc.) contribute to high levels of malnutrition.

The study conducted by WHO (2017) in India found 38 per cent of children under five are affected by stunting — children too short for their age due to lack of nutrients, suffering irreversible damage to brain capacity.

# **CHAPTER THREE: METHODOLOGY**

## 3.1 Introduction

This chapter includes the methodology for the study. It describes the research design adopted for the study, the study population, sampling procedure, methods of data collection and discusses how validity and reliability were ensured. Further on, the chapter describes the method that was used for data analysis.

## 3.2 study area

The study will be carried out in Akobo. It located at Eastern of Jonglei near Ethiopia Border with South Sudan. Akobo County is one of the eleven Counties that make up Jonglei state.The area is within the Eastern Flood Plain Zone and characterized by black cotton soil. Akobo County is divided into two, Akobo West and Akobo East. Akobo East has 4 Payams namely; Alali, Bilkey, Nyandit and Dengjok. The current estimated figures of Akobo East is 79,160, however the population has increased due to internally displaced people that are estimated to be 32,733 according to UNOCHA report.

## 3.3 Research Design and Type

Here the researcher employed a quantitative descriptive design. Hence the researcher will use a descriptive language to describe the situation as found in the area of the study and also numbers will be used to quantify the information. I chose this design because children are already expose to malnutrition,so it will be easy for them to understand.

## 3.4 Study Population

The study population will be children under 5 years in Akobo.

## 3.5 Sampling Techniques

Simple random sampling method will be used to determine the respondents from the two sets who will be selected randomly. The researcher will take 50 sample sizes from the study population.

## 3.6 study variables

### **3.6.1 Dependent variables**

Assessment of malnutrition among children in Akobo.

### **3.6.2 Independent variables**

Socio-demography, MUAC, Oedema, History taking

## 3.7 Data Collection methods and Instruments

Observation checklists and questionnaires, MUAC tap and weighing scale will be used as data collection tool.

## 3.8 Data analysis methods

The data will be processed manually with the help of a scientific calculator and Microsoft Excel. The data will be analyzed and presented inform of narrative summary, tables, bar graph and pie charts for easy interpretation of data.

## 3.9 Quality Control

The data collection tools will be pre-tested by the researcher at Hai Tongping, Juba before the actual field work to ensure relevance of the questions, validity and reliability of the data. Five (5) households will be selected randomly. This will help the researcher to adjust the questionnaires where necessary based on the responses from the respondents. The researcher will ensure that data are correctly obtained and recorded.

## 3.10 Ethical Considerations

The researcher will seek permission from Africa Institute for Project Management Studies in Kenya Administration, and Akobo County Health Department (CHD). The researcher will explain the purpose of conducting the research to the respondents and confidentiality will be assured. Participation on the research will be free of choice of the respondents and names will not be included in the data collection tools.

## 3.11 Plans for Dissemination of Results

The results will be submitted to Africa Institute for Project Management Studies in Kenya, Akobo county Health Department and copy one to the researcher.

# **4. TIME SCHEDULE/ACTION PLAN**

(Should include time lines for all major activities

s from proposal development to report writing and dissemination)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **ACTIVES** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **J** | **J** | **Responsible persons** | **Remarks** |
| 1 | Topic selection |  |  |  |  |  |  |  |  |  |  | Researcher |  |
| 2 | Proposal development |  |  |  |  |  |  |  |  |  |  | Researcher |  |
| 3 | Proposal  Submission |  |  |  |  |  |  |  |  |  |  | Researcher |  |
| 4 | Approval of research proposal |  |  |  |  |  |  |  |  |  |  | Research committee |  |
| 5 | Data collection |  |  |  |  |  |  |  |  |  |  | Researcher |  |
| 6 | Data analysis |  |  |  |  |  |  |  |  |  |  | Researcher |  |
| 7 | Report writing |  |  |  |  |  |  |  |  |  |  | Researcher |  |
| 8 | Final sub mission |  |  |  |  |  |  |  |  |  |  | Research committee |  |
| 9 | Research report Marking |  |  |  |  |  |  |  |  |  |  | Research team |  |
| 10 | Dissemination |  |  |  |  |  |  |  |  |  |  | Researcher |  |

# **5. BUDGET**

(Should cover the cost of expected expenditures from proposal development to report writing and dissemination)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S/NO | ITEMS | QUANTITY | UNIT | UNIT PRICE IN SSP | TOTAL AMOUNT  IN SSP |
| 01 | Computer | 1 | 1 | 65,000 | 210, 0000 |
| 02 | Ruled paper | 1 | Rim | 3000 | 3,000 |
| 03 | Flash disc | 1 | 32GB | 4,000 | 4,000 |
| 04 | Pens | 3 | 3 | 50 | 150 |
| 05 | Airtime | 2 | Cards | 30 | 150 |
| 06 | Counter book | 1 | Book | 700 | 700 |
| 07 | Printing Research | 4 | Copies | 4\*1520 | 6,080 |
| 08 | Hiring of Research Assistant | 2 persons | 10,000@ | 2 X 10,000 | 20,000 |
| 09 | Grand Total SSP **244080** | | | | |

# **REFERENCES**

*Charlotte G. Neumann\*, MD, MPH*

*CHILD NUTRITION IN DEVELOPING COUNTRIES: CRITICAL ROLE IN HEALTH (2018)*

[*file:///C:/Users/user/Desktop/B%20one/school%20doc/exams/Reearch%20final/child%20nut/cd8a1fcfc68d391cd7230f4c35d5f2431a9e.pdf*](file:///C:/Users/user/Desktop/B%20one/school%20doc/exams/Reearch%20final/child%20nut/cd8a1fcfc68d391cd7230f4c35d5f2431a9e.pdf)

*Accessed 11/11/2019*

UNICEF,

THE STATE OF THE WORLD'S CHILDREN 2019 growing well in a changing world (2019)

<https://www.unicef.org/media/60806/file/SOWC-2019.pdf>

Nutrition in the WHO Africa Region

Malnutrition rates remain alarming: stunting is declining too slowly while wasting still impacts the lives of far too many young children, (2019).

<https://data.unicef.org/topic/nutrition/malnutrition/>

Accessed 15/11/2019

[*Omar Ali Juma*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Juma%20OA%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,corresponding author*[*Zachary Obinna Enumah*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Enumah%20ZO%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,*[*Hannah Wheatley*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Wheatley%20H%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,*[*Mohamed Yunus Rafiq*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Rafiq%20MY%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,*[*Seif Shekalaghe*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Shekalaghe%20S%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,*[*Ali Ali*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ali%20A%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,*[*Shishira Mgonia*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Mgonia%20S%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*, and*[*Salim Abdulla*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Abdulla%20S%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)

*Prevalence and assessment of malnutrition among children attending the Reproductive and Child Health clinic at Bagamoyo District Hospital, Tanzania (2016).*

[*https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5070185/*](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5070185/)

*Accessed 15/11/2019’*

[Global Nutrition Report 2018](https://globalnutritionreport.org/reports/global-nutrition-report-2018/)

**Progress against global nutrition targets 2018**

<https://globalnutritionreport.org/resources/nutrition-profiles/africa/eastern-africa/south-sudan/>

Accessed 15/11/2019

Malnutrition is still a serious problem for India: report

[*https://www.thehindubusinessline.com/economy/malnutrition-is-still-a-serious-problem-for-india-report/article9945672.ece*](https://www.thehindubusinessline.com/economy/malnutrition-is-still-a-serious-problem-for-india-report/article9945672.ece)

Accessed 15/11/2019

[*Omar Ali Juma*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Juma%20OA%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,*[*Hannah Wheatley*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Wheatley%20H%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,1*[*Mohamed Yunus Rafiq*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Rafiq%20MY%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,3*[*Seif Shekalaghe*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Shekalaghe%20S%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,1*[*Ali Ali*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ali%20A%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,1*[*Shishira Mgonia*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Mgonia%20S%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*,4 and*[*Salim Abdulla*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Abdulla%20S%5BAuthor%5D&cauthor=true&cauthor_uid=27756276)*1*

*Prevalence and assessment of malnutrition among children attending the Reproductive and Child Health clinic at Bagamoyo District Hospital, Tanzania*

[*https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5070185/*](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5070185/)

Accessed 15/11/2019

**APPENICLES**

## Appendix I: Consent Form

Dear respondent,

My name is Buay Rambang a student from Africa Institute for Project Management Studies in Kenya. I am conducting assessment on malnutrition among children. The exercise will take only 15-20 minutes and you are required to answer all the questions which are asked, your participation in this exercise is voluntary. The information you will generate will be important in this study. All the information you will give shall be kept confidential and will be used strictly for research purpose and will never be disclosed for any other purpose. However, names will not be included in the study and you have freedom to choose to participate in this study.

Your positive response and kindness to participate in this study will highly be appreciated.

## APPENDIX II: QUESTIONNAIRES

**QUESTIONAIRE ON ASSESSMENT OF MALNUTRION AMONG CHILDREN IN AKOBO**

Date of interview……………………… Household No: ………………………

Put a tick in the boxes provided below only the correct answer

### **SECTION A: SOCIAL DEMOGRAPHIC CHARACTERISTICS**

1. How many children are there under 5 years of age?
2. one
3. two
4. There
5. Four
6. Five above
7. How many households members are there?
8. One
9. Two
10. Three
11. Four above
12. What is the source of your income?
13. Farming
14. Salary
15. Fishing
16. Others specify …………………………………………………………………………………………
17. What is occupation of head of the household?
18. Housewife
19. Farmer
20. Business person
21. Employment
22. Others specify …………………………………………………………………………………………
23. Was there anyone slept with you 2 weeks ago?
24. Yes
25. No
26. Has this child got immunized
27. Yes
28. No
29. If no why explain.............................................................................................

……………………………………………………………………………………………………………………

1. How often do you breastfeed your children?
2. 6 to 12 months
3. 1 year to two years
4. At 2 years above
5. Others specify …………………………………………………………………………………………

### **SECTION B: PHYSICAL EXAMINATION**

1. Is child wasted?
2. Yes
3. No
4. If yes is the child having fold buttock?
5. Yes
6. no
7.  Is there having oedema?
8. Yes
9. No
10. If yes what is grade of oedema?
11. +
12. ++
13. +++
14. Is admitted to nutrition centre?
15. Yes
16. No
17. Is the child having dermatosis?
18. Yes
19. No

### **SECTION C: ANTHROPOMETRIC MEASUREMENTS**

1. MUAC ……………………………………………………………………….
2. Height or Length ……………………………………………………….
3. Weight ……………………………………………………………………..
4. Z score …………………………………………………………………….
5. Oedema ……………………………………………………………………

**THANKS FOR ACTIVE PARTICIPATION GOD BLESS YOU**