

Standardized Expanded Nutrition Survey (SENS)

FINAL REPORT

Nyarugusu, Nduta and Mtendeli Refugee Camps, Kigoma Region,
Tanzania

Survey conducted: 6th Sept- 10th October 2021

Report finalized 08/02/2022



In collaboration with: UNICEF, WFP, MOHA, TFNC, TRCS, MSF, World Vision and
MTI



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CRONOMY AND ABBREVIATION

AWD	Acute Watery Diarrhoea
ANC	Antenatal clinic
BCC	Behaviour change communication
BSFP	Blanket Supplementary Feeding Program
CHWs	Community Health Workers
CI	Confidence Interval
CMR	Crude Mortality Rate
CSB	Corn-Soya Blend
CSB+	Corn-Soya Blend Plus
CSB++	Corn-Soya Blend Plus Plus
COVID 19	Corona virus
DEFF	Design effect
ENA	Emergency Nutrition Assessment
EPI	Expanded Programme on Immunization
Epi Info	Name of CDC software for epidemiological investigations
GAM	Global Acute Malnutrition
GFD	General Food Distribution
GFR	General Food Ration
HAZ	Height-for-Age z-score
Hb	Haemoglobin
HH	Household
IYCF	Infant and Young Child Feeding
IRS	Indoor Residual Spraying
KAP	Knowledge, attitude and practise
KCAL	Kilocalorie
LLIN	Long-lasting insecticidal net
Lpppd	Litres per Person per Day
LRTI	Lower Respiratory Tract Infection
MAM	Moderate Acute Malnutrition
MNP	Micronutrient Powder
MOHCDGEC	Ministry of Health Community Development, Gender, Elderly and Children
MSF	Médecins Sans Frontières
MOHA	Ministry of Home Affair
MTI	Medical Team International
MUAC	Middle Upper Arm circumference
NYA_BDI	Nyarugusu Burundians
NYA_CO	Nyarugusu Congolese
ODK	Open Data Kit
OTP	Out-patient Therapeutic Programme
PLW	Pregnant and Lactating Woman
ProGres	UNHCR registration database for refugees
SAM	Severe Acute Malnutrition
SD	Standard Deviation
SENS	Standardized Expanded Nutrition survey
TSFP	Targeted Supplementary Feeding Programme
SMART	Standardized Monitoring & Assessment of Relief & Transitions
TFP	Therapeutic Feeding Programme
TRCS	Tanzania Red Cross Society
TFNC	Tanzania Food and Nutrition centre
TOR	Term of reference

U5	Children under 5 years old
U5MR	Under-5 Mortality Rate
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Funds
URTI	Upper Respiratory Tract Infection
WASH	Water Sanitation and Hygiene
WAZ	Weight-for-Age z-score
WFP	World Food Programme
WHO	World Health Organization
WHZ	Weight-for-Height z-score
WVI	World Vision International

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EXECUTIVE SUMMARY

Overview

United Nations High Commissioner for Refugees together with the UNICEF, WFP, MOHA, TFNC, TRCS, MSF, World Vision and MTI implemented the Standardized Expanded Nutrition Surveys (SENS) in the three refugee camps located in Kigoma region, the western part of Tanzania. The three camps are namely Nyarugusu, Nduta and Mtendeli. Nyarugusu is located in Kasulu district, Nduta in Kibondo district and Mtendeli in Kakonko district. As of August 2021, there were a total of 207,394 refugees residing in the three camps, (UNHCR ProGres, August 2021) where among them 62% are Burundians, 37.9% are Congolese and a small proportion of refugees from other nationalities (Yemen, Rwanda, Uganda, Sudan, Kenya and others). A total of 45,704 under five children are located in the three camps with 26,756 are in Nyarugusu camp, 13,949 in Nduta and 4,999 in Mtendeli camp.

The 2021 SENS was implemented from 6th September to 10th October in the three-refugee camp where Nyarugusu is divided in to two Nyarugusu Burundian and Nyarugusu Congolese which make them four survey area. The Survey started with six days of training from 6th – 11th September in Kasulu Followed by data collection where Nyarugusu Burundians data collection started from 12th – 17th September, Nyarugusu Congolese from 24th September, Nduta from 29th September – 3rd October and Mtendeli camp from 5th – 10th October 2021.

Survey objectives

The main objective of the SENS was to assess the general health and nutrition status of refugees in the 4 survey areas (Nyarugusu Congolese camp, Nyarugusu Burundian camp, Nduta camp and Mtendeli camp) and formulate workable recommendations for appropriate nutritional and public health interventions.

Primary objectives of the survey

1. To determine the demographic profile of the population.
2. To determine the age dependency ratio.
3. To measure the prevalence of acute malnutrition in children aged 6-59 months.
4. To measure the prevalence of stunting in children aged 6-59 months.
5. To determine the coverage of measles vaccination among children aged 9-59 months.
6. To determine the coverage of vitamin A supplementation in the last six months among children aged 6-59 months.
7. To determine the two-week period prevalence of diarrhoea among children 6-59 months.
8. To measure the prevalence of anaemia in children 6-59 months and in women of reproductive age (non-pregnant) between 15-49 years).
9. To investigate IYCF practices among children aged 0-23 months.
10. To determine the coverage of households receiving in-kind food assistance and the duration of the general in-kind food distribution for recipient households.
11. To determine the extent to which negative coping strategies are used by households.
12. To assess household food consumption (quantity and quality)
13. To determine the ownership of mosquito nets (all types and LLINs) in households.
14. To determine the utilization of mosquito nets (all types and LLINs) by the total population, children 0-59 months and pregnant women.
15. Assess the coverage of household residual spraying in the camps.

16. To establish recommendations on actions to be taken to address the situation in the refugee population in the four survey areas.

Secondary objectives of the survey

17. To determine the coverage of de-worming with mebendazole in the last six months among children aged 12-59 months.
18. To determine the enrolment into the targeted supplementary feeding program (TSFP) and therapeutic feeding program (OTP/SC) for children aged 6-59 months.
19. To determine the coverage of the blanket supplementary feeding programme (BSFP) for children aged 6-23 months.
20. To determine the coverage of the MNP supplementation for children aged 24-59 months.
21. To determine the coverage of the blanket supplementary feeding programme (BSFP) in women of reproductive age (15-49 years).
22. To determine enrolment into Antenatal Care clinic and coverage of iron-folic acid supplementation in pregnant women.
23. To determine the coverage of vitamin A postnatal supplementation among women with children less than 6 months.
24. To determine the population's access to and use of cooking fuel.
25. To determine the use of oral rehydration salt (ORS) and/or zinc during diarrhoea episodes in children aged 0-59 months.
26. To determine the prevalence of MUAC malnutrition in women of reproductive age 15-49 yrs.

Methodology

The Nutrition Survey was conducted using the UNHCR Standardized Expanded Nutrition Survey V3¹ which has six modules. For the 2021 Survey the modules covered included: 1. Demography. 2. Anthropometry and health; targeting all children (6 to 59 months) in all the sampled households. 3. Anaemia; targeting all children 6 to 59 months and all non-pregnant women 15 to 49 years in every other sampled households. 4. Infant and Young Child Feeding (IYCF); targeting all children 0 to 23 months in all the sampled households.. 5. Food security; targeting every other sample households. 6. Mosquito net coverage; targeting every other sampled households. The Water, Sanitation, and Hygiene (WASH) module 7 was not carried out. This is because there is a WASH monitoring system in place and WASH Knowledge Attitude and Practices (KAP) assessment was conducted in the camps.

A cross-sectional survey was conducted using a two-stage cluster sampling. The sample size calculation for the refugee population living in Nyarugusu, Nduta and Mtendeli was based on the PROGRESS population data. The sample size for children 6-59 months was calculated using the Standardized Monitoring and Assessment of Relief and Transitions (ENA for SMART Jan 11th, 2020²)

¹ SENS. Standardised Expanded Nutrition Survey for Refugee Populations Version 3 (2019). Available at: <http://sens.unhcr.org/>

² SMART. Standardized Monitoring and Assessment of Relief and Transitions. Available at: <http://smartmethodology.org/>

Data collection

A total of 6 survey teams each consisting of 5 team members (anthropometry measurer, anthropometry assistant, haemoglobin measurer, interviewer, and team leader) were trained for a total of 6 days including 2 days for the standardisation test and pilot testing, the training was facilitated by UNHCR together with WFP and TFNC. Data collection was carried out over 20 days for all the four surveys. UNHCR, WFP, MoHCDGEC, MOHA and TFNC provided technical support in supervising the field data collection. Twelve android mobile phones with Open Data Kit (ODK) software were used for data collection, with daily data checks, plausibility was done and feedback to survey teams. The data was then transferred to an offline server at the end of each day when all issues related to the data collected were addressed. Each team had 2 phones one for household and another one for individual level questionnaires respectively

Data analysis

Data analysis for anthropometry data was conducted using ENA-for-SMART software (Jan 11th, 2020), and data analysis for the other variables was conducted using EPI INFO 7³ for Windows using the SENS analysis codes for each of the six modules. The table below presents summary of the key findings and subsequent interpretation thereafter.

³ <http://www.cdc.gov/epiinfo>.

Table 1: Summary of Key Findings SENS 2021

Surveyed Area	Nyarugusu New Camp	Nyarugusu Old Camp	Nduta	Mtendeli	
Data collection period	Date: 12 - 17/9/2021	Date: 20 - 24/09/2021	Date: 29/09 - 03/10/2021	Date: 5 - 10/10/2021	Classification of public health significance or target (where applicable)
CHILDREN 6-59 months % [95% CI]					
Acute Malnutrition (WHO 2006 Growth Standards)					
Global Acute Malnutrition (GAM)	3.0% [1.7 - 5.3]	0.4% [0.1 - 1.5]	1.8% [1.0 - 3.4]	1.0% [0.4 - 2.2]	Very high/critical if $\geq 15\%$ (WHO-UNICEF) UNHCR Target of $< 10\%$
Moderate Acute Malnutrition (MAM)	3.0% [1.7 - 5.3]	0.4% [0.1 - 1.5]	1.8% [1.0 - 3.4]	1.0% [0.4 - 2.2]	
Severe Acute Malnutrition (SAM)	0.0%	0.0 %	0.0%	0.0%	UNHCR Target of $< 2\%$
Oedema	0.0%	0.0 %	0.0%	0.0%	
Mid Upper Arm Circumference (MUAC)					
MUAC <125 mm and/or oedema	3.5% [2.4 - 5.0]	1.5% [0.7 - 3.0]	1.7% [0.8 - 3.6]	1.4% [0.7 - 2.7]	
MUAC 115-124 mm	3.0% [2.0 - 4.4]	1.3% [0.7 - 2.6]	1.5% [0.7 - 3.1]	0.6% [0.2 - 1.8]	
MUAC <115 mm and/or oedema	0.5% [0.1 - 2.2]	0.2% [0.0 - 1.4]	0.2% [0.0 - 1.3]	0.8% [0.3 - 2.0]	
Stunting (WHO 2006 Growth Standards)					
Total Stunting	42.6% [37.8 - 47.5]	36.6% [30.4 - 43.2]	39.9% [35.6 - 44.4]	33.6% [27.5 - 40.3]	Very high/critical if $\geq 30\%$ (WHO-UNICEF)
Severe Stunting	13.6% [10.6 - 17.3]	11.0% [8.0 - 15.0]	12.3% [9.4 - 15.9]	8.0 % [5.2 - 12.0]	
Programme coverage					
Measles vaccination with card or recall (9-59 months)	99.6% [99.1 - 100]	99.2% [98.3 - 100]	99.7% [99.2 - 100]	99.6% [99.0 - 100]	Target of $\geq 95\%$
Measles vaccination with card (9-59 months)	91.6% [86.5 - 96.7]	85.8% [77.7 - 93.9]	94.6% [91.4 - 97.9]	96.3% [94.0 - 98.6]	
Vitamin A supplementation within the past 6 months with card or recall	99.0% [98.2 - 99.8]	96.3% [94.2 - 98.4]	98.8% [97.7 - 100]	98.7% [97.5 - 99.9]	Target of $\geq 90\%$

Surveyed Area	Nyarugusu New Camp	Nyarugusu Old Camp	Nduta	Mtendeli	
Data collection period	Date: 12 - 17/9/2021	Date: 20 24/09/2021	Date: 29/09 03/10/2021	Date: 5 – 10/10/2021	Classification of public health significance or target (where applicable)
Vitamin A supplementation within the past 6 months with card	94.0% [91.4 - 96.5]	91.2% [88.0 - 94.4]	88.0% [80.2 - 95.7]	95.6% [93.3 - 97.8]	
Deworming coverage children 12-59 months	25.6% [13.8 - 37.4]	20.2% [8.1 - 32.2]	23.5% [11.8 - 35.3]	20.2% [8.0 - 32.3]	
Nutrition programme enrolment coverage					
Blanket supplementary feeding program (BSFP) in 6 – 23 months	99.5% [98.4 – 100]	96.5% [93.5 - 99.6]	99.1% [97.7 – 100]	97.2% [94.3 – 100]	
Blanket supplementary feeding program (BSFP) in 24 – 59 months	98.4% [96.9 - 99.8]	98.8% [97.7 – 100]	98.7% [97.4 – 100]	99.7% 99.1 – 100]	
Targeted supplementary feeding program (TSFP)	16.7% [1.7 - 31.6]	25% [0 - 67.1]	26.7% [0 - 57.4]	28.6% [0 - 73.7]	
Outpatient care therapeutic feeding program/Stabilization centre (OTP/SC)	25% [0 – 100]	0%	0%	75.0% [0 – 100]	
Average number of days BSFP ration for 6 – 23 months lasts out of 60 days (mean, 95%CI range)	40.1 [0 – 60]	39.6 [0 – 60]	37.8 [0 – 60]	40.1 [0 – 60]	
Average number of days BSFP ration for 24 – 59 months lasts out of 42 days (mean, 95%CI range)	35.9 [0 – 42]	34.6 [3 – 42]	35.7 [0 – 42]	38.2 [10 – 42]	
Diarrhoea					
Diarrhoea in the last 2 weeks	16.2% [12.3 - 20.0]	17.1% [12.4 - 21.7]	17.2% [13.5 - 20.9]	13.9% [9.5 - 18.3]	
Anaemia children (6 – 59 months)					

Surveyed Area	Nyarugusu New Camp	Nyarugusu Old Camp	Nduta	Mtendeli	
Data collection period	Date: 12 - 17/9/2021	Date: 20 24/09/2021	Date: 29/09 03/10/2021	Date: 5 – 10/10/2021	Classification of public health significance or target (where applicable)
Total anaemia (Hb < 11 g/dl)	28.8% [22.3 - 35.2]	36.6% [32.8 - 40.4]	32.6% [25.3 - 40.0]	26.4% [21.5 - 31.3]	High if $\geq 40\%$ Target of < 20%
Mild (Hb 10-10.9)	18.0% [14.3 - 21.8]	26.8% [23.1 - 30.4]	19.0% [15.0 - 22.4]	17.5% [13.6 - 21.4]	
Moderate (Hb 7-9.9)	10.5% [7.1 - 13.9]	9.7% [6.8 - 12.6]	13.6% [8.5 - 18.8]	8.7% [6.2 - 11.2]	
Severe (Hb < 7)	0.2% [0 - 0.5]	0.2% [0 - 0.6]	0%	0.2% [0 - 0.6]	
Anaemia children (6 – 23 months)					
Total anaemia (Hb < 11 g/dl)	41.5% [33.1 - 49.8]	51.5% [44.7 - 58.3]	39.5% [28.9 - 50.2]	36.4% [30.1 - 42.8]	
Mild (Hb 10-10.9)	25.9% [19.6 - 32.2]	34.3% [26.9 - 41.8]	21.4% [16.0 - 26.9]	22.0% [15.9 - 28.1]	
Moderate (Hb 7-9.9)	15.5% [10.1 - 21.0]	16.7% [10.7 - 22.6]	18.1% [10.5 - 25.7]	14.5% [9.4 - 19.5]	
Severe (Hb < 7)	0%	0.5% [0 - 1.6]	0%	0%	
Anaemia children (24 – 59 months)					
Total anaemia (Hb < 11 g/dl)	22.3% [15.7 - 28.9]	27.5% [22.9 - 32.1]	28.9% [21.7 - 36.2]	21.2% [15.3 - 27.1]	
Mild (Hb 10-10.9)	14.1% [9.7 - 18.5]	21.9% [17.8 - 26.0]	17.7% [13.4 - 21.9]	15.2% [10.5 - 20.0]	
Moderate (Hb 7-9.9)	8.0% [4.5 - 11.5]	5.6% [3.2 - 8.0]	11.3% [6.1 - 16.4]	5.7% [3.2 - 8.1]	
Severe (Hb < 7)	0.3% [0 - 0.8]	0%	0%	0.3% [0 - 0.9]	
CHILDREN 0-23 months % [95% CI]					
IYCF indicators					
Timely initiation of breastfeeding	86.9% [80.8 - 93.0]	86.1% [80.6 - 91.6]	88.3% [83.9 - 92.7]	81.3% [73.7 - 89.0]	UNHCR Target of $\geq 85\%$
Exclusive breastfeeding under 6 months	90.9% [84.1 - 97.7]	82.1% [73.0 - 91.3]	69.1% [55.3 - 83.0]	79.5% [67.7 - 91.3]	UNHCR Target of $\geq 75\%$
Consumption of iron-rich or iron-fortified foods	94.3% [90.0 - 98.7]	79.7% [69.8 - 89.6]	83.9% [75.7 - 92.0]	77.1% [65.8 - 88.5]	UNHCR Target of $\geq 60\%$
Bottle feeding	0.8% [0 - 1.9]	0.4% [0 - 1.2]	1.07% [0 - 2.3]	1.8% [0.2 - 3.6]	UNHCR Target of < 5%
WOMEN 15-49 years % [95% CI]					

Surveyed Area	Nyarugusu New Camp	Nyarugusu Old Camp	Nduta	Mtendeli	
Data collection period	Date: 12 - 17/9/2021	Date: 20 24/09/2021	Date: 29/09 03/10/2021	Date: 5 – 10/10/2021	Classification of public health significance or target (where applicable)
Anaemia (non-pregnant) Women					
Total, Anaemia (Hb <12 g/dl)	19.7% [12.6 - 26.8]	25.4% [16.3 - 34.3]	19.2% [12.4 - 26.0]	12.0% [7.2 - 16.8]	High if ≥ 40% (WHO) UNHCR Target of < 20%
Mild (Hb 11-11.9)	11.8% [6.3 - 17.4]	16.6% [9.7 - 23.4]	12.6% [6.6 - 18.7]	7.3% [3.4 - 11.2]	
Moderate (Hb 8-10.9)	7.4% [2.9 - 11.8]	8.3% [4.8 - 11.8]	6.1% [3.1 - 9.0]	4.7% [1.6 - 7.8]	
Severe (Hb <8)	0.5% [0 - 1.5]	0%	0.5% [0 - 1.4]	0%	
Mid Upper Arm Circumference (MUAC) Women					
MUAC <230mm in non-pregnant, non-lactating women	9.9% [4.6 - 15.2]	2.2% [0 - 35.1]	9.8% [1.2 - 18.5]	6.4% [1.6 - 11.2]	
MUAC <230mm in pregnant	3.3% [0 - 10.4]	3.9% [0 - 11.8]	14.0% [3.3 - 24.6]	0%	
MUAC <230mm in lactating women	4.3% [0.3 - 8.3]	3.8% [0 - 8.3]	3.4% [0.2 - 6.5]	4.7% [0.2 - 9.2]	
Program coverage					
ANC coverage	76.7% [62.5 - 90.9]	88.5% [75.4 – 100]	79.1% [62.5 - 95.7]	94.3% [86.1 – 100]	
Iron and Folic Acid supplementation coverage	80.0% [66.2 - 93.8]	88.5% [75.4 – 100]	76.7% [59.8 - 93.7]	97.1% [91.2 – 100]	
BSFP coverage for Pregnant women	73.3% [57.3 - 89.4]	88.5% [75.4 – 100]	69.8% [49.7 - 89.9]	88.6% [75.0 – 100]	
BSFP coverage for Lactating women	100%	100%	97.4% [91.8 – 100]	91.7% [78.8 – 100]	
DEMOGRAPHY % [95% CI]					
Household size and Composition					
Average household size mean, (95%CI) [range]	5.9 [1 – 15]	7.0 [1 – 18]	5.3 [1 – 15]	5.9 [1 – 12]	
Percent of children U2	12.0%	10.2%	11.1%	10.7%	
Percent of children U5	29.6%	24.9%	26.1%	28.2%	
Percent of pregnant women	3.0%	2.5%	2.1%	2.3%	
Household Head Profile					

Surveyed Area	Nyarugusu New Camp	Nyarugusu Old Camp	Nduta	Mtendeli	
Data collection period	Date: 12 - 17/9/2021	Date: 20 - 24/09/2021	Date: 29/09 - 03/10/2021	Date: 5 - 10/10/2021	Classification of public health significance or target (where applicable)
Female headed households	62.6% [51.8 - 73.4]	66.2% [58.8 - 73.5]	58.4% [48.6 - 68.2]	52.4% [42.1 - 62.7]	
Male headed households	33.6% [23.0 - 44.2]	31.4% [24.1 - 38.7]	39.3% [28.9 - 49.6]	45.5% [35.4 - 55.7]	
Children headed households	0%	0.3% [0 - 0.9]	0%	0%	
Elderly headed households	4.1% [2.2 - 5.9]	2.1% [0.2 - 4.0]	2.3% [1.0 - 3.7]	2.1% [0.4 - 3.7]	
Age dependency ratio					
Average age dependency ratio (mean, 95%CI / range)	1.5 [Min, 0 – Max, 9]	1.7 [Min, 0 – Max, 6]	1.7 [Min, 0 – Max, 7]	35.1 [Min, 16 – Max, 86]	
FOOD SECURITY % [95% CI]					
Proportion of households receiving a food assistance (in-kind)	100%	100%	100%	100%	
In-kind food distribution					
Average number of days general food ration lasts out of 42 days (mean, 95%CI range)	27.3 [3 – 42]	28.7 [3 – 42]	29.8 [14 – 42]	30.7 [14 – 42]	
Negative household coping strategies					
Proportion of households reporting using one or more negative coping strategies over the past 4 weeks	81.1% [73.3 - 88.9]	64.3% [52.8 - 75.8]	78.8% [70.9 - 86.6]	79.2% [69.6 - 88.8]	
Proportion of households reporting using the following coping strategies over the past 7 days:					
Rely on less preferred and/or less expensive foods	88.8% [83.3 - 94.4]	81.6% [73.6 - 89.5]	81.9% [73.7 - 90.2]	83.2% [72.3 - 94.0]	
Borrow food, or rely on help from a friend or relative	78.5% [71.4 - 85.6]	51.8% [38.4 - 65.2]	61.7% [52.1 - 71.3]	57.3% [45.4 - 69.2]	
Reduce the number of meals eaten in a day	69.1% [57.3 - 81.0]	58.9% [47.7 - 70.2]	45.4% [32.1 - 58.7]	47.8% [33.5 - 62.0]	

Surveyed Area	Nyarugusu New Camp	Nyarugusu Old Camp	Nduta	Mtendeli	
Data collection period	Date: 12 - 17/9/2021	Date: 20 - 24/09/2021	Date: 29/09 - 03/10/2021	Date: 5 - 10/10/2021	Classification of public health significance or target (where applicable)
Limit portion sizes at mealtime	76.4% [64.8 - 88.0]	56.6% [44.5 - 68.6]	49.8% [36.3 - 63.2]	50.0% [35.8 - 64.2]	
Reduce consumption by adults so children could eat.	61.4% [50.5 - 72.2]	54.8% [42.2 - 67.4]	45.4% [31.4 - 59.3]	46.1% [31.5 - 60.7]	
Average rCSI (mean, 95%CI / range)	23.2 [Min, 0 – Max, 56]	19.5 [Min, 0 – Max, 56]	17.7 [Min, 0 – Max, 56]	17.1 Min, 0 – Max, 56]	
Food Consumption Score (FCS)					
Average FCS (mean, 95%CI / range)	37.7 [Min, 5.5 – Max, 73.5]	43.0 [Min, 10.5 – Max, 76.5]	40.3 [Min, 5.5 – Max, 70.5]	40.1 [Min, 9.0 – Max, 76.5]	WFP target: FCS>35
FCS profiles:					
Acceptable	71.3% [60.2 - 82.3]	81.6% [71.9 - 91.2]	78.0% [67.7 - 88.3]	76.4% [63.3 - 89.5]	
Borderline	18.9% [11.3 - 26.4]	15.5% [8.2 - 22.8]	18.5% [9.6 - 27.5]	21.4% [9.8 - 32.9]	
Poor	9.9% [4.1 - 15.6]	3.0% [0 - 6.0]	3.5% [0.7 - 6.4]	2.3% [0 - 5.5]	
MOSQUITO NET COVERAGE % [95% CI]					
Mosquito net ownership					
Proportion of households owning at least one LLIN	27.3% [20.3 - 34.3]	41.9% [33.2 - 50.6]	85.7% [76.8 - 94.6]	81.5% [68.8 - 94.3]	UNHCR Target of > 80%
Average number of persons per LLIN (mean)	15.5	11.0	2.6	2.7	2 persons per LLIN
Mosquito net utilisation					
Proportion of household members (all ages) who slept under an LLIN	15.9%	25.4%	59.6%	57.9%	
Proportion of children 0-59 months who slept under an LLIN	21.8%	32.1%	65.7%	68.2%	
Proportion of pregnant women who slept under an LLIN	24.0%	27.0%	59.6%	84.9%	
IRS coverage	96.9% [94.6 - 99.2]	97.3% [94.7 - 99.9]	96.9% [92.1 – 100]	96.0% [92.3 - 99.6]	

Surveyed Area	Nyarugusu New Camp	Nyarugusu Old Camp	Nduta	Mtendeli	
Data collection period	Date: 12 - 17/9/2021	Date: 20 - 24/09/2021	Date: 29/09 - 03/10/2021	Date: 5 - 10/10/2021	Classification of public health significance or target (where applicable)
WASH Data from the KAP Survey 2021					
Water quality					
Average liter per person per day	18.4 l/p/d	26.2 l/p/d	43.9l/p/d	23.2l/p/d	
Proportion of households collecting drinking water from protected/treated sources	100%	100%	100%	100%	UNHCR Target of $\geq 95\%$
Water quantity					
Proportion of households that use domestic water collected from protected/treated sources (with protected containers only): <15 lpppd	77.4%	79.5%	63.4%	80.6%	UNHCR Target of $\geq 80\%$
Toilet/Latrine use					
Proportion of households reporting defecating in a toilet	94.7%	96.8%	98.3%	98.6%	UNHCR Target of $\geq 85\%$
Access to soap					
Proportion of households with access to soap	62.1%	87.9%	50.9%	100%	UNHCR Target of $\geq 90\%$

Classification of public health significance

Table 2: WHO Prevalence Thresholds for Wasting In Children Aged 6-59 Months (Low WHZ)

prevalence ranges	Label
<2.5	Very low
2.5 - < 5	Low
5 - <10	Medium
10 - <15	High
≥ 15	Very high

Table 3: Who Prevalence Thresholds for Stunting In Children Aged 6-59 Months (Low WAZ)

New prevalence ranges 2018	Label
<2.5	Very low
2.5 - < 10	Low

10 - < 20	Medium
20 - < 30	High
≥ 30	Very high

Anaemia

Table 4: WHO Classification Of Public Health Significance For The Prevalence Of Anaemia (Children 6-59 Month And Non-Pregnant Women 15-49 Years Old)

Prevalence %	High	Medium	Low
Anaemia	≥40	20-39	5-19

Source: WHO (2000) The Management of Nutrition in Major Emergencies

Brief interpretation of the results and discussion

Children aged 6-59 months

- ❖ The prevalence of global acute malnutrition (GAM) based on weight for height expressed in Z-scores and/or oedema is 1.6% and SAM of 0.0 % across all the camps which remained within the acceptable or low level in all the camps compared to the last SENS in 2019 which was 1.9% there is no significant difference. The UNHCR target for global acute malnutrition is below 10% and severe acute malnutrition below 2%. The GAM prevalence for camp specific was 3.0% for Nyarugusu Burundian, 0.4% for Nyarugusu Congolese 1.8% for Nduta and 1.0 % for Mtendeli. While boys are the most affected with acute malnutrition for all camps except the Nyarugusu Burundian where girls are more affected with acute malnutrition, no camp indicated children with SAM and Oedema there has been some improvement compared to 2019 where Nyarugusu Burundian there is increase of trend from 1.8% in 2019 to 3.0% in 2021 while other camp the GAM has reduced from 1.2% to 0.4% for Nyarugusu Congolese, 1.3% to 1.0% in Mtendeli camp. Nduta the prevalence of GAM was 3.2% and SAM of 0.2% in 2019 but has reduced to 1.8% GAM and 0% SAM in 2021.

Stunting

- ❖ The overall prevalence of stunting across the camps is 38.3% which is very high (critical) according to classification of public health significance for children under 5 years old ≥30% by (WHO-UNICEF (2018). However, compare to 2019 SENS there is a reduced trend from 48.1% in 2019 to 38.3% in 2021. The Prevalence of stunting by camp was 42.7% in Nyarugusu Burundian, 36.3% in Nyarugusu Congolese, 39.9% in Nduta and 33.7% in Mtendeli camp which, when compare with the 2019 Survey there is reduced trend from 47.7% in Nyarugusu Burundian, 42.7% in Nyarugusu Congolese, 52.1% in Nduta and 51.9% in Mtendeli. When segregate by sex boys seemed to be more stunted than girl across all the camps. Stunting is an outcome of inadequate nutrition and repeated bouts of infection during the first 1000 days of a child's life. Stunting before the age of 2 years predicts poorer cognitive and educational outcomes in later childhood.

Anaemia

- ❖ The prevalence of anaemia in children aged 6 – 59 months is 31.1% across all camps. The prevalence remained above the UNHCR target (<20%), compare to 2019 SENS the anaemia has increase from 26.0% in 2019 to 31.1% in 2021. For camp specific the anaemia prevalence is 28.8% in Nyarugusu Burundian, 36.6% in Nyarugusu Congolese, 32.6% in Nduta and 26.4% in Mtendeli camp. Compare to 2019 Survey there is an increase trend of anaemia in all the surveyed area except Nyarugusu Burundian where in 2019 SENS it was 32.9% in Nyarugusu Burundian, 31.2% in Nyarugusu Congolese, 19.1 % in Mtendeli. Anaemia is recognised to adversely affect the cognitive performance, behaviour and physical growth of infants, preschool, and school-aged children, and increase the

likelihood of associated morbidities. Anaemia is not only an indicator of potential iron deficiency in populations but can also be taken as a proxy indicator for other micronutrient deficiencies. The increase could be contributed to several factors including ration reduction and suspension of kitchen gardening activities where the community don't get access to dietary diversity. However, the analysis shows that the anaemia is much higher in children aged 6-23 month compared to children aged 24-59 month. The situation is even worse in Nyarugusu Congolese and Burundian where the anaemia in children 6-23 month is above 40% of the public health significance.

Diarrhea

- ❖ Diarrhea in the last 2 weeks (according to mother's recall) is still the challenge to young children which was 16.2% in Nyarugusu Burundian, 17.1% in Nyarugusu congolese, 17.2% in Nduta and 13.9% in Mtendeli camp. However there is reduced trend compared to the 2019 survey which was 25.8% in Nyarugusu Burundian, 23.0% in Nyarutgusu congolese, 27.0% for Nduta and 22.7% for Mtendeli camp, the reduction could be due to the current ongoing intervention including community awareness on the hygiene and sanitation, the COVID-19 preventive measure of installing hand washing facility in most of the camp areas where the communities have adapted the new behaviour of washing hands routine.

Women of reproductive age (15-49 years)

- ❖ Anaemia in woman has increased for Nduta and Mtendeli from 8.2% in 2019 to 19.2% in 2021 for Nduta and from 8.8% in 2019 and 12.0% in 2021 Mtendeli camp respectively. However, it has not shown significant difference for Nyarugusu camp compared to the previous year (Congolese from 26.0% in 2019 vs. 25.5% in 2021 and Burundian from 18.8% in 2019 to 19.7% in 2021).
- ❖ Coverage for measles vaccination (with card or confirmation by mother) was 99.6% in Nyarugusu Burundian, 99.2% in Nyarugusu Congolese, 99.7% in Nduta and 99.6% in Mtendeli camp. This meets the recommended standard of >95%. Efforts are needed to maintain this. The ANC coverage was 76.7% for Nyarugusu Burundian, 88.5% for Nyarugusu Congolese, 79.1% for Nduta and 94.3% for Mtendeli camp. Efforts are needed to improve and sustain the ANC coverage. Looking at the iron-folate pills uptake the improvement is also observed to increase compared to the 2019 SENS especially for Nyarugusu Congolese and Burundian where the uptake of iron folate increased from 53.7% in 2019 to 76.7% in 2021 for Nyarugusu Burundian and from 35.6% in 2019 to 88.5% in 2021 for Nyarugusu Congolese. A lot was done for the past two year to ensure pregnant women are enrolled early for ANC and receive services this includes trainings to community leaders, health workers, community sensitization on the importance of early ANC attendance and house visit done by the health information team. Some interesting observation was the ANC uptake was contributed to ration reduction where mothers go to register early at the ANC clinic so that they can be referred for the BSFP programme to get additional food.

Infant and Young Child Feeding

- ❖ Infant and young child feeding practices remains relatively optimal in Nyarugusu and Mtendeli camp with exclusive breastfeeding ranging between 79% to 90% however in Nduta exclusive breastfeeding was 69.1% which is below the recommended target of 75% this could be contributed to lack of enough awareness on IYCF practises. The timely initiation of breast feeding was quite optimal with the coverage above 80% across all the camps. Consumption of iron-rich or iron-fortified foods (6-23months) is above the 60% for the recommended target this is highly possible due distribution of special nutrition supplementary food. In Nyarugusu and Mtendeli there has been ongoing trainings to staff on the IYCF practices this could have contributed to good coverage in those camps.

Programme coverage and enrolment

- ❖ The Vitamin A supplementation in the last 6 months and Measles vaccination coverage based on both

card documentation and mother's recall were ranging between 90% to 99.9% which is good, across all the camps. Looking at the deworming coverage is very low across all the camps which was ranging from 20% to 25.6% and this is due to new government direction where the government would like to have current evidence on the burden of intestinal worms before continuing with mass deworming programme.

- ❖ For the enrolment coverage for BSFP and MNP was above 90% cross all the camps, however the ration received does not reach the number of days planned, for the BSFP several observations were identified which includes sharing of CSB+/CSB++, selling to buy other family needs and exchanging to get other food items. For the MNP the ration does not last for intended days due to misuse also it was observed some families are not using MNP as they throw away. but also casting and misuse and throwing of MNP, this was reported by the community that MNP increases the appetite of the children while the food ration has been reduced to 68% and that is why they are not using it.
- ❖ The enrolment coverage for targeted supplementary feeding range between 16.7% to 28.6% which is very low almost the same as in 2019 survey where the coverage ranges from 0%- 29.2% These could have been contributed by the current discharge criteria for SAM cases which require the child to remain admitted in OTP until full recovery. When such a child is sampled may be considered as not admitted in the right programme. WHO recommends that children with severe acute malnutrition should only be discharged from treatment when weight-for-height/length is ≥ -2 Z-scores and they have had no oedema for at least 2 weeks or mid-upper-arm circumference is ≥ 125 mm and they have had no oedema for at least 2 weeks.

Food security

- ❖ The GFD ration does not meet the 42 days ration cycle planned. Most of the family's food ration lasts between 27 to 30 days. The remaining days most of the families indicated to have used one or more than one negative coping mechanism to obtain the food for the remaining days. The negative coping mechanisms included rely on less preferred and/or less expensive food, borrow food, or rely on help from a friend or relatives, reduce the number of meals eaten in a day and limiting portion sizes at mealtime. Sometime even extreme coping mechanism as the food ration has been reduced to 68% and in the camp, movement is not allowed, the livelihood activities has been prohibited but also kitchen gardening activities has been prohibited.
- ❖ Proportion of households with food consumption score (FCS) attaining the acceptable level (>35 WFP target) is high although it has dropped compared to previous survey done in 2019 from 86% to 71.3% in Nyarugusu Burundian, from 93% to 81.6% in Nyarugusu Congolese camp, from 92% to 78.0% in Nduta and from 95% to 76.4% in Mtendeli camp and this could have been due to ration reduction and other factors mentioned above.

Mosquito net coverage and utilisation

- ❖ Although the coverage of Interior Residual Spraying (IRS) for malaria control was above 96% in all the camps, the utilization of mosquito net across all the camps remained big challenge. The proportion of the population of all ages who slept under LLIN was 15.9% for Nyarugusu Burundian, 25.4% for Nyarugusu Congolese, 59.4% for Nduta and 57.9% for Mtendeli camp.

WASH indicators reported from the KAP Survey 2021

- ❖ From the KAP survey 2021 report it indicates that 100% of the households in the camps collecting drinking water from protected/treated sources. An average of water per person per day is above 20liters in Nyarugusu Congolese which was 26.2l/p/d, Nduta camp reported 43.9l/p/d and 23.3l/p/d was reported in Mtendeli camp. However, in Nyarugusu Burundian the quantity of water reported to be 18.2l/p/d which is below the standard. Inadequate of water in Nyarugusu Burundian could be contributed to shortage of water containers. On the households that use domestic water collected from

protected/treated sources with protected containers shows the coverage above 90% across all camps when compared to the 2019 SENS Survey where the coverage was below 60% across all the camp there is an improvement for the 2021 KAP Survey. Access to soap is still a challenge although there is an improvement in some camps compared to the 2019 SENS where in Nyarugusu Congolese was 61.9% has increased to 87.9% Mtendeli was 69.6% has increased to 100% while in Nyarugusu Burundian and Nduta access to soap has reduced from 75.4% and 84.7% in 2019 to 62.1% and 50.9% in Nyarugusu Burundian and Nduta respectively

Recommendation and Priority Areas

Immediate recommendations

Anthropometry and Health

- ✓ Continuation and further strengthening of nutrition treatment (SC, OTP, TSFP) for children considering acute malnutrition in both camps.
- ✓ Continue with active case findings, referral, and defaulter tracing with a scale up of further innovative approaches like “Mothers led MUAC” can be introduced to increase the case detection and referral at community level.
- ✓ Higher MUAC cut-offs can be applied considering poor concordance between MUAC and WHZ as well as low case detection by MUAC.
- ✓ Intensifying community nutrition screening and strengthening household visits and follow-ups.
- ✓ Ensure adequate supply of vitamin A capsules and deworming tablets in routine growth monitoring program.
- ✓ Ensure sustainable supply of SAM management items (plumpy nuts, F-100 and F-75)

Anaemia

- ✓ Continue the blanket supplementary feeding (BSFP) to children aged 6-23 months with CSB++ and BSFP for PLW with CSB+.
- ✓ Strengthen ANC first visit and four or more visits coverage.
- ✓ Continue IFA tablet supplementation among the pregnant women and intensify health education on the importance of IFAS and its adherence both at the community and during ANC Visits.
- ✓ IPT coverage for pregnant women, IRS, deworming campaigns
- ✓ Strengthening SBCC focusing on IYCF
- ✓ Promote consumption of iron fortified food products (maize meal and CSB)
- ✓ Discourage communal sharing of BSFP food product
- ✓ Continue with MNP program and promote proper use
- ✓ Scale up ANC coverage and promote early enrolment in BSFP

IYCF

- ✓ Scale up a package of IYCF materials to facilitate user-friendly communication and dissemination of appropriate IYCF messages.
- ✓ Ensure IYCF awareness campaign during world breast feeding campaign for IYCF awareness.
- ✓ Maintain Baby Friendly Hospital Initiatives.
- ✓ Improve quality of services promoting adequate IYCF practices both at facility and community level
- ✓ Roll out of UNHCR multisectoral IYCF framework for action in the camps as part of nutrition preventive interventions.

Coverage of Mosquito Net Coverage

- ✓ Enhance distribution of mosquito nets in all camps to increase the coverage of LLINs.

WASH

- ✓ Prioritize distribution of water storage jerry cans for the households;
- ✓ UNHCR to continue replacement of water containers to improve access to quality water;
- ✓ Provide information and education to improve the maintenance and cleanliness of water containers and to increase their utility life span.

Medium term recommendations

Anthropometry and Health

- ✓ Strengthen routine vitamin A supplementation program through existing health and nutrition system and deworming must be integrated in the Vitamin A campaign.
- ✓ Generate worm infestation prevalence for children aged 12-59 months from refugees health facility labs to justify biannual deworming campaign.

Anaemia

- ✓ Strengthen SBCC interventions focusing on utilization of MNP, fortified foods and other micronutrient deficiency reduction interventions.

IYCF

- ✓ Strengthen IYCF community-based activities through developing community peer-to-peer support groups. These activities should include other family members who traditionally influence IYCF practices of mothers, e.g., husbands and mothers-in-law.
- ✓ Roll out of UNHCR multisectoral IYCF framework for action in the camps as part of nutrition preventive interventions.

Food Security

- ✓ Strengthen the backyard/sack gardening interventions to enhance the household dietary diversity which has a significant role on improving the nutritional status.

Coverage of Mosquito Net Coverage

- ✓ Conduct indoor residual spraying in all camps to reduce the incidence of malaria and consequently anaemia.

Long term Recommendations

Anthropometry and Health

- ✓ Institutionalize vitamin A supplementation for the camps on established schedules independent of National campaigns and establish child health nutrition days for the camps.
- ✓ Conduct casual analysis to why Anaemia and Stunting prevalence remain high despite of all the interventions in place.

Food Security

- ✓ Consider introduction of e-voucher program for foods diversifications.
- ✓ Advocate mobilization of funds to increase GFD from the current 68% to 100%.

1. INTRODUCTION

Tanzania has been hosting refugees from neighbouring countries majority from Democratic Republic of Congo and Burundi for years. The refugees are resided in the three camps which are located in the northwest of the country in a region called Kigoma. These camps include Nyarugusu camp which host (Congolese and Burundians refugees), Nduta camp and Mtendeli (Both host Burundian refugees) majority of the Burundian came after the 2015 influx while Congolese most of them has been in the camp since 1996.

According to UNHCR ProGres data as of 30th August 2021 there were about 207,394 refugees, comprising of 62% Burundians, 37.9% Congolese and a small proportion of refugees from other nationalities (Yemen, Rwanda, Uganda, Sudan, Kenya and others). Nyarugusu is the largest camp which has a population of about 129,124 refugees, followed by Nduta camp which hosts about 56,874 and Mtendeli camp with about 21,396.

In the camps Ministry of Home Affairs are responsible for coordination of all refugees related program. Each camp has the camp commandant who is the overall in charge of all the camp program, UNHCR works collaboratively with other UN agencies and partners (implementing and Operational) to ensure refugees have access to all essential services. The refugee's movement outside camps has been restricted and all the income generating activities including small-scale shops and transfer services especially for Burundians population where even kitchen garden activities have been restricted.

Since September 2017, Burundian refugees who wish to return to Burundi spontaneously have been assisted to return under tripartite framework among the parties (United Republic of Tanzania, Republic of Burundi and UNHCR). As of 27th August 2021, a total of 135,948 Burundian refugees were assisted to return to Burundi in safety and dignity. Also, the camp consolidation exercise is ongoing where refugees are being relocated from Mtendeli camp to Nduta camp. At the completion of the exercise, Mtendeli camp will be closed, and all the refugees will be moved to Nduta camp. As of 27th August, total of 16,685 refugees had been moved from Mtendeli to Nduta camp.

Health and nutrition are among the programs implemented in these refugee camps. The main health and nutrition partners include Tanzania Red Cross society, MSF, WVI and MTI with support from UN agencies i.e. UNHCR, WFP, UNICEF, WHO and UNFPA all the health and nutrition actors work under the supervision of the Ministry of Health through District Medical officer and Regional Medical officer. Children and women of childbearing age are particularly at high risk of malnutrition. According to the Standardized Expanded Nutrition Survey (SENS) conducted in September 2019 result showed the overall GAM prevalence of 1.9% across all the camps which is acceptable. Across all the three camps the Anaemia prevalence among children aged 6-59 months reported was below 40% of public health significance however looking at the 2019 SENS the Stunting prevalence reported was 48.6% across the three camps (very high) where for camp specific 42.7% (37.9-47.6%) was for the Congolese population, 47.7% (43.4-52.1%) for the Burundian in Nyarugusu camp, 52.1% (47.3-56.9%) in Nduta camp and 51.9% (47.1-56.8%) in Mtendeli camp respectively which was above the threshold of 30% (Very high or Critical).

In particular as regards to refugee camps in Tanzania, in the past two years there have been some important changes that might have negatively impacted on the refugee wellbeing, among them includes closure of markets leading to declining livelihoods opportunities and limited diversity of food consumed hence affected nutrition security, food ration reduction to 68% which



FIGURE 1: Location Of The Camp In Kigoma Region

may have caused poor or extreme coping mechanisms. The COVID-19 pandemic situation since April 2020 may have affected the use of food provided to family members, poor access to health and nutrition services, suspension of community education and screening which could have led to delay in detection of malnutrition cases, referrals, and enrolment in treatment programmes. All these may contribute to poor health and nutrition situation of the population. With all these factors it was foreseen that there was a need to conduct the Nutrition Survey in 2021 to assess the current nutrition situation of the refugee's population.

1.1. Geographic description of survey area

Kigoma Region is in the northwest of the Tanzania and currently the only region hosting the refugees. The region is 45,066 km² and subdivided in to eight districts and 121 wards. There are three refugee camps in the region namely Nyarugusu refugee camp, Nduta refugee camp and Mtendeli refugee camp. Each camp is located at the different district; Nyarugusu camp at Kasulu district, Nduta camp at Kibondo district and Mtendeli camp at Kakonko district.

1.2. Description of the population

Nyarugusu refugee camp was opened in November 1996 to host Persons of Concern fleeing conflicts in DRC. Prior to April 2015, the camp hosted 65,000 Congolese. Starting from April 2015 Burundian refugee started coming and they were allocated to Nyarugusu camp. In October 2015 the Government of Tanzania together with UNHCR opened a new camp which was Nduta, and some of the Burundian refugees and new arrivals were reallocated to Nduta camp and February 2016 another camp namely Mtendeli was opened and hosted a few Burundian refugees as well. As of 30th August 2021, there were about 207,394 refugees, according to (UNHCR ProGres data). Most of the Congolese refugee came from Eastern part of DRC who were living along Lake Tanganyika of which majority are from Bembe tribe and Burundian are from Hutus ethnic group from Burundi.

Table 5: Total Population and U5 Children in The Various Tanzania Camps as of 30 August 2021

Camp/Site	Population	HH	U5 children	Average HH size	% of U5 children
Nyarugusu Congolese	78,795	18,688	16,073	4	20%
Nyarugusu Burundian	50,329	11,233	10,683	4	21%
Nduta	56,874	15,414	13,949	4	25%
Mtendeli	21,396	5,076	4,999	4	23%
Total	207394	50411	45,704	4	24%

Source: UNHCR ProGres 30 August 2021

1.3. Food security situation

Refugees in the camp depend purely on in-kind food assistance through general food distribution across the three camps. The food is provided by WFP through partners. A full ration a refugee food basket contains of cereals at 380g, pulses at 120g, super cereal with sugar at 25g vegetable oil at 20g and salt at 5g per person per day intended to provide a minimum of 2100kcal per person as recommended by Sphere standards. Currently the food cycle covers 42 days. Due to fund constrain the food ration was reduced to 68% since October 2020.

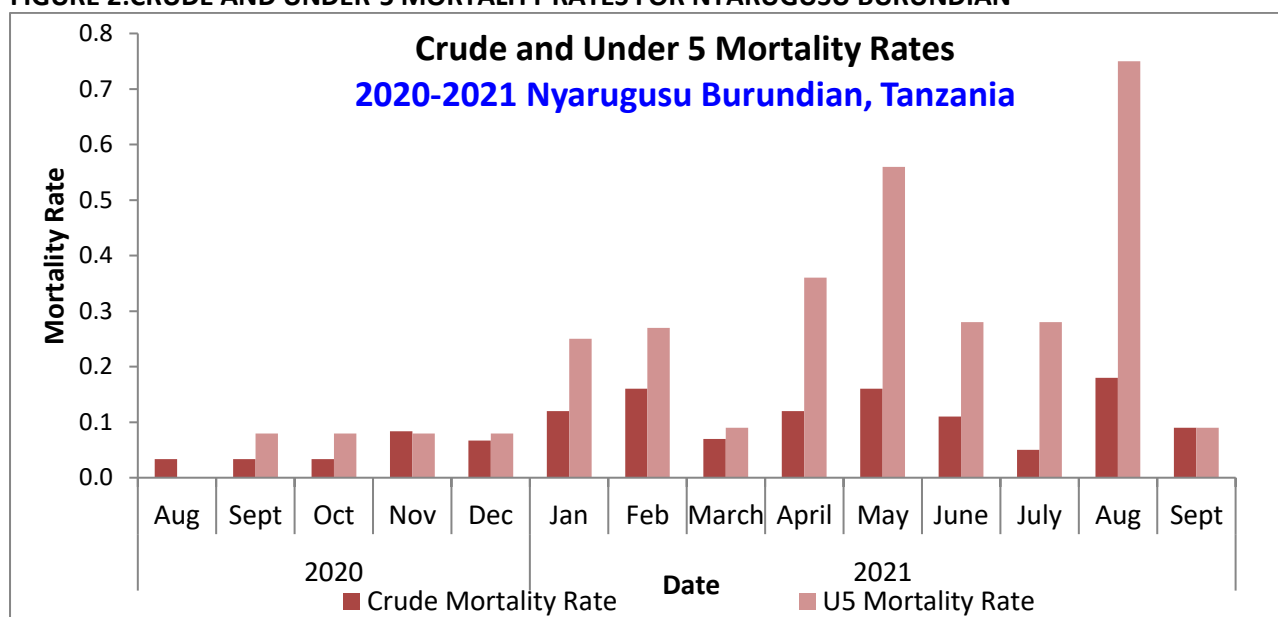
World Food Programme is also supporting the Supplementary Feeding Program (SFP) for children with Moderate Acute Malnutrition (MAM) and Blanket Supplementary Feeding Program (BSFP) to children 6–24-month, pregnant women, lactating women, and HIV positive patient on antiretroviral treatment (ART). The food for vulnerable group has been maintained to 100%.

Since 2020 the food distribution methodology was tailored to COVID-19 measures to ensure protection of POCs from contracting the virus. Measures undertaken included installation of hand washing facilities at the distribution points, social distancing in que management, pre-packing of food commodities for speedy delivery and collection, and increasing the days of distribution from 5 to 10 days, changing from 30 days food ration to 42 days for GFD and MNP, 56 days for BSFP to pregnant and lactating women, 60 days for BSFP to under two years and biweekly to monthly for MAM children. These measures have resulted in reducing the number of hours that beneficiaries spent at the distribution centers to two hours compared to same in normal situation where beneficiaries on average spent on average 4.5 hours.

1.4. Health situation

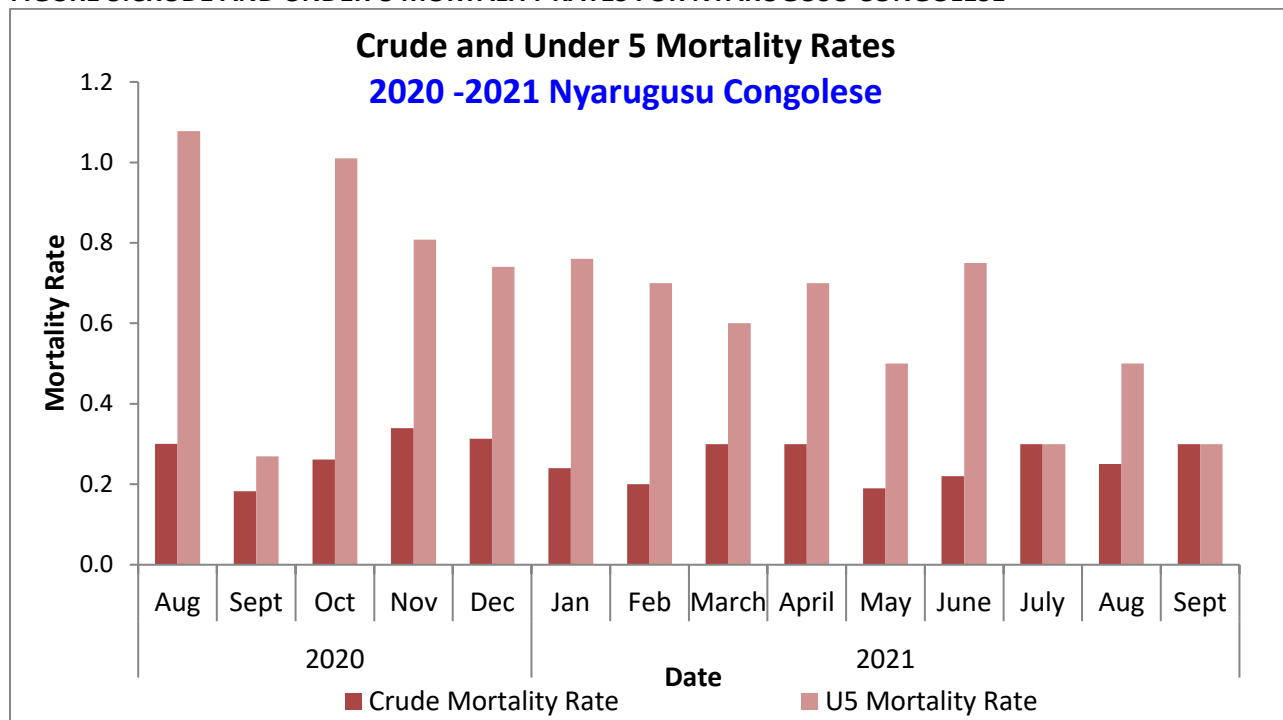
UNHCR in collaboration with other UN agencies and Partners are providing primary health care services in the camps. In Nyarugusu there are ten health facilities, Nduta there are six health facilities and Mtendeli has two health facilities. The major health and nutrition partners includes TRCS, MSF, MTI and WVI. The services provided in the camp facilities includes outpatient consultations, in patients care, emergency and elective medical referrals, reproductive health (including, HIV/AIDS, antenatal care (ANC), post-natal care (PNC), family planning (FP), surgical management of obstetric cases and minor surgeries, and safe motherhood initiatives, Community Health promotion, immunization and mental health. Nutrition programm are also implemented including feeding programs and growth monitoring for children less than 5 years old, The overall Crude Mortality Rate was 0.2 per 1,000 (sphere standard: <1.5/1000), and the Under-Five Mortality Rate was 0.4 per 1,000 (sphere standard: <3/1000) are withing the standard across the three camps. The main cause of morbidity for all the age group includes Upper respiratory tract infection 30%, malaria representing 18.1% and lower respiratory tract infection.

FIGURE 2:CRUDE AND UNDER-5 MORTALITY RATES FOR NYARUGUSU BURUNDIAN



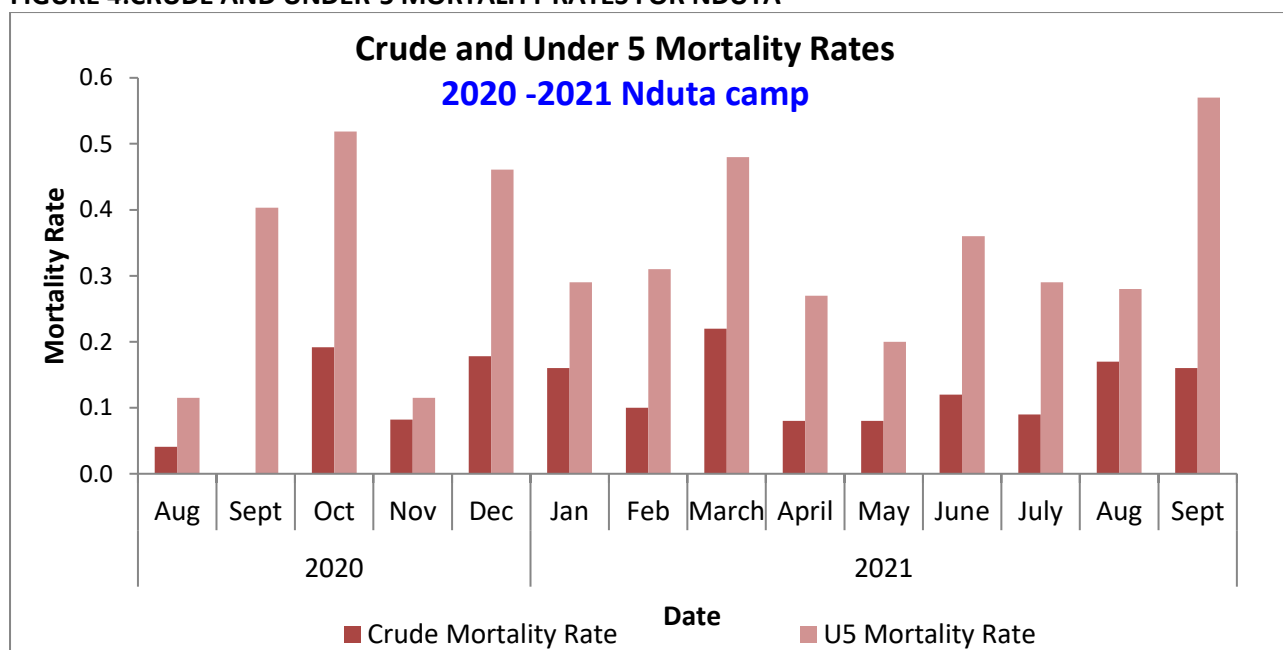
The under-five mortality for Burundian refugee shows to increase in 2021 compared to 2020, same for crude mortality rate in some month has increase compared to 2020.

FIGURE 3:CRUDE AND UNDER-5 MORTALITY RATES FOR NYARUGUSU CONGOLESE



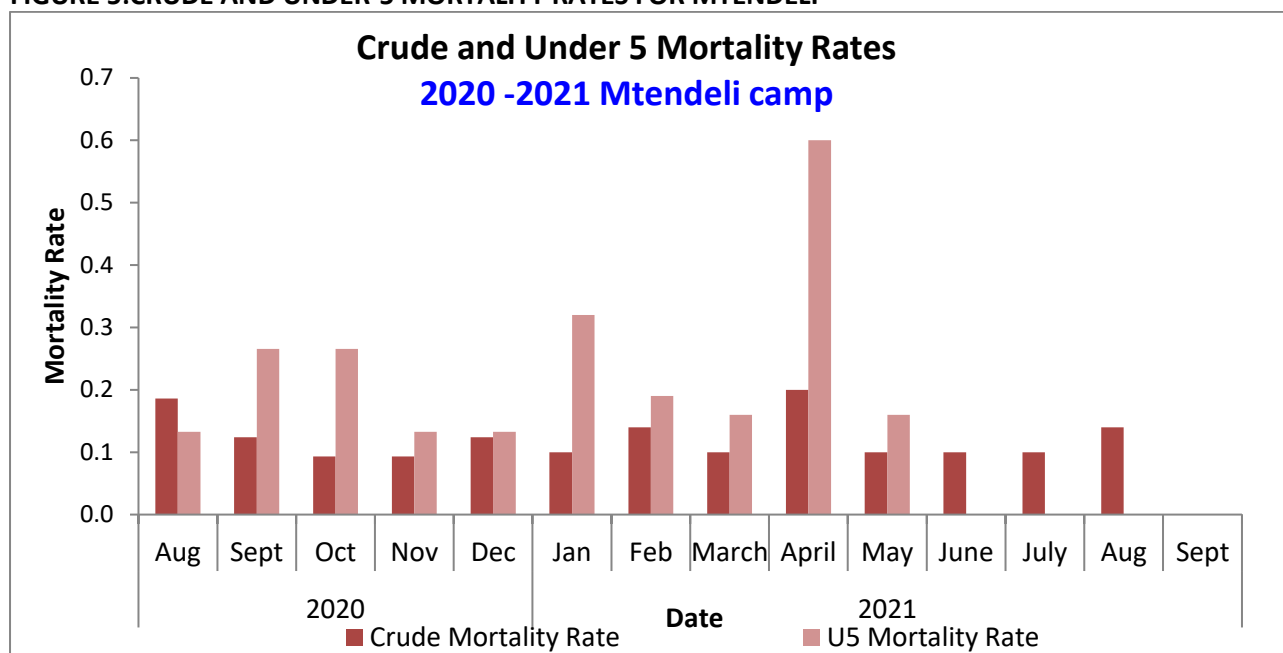
For Congolese population is quite the opposite where the under-five mortality shows to decrease in 2021 compared to 2020.

FIGURE 4:CRUDE AND UNDER-5 MORTALITY RATES FOR NDUTA



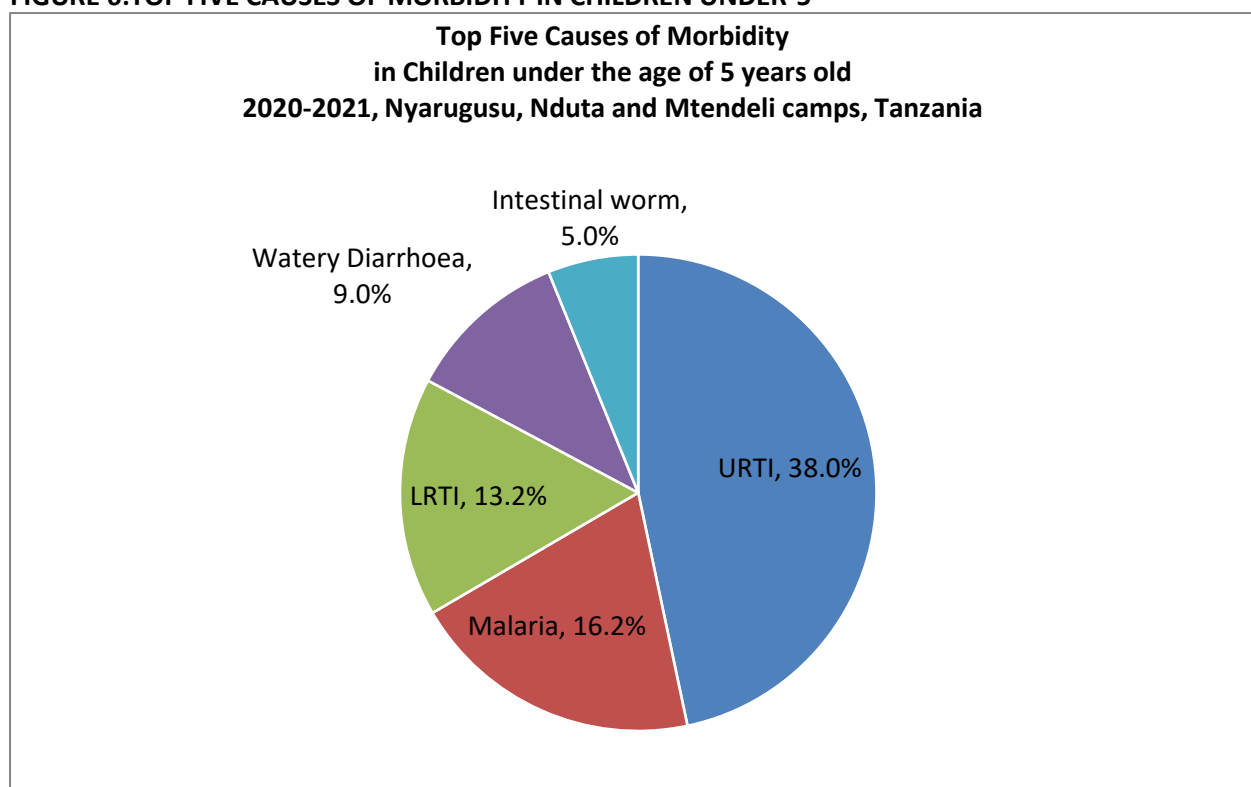
For Nduta there has not been any statistical difference from 2020 to 2021

FIGURE 5:CRUDE AND UNDER-5 MORTALITY RATES FOR MTENDELI



For Mtendeli there is reduced trend for the last three months as the population is also reducing. High trend is observed in April 2021 for under-five mortality rate.

FIGURE 6:TOP FIVE CAUSES OF MORBIDITY IN CHILDREN UNDER-5



1.5. Nutrition situation

Nutrition services are provided as part of the curative and preventative health services in the Tanzania camps. The programme are divided into two part which are; Community-based Management of Acute Malnutrition (CMAM) which is curative and targets children with acute malnutrition, The CMAM programme is divided into three; the Outpatient Therapeutic Programme (OTP) for children with Severe Acute Malnutrition (SAM) without complications, In-patient Therapeutic Programme (stabilization center) for children with severe acute

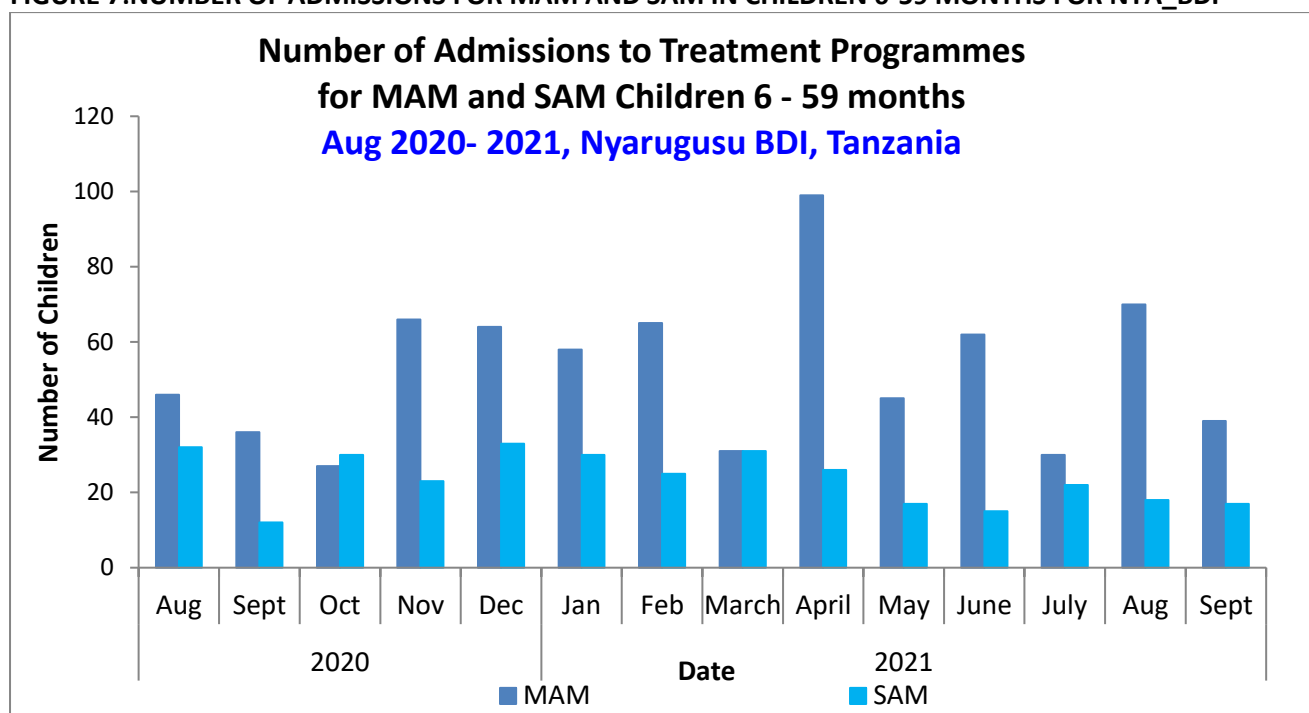
malnutrition with complications, and Targeted Supplementary Feeding Programme (TSFP) for children with Moderate Acute Malnutrition (MAM) and Targeted supplementary feeding programme to HIV patients.

Another programme is Blanket Supplementary Feeding Programme which is preventive and target children aged 6 to 23 months and receive 100 g of CSB++ for 60 days, but also it targets pregnant and lactating women where they receive 200g CSB for 56.

Nutrition surveys are usually conducted annually for monitoring of nutritional situation of refugees in the camps, the last SENS was conducted in 2019 which indicated the overall GAM prevalence of 1.9% across all the three camps which is within the sphere standard of below 5% threshold. Across all the three camps the Anaemia prevalence among children aged 6-59 months reported was below 40% of public health significance however the Stunting prevalence reported was 48.6% across the three camps where 42.7% (37.9-47.6%) was for the Congolese population, 47.7% (43.4-52.1%) for the Burundian in Nyarugusu camp, 52.1% (47.3-56.9%) in Nduta camp and 51.9% (47.1-56.8%) in Mtendeli camp respectively which was above the threshold of 30% (Critical).

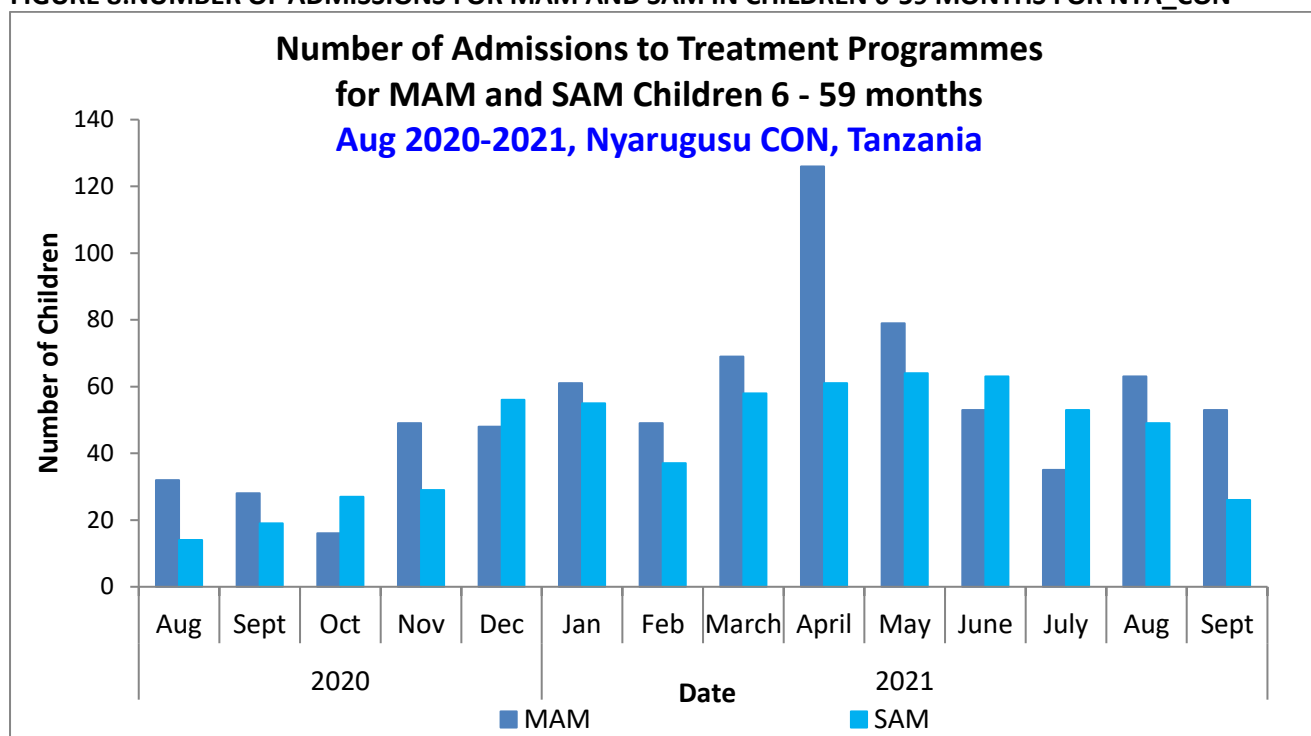
Number of admissions for SAM and MAM are describe in the below figures.

FIGURE 7:NUMBER OF ADMISSIONS FOR MAM AND SAM IN CHILDREN 6-59 MONTHS FOR NYA_BDI



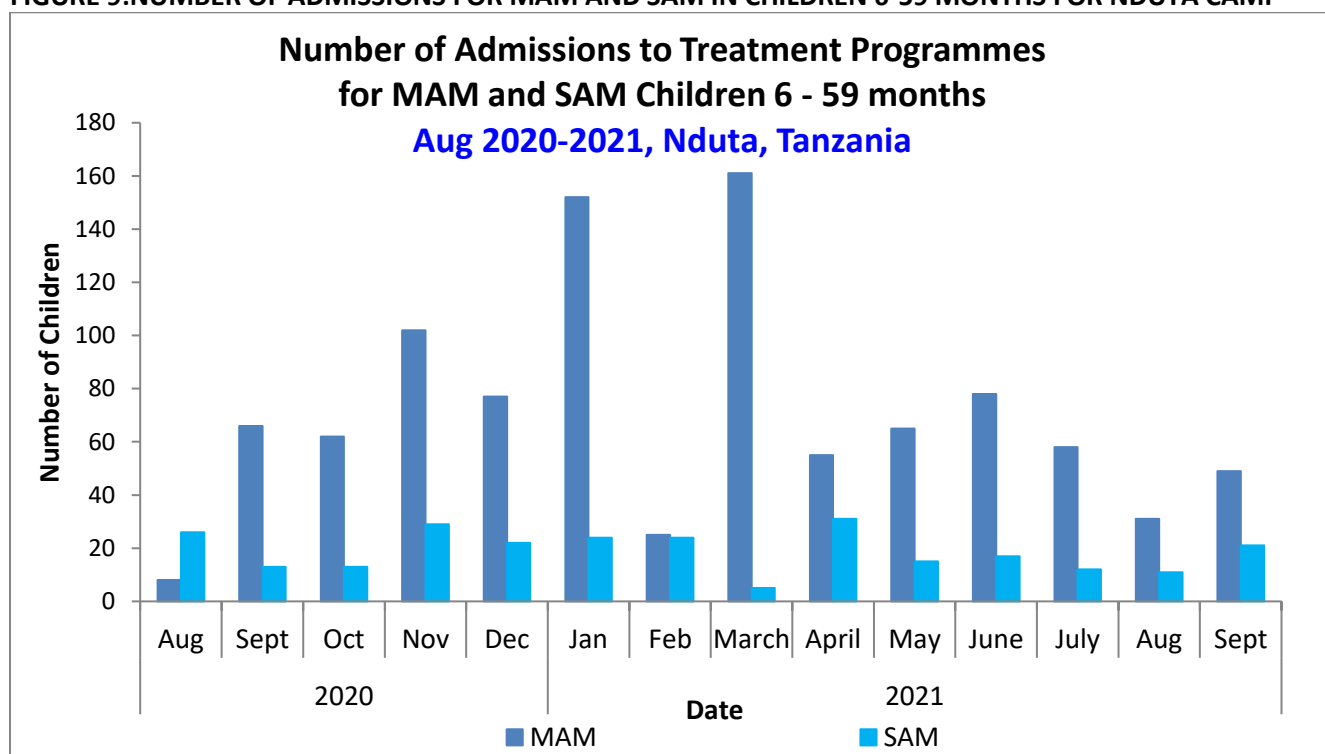
For Burundian not much difference has been observed on the admission trend, however the increase is observed in April which was due to the integrated Vitamin A and MUAC screening campaign conducted.

FIGURE 8:NUMBER OF ADMISSIONS FOR MAM AND SAM IN CHILDREN 6-59 MONTHS FOR NYA_CON



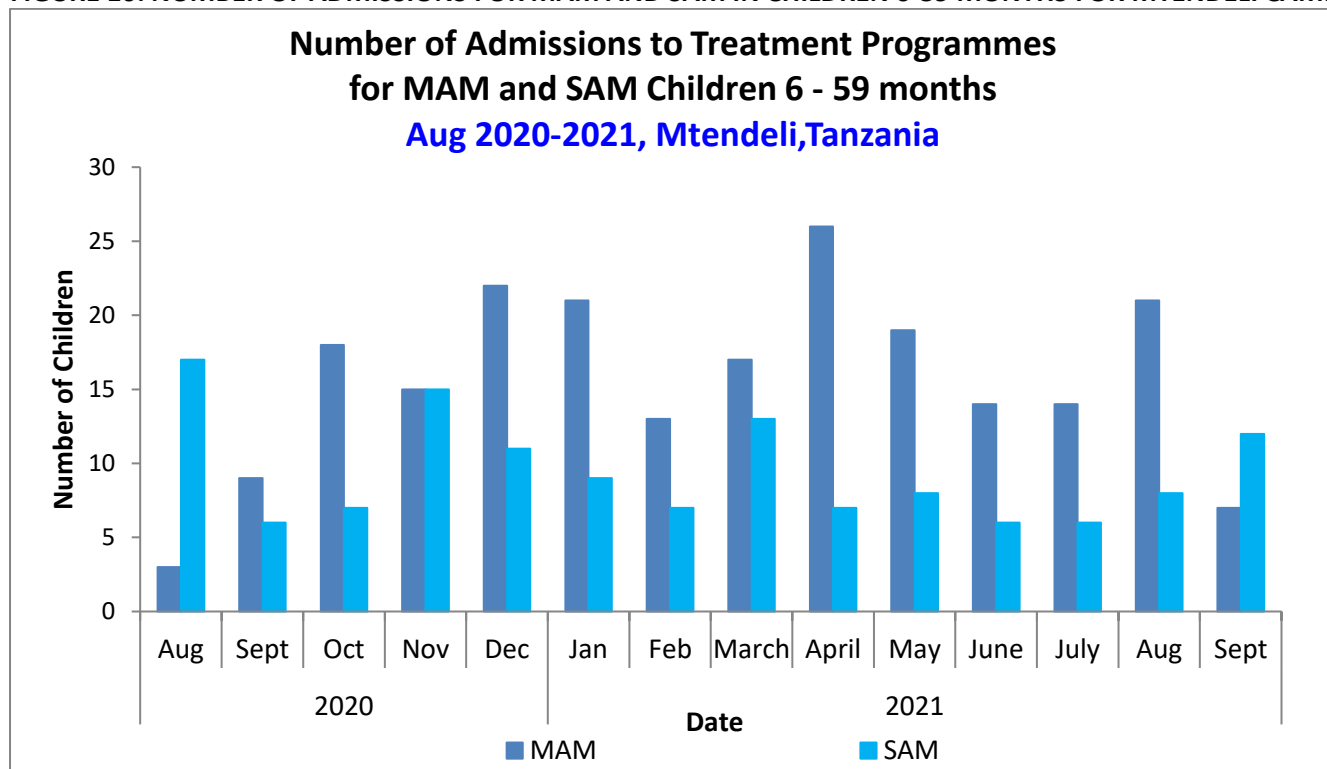
For Congolese the increase trend is observed in 2021 compared to 2020, the rapid increase is observed in April 2021, and this was due to the integrated Vitamin A and MUAC screening campaign which was done in April.

FIGURE 9:NUMBER OF ADMISSIONS FOR MAM AND SAM IN CHILDREN 6-59 MONTHS FOR NDUTA CAMP



For Nduta the rapid trend has been observed in January and March 2021, this was because of the Vitamin A campaign in March and January could be due to rain season where incidence of disease is increasing from end December to January.

FIGURE 10: NUMBER OF ADMISSIONS FOR MAM AND SAM IN CHILDREN 6-59 MONTHS FOR MTENDELI CAMP



For Mtendeli camp there has been no much changes on admissions from 2020 to 2021.

2. SURVEY OBJECTIVES

The main objective of the nutrition progress assessment was to assess the general health and nutrition status of Burundians and Congolese refugees in the 4 refugee areas (Nyarugusu Congolese camp, Nyarugusu Burundian camp, Nduta camp and Mtendeli camp) and formulate workable recommendations for appropriate nutritional and public health interventions

2.1. Primary objectives of the survey

1. To determine the demographic profile of the population.
2. To determine the age dependency ratio.
3. To measure the prevalence of acute malnutrition in children aged 6-59 months.
4. To measure the prevalence of stunting in children aged 6-59 months.
5. To determine the coverage of measles vaccination among children aged 9-59 months.
6. To determine the coverage of vitamin A supplementation in the last six months among children aged 6-59 months.
7. To determine the two-week period prevalence of diarrhoea among children 6-59 months.
8. To measure the prevalence of anaemia in children 6-59 months and in women of reproductive age (non-pregnant) between 15-49 years).
9. To investigate IYCF practices among children aged 0-23 months.
10. To determine the coverage of households receiving in-kind food assistance and the duration of the general in-kind food distribution for recipients' households.
11. To determine the extent to which negative coping strategies are used by households.
12. To assess household food consumption (quantity and quality).
13. To determine the ownership of mosquito nets (all types and LLINs) in households.
14. To determine the utilization of mosquito nets (all types and LLINs) by the total population, children 0-59 months and pregnant women.
15. Assess the coverage of household residual spraying in the camps.

16. To establish recommendations on actions to be taken to address the situation in the refugee population in the four survey areas.

2.2. Secondary objectives of the survey

17. To determine the coverage of de-worming with mebendazole in the last six months among children aged 12-59 months;
18. To determine the enrolment into the targeted supplementary feeding program (TSFP) and therapeutic feeding program (OTP/SC) for children aged 6-59 months;
19. To determine the coverage of the blanket supplementary feeding programme (BSFP) for children aged 6-23 months;
20. To determine the coverage of the MNP supplementation for children aged 24-59 months;
21. To determine the coverage of the blanket supplementary feeding programme (BSFP) pregnant and Lactating women.
22. To determine enrolment into Antenatal Care clinic and coverage of iron-folic acid supplementation in pregnant women;
23. To determine the coverage of vitamin A postnatal supplementation among women with children less than 6 months;
24. To determine the population's access to and use of cooking fuel;
25. To determine the use of oral rehydration salt (ORS) and/or zinc during diarrhoea episodes in children aged 0-59 months;
26. To determine the prevalence of MUAC malnutrition in women of reproductive age 15-49yrs

3. METHODOLOGY (SAMPLING, SAMPLE SIZE, MAIN INDICATORS)

3.1. Survey Design

In each camp, a cross-sectional survey was conducted using a two-stage cluster sampling as per UNHCR Standardized Expanded Nutrition Survey Guidelines (SENS) for Refugee Populations version 3, 2019. All four camps sites in Tanzania (Nyarugusu-Congolese and Burundian, Nduta, and Mtendeli) has been assessed and results generated.

3.2. Study population

The study population were the Burundians and Congolese refugees living in the refugee camps in Tanzania and who are registered with UNHCR. For the nutritional status assessment, its targeted all children, aged 6 to 59 months and women of childbearing age (15-49 years old). IYCF target women with children 0-23 months. The main respondent were the mothers or caregivers of the children.

3.3. Sample size calculation

The sample size calculation for the refugee population living in Nyarugusu, Nduta and Mtendeli was based on the UNHCR PROGRESS population data 30th August 2021. The sample size for children 6-59 months was calculated using the Standardized Monitoring and Assessment of Relief and Transitions (ENA for SMART Jan 11th, 2020⁴) in accordance with UNHCR SENS methodology and the expected prevalence of GAM used for the sample size calculations were from the 2019 SENS survey.

Table 6: Assumptions for the Sample Size Calculation – Nyarugusu Congolese Camp

⁴ SMART. Standardized Monitoring and Assessment of Relief and Transitions. Available at: <http://smartmethodology.org/>

Parameters for Anthropometry	Value	Assumptions based on context
Population of children U5	16,073	Numbers of children under five years of age and living in the camps was obtained from ProGres, the UNHCR database for refugees, as of August 30 th , 2021.
Estimated Prevalence of GAM (%)	2.4%	The prevalence of Global Acute Malnutrition (GAM) for Nyarugusu Old Camp from the SENS survey conducted in September 2019 was used for calculation of sample size. To be on the safe side, the upper limit of the confidence interval was chosen 1.2% [0.6% - 2.4%].
± Desired Precision	2.5%	The general purpose of this survey was to assess current nutrition situation in children under the age of five years and women of reproductive age and assist in monitoring the effectiveness and coverage of interventions. From a practical point of view, this means the level of precision needed for sample size calculations was high in order to allow valid comparisons between 2019 and 2021. Since the GAM prevalence is lower, a precision of ±2.5% was chosen.
Design Effect	1.5	As nutrition outcomes are known to generally create relatively low design effects, the choice was made to use a 1.5 design effect to inflate the sample size and compensate the possible heterogeneity between clusters.
Children to be included	235	
Average Household Size	4	The average household size was derived from the 2019 survey results to better reflect reality on ground.
% of Children Under Five years old	20%	The percentage of under-5 was derived from the 2019 survey results to better reflect reality on ground.
% Non-Response Households	3%	It is expected to have 3% non-response rate which refers to the number of basic sampling units that are not able to be reached due to the following reasons: refusal, accessibility, absentees, etc.
Households to be included	337	

Table 7: Assumptions for the Sample Size Calculation – Nyarugusu Burundian Camp

Parameters for Anthropometry	Value	Assumptions based on context
Population of children U5	10,683	Numbers of children under five years of age and living in the camps was obtained from ProGres, the UNHCR database for refugees, as of August 30th, 2021.
Estimated Prevalence of GAM (%)	3.4%	The prevalence of Global Acute Malnutrition (GAM) for Nyarugusu Old Camp from the SENS survey conducted in September 2019 was used for calculation of sample size. To be on the safe side, the upper limit of the confidence interval was chosen 1.8% [0.9%-3.4%].
± Desired Precision	2.5%	The general purpose of this survey was to assess current nutrition situation in children under the age of five years and women of reproductive age and assist in monitoring the effectiveness and coverage of interventions. From a practical point of view, this means the level of precision needed for sample size calculations was high in order to allow valid comparisons between 2019 and 2021. Since the GAM prevalence is lower, a precision of ±2.5% was chosen.
Design Effect	1.5	As nutrition outcomes are known to generally create relatively low design effects, the choice was made to use a 1.5 design effect to inflate the sample size and compensate the possible heterogeneity between clusters.
Children to be included	330	
Average Household Size	4	The average household size was derived from the 2019 survey results to better reflect reality on ground.
% of Children Under Five years old	21%	The percentage of under-5 was derived from the 2019 survey results to better reflect reality on ground.
% Non-Response Households	3%	It is expected to have 3% non-response rate which refers to the number of basic sampling units that are not able to be reached due to the following reasons: refusal, accessibility, absentees, etc.
Households to be included	450	

Table 8: Assumptions for the Sample Size Calculation – Nduta Camp

Parameters for Anthropometry	Value	Assumptions based on context
Population of children U5	13,949	Numbers of children under five years of age and living in the camps was obtained from ProGres, the UNHCR database for refugees, as of August 30th, 2021.
Estimated Prevalence of GAM (%)	4.5%	The prevalence of Global Acute Malnutrition (GAM) for Nyarugusu Old Camp from the SENS survey conducted in September 2019 was used for calculation of sample size. To be on the safe side, the upper limit of the confidence interval was chosen 3.2% [2.2%- 4.5%]
± Desired Precision	2.5%	The general purpose of this survey was to assess current nutrition situation in children under the age of five years and women of reproductive age and assist in monitoring the effectiveness and coverage of interventions. From a practical point of view, this means the level of precision needed for sample size calculations was high in order to allow valid comparisons between 2019 and 2021. Since the GAM prevalence is lower, a precision of ±2.5% was chosen.
Design Effect	1.5	As nutrition outcomes are known to generally create relatively low design effects, the choice was made to use a 1.5 design effect to inflate the sample size and compensate the possible heterogeneity between clusters.

Parameters for Anthropometry	Value	Assumptions based on context
Children to be included	431	
Average Household Size	4.0	The average household size was derived from the 2019 survey results to better reflect reality on ground.
% of Children Under Five years old	25%	The percentage of under-5 was derived from the 2019 survey results to better reflect reality on ground.
% Non-Response Households	3%	It is expected to have 3% non-response rate which refers to the number of basic sampling units that are not able to be reached due to the following reasons: refusal, accessibility, absentees, etc.
Households to be included	494	

Table 9: Assumptions for the Sample Size Calculation – Mtendeli Camp

Parameters for Anthropometry	Value	Assumptions based on context
Population of children U5	4,999	Numbers of children under five years of age and living in the camps was obtained from ProGres, the UNHCR database for refugees, as of August 30th, 2021.
Estimated Prevalence of GAM (%)	2.9%	The prevalence of Global Acute Malnutrition (GAM) for Nyarugusu Old Camp from the SENS survey conducted in September 2019 was used for calculation of sample size. To be on the safe side, the upper limit of the confidence interval was chosen 1.3% [0.6%-2.9%]
± Desired Precision	2.5%	The general purpose of this survey was to assess current nutrition situation in children under the age of five years and women of reproductive age and assist in monitoring the effectiveness and coverage of interventions. From a practical point of view, this means the level of precision needed for sample size calculations was high in order to allow valid comparisons between 2019 and 2021. Since the GAM prevalence is lower, a precision of ±2.5% was chosen.
Design Effect	1.5	As nutrition outcomes are known to generally create relatively low design effects, the choice was made to use a 1.5 design effect to inflate the sample size and compensate the possible heterogeneity between clusters.
Children to be included	283	
Average Household Size	4.0	The average household size was derived from the 2019 survey results to better reflect reality on ground.
% of Children Under Five years old	23%	The percentage of under-5 was derived from the 2019 survey results to better reflect reality on ground.
% Non-Response Households	3%	It is expected to have 3% non-response rate which refers to the number of basic sampling units that are not able to be reached due to the following reasons: refusal, accessibility, absentees, etc.
Households to be included	352	

The number of households to be completed per day (per cluster) was determined according to the time the team could spend on the field taking into consideration travelling time, break times and other procedures like finding location of the selected households. According to the calculated sample size in terms of households to

investigate and based on the experience from 2019 (12 in Nyarugusu Congolese Camp, 15 in Nyarugusu Burundian Camp, 17 in Nduta and 13 in Mtendeli)

The total number of clusters was determined based on the number of households per cluster as well as based on the total number of survey teams (6 teams - same number of working days between the teams). Thus, a total of clusters were 28 clusters in Nyarugusu Congolese, 30 clusters in Nyarugusu Burundian, 28 clusters in Nduta and 26 clusters in Mtendeli camp as shown in the table below.

Table 10: Sample Size Calculations For 2021 Sens Survey (Anthropometry and Health Module)

Parameters for Anthropometry	Nyarugusu Old Camp	Nyarugusu New Camp	Nduta Camp	Mtendeli Camp
Households to be included	337	450	494	352
Households/cluster	13	15	17	13
Number of clusters	28	30	28	26
Number of days required for data collection (6 teams)	5 days (6 teams x 12 HH x 5 days = 360HH)	5 days (6 teams x 15 HH x 5 days = 450HH)	5 days (6 teams x 17 HH x 5 days = 510 HH)	5 days (6 teams x 13 HH x 5 days = 390 HH)

Table 11: Final Sample Sizes for All Modules

Survey modules	Nyarugusu-Burundians	Nyarugusu-Congolese	Nduta	Mtendeli
Households included for Anthropometry and Health module and mortality (ENA for SMART)	450	360	510	390
Households included for children Anaemia module (UNHCR SENS guidelines)	450	360	510	390
Households included for IYCF module (UNHCR SENS Guidelines)	450	360	510	390
Households included for Demography module (UNHCR SENS Guidelines)	450	360	510	390
Households included for women Anaemia module (UNHCR SENS guidelines)	225	180	255	195
Households included for Food Security module (UNHCR SENS Guidelines)	225	180	255	195
Households included for mosquito net module (UNHCR SENS Guidelines)	225	180	255	195

3.4. Sampling procedure: clusters and household selection

In each camp, a cross-sectional household survey was conducted using a two-stage cluster sampling. Four independent samples were drawn separately for Nyarugusu CON camp, Nyarugusu BDI camp, Nduta camp and Mtendeli camp using the cluster sampling methodology.

First stage: Cluster selection

All camps are divided into zones and each zone is further divided into villages (or “kijiji”). The villages were used as primary sampling unit and clusters were assigned to villages. The first stage sample of clusters was drawn from the UNHCR registration database (ProGres) using the village level population estimates as of August 30th, 2021. In Nyarugusu CON camp, 28 clusters were randomly selected according to the probability proportional to size (PPS) method using the ENA software (ENA for SMART 2011, Jan 11th, 2020). In Nyarugusu BDI camp, 30 clusters were randomly selected. In Nduta camp, 28 clusters were randomly selected. In Mtendeli camp, 26 clusters were randomly selected. Random selection of the clusters was done once.

Second stage: Household selection

The second stage of sampling consists of selecting households within each selected cluster by using a simple random selection procedure. The Registration Group was used as a proxy for household definition. A Registration Group is one or more individuals who are registered together. For example, a Registration Group could be a family, or it could be a household registered together for assistance purposes. An individual must always belong to a Registration Group. An individual can only belong to one Registration Group at any point in time. Houses/tents were physically labelled with unique numbers per village/cluster in each camp. To ensure results are representative of people actually living in the camps at the time of the survey, empty tents⁵, as verified through neighbours were not labelled. Using the total list of households generated from the physical counting and labelling of tents/houses per village/cluster in the camps, the households to be surveyed were picked automatically using the ENA software. Each team was provided with a list of households to be surveyed on a daily basis.

Special Cases

Absent Household

If the household is absent, the survey team were asking a neighbor of the residents’ whereabouts. If they are expected to return before the survey team leaves the village/cluster, the survey team made the revisit in order to administer the questionnaire on the same day.

A household were considered as absent when its members were not there during the survey date.

Refusal

If a participant or an entire household refuse to participate then it was considered a refusal and the individual or the household was not replaced with another. The refusal was recorded in the data collection control sheet.

Households without children U5 and/or without women

If it is determined that a selected household does not have children between 0-59 months of age and/or women between 15-49 years, the survey team was completing only the Demography questionnaire and the Household questionnaire (Food security and mosquito net) if this household is selected for the Household questionnaire (this questionnaire was administered every second household). In the data collection control sheet, the team leader was filling in the household’s number and indicate that no children between the ages of 0 and 59 months and/or no women between the ages of 15 and 49 years belonged to that household.

Absent Children/Women

The team leader was asking the reason of the children’s/women’s absence. If the child/woman (or children or women) is close to the home, someone was sent to bring them back. If the child/woman were expected to return before the survey team leaves the village/cluster, then the survey team returned before the end of the day to take the measurements. If the child/woman was not found before the team leaves the village/cluster,

⁵ An empty tent will be considered as an abandoned tent and excluded from the survey if no one was living in that tent during the last month.

the child/woman available information (age, sex, etc.) was completed in the questionnaire and the child/woman was recorded as absent in the data collection control sheet.

Disabled Children

Disabled children were included in the survey. If a physical deformity prevents the measurement of child's weight, height or MUAC, the data was recorded as missing, and the remaining data was collected. The information was recorded in the data collection control sheet.

Children in a medical/nutrition center

Children in a medical/nutrition center were included in the survey. However, for this year SENS no child was found to be admitted among the selected household.

Questionnaires

The questionnaire was divided into four main sections: Demography questionnaire, Household questionnaire (Food Security and Mosquito Net Coverage), Children questionnaire (anthropometry, health and anaemia) and Women questionnaire (anthropometry, health and anaemia) (See Annex 1). The final survey questionnaire was translated into Kiswahili. The survey questionnaire was pre-tested before the survey during the survey training and the pilot test. Interviews were held in Kiswahili or translated to respective local language if the household does not understand Kiswahili and information was recorded on Android smartphone (HTC One). The survey questionnaire on the smartphones was available both in English and in Kiswahili.

1- Demography questionnaire (all selected households)

The SENS Demography questionnaire aims was to provide information on the following priority indicators at the household level: description of the population demographics, age dependency ratio, average household size, percentage of children under-5 and non-response rate.

2- Household Questionnaire (half of the selected household)

Food Security

This included questions on access and use of the food assistance, negative coping mechanisms used by household members and household food consumption.

Mosquito net Coverage

The main objective of this section was to assess the level of ownership and utilization of mosquito nets in the following categories: all household members (including children under 5, pregnant women and other household members); children under 5 years of age; and pregnant women.

3- Children Questionnaire (children from 0 to 59 months of age)

Sex

The child's sex was recorded as "f" or "m": f = female and m = male.

Age

The date of birth was taken from any relevant document such as birth certificate, family book or vaccination card, which recorded the name of the child and the date of birth. If the date of birth was unknown, the interviewer was using the calendar of local events and the recall of the mother or caregiver was used to estimate the most correct age in months to be recorded on the questionnaire. The birth date was recorded in the day/month/year (DD/MM/YYYY) of format. Note that the UNHCR Manifest wasn't used to determine age of children <5 years because sometimes it does not reflect the correct birthdate.

Weight

Children were weighted using a SECA Uniscale electronic scale with the precision of 100 grams and with a wooden board to stabilise it on the ground. All children were measured naked following the recommended

anthropometric methods. If there was a problem, teams were instructed to take weight with cloth where the deduction during analysis was done. Smaller children who are not able to stand on the scale were measured in their caregiver's arms using the mother-to-baby function of the scale.

Clothes

The team leader was recording if the measurers was taken with or without clothes.

Y = yes, with clothes

N = no, without clothes

Height/Length

The children's height/length was measured with a precision of 0.1cm by using height boards. Children were measured lightly dressed in no shoes, hairpieces or barrettes on their head that could have interfered with a correct height measurement. Children less than 87cm height were measured laying down while those 87cm standing height or taller were measured standing.

Measurement

The measurers were recorded if they measured height or length.

L = length (recumbent length)

H = height (standing height)

Oedema

Only bilateral pedal oedemas are considered as nutritional oedema. Their presence is detected by applying a gentle pressure with the thumbs to top part of both feet during three seconds. If the imprint of the thumbs remains on both feet for a few seconds after releasing the thumbs, the child will be considered to have nutritional oedema. Bilateral oedema was diagnosed and not graded. The diagnosis was simply recorded Y for "Yes" or N for "No". All oedema cases reported by the survey teams were verified by the supervisors and referred immediately after.

Mid-Upper Arm Circumference (MUAC)

The MUAC was measured in centimeters on the left arm, at midpoint between the shoulder's tip and the elbow, on a relaxed arm. MUAC was taken only for children between 6 and 59 months of age.

Additional Data

Measles vaccination

The interviewer was confirming if the child received measles vaccination by examining an official document (EPI card/clinic card/health card). If there is no document, the interviewer was asking the respondent if the child received measles vaccination. Only children aged 9-59 months were assessed for measles vaccination.

Vitamin A supplementation in the past six months

The interviewer was first confirming if the child received a vitamin A supplementation by examining an official document (EPI card/clinic card/health card). If there is no document, the interviewer was showing vitamin A blue and red samples to the respondent and ask him/her if the child received a vitamin A supplementation drops in the mouth in the past six months. Only children aged 6-59 months were assessed for vitamin A supplementation.

Deworming in the past six months

The deworming status in the past six months was also confirmed with an official document (EPI card/clinic card/health card). If it is not possible, the interviewer was shown the respondent a deworming tablet (mebendazole) and ask if the child received a "worm medicine" in the past six months.

Diarrhoea episode in the last 2 weeks

A question was asked to caregivers to find out if their children have had an episode of diarrhoea in the two weeks preceding the survey. An episode of diarrhoea is defined by the occurrence of at least three liquid stools

during the same 24 hours. The enumerators were ensured that the definition of diarrhoea is understood by the respondent by assessing the number of liquid stools the child had in 24 hours.

Use of ORS/zinc during a diarrhoea episode

The interviewer was asking the mother/caregiver of the child if he/she received ORS sachets and/or zinc during a diarrhoea episode. An ORS sachet and a zinc pill was shown when asked to recall.

Enrolment into a nutrition programme (TSFP/OTP/SC)

The team leader was asking the mother/caregiver of the child if he/she is receiving sachets of Plumpy Nut' or CSB++, by showing her both sachets. If the child is receiving the Plumpy Nut' sachets, he/she is enrolled in a therapeutic feeding programme (OTP/SC); if he/she is receiving the CSB++, he/she is enrolled in a supplementary feeding programme (TSFP).

Enrolment into BSFP programme/MNP programme

The team leader was asking the mother/caregiver of the child if he/she is receiving CSB++ (children <24 months), by showing her sachet. If the child is receiving CSB++ sachet, he/she is enrolled in the BSFP programme. The team leader was asking the mother/caregiver of the child if he/she is receiving sachet of MNP (children ≥24 months), by showing her sachet. If the child is receiving MNP sachets, he/she is enrolled in the MNP programme.

Haemoglobin concentration (Hb)

The haemoglobin concentration was measured from a blood sample taken at the fingertip and recorded in grams per decilitre using a portable HemoCue Hb 301 analyzer. The measure was carried out after renewal in advance of the verbal consent. All children 6-59 months were assessed for their haemoglobin concentration, in all selected households for the survey. If severe anaemia is detected, the child was referred for treatment immediately.

Infant and Young Child Feeding practices (IYCF) (children from 0 to 23 months of age)

Several questions on breastfeeding practices and on complementary feeding practices was asked to the mothers/caregivers of children from 0 to 23 months of age.

4- Women Questionnaire (women from 15 to 49 years of age)

Age

The age was recorded in years on the questionnaire.

Pregnant and Lactating Status

The team leader was asking all women if they are pregnant and/or lactating. If the woman is pregnant, the team will not assess haemoglobin concentration.

Mid-Upper Arm Circumference (MUAC)

The MUAC was measured in centimeters on the left arm, at midpoint between the shoulder's tip and the elbow, on a relaxed arm for all women.

Enrolment in an ANC programme - Iron and folic acid supplementation

If the woman is pregnant, the team leader was asking two additional questions about her enrolment in an antenatal care programme and consumption of iron-folic-acid pills. An iron-folic acid pill image was shown to the pregnant woman when asked to recall.

Post-natal vitamin A supplementation

The team leader was asking the woman with children younger than 6 months if she received a vitamin A supplementation after delivery. A vitamin A capsule image was shown when asked to recall.

Enrolment into BSFP programme

The team leader was asking all pregnant women and lactating women with an infant younger than 6 months if they are actually enrolled in the BSFP programme and so if they are receiving the CSB++.

Haemoglobin concentration (Hb)

The haemoglobin concentration was measured from a blood sample taken at the fingertip and recorded in grams per decilitre using a portable HemoCue Hb 301 analyzer. The measure will be carried out after renewal in advance of the verbal consent. All non-pregnant women will be assessed for their haemoglobin concentration, in half of the households selected for the survey. If severe anaemia is detected, the woman will be referred for treatment immediately.

3.5. Case definitions, inclusion criteria and calculations

Nutritional Anthropometric Indicators

The following cut-offs was used to determine the prevalence of acute malnutrition, stunting and underweight (z-scores) using the WHO 2006 growth references.

Table 12: Cut-Offs For Definition Of Acute Malnutrition, Stunting And Underweight

Classification	Acute Malnutrition or Wasting (WHZ)	Chronic Malnutrition or Stunting (HAZ)	Underweight (WAZ)
Global	<-2SD &/or bilateral oedema	<-2 SD	<-2 SD
Moderate	≥-3 SD & <-2 SD	≥-3 SD & <-2 SD	≥-3 SD & <-2 SD
Severe	<-3 SD &/or bilateral oedema	<-3 SD	<-3 SD

Table 13: Cut-Offs For Definition Of Acute Malnutrition Based On MUAC In Tanzania

Target	Classification	MUAC Cut-offs
Children 6-59 months	MAM	<125 mm
	SAM	<115 mm

Vitamin A Supplementation, Deworming, Measles vaccination and Two-week prevalence of Diarrhoea

To estimate vitamin A supplementation, deworming coverage, measles vaccination and the two-week period prevalence of diarrhoea, the following formula presented in table 11 was used.

Table 14: Vitamin A Supplementation Coverage, Deworming Coverage, Measles Vaccination Coverage And Two-Week Period Prevalence Of Diarrhoea

Indicator	Numerator	Denominator
Vitamin Supplementation	Number of children aged 6-59 months who received at least one high-dose vitamin A supplement in the past six months	Total number of children aged 6-59 months x 100
Deworming	Number of children 12-59 months dewormed in the past six months	Total number of children aged 12-59 months x 100
Measles vaccination	Number of children 9-59 months immunized against measles	Total number of children aged 9-59 months x 100
Diarrhoea	Number of children aged 6-59 months who had diarrhoea in the past two weeks	Total number of children aged 6-59 months x 100

Child enrolment in selective feeding programme:

Coverage of TSFP programme (%) = 100 x

No. of surveyed children with MAM according to TSFP criteria who reported being registered in TSFP
No. of surveyed children with MAM according to SFP admission criteria

Coverage of OTP/SC programme (%) =
100 x

No. of surveyed children with SAM according to OTP/SC criteria who reported being registered in OTP/SC
No. of surveyed children with SAM according to OTP/SC admission criteria

Infant and Young Child Feeding Practices (IYCF)

IYCF indicators and formula that will be used to calculate them are detailed below. These indicators and formula follow the SENS guidelines and the guidelines from WHO “Indicators for assessing IYCF practices”.

Children ever breastfed: Proportion of children born in the last 24 months who ever breastfed.

Children born in the last 24 months who were ever breastfed
Children born in the last 24 months

Timely initiation of breastfeeding: Proportion of children born in the last 24 months who were breastfed within one hour of birth.

Children born in the last 24 months who were put to the breast within one hour after birth
Children born in the last 24 months

Exclusive breastfeeding under 6 months: Proportion of infants 0-5 months of age who are fed exclusively with breast milk.

Infants 0-5 months of age who received only breast milk during the previous day
Infants 0-5 months of age

Exclusive breastfeeding means that the infant receives only breast milk. No other liquids or solids are given – not even water – with the exception of oral rehydration solution, or drops/syrups of vitamins, minerals or medicines.

Continued breastfeeding at 1 year: Proportion of children 12-15 months of age who are fed breast milk.

Children 12-15 months of age who received breast milk during the previous day
Children 12-15 months of age

Continued breastfeeding at 2 years: Proportion of children 20-23 months of age who are fed breast milk.

Children 20-23 months of age who received breast milk during the previous day
Children 20-23 months of age

Introduction of complementary foods: Proportion of infants 6-8 months of age who receive solid, semi-solid or soft foods.

Infants 6-8 months of age who received solid, semi-solid or soft foods during the previous day
Infants 6-8 months of age

Consumption of iron rich or iron fortified foods in children aged 6-23 months: Proportion of children 6–23 months of age who receive an iron-rich or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home.

Children 6-23 months of age who received an iron-rich food or a food that was specially
 Designed for infants and young children and was fortified with iron, or a food that was
Fortified in the home with a product that included iron during the previous day
 Children 6-23 months of age

Bottle feeding: Proportion of children 0-23 months of age who are fed with a bottle

Children 0–23 months of age who were fed with a bottle during the previous day
 Children 0–23 months of age

Anaemia

Anaemia is said to exist when the level of circulating haemoglobin (Hb) in the patient is lower than that of healthy persons of the same age group and sex in the same environment. The most common type of anaemia is due to iron deficiency resulting from inadequate iron intake from foods.

Hb concentrations was reported in g/dL for consistency purposes. Hb levels was categorised according to WHO recommended cut-offs (shown in Table 12) to determine the prevalence of anaemia (mild, moderate, severe).

Table 15: Haemoglobin Levels To Diagnose Anaemia At Sea Level (Who 2011)

Age/Sex groups	Categories of Anaemia (Hb g/dL)			
	Any form of anaemia	Mild	Moderate	Severe
Children 6-59 months	<11.0	10.9 - 10.0	9.9 - 7.0	< 7.0
Non-pregnant adult females 15-49 years*	<12.0	11.9 - 11.0	10.9 - 8.0	< 8.0

* This category includes lactating women

Residential elevation above sea level are known to increase haemoglobin concentrations. Consequently, the prevalence of anaemia may be underestimated in persons residing at high altitudes if the standard anaemia cut-offs are applied. Table 13 presents the recommended adjustments made to the measured haemoglobin concentration among non-pregnant women living in the camps. The Hb concentration was automatically adjusted in each camp.

Table 16: Altitude Adjustments To Measured Haemoglobin Concentrations In The Camps

Camp	Altitude (metres above sea level)	Measured haemoglobin adjustment (g/dL)
Nduta	1311.38	-0.3
Mtendeli	1305.7	-0.3
Nyarugusu	1223.46	-0.2

3.6. Classification of public health problems and targets

Anthropometric data:

UNHCR's target for the prevalence of Global Acute Malnutrition (GAM) is < 10% and the target for the prevalence of Severe Acute Malnutrition (SAM) is <2% for children 6-59 months.

The table below shows the WHO-UNICEF classification of public health significance of the anthropometric results for children under-5 years of age.

Table 17: WHO-UNICEF (2018) Classification of Public Health Significance For Children Under 5 Years of Age

Classification Prevalence thresholds (%)	Critical situation	Serious situation	Poor situation	Acceptable situation	
	Very High	High	Medium	Low	Very low

Wasting	≥ 15	10 - < 15	5 - < 10	2.5 - < 5	< 2.5
Stunting	≥ 30	20 - < 30	10 - < 20	2.5 - < 10	< 2.5
Overweight	≥ 15	10 - < 15	5 - < 10	2.5 - < 5	< 2.5
Underweight*	≥ 30	20 - < 30	10 - < 20	< 10%	

Nutrition programme enrolment:

The table below shows the performance indicators for malnutrition treatment programmes according to SPHERE Standards.

Table 18: Performance Indicators for MAM and SAM (Sphere)

Coverage		
Rural areas	Urban areas	Camps
>50%	>70%	>90%

The target for blanket feeding programme coverage should be >90%.

Coverage of measles vaccination, vitamin A supplementation and deworming in the last 6 months

Table 19: UNHCR Targets for Measles Vaccination, Vitamin A Supplementation And Deworming Coverage

Indicator	Target coverage	Source
Measles vaccination coverage (9-59 months)	95%	UNHCR, Sphere Standards
Vitamin A supplementation in the last 6 months coverage (6-59m)	>90%	UNHCR
Deworming in the last 6 months coverage (appropriate age group)	75%	WHO

Anaemia

UNHCR target for the prevalence of anaemia in children 6-59 months of age and in women 15-49 years of age should be < 20% corresponding to the 'low' category as defined by WHO and shown in the table below

Table 20: WHO Classification of Public Health Significance

Classification	High	Medium	Low
Prevalence of anaemia	≥40%	20-39%	5-19%

Source: WHO (2000) The Management of Nutrition in Major Emergencies

Mosquito nets coverage

WHO defines a long-lasting insecticidal net as a factory-treated mosquito net made with netting material that has insecticide incorporated within or bound around the fibres. The net must retain its effective biological activity without re-treatment for at least 20 WHO standard washes under laboratory conditions and three years of recommended use.

Table 21: International Targets

UNHCR Standard	Indicator
Proportion of households owning at least one Long-Lasting Insecticide treated bed net (LLIN)	>80%
Average number of persons per LLIN	2 persons per LLIN

3.7. Survey team

The survey was coordinated by UNHCR from the outset of planning to finalization of the survey activities.

However, the survey was a joint effort between UNHCR, WFP, UNICEF and major partners implementing health and nutrition projects in the camps (World Vision, MSF, TRCS, MTI) as well as the Government (MOHA, TFNC and MOH).

UNHCR Nutrition associate coordinated the Survey technical part during the implementation. No Survey consultant was hired for this year SENS.

A total of 6 survey teams each consisting of 5 team members (anthropometry measurer, anthropometry assistant, haemoglobin measurer, interviewer, team leader and supervisors) were formulated. The team leader was responsible for the children and women questionnaires. The interviewer was responsible for the demography questionnaire and the household questionnaire. The measurers were taking the anthropometric measurements and the Hb takers were taking the Hb concentrations. In each team, 3 persons were coming from refugee camps. WFP, MOH and TFNC provided technical support in supervising the field data collection.

3.8. Language

English/Kiswahili language was used for training, communication, data collection tools and reporting. The refugee's staff were used to facilitate the translation of English/Kiswahili vis-à-vis local language (Kirundi/Congolese) during the assessment.

3.9. Training

The main training will be organized in Kasulu bringing together the main survey team (Team leaders, Interviewers and Hb takers). In each camp, one day training will be organized for the measurers.

The Survey Training was conducted by the survey UN team in collaboration with TFNC and other partners involved in the survey. The Survey Training was held in September from 6th September to 10th September 2021 in Kasulu town, Kigoma region

- The training included the following areas:
- An overview of the survey and its objectives
- Interviewing and general communication skills
- Sampling procedure and selection of households
- Identification of individuals to measure or interview
- How to complete the questionnaires
- Correct age in month estimation or validation using the calendar of local events
- How to make correct anthropometric measurements
- How to take correct haemoglobin concentration
- The identification of bilateral oedema and how to refer children with acute malnutrition to the health centre
- Data collection using Mobile Data Collection (MDC).
- Pilot Test

Selection of the Team Leaders

One team leader was selected in each team. All the participants were assessed during a pre-test at the beginning of the training. The selection of the team leaders was based on the results of the written tests.

3.10. Standardization of the Anthropometric Tools

Before testing the participants for accuracy and precision of measurements, all anthropometric tools were tested to ensure that each tool produce the same measure of a standard object a 1.5 water bottle was used. The scales or height boards that won't produce exact measures was marked and eliminated before the standardization test and data collection.

Every day, before the start of fieldwork, the measurers were responsible to review their anthropometric equipment for damage and to measure the standard objects to ensure that the tools are still in good working order. Results were recorded daily on the standardization of anthropometric tools form.

Standardization of the Enumerators

The standardization of anthropometric measures and one day training to refugee staff was done in each camp. Each measurer measured 10 children less than five years of age twice (height, weight). The results of the standardization test by interviewer were produced immediately to determine if further training and standardization was required. Measurers with good skills of measurement was assigned as a measurer within a team and the others as an assistant-measurer.

Final Selection of the Enumerators

All participants were assessed during a pre-test at the beginning of the training. The final selection was done based on the results of the written tests and based on the results of the standardization test.

Pilot Test

The survey tools were piloted in Nyarugusu camp. The enumerators were divided into teams. Each team interviewed five households selected to investigate among households listed in a village not selected for the survey. This process was done to ensure that the methodology and survey equipment are adapted, but also to complete the practical part of the training of enumerators.

3.11. Data Collection, Entry and Analysis

Data collection

Data collection was carried out over 20 days for all the four surveys areas, where the data collection for Nyarugusu Burundian camp was carried out from 12th Sept. - 17th Sept. 2021, Nyarugusu Congolese camp from the 20th Sept. - 24th of Sept. 2021, Nduta camp from 29th Sept. - 3rd Oct. 2021 and Mtendeli camp from 4th - 10th Oct. 2021 respectively. During the interview the team supervisor or team leader was introducing themselves to each household after the introduction the team leader will ask for consent from the head of the household for conducting the survey (Refer the consent form in Appendix.). All the questionnaires were asked in Swahili where for the household where no member speaks Swahili the incentive staff was assisting to translate.

Data entry and data checks

Data was collected using mobile phones operated by the Android operating system (HTC One) and the ODK application. During supervision in the field and at the end of each day, the Survey coordinator and the supervisors were manually check the phone questionnaires for completeness, consistency and accuracy. This check was also used to provide feedback to the teams to improve data collection as the surveys progressed. Children data were downloaded and analyzed on a daily basis with the ENA software (ENA for SMART 2011, Jan 11th, 2020). The SMART plausibility report was generated on daily basis in order to identify any problems with anthropometric data collection such as flags and digit preference for age, height and weight, to improve the quality of the anthropometric data collected as the survey was on-going.

Quality of data was ensured through:

- Crosschecking of filled questionnaires on daily basis
- Daily review of performance of the data collection teams in addressing any difficulties encountered
- Progress evaluation was carried out according to the time schedule and progress reports shared with partners on regular basis
- The measurement tools [electronic weighing scales, measuring board, MUAC and others] was calibrated every morning before the start of the survey to avoid instrument error
- Data was checked by ENA for SMART plausibility program before analysis.
- The microcuvette containers of each team was checked to ensure that enough are left for conducting the Hb tests for the day, to ensure the survey team carries an additional microcuvette container with them
- Visual inspection of the HemoCue machines 301 of each team was made to ensure that it is clean. If not, cleaning procedures were applied as indicated during the training. Survey supervisors were

closely following cleaning procedures and check whether the machine were properly working, if not replaced it with another machine.

Data analysis

All data files were reviewed for accuracy before analysis. Anthropometric data for children 6-59 months was analysed using ENA for SMART software. The nutritional indices were cleaned using flexible criterion (± 3 SD from the observed mean; also known as SMART flags in the ENA for SMART software).

The nutrition results were presented in the standard format following the report template from the ENA software (ENA for SMART 2011, Jan 11th, 2020). This format includes GAM, SAM, Stunting, Underweight and Overweight with 95% confidence intervals. The report has estimates of malnutrition calculated with the WHO 2006 growth references.

All other data were analysed using Epi-Info 7. Primary data and secondary information related to health and nutrition was also gathered through interviews, observations, and various records. In the secondary data review, the UNHCR Health Information System (HIS) data, UNHCR and partners weekly and monthly reports and past nutritional survey reports was used for the final analysis.

4. RESULTS

4.1. Demography

Sample size and clusters

This represents the total number of households planned and total reached. From the Survey above 90% of the targeted household were reached. Children reached during the survey was above 100%. All the planned clusters were visited.

Table 22: Sampling Information By Camp

Survey Area	Sampling Information	Total planned	Total surveyed	% of target	Non-response rate (%)
Nyarugusu Burundian	Number of clusters (where applicable)	30	30	100%	n/a
	Number of households	450	445	98.9%	
	Number of children 6-59 months	330	570	172.7%	
Nyarugusu Congolese	Number of clusters (where applicable)	28	28	100%	n/a
	Number of households	337	334	99.1%	
	Number of children 6-59 months	235	537	228%	
Nduta	Number of clusters (where applicable)	28	28	100%	n/a
	Number of households	494	441	89.3%	
	Number of children 6-59 months	431	599	139%	
Mtendeli	Number of clusters (where applicable)	26	26	100%	n/a
	Number of households	352	336	95.5%	
	Number of children 6-59 months	283	515	182%	

Household size and composition

Nyarugusu Congolese was the highest camp followed by Nduta and smallest was Mtendeli camp. The highest average population was 7.0 in Nyarugusu Congolese. Proportion of household size of 1 – 4 persons was the biggest in all the camp except for Nyarugusu Burundian. The proportion of household size of 10 and above persons was lower in Nduta camp (3.4%) and highest was Nyarugusu Congolese with 18.3%. the household composition was almost the same for all age group across the camps there was small difference. The percentage under two years children ranged between 10 – 13% while proportion of children aged under five year was ranging between 24-29% in all the camps. Proportion of pregnant women was 2.6% in Nyarugusu Burundian, 2.1% in Nyarugusu Congolese, 3.0% on Nduta and 2.3% in Mtendeli.

Table 23: Household Size and Composition, By Camp

Household size and composition		Nyarugusu Burundian	Nyarugusu Congolese	Nduta	Mtendeli
Population size – Total persons		50,329	78,795	56,874	21,396
Total population surveyed – Total persons (all ages)		2623	2320	2326	1982
Total U2 surveyed		267	257	279	212
Total U5 surveyed		651	606	689	559
Average household size		5.9	7.0	5.3	5.9
Household size categories	1-4 person(s)	33.4%	19.8%	43.8%	34.5%
	5-6 persons	28.2%	29.9%	31.3%	28.9%
	7-9 persons	28.0%	32.0%	21.5%	26.5%
	≥ 10 persons	10.4%	18.3%	3.4%	10.1%
Household composition	Children under two	0.60	0.77	0.63	0.63
	Children under five	1.47	1.81	1.56	1.66
	Children aged 5-14 years	1.71	2.01	1.52	1.80
	Members aged 15-64 years	2.66	3.07	2.15	2.41
	Members aged 65 years and above	0.07	0.06	0.05	0.03
Percent of children U2		10.2%	11.1%	12.0%	10.7%
Percent of children U5		24.8%	26.1%	29.6%	28.2%
Percent pregnant women (15-49 years)		2.6%	2.1%	3.0%	2.3%
Percent of elders (65 years and above)		1.1%	0.9%	0.9%	0.5%
Sex ratio		0.94	0.89	0.92	0.88

Below are the population pyramids showing the population profile by camp

FIGURE 11:POPULATION PYRAMID IN NYARUGUSU BURUNDIAN

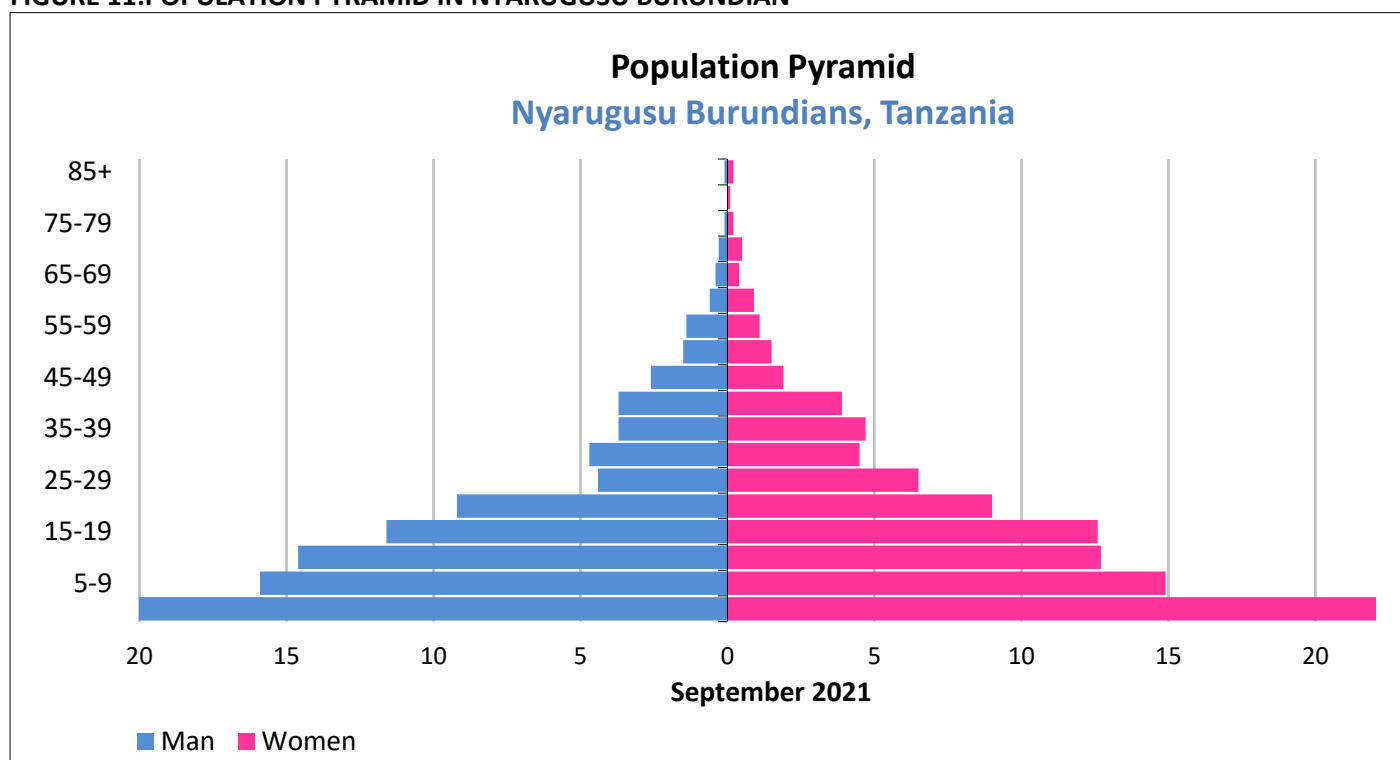


FIGURE 12:POPULATION PYRAMID IN NYARUGUSU CONGOLESE

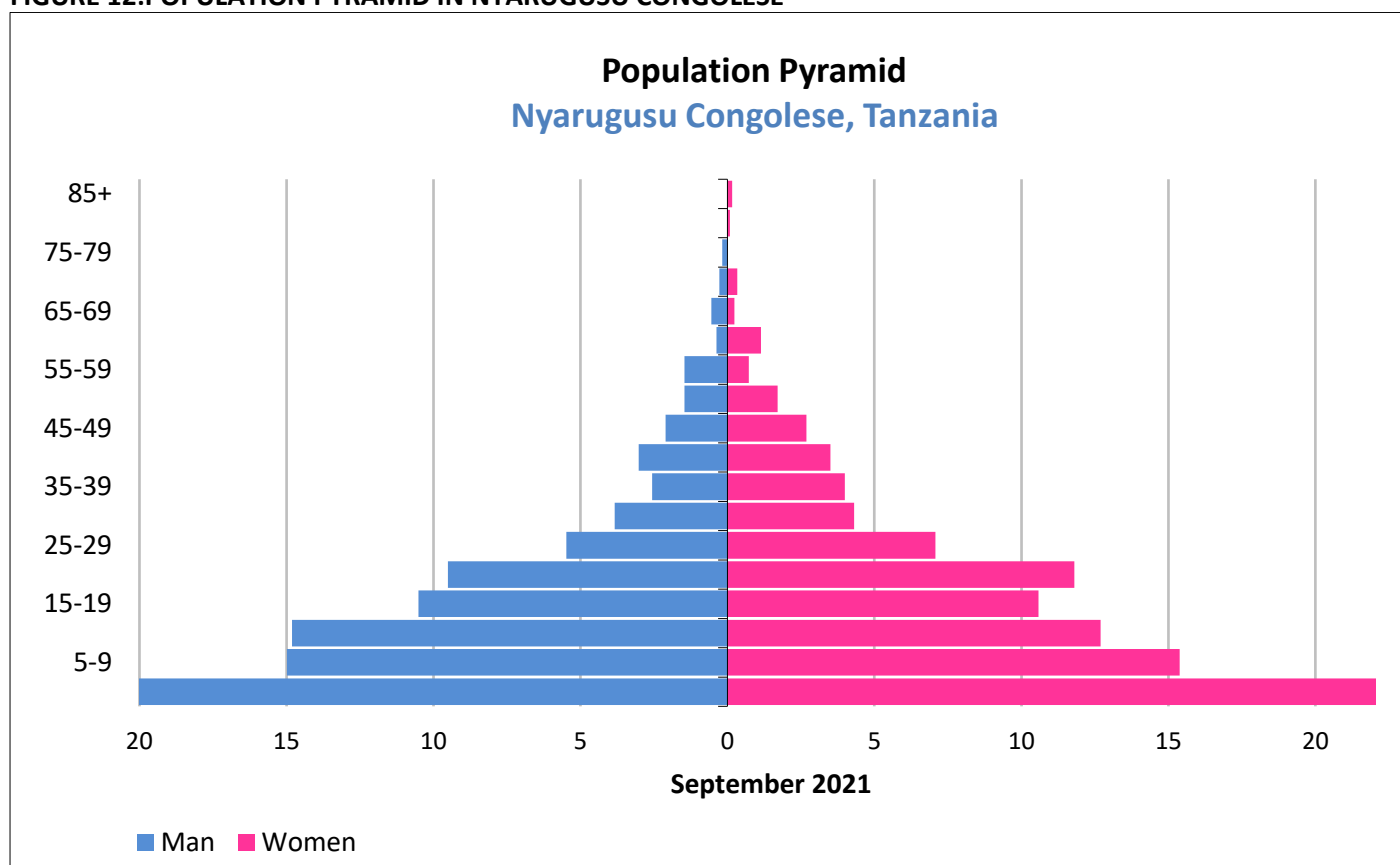


FIGURE 13: POPULATION PYRAMID IN NDUTA

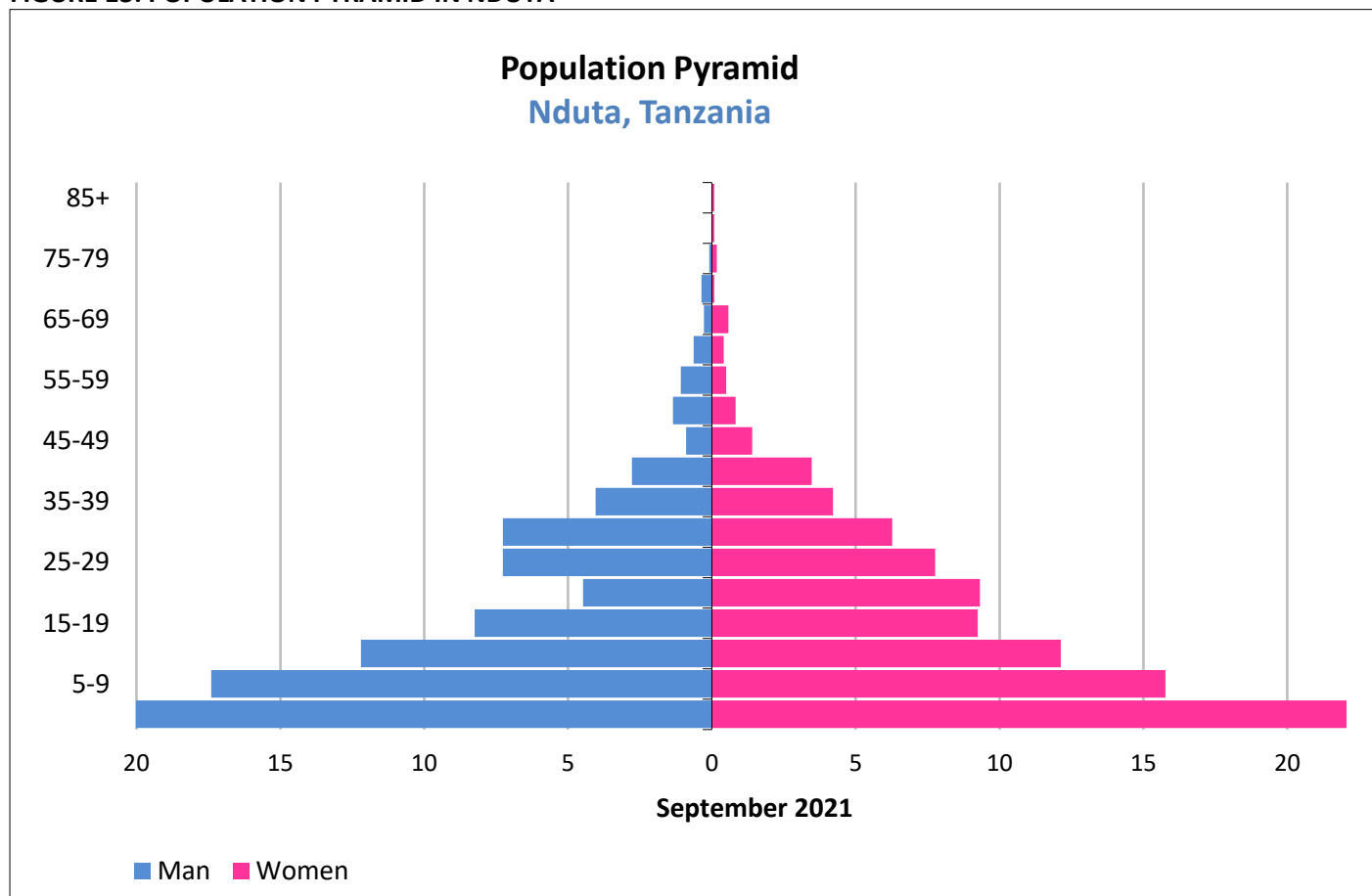
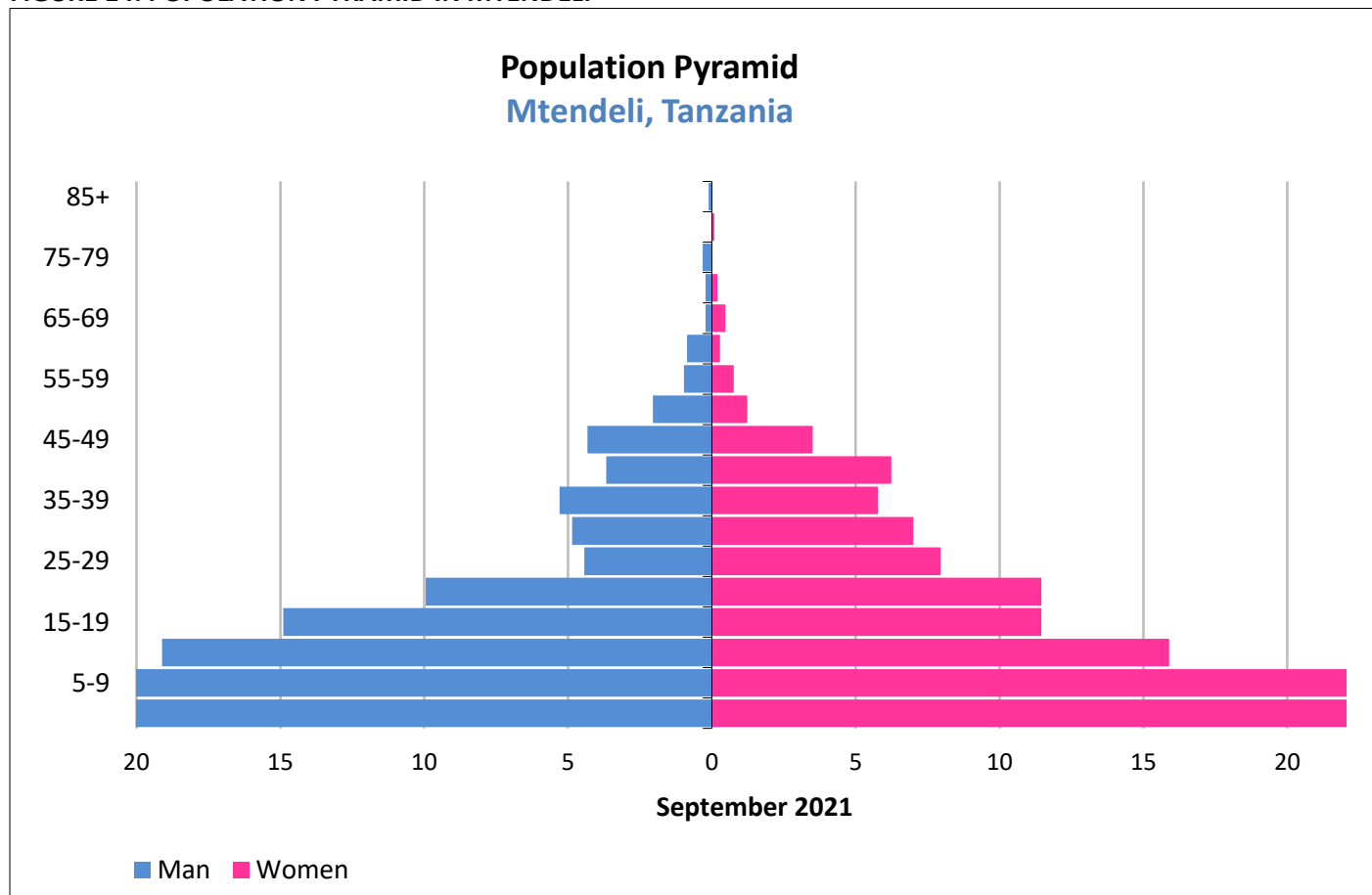


FIGURE 14: POPULATION PYRAMID IN MTENDELI



Household Head Profile

For the household profile women attained high percentage of being house headed than man across all the camps. The female headed was ranging from 52.4% in Mtendeli to 66.2 in Nyarugusu Congolese. The male headed was highest in Mtendeli than other camps. Children head was zero percent in all camps except in Nyarugusu Congolese which was 0.3%. Elderly headed household was ranging from 2.1% to 3.9%. The table below shows detailed household head profiles by camp. The mean age of household head ranged from 33.7 years to 38.3.

Table 24: Household Head Profile, By Camp

Survey Area	N	Nyarugusu Burundian		N	Nyarugusu Congolese		N	Nduta		N	Mtendeli	
		n	% (95% CI)		n	% (95% CI)		n	% (95% CI)		n	% (95% CI)
Female headed households (Working age 15-64 years)	44 2	27 7	62.67% [51.8-73.5]	33 4	22 1	66.2% [58.8-73.5]	44 1	25 6	58.1% [48.6-67.5]	33 6	17 6	52.4% [42.1-62.7]
Male headed households (Working age 15-64 years)	44 2	14 8	33.5% [22.9-44.1]	33 4	10 5	31.4% [24.1-38.8]	44 1	17 5	39.7% [29.7-49.7]	33 6	15 3	45.5% [35.4-55.7]
Children headed households (Under 15 years)	44 2	0	0	33 4	1	0.3% [0.0-0.9]	44 1	0	0	33 6	0	0
Elderly headed households (65 years and above)	44 2	17	3.9% [2.0-5.7]	33 4	7	2.1% [0.2-4.0]	44 1	10	2.3% [0.9-3.6]	33 6	7	2.1% [0.4-3.7]
Mean age of household head in years	36.7			38.3			33.7			35.1		

The Age difference ratio was almost the same across the four camps. The smallest was 1.5 in Nyarugusu Burundian while the remaining camps the ration is the same at 1.7.

Table 25: Age Dependency Ratio*, By Camp

Age dependency ratio		Nyarugusu Burundian N = 441	Nyarugusu Congolese N=334	Nduta N= 439	Mtendeli N=335
Mean (95% CI) [range]	Cluster design	1.5 [1.4-1.6] [Min 0, Max 9]	1.7 [1.5-1.8] [Min 0, Max 6]	1.7 [1.5-1.8] [Min 0, max 7]	1.7 [1.6-1.8] [Min 0, Max 6]

*Age dependency ratio = $\frac{\text{Number of people aged 0 -14 years and those aged } \geq 65 \text{ years}}{\text{Number of people aged 15 – 64 years}}$

Table 26: Age Dependency Ratio Categories by Household, By Camp

Survey Area	Age dependency categories		Age dependency ratio	Number Total /	% (95% CI)
Nyarugusu Burundian	Category I	1 dependent or less per non-dependent member	≤ 1	209	47.4% [41.8 - 53.0]
	Category II	Up to 3 dependents per 2 non-dependent members	1.1-1.5	84	19.1% [15.1 - 23.0]
	Category III	Up to 2 dependents per non-dependent members	1.6-2.0	65	14.7% [11.6 - 17.9]
	Category IV	More than 2 dependents per non-dependent members	≥ 2.1	83	18.8% [15.3 - 22.4]
Nyarugusu Congolese	Category I	1 dependent or less per non-dependent member	≤ 1	142	42.6% [36.5 - 48.8]
	Category II	Up to 3 dependents per 2 non-dependent members	1.1-1.5	60	18.0% [14.9 - 21.2]
	Category III	Up to 2 dependents per non-dependent members	1.6-2.0	55	16.5% [13.0 - 20.0]
	Category IV	More than 2 dependents per non-dependent members	≥ 2.1	76	22.8% [18.0 - 27.7]
Nduta	Category I	1 dependent or less per non-dependent member	≤ 1	194	44.2% [39.0 - 49.4]
	Category II	Up to 3 dependents per 2 non-dependent members	1.1-1.5	69	15.7% [11.5 - 20.0]
	Category III	Up to 2 dependents per non-dependent members	1.6-2.0	77	17.5% [14.3 - 20.8]
	Category IV	More than 2 dependents per non-dependent members	≥ 2.1	99	22.6% [17.3 - 27.8]
Mtendeli	Category I	1 dependent or less per non-dependent member	≤ 1	131	39.1% [32.3 - 45.9]
	Category II	Up to 3 dependents per 2 non-dependent members	1.1-1.5	57	17.0% [12.2 - 21.9]
	Category III	Up to 2 dependents per non-dependent members	1.6-2.0	69	20.6% [15.3 - 25.9]
	Category IV	More than 2 dependents per non-dependent members	≥ 2.1	78	23.3% [17.6 - 28.9]

4.2. Children 6-59 months

Age and Sex Distribution

Age was evenly distributed among age categories as indicated in the below tables. The sex ratio was rounded to 1.0 across all the four camps.

Table 27: Children 6-59 Months - Distribution of Age and Sex of Sample in Nyarugusu Burundian

	Boys		Girls		Total		Ratio
AGE (mo)	no.	%	no.	%	no.	%	Boy:girl
6-11	30	47.6	33	52.4	63	11.0	0.9
12-23	63	48.1	68	51.9	131	22.9	0.9
24-35	80	57.6	59	42.4	139	24.3	1.4
36-47	66	52.4	60	47.6	126	22.0	1.1
48-59	48	42.1	66	57.9	114	19.9	0.7
Total	287	50.1	286	49.9	573	100.0	1.0

Table 28: Children 6-59 Months - Distribution of Age and Sex of Sample In Nyarugusu Congolese

	Boys		Girls		Total		Ratio
AGE (mo)	no.	%	no.	%	no.	%	Boy:girl
6-11	36	46.8	41	53.2	77	14.3	0.9
12-23	70	56.9	53	43.1	123	22.8	1.3
24-35	68	55.7	54	44.3	122	22.6	1.3
36-47	69	56.1	54	43.9	123	22.8	1.3
48-59	50	53.2	44	46.8	94	17.4	1.1
Total	293	54.4	246	45.6	539	100.0	1.2

Table 29: Children 6-59 Months - Distribution of Age and Sex of Sample in Nduta Camp

	Boys		Girls		Total		Ratio
AGE (mo)	no.	%	no.	%	no.	%	Boy:girl
6-11	34	53.1	30	46.9	64	10.6	1.1
12-23	79	53.4	69	46.6	148	24.5	1.1
24-35	68	50.7	66	49.3	134	22.2	1.0
36-47	73	53.7	63	46.3	136	22.5	1.2
48-59	49	40.2	73	59.8	122	20.2	0.7
Total	303	50.2	301	49.8	604	100.0	1.0

Table 30: Children 6-59 Months - Distribution of Age and Sex of Sample In Mtendeli Camp

	Boys		Girls		Total		Ratio
AGE (mo)	no.	%	no.	%	no.	%	Boy:girl
6-11	32	51.6	30	48.4	62	11.9	1.1
12-23	54	46.6	62	53.4	116	22.4	0.9
24-35	53	49.5	54	50.5	107	20.6	1.0
36-47	69	51.9	64	48.1	133	25.6	1.1
48-59	46	45.5	55	54.5	101	19.5	0.8
Total	254	48.9	265	51.1	519	100.0	1.0

The proportion of children with no exact birthdate was 2% for Nyarugusu Burundian camp, 3% for Nyarugusu Congolese camp, 0% for Nduta and 0% for Mtendeli. Compare to the last SENS in 2019 this time most of the parents had birth cards especially in Nduta and Mtendeli where the birth registration exercise was ongoing most of the children assessed had birth registration cards.

Anthropometric results (based on WHO Growth Standards 2006)

The prevalence of global acute malnutrition (GAM) based on weight for height expressed in Z-scores and/or oedema was 3.0% for Nyarugusu Burundian camp, 0.4% for Nyarugusu Congolese camp, 1.8% for Nduta and 1.0 % for Mtendeli. While boys are the most affected with acute malnutrition for all camps except the Nyarugusu Burundian where girls are more affected with acute malnutrition, no camp indicated children with SAM and Oedema there has been some improvement compared to 2019 where Nduta prevalence of SAM was 0.2% but has reduced to 0% in 2021.

Table 31: Prevalence of Acute Malnutrition Based on Weight-For-Height Z-Scores (And/or Oedema) And by Sex, By Camp

Survey Area	N	Global Acute Malnutrition (WHZ <-2 z-score and/or oedema)						Moderate Acute Malnutrition (WHZ <-2 z-score and ≥-3 z-score)		Severe Acute Malnutrition (WHZ <-3 z-score and/or oedema)	
		All		Boys		Girls		All		All	
		n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Nyarugusu Burundian Camp	570	17	3.0 % (1.7 - 5.3 95% C.I.)	8	2.8 % (1.5 - 5.1 95% C.I.)	9	3.2 % (1.4 - 7.0 95% C.I.)	17	3.0 % (1.7 - 5.3 95% C.I.)	0	0.0 % (0.0 - 0.0 95% C.I.)
Nyarugusu Congolese Camp	537	2	0.4 % (0.1 - 1.5 95% C.I.)	2	0.7 % (0.2 - 2.8 95% C.I.)	0	0.0 % (0.0 - 0.0 95% C.I.)	2	0.4 % (0.1 - 1.5 95% C.I.)	0	0.0 % (0.0 - 0.0 95% C.I.)
Nduta	599	11	1.8 % (1.0 - 3.4 95% C.I.)	7	2.3 % (1.1 - 5.1 95% C.I.)	4	1.3 % (0.4 - 4.6 95% C.I.)	11	1.8 % (1.0 - 3.4 95% C.I.)	0	0.0 % (0.0 - 0.0 95% C.I.)
Mtendeli	515	5	1.0 % (0.4 - 2.2 95% C.I.)	4	1.6 % (0.6 - 4.3 95% C.I.)	1	0.4 % (0.1 - 2.7 95% C.I.)	5	1.0 % (0.4 - 2.2 95% C.I.)	0	0.0 % (0.0 - 0.0 95% C.I.)

FIGURE 15: PREVALENCE OF GLOBAL AND SEVERE ACUTE MALNUTRITION BASED ON WHO GROWTH STANDARDS

IN CHILDREN 6-59 MONTHS FROM 2018-2021, BY CAMP

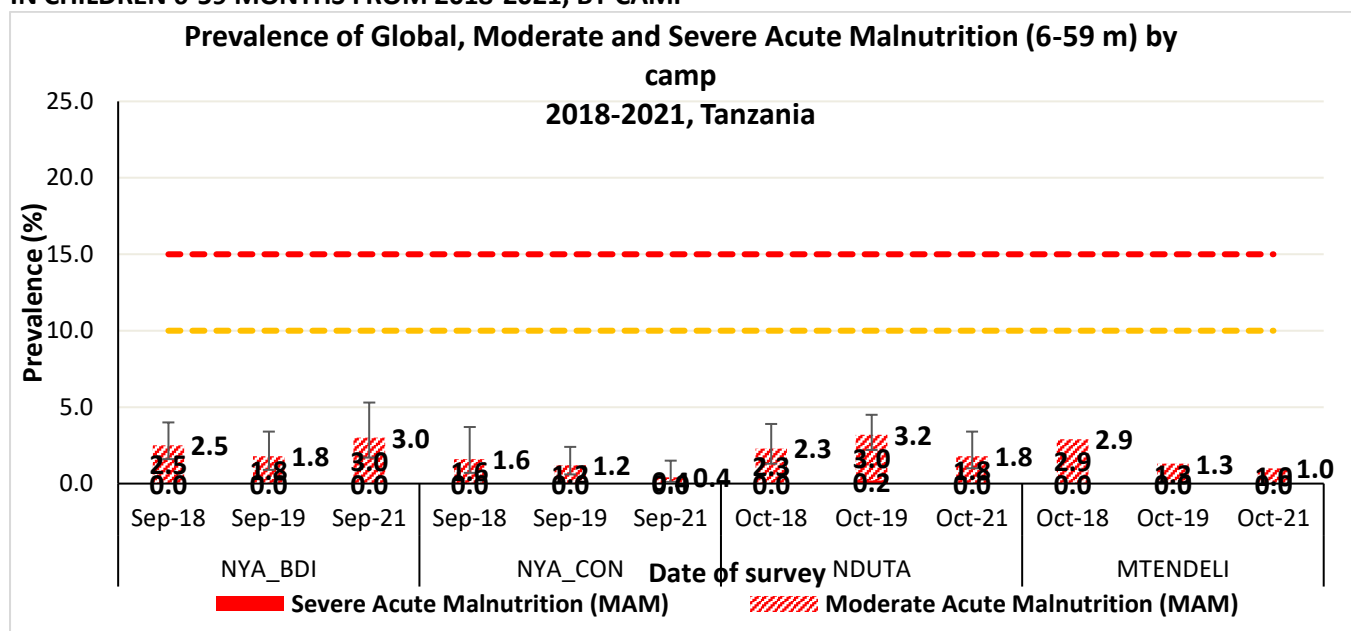


Table 32: Prevalence of Acute Malnutrition by Age, Based On WHZ and/or Oedema, In Nyarugusu Burundian Camp

		Severe wasting (< -3 z-score)		Moderate wasting (≥ -3 and < -2 z-score)		Normal (≥ -2 z score)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	62	0	0.0	3	4.8	59	95.2	0	0.0
12-23	129	0	0.0	2	1.6	127	98.4	0	0.0
24-35	139	0	0.0	3	2.2	136	97.8	0	0.0
36-47	126	0	0.0	4	3.2	122	96.8	0	0.0
48-59	113	0	0.0	5	4.4	108	95.6	0	0.0
Total	569	0	0.0	17	3.0	552	97.0	0	0.0

Disaggregation of acute malnutrition by age showed younger children aged 6 – 11 months being the most affected age group in Nyarugusu Burundian camp as well as young children aged 48-59 month. However, this should be interpreted with care given the small sample size of the particular age group.

Table 33: Prevalence of Acute Malnutrition by Age, Based on WHZ and/or Oedema, Nyarugusu Congolese Camp

		Severe wasting (< -3 z-score)		Moderate wasting (≥ -3 and < -2 z-score)		Normal (≥ -2 z score)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	74	0	0.0	1	1.4	73	98.6	0	0.0
12-23	122	0	0.0	0	0.0	122	100.0	0	0.0
24-35	122	0	0.0	0	0.0	122	100.0	0	0.0
36-47	123	0	0.0	1	0.8	122	99.2	0	0.0
48-59	94	0	0.0	0	0.0	94	100.0	0	0.0
Total	535	0	0.0	2	0.4	533	99.6	0	0.0

Disaggregation of acute malnutrition by age showed the young children aged 6-11 month being the most affected age group in Nyarugusu Congolese camp. However, this should be interpreted with care given the small sample size of the particular age group.

Table 34: Prevalence of Acute Malnutrition by Age, Based on WHZ And/or Oedema, Nduta Camp

		Severe wasting (<-3 z-score)		Moderate wasting (>= -3 and <-2 z-score)		Normal (> = -2 z score)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	64	0	0.0	2	3.1	62	96.9	0	0.0
12-23	146	0	0.0	4	2.7	142	97.3	0	0.0
24-35	134	0	0.0	0	0.0	134	100.0	0	0.0
36-47	134	0	0.0	3	2.2	131	97.8	0	0.0
48-59	121	0	0.0	2	1.7	119	98.3	0	0.0
Total	599	0	0.0	11	1.8	588	98.2	0	0.0

Disaggregation of acute malnutrition by age showed the young children aged 6-11 month being the most affected age in Nduta as well. However, this should be interpreted with care given the small sample size of the particular age group.

Table 35: Prevalence of Acute Malnutrition by Age, Based on WHZ and/Or Oedema, Mtendeli Camp

		Severe wasting (<-3 z-score)		Moderate wasting (>= -3 and <-2 z-score)		Normal (> = -2 z score)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	61	0	0.0	2	3.3	59	96.7	0	0.0
12-23	116	0	0.0	2	1.7	114	98.3	0	0.0
24-35	105	0	0.0	1	1.0	104	99.0	0	0.0
36-47	133	0	0.0	0	0.0	133	100.0	0	0.0
48-59	101	0	0.0	0	0.0	101	100.0	0	0.0
Total	516	0	0.0	5	1.0	511	99.0	0	0.0

The same for Mtendeli children with age 6-11 month are most affected group. However, this should be interpreted with care given the small sample size of the particular age group.

Graphs of prevalence of wasting disaggregated by age as presented in Figure 16-19 are shown in the figures below

FIGURE 16: PREVALENCE OF WASTING BY AGE IN CHILDREN 6-59 MONTHS IN NYARUGUSU BURUNDIAN CAMP

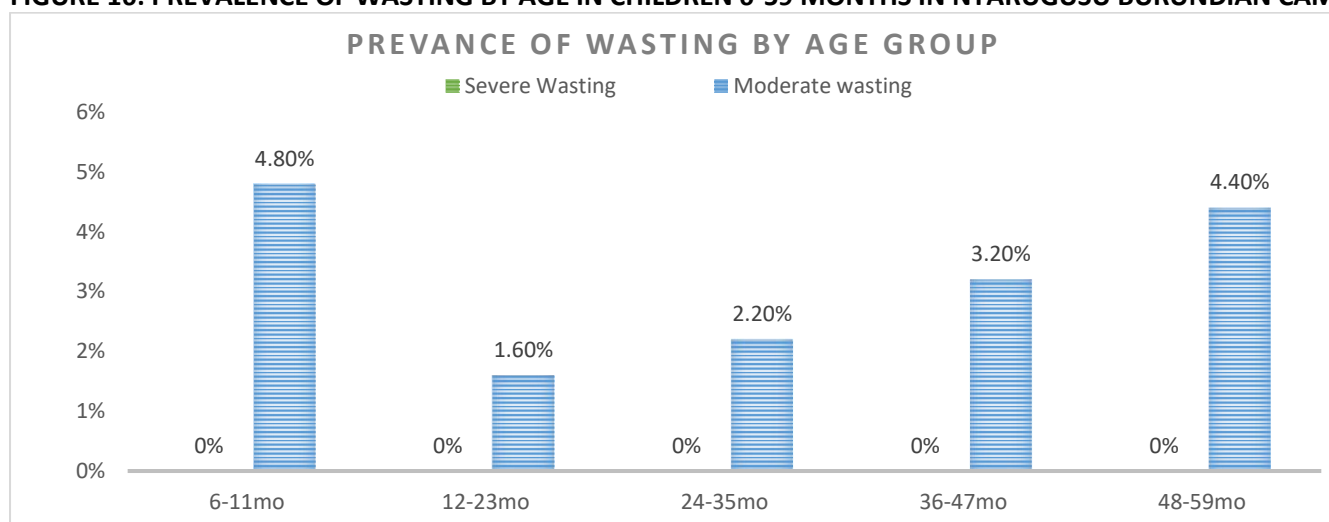


FIGURE 17:PREVALENCE OF WASTING BY AGE IN CHILDREN 6-59 MONTHS IN NYARUGUSU CONGOLESE CAMP

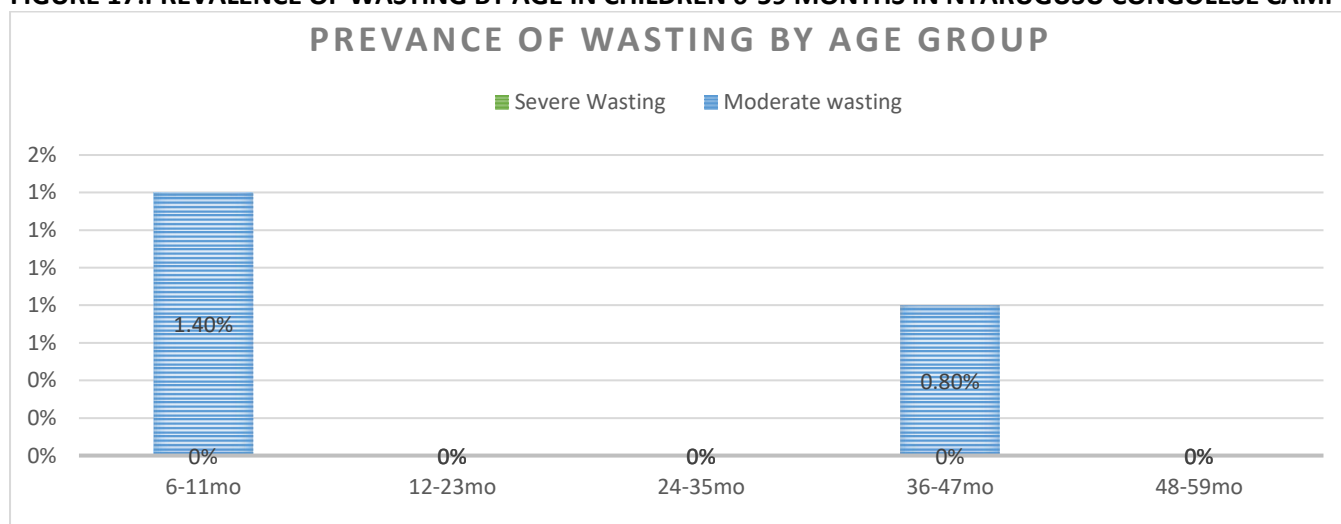


FIGURE 18: PREVALENCE OF WASTING BY AGE IN CHILDREN 6-59 MONTHS IN NDUTA CAMP

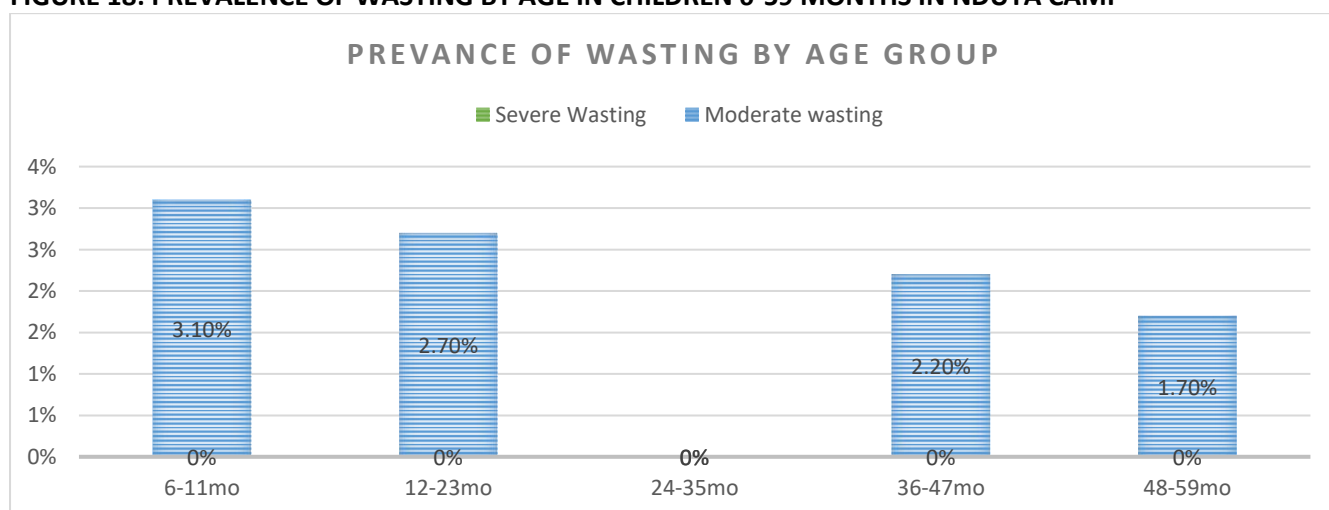


FIGURE 19: PREVALENCE OF WASTING BY AGE IN CHILDREN 6-59 MONTHS IN MTENDELI CAMP

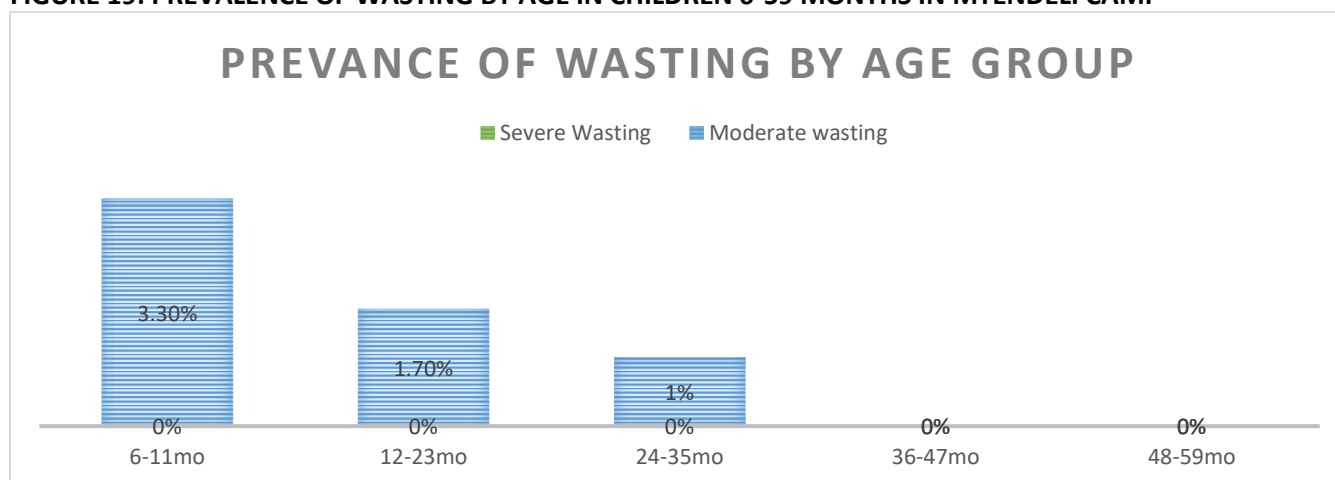
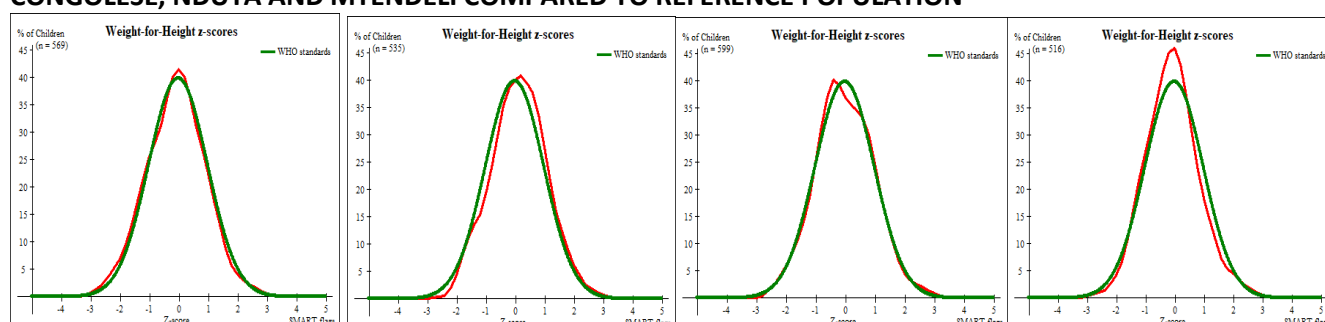


FIGURE 20: DISTRIBUTION OF WEIGHT-FOR-HEIGHT Z-SCORES IN NYARUGUSU BURUNDIAN, NYARUGUSU CONGOLESE, NDATA AND MTENDELI COMPARED TO REFERENCE POPULATION



NOTE: The reference population is shown in green, and the surveyed population is shown in red. The curves are closer indicating stable nutritional status among the surveyed population.

The prevalence of malnutrition based on MUAC was 3.5% in Nyarugusu Burundian camp, 1.5% in Nyarugusu Congolese camp, 1.7% in Ndata and 1.3% in Mtenдели. When compared to the GAM based on WHZ there is no significance difference between the two, except for Nyarugusu Congolese where there is slightly increase for MUAC malnutrition compared to WHZ GAM prevalence. See the table below

Table 36: Prevalence of MUAC Malnutrition, By Camp

Survey Area	N	Prevalence of MUAC < 125 mm and/or oedema						Prevalence of MUAC < 125 mm and ≥ 115 mm, no oedema		Prevalence MUAC < 115 mm and/or oedema	
		All		Boys		Girls		All		All	
		n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Nyarugusu Burundian Camp	573	20	3.5 % (2.4 - 5.0 95% C.I.)	9	3.1 % (1.6 - 6.0 95% C.I.)	11	3.8 % (2.4 - 6.2 95% C.I.)	17	3.0 % (2.0 - 4.4 95% C.I.)	3	0.5 % (0.1 - 2.2 95% C.I.)
Nyarugusu Congolese Camp	539	8	1.5 % (0.7 - 3.1 95% C.I.)	6	2.0 % (0.8 - 5.1 95% C.I.)	2	0.8 % (0.2 - 3.3 95% C.I.)	7	1.3 % (0.7 - 2.6 95% C.I.)	1	0.2 % (0.0 - 1.4 95% C.I.)

Nduta	603	10	1.7 % (0.8 - 3.6 95% C.I.)	3	1.0 % (0.3 - 3.0 95% C.I.)	7	2.3 % (0.9 - 5.7 95% C.I.)	9	1.5 % (0.7 - 3.1 95% C.I.)	1	0.2 % (0.0 - 1.3 95% C.I.)
Mtendeli	519	7	1.3 % (0.7 - 2.7 95% C.I.)	2	0.8 % (0.2 - 3.3 95% C.I.)	5	1.9 % (0.8 - 4.2 95% C.I.)	3	0.6 % (0.2 - 1.8 95% C.I.)	4	0.8 % (0.3 - 2.0 95% C.I.)

Table 37: Prevalence of MUAC Malnutrition by Age, Based on MUAC Cut Off's and/or Oedema, In Nyarugusu Burundian Camp

		Severe wasting (< 115 mm)		Moderate wasting (≥ 115 mm and < 125 mm)		Normal (≥ 125 mm)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	63	1	1.6	6	9.5	56	88.9	0	0.0
12-23	131	2	1.5	6	4.6	123	93.9	0	0.0
24-35	139	0	0.0	3	2.2	136	97.8	0	0.0
36-47	126	0	0.0	1	0.8	125	99.2	0	0.0
48-59	114	0	0.0	1	0.9	113	99.1	0	0.0
Total	573	3	0.5	17	3.0	553	96.5	0	0.0

Disaggregation of acute malnutrition by age based on MUAC showed children aged 6 – 11 months being the most affected age group in Nyarugusu Burundian camp. However, this should be interpreted with care given the small sample size of the particular age group.

Table 38: Prevalence of MUAC Malnutrition by Age, Based on MUAC Cut Off's and/or Oedema, In Nyarugusu Congolese Camp

		Severe wasting (< 115 mm)		Moderate wasting (≥ 115 mm and < 125 mm)		Normal (≥ 125 mm)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	77	1	1.3	5	6.5	71	92.2	0	0.0
12-23	123	0	0.0	1	0.8	122	99.2	0	0.0
24-35	122	0	0.0	0	0.0	122	100.0	0	0.0
36-47	123	0	0.0	1	0.8	122	99.2	0	0.0
48-59	94	0	0.0	0	0.0	94	100.0	0	0.0
Total	539	1	0.2	7	1.3	531	98.5	0	0.0

Disaggregation of acute malnutrition by age based on MUAC showed children aged 6 – 11 months being the most affected age group in Nyarugusu Congolese camp. However, this should be interpreted with caution given the small sample size of the particular age group.

Table 39: Prevalence of MUAC Malnutrition by Age, Based on MUAC Cut Off's and/or Oedema, In Nduta Camp

		Severe wasting (< 115 mm)		Moderate wasting (≥ 115 mm and < 125 mm)		Normal (≥ 125 mm)		Oedema	
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Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	64	1	1.6	1	1.6	62	96.9	0	0.0
12-23	148	0	0.0	5	3.4	143	96.6	0	0.0
24-35	134	0	0.0	0	0.0	134	100.0	0	0.0
36-47	135	0	0.0	2	1.5	133	98.5	0	0.0
48-59	122	0	0.0	1	0.8	121	99.2	0	0.0
Total	603	1	0.2	9	1.5	593	98.3	0	0.0

Disaggregation of acute malnutrition by age based on MUAC showed children aged 12 – 23 months being the most affected age group in Nduta camp.

Table 40: Prevalence of MUAC Malnutrition by Age, Based On MUAC Cut Off's and/or Oedema, In Mtendeli Camp

Age (mo)	Total no.	Severe wasting (< 115 mm)		Moderate wasting (>= 115 mm and < 125 mm)		Normal (> = 125 mm)		Oedema	
		No.	%	No.	%	No.	%	No.	%
6-11	62	2	3.2	2	3.2	58	93.5	0	0.0
12-23	116	2	1.7	1	0.9	113	97.4	0	0.0
24-35	107	0	0.0	0	0.0	107	100.0	0	0.0
36-47	133	0	0.0	0	0.0	133	100.0	0	0.0
48-59	101	0	0.0	0	0.0	101	100.0	0	0.0
Total	519	4	0.8	3	0.6	512	98.7	0	0.0

Disaggregation of acute malnutrition by age based on MUAC showed children aged 6 – 11 months being the most affected age group in Mtendeli camp. However, this should be interpreted with caution given the small sample size of the particular age group

Prevalence of underweight

Prevalence of underweight was 11.5% in Nyarugusu Burundian camp, 8.0% in Nyarugusu Congolese camp, 16.6% in Nduta and 10.4% in Mtendeli. Disaggregation by sex showed boys were the most affected than girls in Nyarugusu Congolese cam and Mtendeli while in Nduta and Nyarugusu Burundian there was no significance difference between the two.

Table 41: Prevalence of Underweight Based on Weight-For-Age Z-Scores and By Sex, By Camp

Survey Area	N	Prevalence of underweight (<-2 z-score)						Prevalence of moderate underweight (<-2 z-score and ≥-3 z-score)		Prevalence of severe underweight (<-3 z-score)	
		All		Boys		Girls		All		All	
		n	% (95% CI)	N	% (95% CI)	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Nyarugusu New Camp	571	100	17.5 % (15.1 - 20.2 95% C.I.)	50	17.5 % (13.4 - 22.5 95% C.I.)	50	17.5 % (14.2 - 21.5 95% C.I.)	86	15.1 % (12.8 - 17.7 95% C.I.)	14	2.5 % (1.4 - 4.1 95% C.I.)

Nyarugusu Old Camp	537	43	8.0 % (5.4 - 11.7 95% C.I.)	30	10.2 % (6.6 - 15.6 95% C.I.)	13	5.3 % (2.6 - 10.7 95% C.I.)	37	6.9 % (4.8 - 9.9 95% C.I.)	6	1.1 % (0.4 - 2.8 95% C.I.)
Nduta	601	100	16.6 % (13.5 - 20.4 95% C.I.)	50	16.7 % (12.7 - 21.5 95% C.I.)	50	16.6 % (12.5 - 21.7 95% C.I.)	90	15.0 % (12.2 - 18.3 95% C.I.)	10	1.7 % (0.9 - 3.2 95% C.I.)
Mtendeli	517	54	10.4 % (7.2 - 14.9 95% C.I.)	29	11.5 % (7.3 - 17.7 95% C.I.)	25	9.4 % (6.4 - 13.8 95% C.I.)	49	9.5 % (6.3 - 14.0 95% C.I.)	5	1.0 % (0.4 - 2.2 95% C.I.)

Table 42: Prevalence of Underweight by Age Based On WAZ, In Nyarugusu Burundian Camp

		Severe underweight (<-3 z-score)		Moderate underweight (>= -3 and <-2 z-score)		Normal (> = -2 z score)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	62	3	4.8	11	17.7	48	77.4	0	0.0
12-23	130	4	3.1	22	16.9	104	80.0	0	0.0
24-35	139	4	2.9	21	15.1	114	82.0	0	0.0
36-47	126	3	2.4	17	13.5	106	84.1	0	0.0
48-59	114	0	0.0	15	13.2	99	86.8	0	0.0
Total	571	14	2.5	86	15.1	471	82.5	0	0.0

Disaggregation of underweight by age showed younger children aged 6 – 11 months being the most affected age group in Nyarugusu Burundian camp. However, this should be interpreted with caution given the small sample size of the particular age group.

Table 43: Prevalence of Underweight by Age Based On WAZ, In Nyarugusu Cong Camp

		Severe underweight (<-3 z-score)		Moderate underweight (>= -3 and <-2 z-score)		Normal (> = -2 z score)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	76	3	3.9	6	7.9	67	88.2	0	0.0
12-23	122	0	0.0	11	9.0	111	91.0	0	0.0
24-35	122	2	1.6	7	5.7	113	92.6	0	0.0
36-47	123	1	0.8	12	9.8	110	89.4	0	0.0
48-59	94	0	0.0	1	1.1	93	98.9	0	0.0
Total	537	6	1.1	37	6.9	494	92.0	0	0.0

Disaggregation of underweight by age showed children aged 6 – 11 months being the most affected age group in Nyarugusu Congolese camp. However, this should be interpreted with care given the small sample size of the particular age group.

Table 44: Prevalence of Underweight by Age Based on Weight-For-Age Z-Scores, In Nduta

		Severe underweight (<-3 z-score)		Moderate underweight (≥ -3 and <-2 z-score)		Normal (≥ -2 z score)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	63	0	0.0	7	11.1	56	88.9	0	0.0
12-23	147	3	2.0	26	17.7	118	80.3	0	0.0
24-35	134	1	0.7	20	14.9	113	84.3	0	0.0
36-47	135	3	2.2	19	14.1	113	83.7	0	0.0
48-59	122	3	2.5	18	14.8	101	82.8	0	0.0
Total	601	10	1.7	90	15.0	501	83.4	0	0.0

Disaggregation of underweight by age showed children aged 12-23 months being the most affected age group in Nduta camp. However, this should be interpreted with care given the small sample size of the particular age group.

Table 45: Prevalence of Underweight by Age Based on Weight-For-Age Z-Scores, In Mtendeli

		Severe underweight (<-3 z-score)		Moderate underweight (≥ -3 and <-2 z-score)		Normal (≥ -2 z score)		Oedema	
Age (mo)	Total no.	No.	%	No.	%	No.	%	No.	%
6-11	61	0	0.0	6	9.8	55	90.2	0	0.0
12-23	115	2	1.7	9	7.8	104	90.4	0	0.0
24-35	107	2	1.9	7	6.5	98	91.6	0	0.0
36-47	133	0	0.0	13	9.8	120	90.2	0	0.0
48-59	101	1	1.0	14	13.9	86	85.1	0	0.0
Total	517	5	1.0	49	9.5	463	89.6	0	0.0

Disaggregation of underweight by age showed children aged 48-59 months being the most affected age group in Mtendeli camp. However, this should be interpreted with care given the small sample size of the particular age group.

Stunting

Prevalence of stunting was 42.7% in Nyarugusu Burundian camp, 36.3% in Nyarugusu Congolese camp, 39.9% in Nduta and 33.7% in Mtendeli camp which, according to classification of public health significance the stunting prevalence is still very high above the 30% for critical level. When segregate by sex boys' children seemed to be more stunted than girls' children across all the camps. See the table below.

Table 46: Prevalence of Stunting Based on Height-For-Age Z-Scores And By Sex, By Camp

Survey Area	N	Prevalence of stunting (<-2 z-score)						Prevalence of moderate stunting (<-2 z-score and ≥ -3 z-score)		Prevalence of severe stunting (<-3 z-score)	
		All		Boys		Girls		All		All	
		n	%	n	%	n	% (95% CI)	n	%	n	% (95% CI)

			(95% CI)		(95% CI)				(95% CI)		
Nyarugusu Burundian	565	241	42.7 % (37.9 - 47.6 95% C.I.)	123	43.5 % (38.1 - 49.0 95% C.I.)	118	41.8 % (35.5 - 48.5 95% C.I.)	164	29.0 % (25.2 - 33.2 95% C.I.)	77	13.6 % (10.6 - 17.3 95% C.I.)
Nyarugusu Congolese	534	194	36.3 % (30.1 - 43.0 95% C.I.)	116	40.1 % (33.2 - 47.5 95% C.I.)	78	31.8 % (24.7 - 39.9 95% C.I.)	135	25.3 % (21.0 - 30.1 95% C.I.)	59	11.0 % (8.0 - 15.0 95% C.I.)
Nduta	601	240	39.9 % (35.6 - 44.4 95% C.I.)	123	41.0 % (35.7 - 46.5 95% C.I.)	117	38.9 % (33.0 - 45.1 95% C.I.)	166	27.6 % (24.4 - 31.1 95% C.I.)	74	12.3 % (9.4 - 15.9 95% C.I.)
Mtendeli	516	174	33.7 % (27.6 - 40.4 95% C.I.)	91	36.1 % (28.2 - 44.9 95% C.I.)	83	31.4 % (24.5 - 39.3 95% C.I.)	132	25.6 % (20.8 - 31.0 95% C.I.)	42	8.1 % (5.3 - 12.3 95% C.I.)

Below figure shows the trend of prevalence of stunting for the past three years in Nyarugusu Burundian, Nyarugusu Congolese, Nduta and Mtendeli. There is reduced trend of Stunting from 2018 to 2021 however the trend is still above the threshold of above 30% of critical level (WHO standard). See figure 20 below.

FIGURE 21: PREVALENCE OF GLOBAL AND SEVERE STUNTING BASED ON WHO GROWTH STANDARDS IN CHILDREN 6-59 MONTHS FROM 2018-2021, BY CAMP.

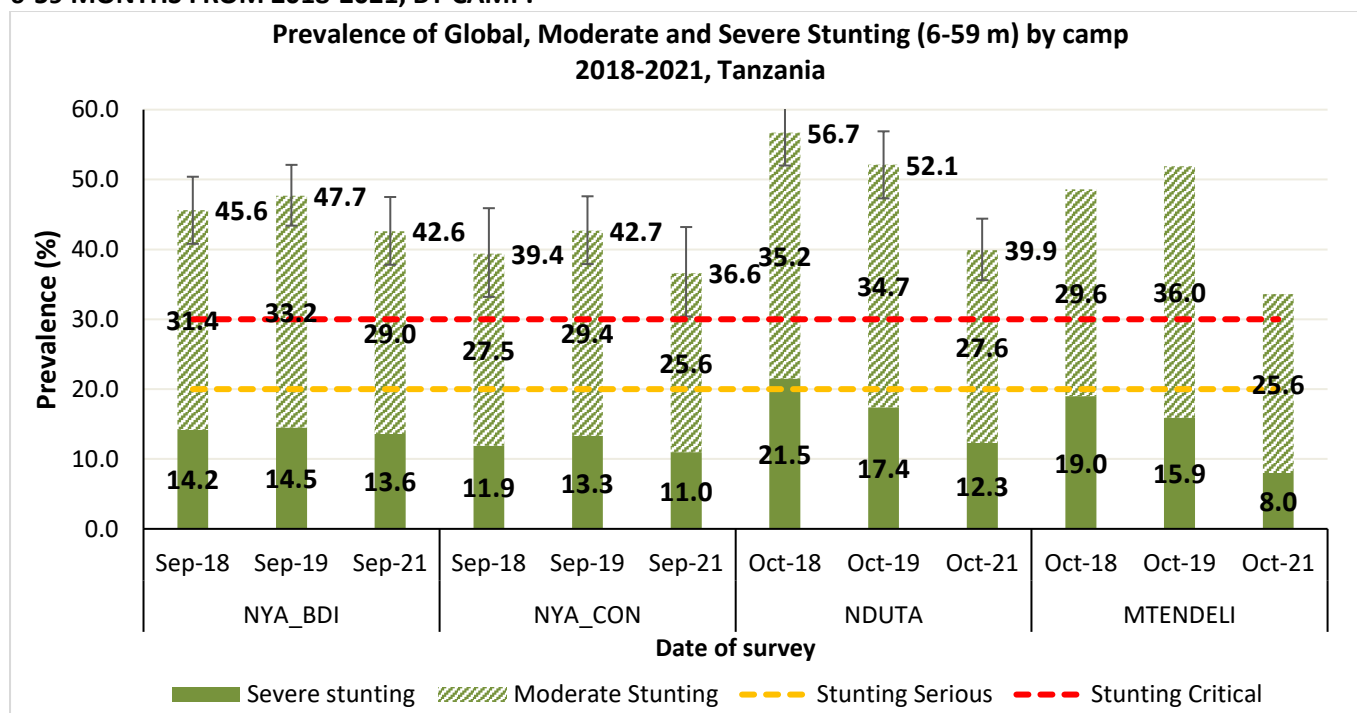


Table 47: Prevalence of Stunting by Age Based on Height-For-Age Z-Scores, In Nyarugusu Burundian Camp

		Severe stunting (<-3 z-score)		Moderate stunting (>= -3 and <-2 z-score)		Normal (> = -2 z score)	
Age (mo)	Total no.	No.	%	No.	%	No.	%

6-11	62	6	9.7	13	21.0	43	69.4
12-23	127	26	20.5	41	32.3	60	47.2
24-35	138	21	15.2	46	33.3	71	51.4
36-47	125	16	12.8	37	29.6	72	57.6
48-59	113	8	7.1	27	23.9	78	69.0
Total	565	77	13.6	164	29.0	324	57.3

Disaggregation of stunting by age showed children aged 12 – 23 months being the most affected age group in Nyarugusu Burundian camp. However, this should be interpreted with care given the small sample size of the particular age group

Table 48: Prevalence of Stunting by Age Based on Height-For-Age Z-Scores, In Nyarugusu Congolese Camp

Age (mo)	Total no.	Severe stunting (<-3 z-score)		Moderate stunting (>= -3 and <-2 z-score)		Normal (> = -2 z score)	
		No.	%	No.	%	No.	%
6-11	76	6	7.9	17	22.4	53	69.7
12-23	122	19	15.6	34	27.9	69	56.6
24-35	121	19	15.7	33	27.3	69	57.0
36-47	121	13	10.7	29	24.0	79	65.3
48-59	94	2	2.1	22	23.4	70	74.5
Total	534	59	11.0	135	25.3	340	63.7

Disaggregation of stunting by age for Nyarugusu Congolese as well showed children aged 12 – 23 months being the most affected age group. However, this should be interpreted with care given the small sample size of the particular age group.

Table 49: Prevalence of Stunting by Age Based on Height-For-Age Z-Scores, In Nduta

Age (mo)	Total no.	Severe stunting (<-3 z-score)		Moderate stunting (>= -3 and <-2 z-score)		Normal (> = -2 z score)	
		No.	%	No.	%	No.	%
6-11	63	4	6.3	10	15.9	49	77.8
12-23	148	16	10.8	49	33.1	83	56.1
24-35	134	20	14.9	40	29.9	74	55.2
36-47	134	20	14.9	33	24.6	81	60.4
48-59	122	14	11.5	34	27.9	74	60.7
Total	601	74	12.3	166	27.6	361	60.1

Disaggregation of stunting by age showed children aged 24 – 35 months being the most affected age group in Nduta camp. However, this should be interpreted with care given the small sample size of the particular age group

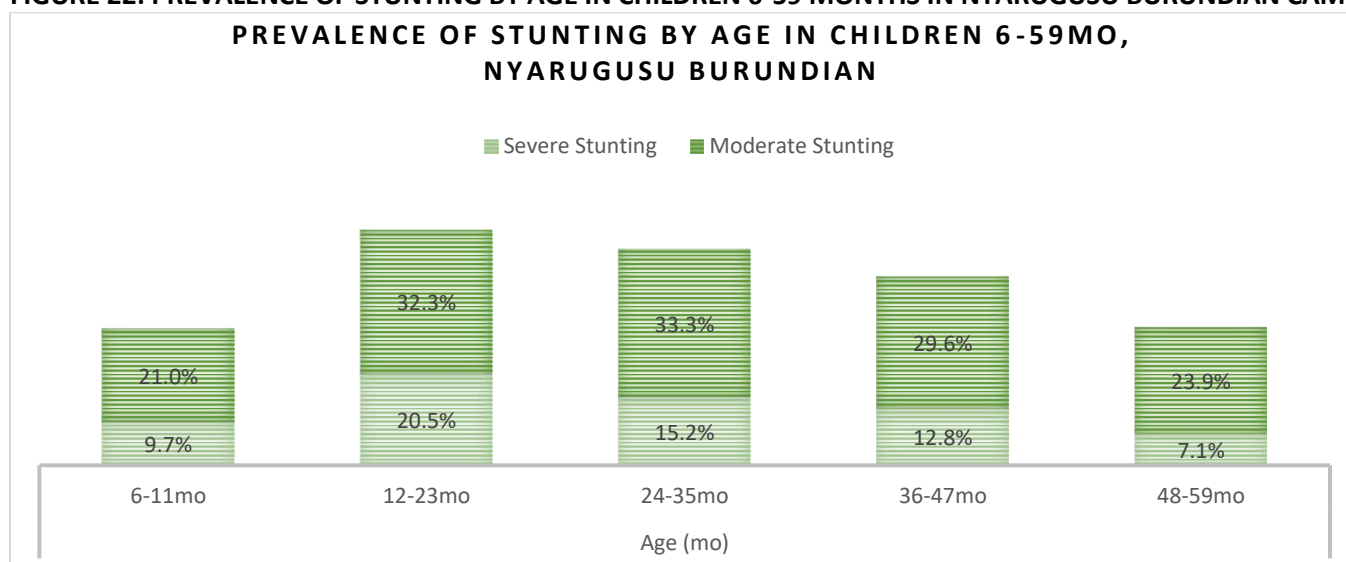
Table 50: Prevalence of Stunting by Age Based on Height-For-Age Z-Scores, In Mtendeli Camp

Age (mo)	Total no.	Severe stunting (<-3 z-score)		Moderate stunting (>= -3 and <-2 z-score)		Normal (> = -2 z score)	
		No.	%	No.	%	No.	%
6-11	61	2	3.3	10	16.4	49	80.3
12-23	115	14	12.2	29	25.2	72	62.6
24-35	106	11	10.4	34	32.1	61	57.5
36-47	133	10	7.5	32	24.1	91	68.4
48-59	101	5	5.0	27	26.7	69	68.3
Total	516	42	8.1	132	25.6	342	66.3

Disaggregation of stunting by age showed children aged 24-35 months being the most affected age group in Mtendeli camp. However, this should be interpreted with care given the small sample size of the particular age group.

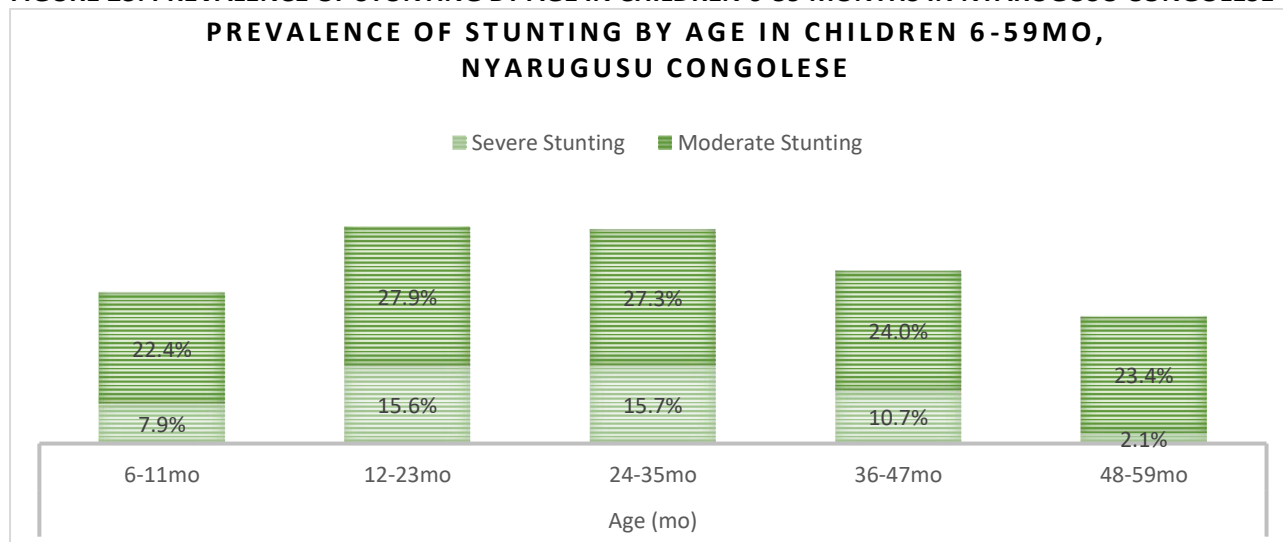
Stunting prevalence trend by age shown in **Figure 21-24** are presented in graphs in the figures below.

FIGURE 22: PREVALENCE OF STUNTING BY AGE IN CHILDREN 6-59 MONTHS IN NYARUGUSU BURUNDIAN CAMP



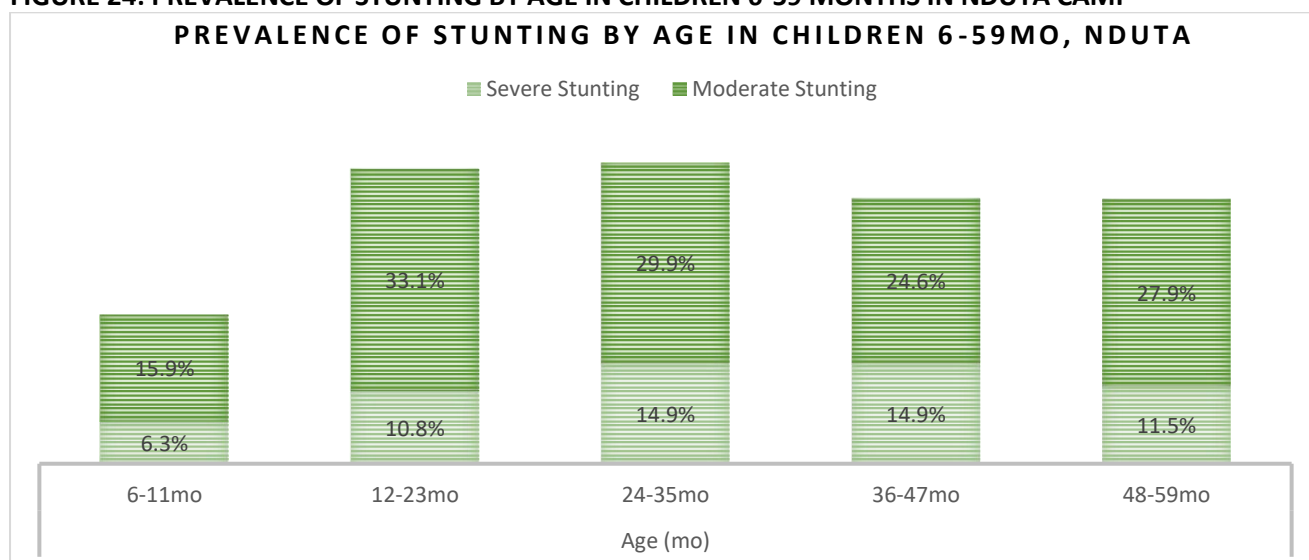
In Nyarugusu Burundian stunting increases at the age of 12-23 month compared to age 6-11 month, this could be because most women stop breastfeeding at that age of the children however it shows the stunting is reducing as the child continues to grow.

FIGURE 23: PREVALENCE OF STUNTING BY AGE IN CHILDREN 6-59 MONTHS IN NYARUGUSU CONGOLESE CAMP



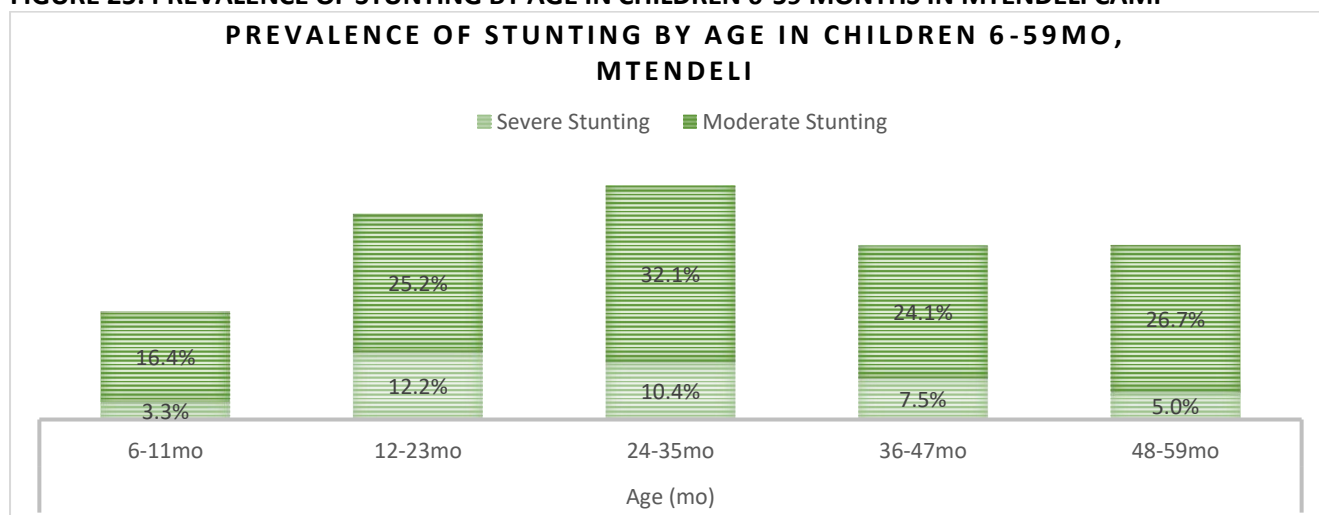
Same as in Nyarugusu Burundian the stunting decrease in old months that early months.

FIGURE 24: PREVALENCE OF STUNTING BY AGE IN CHILDREN 6-59 MONTHS IN NDUTA CAMP



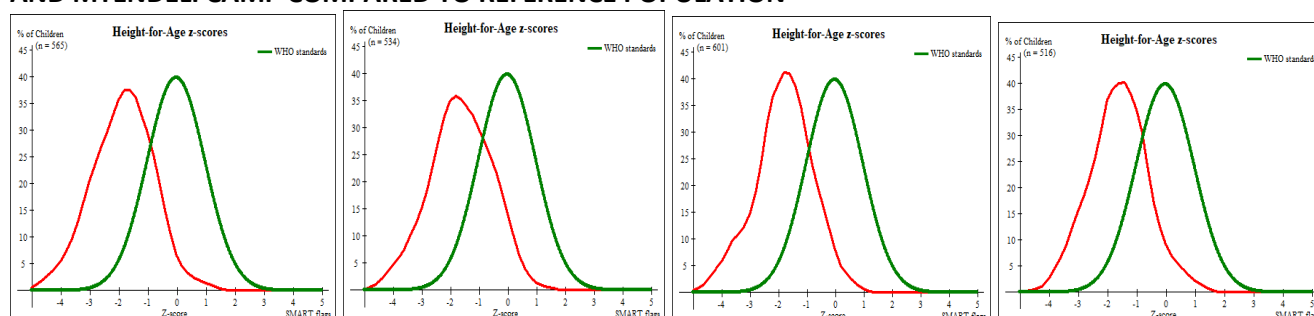
In Nduta camp situation is quite the opposite as the stunting is high to children from 12 up to 35 months and the reduction is slightly low to the old month of the children compare to other camp.

FIGURE 25: PREVALENCE OF STUNTING BY AGE IN CHILDREN 6-59 MONTHS IN MTENDELI CAMP



Mtendeli stunting is high in age where the child is discharged to BSFP however the reduced trend is observed in old months of the child.

FIGURE 26: DISTRIBUTION OF HAZ OF SURVEY POPULATION IN NYARUGUSU BDI, NYARUGUSU CON, NDUTA CAMP AND MTENDELI CAMP COMPARED TO REFERENCE POPULATION



The reference population is shown in green, and the surveyed population is shown in red. The surveyed population curves lie far left from the reference population indicating unstable nutritional status in the four camps.

Obesity

Prevalence of overweight among children aged 6-59 months was 2.1% in Nyarugusu Burundian, 2.4% in Nyarugusu Congolese, 2.5% in Nduta and 2.1% in Mtendeli. The severe obesity was observed in Nyarugusu Congolese where the prevalence was 0.2%.

Disaggregation of prevalence of overweight by camp indicates younger children aged 6 – 11 months being the most affected age group in Nyarugusu Congolese and Nduta camp while in Nyarugusu Burundian and Mtendeli most affected group are children aged 24-35 month. However, results should be interpreted with care given the small sample size among disaggregated age groups.

Table 51: Prevalence of Overweight Based on Weight-For-Height Z-Scores, By Camp

Survey Area	N	Prevalence of overweight (>2 z-score)		Prevalence of severe overweight (>3 z-score)	
		n	% (95% CI)	n	% (95% CI)
Nyarugusu New Camp	569	12	2.1 % (1.2 - 3.8 95% C.I.)	0	0.0 % (0.0 - 0.0 95% C.I.)
Nyarugusu Old Camp	535	13	2.4 % (1.3 - 4.3 95% C.I.)	1	0.2 % (0.0 - 1.5 95% C.I.)
Nduta	599	15	2.5 % (1.4 - 4.4 95% C.I.)	0	0.0 % (0.0 - 0.0 95% C.I.)
Mtendeli	516	11	2.1 % (1.1 - 4.0 95% C.I.)	0	0.0 % (0.0 - 0.0 95% C.I.)

Table 52: Prevalence of Overweight by Age Based on Weight-For-Height Z-Scores, In Nyarugusu Burundian Camp

		Overweight (WHZ > 2)		Severe Overweight (WHZ > 3)	
Age (mo)	Total no.	No.	%	No.	%
6-11	62	0	0.0	0	0.0

12-23	129	3	2.3	0	0.0
24-35	139	4	2.9	0	0.0
36-47	126	3	2.4	0	0.0
48-59	113	2	1.8	0	0.0
Total	569	12	2.1	0	0.0

Table 53: Prevalence of Overweight by Age Based on Weight-For-Height Z-Scores, Nyarugusu Congolese Camp

		Overweight (WHZ > 2)		Severe Overweight (WHZ > 3)	
Age (mo)	Total no.	No.	%	No.	%
6-11	74	5	6.8	1	1.4
12-23	122	3	2.5	0	0.0
24-35	122	2	1.6	0	0.0
36-47	123	2	1.6	0	0.0
48-59	94	1	1.1	0	0.0
Total	535	13	2.4	1	0.2

Table 54: Prevalence of Overweight by Age Based on Weight-For-Height Z-Scores, In Nduta Camp

		Overweight (WHZ > 2)		Severe Overweight (WHZ > 3)	
Age (mo)	Total no.	No.	%	No.	%
6-11	64	3	4.7	0	0.0
12-23	146	2	1.4	0	0.0
24-35	134	4	3.0	0	0.0
36-47	134	4	3.0	0	0.0
48-59	121	2	1.7	0	0.0
Total	599	15	2.5	0	0.0

Table 55 Prevalence of Overweight by Age Based on Weight-For-Height Z-Scores, In Mtendeli Camp

		Overweight (WHZ > 2)		Severe Overweight (WHZ > 3)	
Age (mo)	Total no.	No.	%	No.	%
6-11	61	2	3.3	0	0.0
12-23	116	1	0.9	0	0.0
24-35	105	6	5.7	0	0.0
36-47	133	2	1.5	0	0.0
48-59	101	0	0.0	0	0.0
Total	516	11	2.1	0	0.0

Table 56: Mean Z-Scores, Design Effects and Excluded Subjects, By Camp

Indicator	n	Mean z-scores ± SD	Design Effect (z-score < -2)	z-scores not available*	z-scores out of range
Nyarugusu Burundian					
Weight-for-Height	569	-0.09±0.99	1.43	1	3
Weight-for-Age	571	-1.09±0.97	1.00	0	2

Height-for-Age	565	-1.85±1.05	1.30	1	7
Nyarugusu Congolese					
Weight-for-Height	535	0.12±0.95	1.00	0	4
Weight-for-Age	537	-0.82±0.90	1.64	0	2
Height-for-Age	534	-1.62±1.06	2.30	0	5
Nduta					
Weight-for-Height	599	-0.01±0.97	1.04	1	4
Weight-for-Age	601	-1.00±0.97	1.22	0	3
Height-for-Age	601	-1.81±1.01	1.13	1	2
Mtendeli					
Weight-for-Height	516	-0.08±0.91	1.00	0	3
Weight-for-Age	517	-0.93±0.89	1.89	0	2
Height-for-Age	516	-1.60±0.99	2.24	0	3

* Contains for WHZ and WAZ the children with oedema.

Enrolment Into Nutrition Programmes Results

Enrolment into TSFP and OTP/SC was 16.7% and 25% for Nyarugusu Burundian, 25% and 0% for Nyarugusu Congolese camp, 26% and 0% for Nduta camp and 28.6% and 75% for Mtendeli camp. This, however, should be interpreted with care given the small sample size which has resulted into wider confidence interval.

Table 57: Programme Enrolment for Acutely Malnourished Children, By Camp

Survey Area	Programme	Number/total	% (95% CI)
Nyarugusu Burundian	Supplementary feeding programme (TSFP) enrolment	5/30	16.7% [1.7 - 31.6]
	Therapeutic (OTP/SC) feeding programme enrolment	1/4	25% [0 - 100]
Nyarugusu Congolese	Supplementary feeding programme (TSFP) enrolment	2/8	25% [0 - 67.1]
	Therapeutic (OTP/SC) feeding programme enrolment	0/1	0%
Nduta	Supplementary feeding programme (TSFP) enrolment	4/15	26.7% [0 - 57.4]
	Therapeutic (OTP/SC) feeding programme enrolment	0/1	0%
Mtendeli	Supplementary feeding programme (TSFP) enrolment	2/7	28.6% [0 - 73.7]
	Therapeutic (OTP/SC) feeding programme enrolment	3/4	75.0% [0 - 100]

- The calculations were computed based on the three criteria of MUAC, WHZ and oedema.
- Children with WHZ flags were excluded from the coverage analysis.

The coverage of blanket supplementary feeding program among children aged 6-23 months was 99.5% for Nyarugusu Burundian, 96.5% for Nyarugusu Congolese, 99.1% for Nduta and 7.25% for Mtendeli. Children in this program were receiving super cereal plus for 60 days.

Table 58: Coverage of The Blanket Supplementary Feeding Programme, By Camp

Survey Area	Programme	Number/total	% (95% CI)
Nyarugusu Burundian	Blanket supplementary feeding programme (BSFP)	192/193	99.5% [98.4 - 100]
	Product name	Super Cereal Plus	
	Target age group	6-23 months	
Nyarugusu Congolese	Blanket supplementary feeding programme (BSFP)	195/202	96.5% [93.5 - 99.6]

Nduta	Product name	Super Cereal Plus	
	Target age group	6-23 months	
	Blanket supplementary feeding programme (BSFP)	210/212	99.1% [97.7 – 100]
	Product name	Super Cereal Plus	
Mtendeli	Target age group	6-23 months	
	Blanket supplementary feeding programme (BSFP)	172/177	97.2% [94.3 – 100]
	Product name	Super Cereal Plus	
	Target age group	6-23 months	

The coverage of blanket supplementary feeding program among children aged 24 – 59 months was 98.4% for Nyarugusu Burundian, 98.8% for Nyarugusu Congolese, 98.7% for Nduta and 99.7% for Mtendeli. This programme was integrated with General food distribution to ensure that all households with eligible children are receiving the Micronutrient powder. However, during the data collection some of the households visited indicated that they are not using the MNP provided as it increases the appetite to children while the food ration has been reduced.

Table 59: Coverage of The Blanket Supplementary Feeding Programme, By Camp

Survey Area	Programme	Number/total	% (95% CI)
Nyarugusu Burundian	Blanket supplementary feeding programme (BSFP)	362/368	98.4% [96.9 - 99.8]
	Product name	MNP	
	Target age group	24-59 months	
Nyarugusu Congolese	Blanket supplementary feeding programme (BSFP)	332/336	98.8% [97.7 – 100]
	Product name	MNP	
	Target age group	24-59 months	
Nduta	Blanket supplementary feeding programme (BSFP)	384/389	98.7% [97.4 – 100]
	Product name	MNP	
	Target age group	24-59 months	
Mtendeli	Blanket supplementary feeding programme (BSFP)	338/339	99.7% 99.1 – 100]
	Product name	MNP	
	Target age group	24-59 months	

Measles Vaccination Coverage Results

The coverage for measles vaccination based on recall and EPI card was 99.6% in Nyarugusu Burundian, 99.2% Nyarugusu Congolese, 99.7% in Nduta and 99.6% in Mtendeli. In all the camps the coverage is at the acceptable range of the recommended cut-off of >95%. The coverage with confirmation from EPI card was 91.6% in Nyarugusu Burundian, 85.8% in Nyarugusu Congolese, 94.6% in Nduta and 96.3% in Mtendeli camp. The coverage has improved in Nduta and Mtendeli compared to the last SENS in 2019 where the coverage was 66% in Nduta and 75% in Mtendeli respectively.

Table 60: Measles Vaccination Coverage for Children Aged 9-59 Months Within the Past 6 Months, By Camp

Survey Area	N	Measles vaccination with card		Measles vaccination with card <u>or</u> confirmation from mother	
		n	% (95% CI)	n	% (95% CI)

Nyarugusu Burundian	546	500	91.6% [86.5 - 96.7]	544	99.6% [99.1 – 100]
Nyarugusu Congolese	501	430	85.8% [77.7 - 93.9]	497	99.2% [98.3 – 100]
Nduta	577	546	94.6% [91.4 - 97.9]	575	99.7% [99.2 - 100]
Mtendeli	482	464	96.3% [94.0 - 98.6]	480	99.6% [99.0 – 100]

Vitamin A Supplementation Coverage Results

The coverage of vitamin A supplementation based on recall and confirmation from EPI card was 99% in Nyarugusu Burundian, 96.3% in Nyarugusu Congolese, 98.8% in Nduta and 98.7% in Mtendeli. The coverage based on confirmation from EPI card was as low as 94.0% in Nyarugusu Burundian, 91.2% in Nyarugusu Congolese, 88.0% in Nduta and 95.6% in Mtendeli camp respectively.

Table 61: Vitamin A Supplementation Coverage for Children Aged 6-59 Months Within the Past 6 Months, By Camp

Survey Area	N	Vitamin A supplementation in last 6 months with card		Vitamin A supplementation in last 6 months with card <u>or</u> confirmation from mother	
		n	% (95% CI)	n	% (95% CI)
Nyarugusu Burundian	578	540	94.0% [91.4 - 96.5]	572	99.0% [98.2 - 99.8]
Nyarugusu Congolese	543	495	91.2% [88.0 - 94.4]	523	96.3% [94.2 - 98.4]
Nduta	606	533	88.0% [80.2 - 95.7]	599	98.8% [97.7 – 100]
Mtendeli	518	495	95.6% [93.3 - 97.8]	511	98.7% [97.5 - 99.9]

Deworming Coverage Results

The coverage of Deworming has decrease compared to the last SENS done in 2019. In 2021 the coverage was even below the 75% target across the camps. The deworming has always been done integrated with Vitamin A campaign however this year the deworming was not done as per new government directives.

Table 62: Deworming Coverage for Children Aged 12-59 Months Within the Past 6 Months, By Camp

Survey Area	N	Deworming within the past 6 months	
		n	% (95% CI)
Nyarugusu Burundian	503	129	25.6% [13.8 - 37.4]
Nyarugusu Congolese	450	91	20.2% [8.1 - 32.2]
Nduta	540	127	23.5% [11.8 - 35.3]
Mtendeli	456	92	20.2% [8.0 - 32.3]

*Note that this refers to large-scale campaigns done with mebendazole and/or albendazole alongside with vitamin A in the last six months.

Below is the coverage results for measles vaccination and vitamin A supplementation in last 6 months from 2018 to 2021.

FIGURE 27: COVERAGE OF MEASLES AND VIT A IN LAST 6 MONTHS IN CHILDREN 6-59 MONTHS FROM 2018-2021.

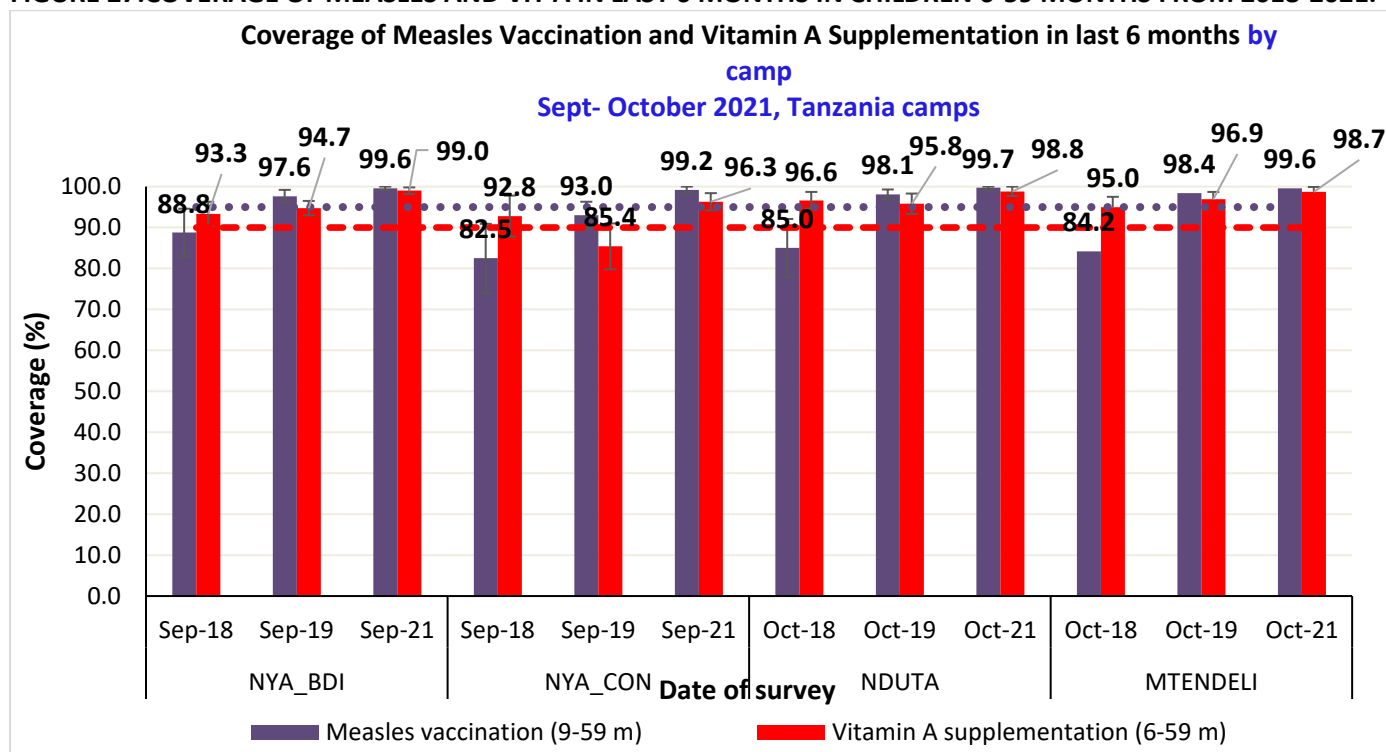
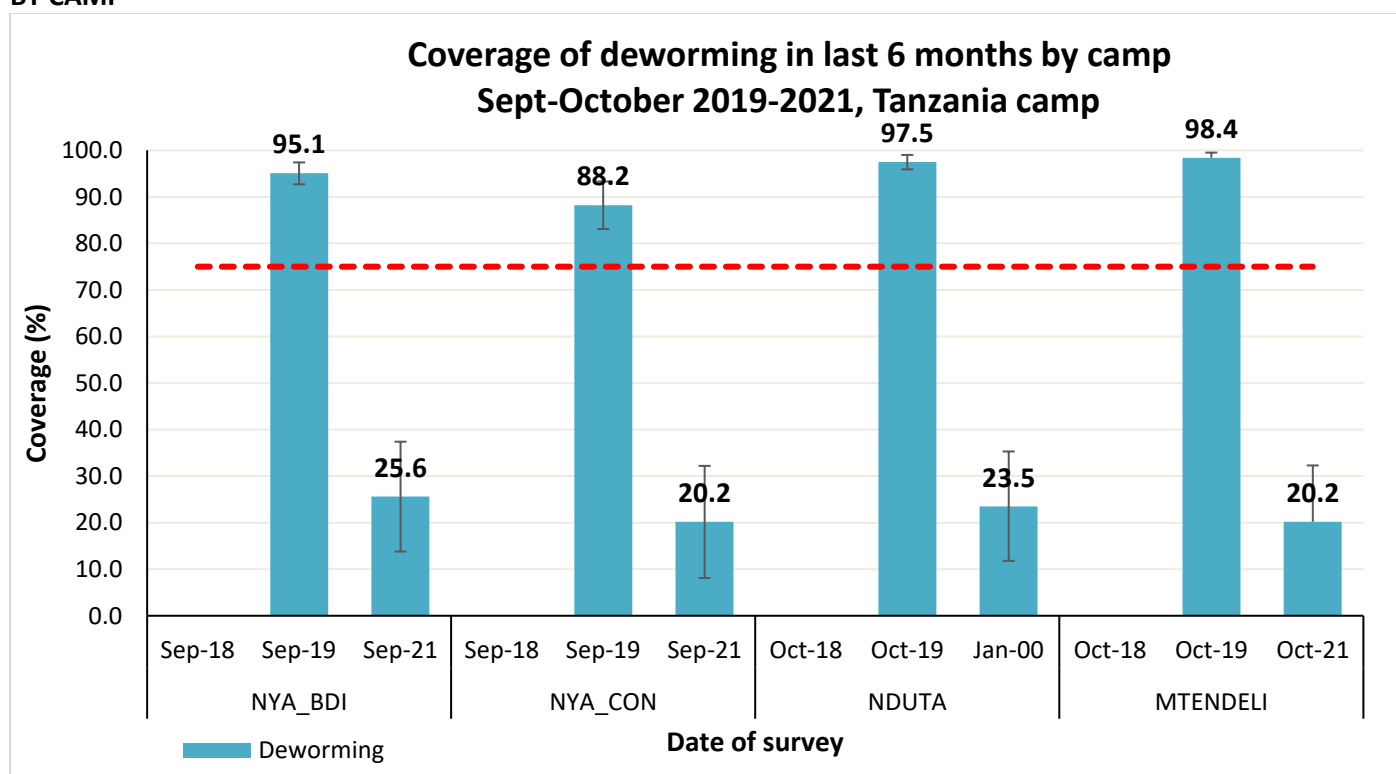


FIGURE 28: COVERAGE OF DEWORMING IN LAST 6 MONTHS IN CHILDREN 12-59/24-59 MONTHS FROM 2019-2021, BY CAMP



Diarrhoea Results

Prevalence of diarrhoea among children aged 6-59 was 16.2% in Nyarugusu BDI, 17.1% in Nyarugusu CON, 17.2% in Nduta and 13.9% in Mtendeli. There is an improvement on diarrhoea cases compared to the 2019 Survey conducted. But still high and a key concern considering that diarrhoea is an immediate cause of malnutrition.

Table 63: Period Prevalence of Diarrhoea, By Camp

Survey Area	N	Diarrhoea in the last two weeks	
		n	% (95% CI)
Nyarugusu Burundian	575	93	16.2% [12.3 - 20.0]
Nyarugusu Congolese	543	93	17.1% [12.4 - 21.7]
Nduta	604	104	17.2% [13.5 - 20.9]
Mtendeli	445	72	13.9% [9.5 - 18.3]

The use of ORS for the diarrhea cases was ranging from 47.6% to 57.4%. Among the episode of diarrhea 53.6% in Nyarugusu Burundian, 26.2% Nyarugusu Congolese, 48.5 in Nduta and 48.5 in Mtendeli use zinc tablets or syrup. The coverage is low in Nyarugusu population compared to Burundian population.

Table 64: ORS and Zinc Use During Diarrhoea Episode, By Camp

Survey Area	N	ORS use during diarrhea episode		N	Zinc tablet or syrup use during diarrhea episode	
		n	% (95% CI)		n	% (95% CI)
Nyarugusu Burundian	84	40	47.6% [31.8 - 63.4]	84	45	53.6% [38.2 - 69.0]
Nyarugusu Congolese	84	42	50.0% [34.7 - 65.3]	84	22	26.2% [16.5 - 35.9]
Nduta	99	58	58.6% [47.5 - 69.7]	99	48	48.5% [34.4 - 62.6]
Mtendeli	68	39	57.4% [44.0 - 70.7]	68	33	48.5% [33.2 - 63.9]

Anaemia Results

The total anaemia in the 6-59 months age group was 28.8% in Nyarugusu Burundian, 36.6% in Nyarugusu Congolese, 32.6 in Nduta and 26.4% in Mtendeli camp. Severe anaemia was detected in Nyarugusu Burundian and Congolese and Mtendeli camp, there was no severe anaemia in Nduta camp.

Disaggregation by age indicated high prevalence of anaemia in younger children aged 6 – 23 months. The total anaemia in this particular age group was 41.5% in Nyarugusu Burundian, 51.5% in Nyarugusu Congolese, 39.5% in Nduta camp and 36.4% in Mtendeli camp. Despite the ongoing interventions, prevalence anaemia in Kasulu camps in this age group remained high (>40%) as categorized by classifications of public health significance. The mean haemoglobin concentrations were 11.5g/dl in Nyarugusu Burundian, 11.3g/dl in Nyarugusu Congolese, 11.3g/dl in Nduta and 11.6g/dl in Mtendeli camp. Moderate and severe anaemia was 10.7% in Nyarugusu Burundian, 9.9% in Nyarugusu Congolese, 13.6% in Nduta and 8.9% in Mtendeli camp.

Prevalence of anaemia in older children aged 24 – 59 months was 22.3% in Nyarugusu BDI, 27.5% in Nyarugusu Congolese, 28.9% in Nduta and 21.2% in Mtendeli camp. Prevalence of severe anaemia was 0.3 in Nyarugusu Burundian, and Mtendeli camp while in Nduta and Nyarugusu Congolese it was 0%.

Table 65: Prevalence of Total Anaemia, Anaemia Categories, And Mean Haemoglobin Concentration in Children 6-59 Months of Age and By Age Group, In Nyarugusu Burundian

	6-59 months N = 570	6-23 months N = 193	24-59 months N = 377
Total Anaemia (Hb<11.0 g/dL)	28.8% [22.3 - 35.2]	41.5% [33.1 - 49.8]	22.3% [15.7 - 28.9]

Mild Anaemia (Hb 10.0-10.9 g/dL)		18.0% [14.3 - 21.8]	25.9% [19.6 - 32.2]	14.1% [9.7 - 18.5]
Moderate Anaemia (7.0-9.9 g/dL)		10.5% [7.1 - 13.9]	15.5% [10.1 - 21.0]	8.0% [4.5 - 11.5]
Severe Anaemia (<7.0 g/dL)		0.2% [0 - 0.5]	0%	0.3% [0 - 0.8]
Mean Hb (g/dL) (95% CI) [range]	Cluster design	11.5g/dL [11.3 - 11.7] [Min, 5.9 – Max, 15.1]	11.1g/dL [10.9 - 11.4] [Min, 7.3 – Max, 14]	11.6g/dL [11.4 - 11.8] [Min, 5.9 - Max, 15.1]

Table 66: Prevalence of Moderate and Severe Anaemia in Children 6-59 Months of Age and By Age Group, In Nyarugusu Burundian

	6-59 months N = 570	6-23 months N = 193	24-59 months N = 377
Moderate and Severe Anaemia (Hb<10.0 g/dL)	(61) 10.7% [7.2 - 14.2]	(30) 15.5% [10.1 - 21.0]	(31) 8.2% [4.5 - 12.0]

Table 67: Prevalence of Total Anaemia, Anaemia Categories, And Mean Haemoglobin Concentration in Children 6-59 Months of Age and By Age Group, In Nyarugusu Congolese Camp

	6-59 months N = 536	6-23 months N = 198	24-59 months N = 338
Total Anaemia (Hb<11.0 g/dL)	36.6% [32.8 - 40.4]	51.5% [44.7 - 58.3]	27.5% [22.9 - 32.1]
Mild Anaemia (Hb 10.0-10.9 g/dL)	26.8% [23.1 - 30.4]	34.3% [26.9 - 41.8]	21.9% [17.8 - 26.0]
Moderate Anaemia (7.0-9.9 g/dL)	9.7% [6.8 - 12.6]	16.7% [10.7 - 22.6]	5.6% [3.2 - 8.0]
Severe Anaemia (<7.0 g/dL)	0.2% [0 - 0.6]	0.5% [0 - 1.6]	0%
Mean Hb (g/dL) (95% CI) [range]	Cluster design 11.3g/dL [11.2 - 11.4] [Min, 5.6 – Max, 14.4]	10.9g/dL [10.7 - 11.1] [Min, 5.6 – Max, 13.4]	11.6g/dL [11.4 - 11.7] [Min, 7.3 – Max, 14.4]

Table 68: Prevalence of Moderate and Severe Anaemia in Children 6-59 Months of Age and By Age Group, In Nyarugusu Congolese Camp

	6-59 months N = 536	6-23 months N = 198	24-59 months N = 338
Moderate and Severe Anaemia (Hb<10.0 g/dL)	(53) 9.9% [7.1 - 12.7]	(34) 17.2% [11.3 - 23.0]	(19) 5.6% [3.2 - 8.0]

Table 69: Prevalence of Total Anaemia, Anaemia Categories, And Mean Haemoglobin Concentration in Children 6-59 Months of Age and By Age Group, In Nduta Camp

	6-59 months N = 601	6-23 months N = 210	24-59 months N = 391
Total Anaemia (Hb<11.0 g/dL)	32.6% [25.3 - 40.0]	39.5% [28.9 - 50.2]	28.9% [21.7 - 36.2]
Mild Anaemia (Hb 10.0-10.9 g/dL)	19.0% [15.0 - 22.4]	21.4% [16.0 - 26.9]	17.7% [13.4 - 21.9]

Moderate Anaemia (Hb 7.0-9.9 g/dL)		13.6% [8.5 - 18.8]	18.1% [10.5 - 25.7]	11.3% [6.1 - 16.4]
Severe Anaemia (Hb<7.0 g/dL)		0%	0%	0%
Mean Hb (g/dL) (95% CI) [range]	Cluster design	11.3g/dL [11.1 - 11.5] [Min, 7.1 – Max, 15.4]	11.0g/dL [10.8 - 11.3] [Min, 7.1 – Max, 14.5]	11.5g/dL [11.3 - 1.7] [Min, 7.1 – Max, 15.4]

Table 70: Prevalence of Moderate and Severe Anaemia in Children 6-59 Months of Age and By Age Group, In Nduta Camp

	6-59 months N = 601	6-23 months N = 210	24-59 months N = 391
Moderate and Severe Anaemia (Hb<10.0 g/dL)	(82) 13.6% [8.5 - 18.8]	(38) 18.1% [10.5 - 25.7]	(44) 11.3% [6.1 - 16.4]

Table 71: Prevalence of Total Anaemia, Anaemia Categories, And Mean Haemoglobin Concentration in Children 6-59 Months of Age and By Age Group, Mtendeli Camp

	6-59 months N = 508	6-23 months N = 173	24-59 months N = 335
Total Anaemia (Hb<11.0 g/dL)	26.4% [21.5 - 31.3]	36.4% [30.1 - 42.8]	21.2% [15.3 - 27.1]
Mild Anaemia (Hb 10.0-10.9 g/dL)	17.5% [13.6 - 21.4]	22.0% [15.9 - 28.1]	15.2% [10.5 – 20.0%]
Moderate Anaemia (7.0-9.9 g/dL)	8.7% [6.2 - 11.2]	14.5% [9.4 - 19.5]	5.7% [3.2 - 8.1]
Severe Anaemia (<7.0 g/dL)	0.2% [0 - 0.6]	0%	0.3% [0 - 0.9]
Mean Hb (g/dL) (95% CI) [range]	Cluster design 11.6g/dL [11.4 - 11.8] [Min, 6.6 – Max, 15.8]	11.2g/dL [11.0 - 11.4] [Min, 8.0 – Max, 14.8]	11.8g/dL [11.6 - 12.0] [Min, 6.6 – Max, 15.8]

Table 72: Prevalence of Moderate and Severe Anaemia in Children 6-59 Months of Age and By Age Group, Mtendeli Camp

	6-59 months N = 508	6-23 months N = 173	24-59 months N = 335
Moderate and Severe Anaemia (Hb<10.0 g/dL)	(45) 8.9% [6.3 - 11.4]	(25) 14.5% [9.4 - 19.5]	(20) 6.0% [3.4 - 8.5]

FIGURE 29: PREVALENCE OF ANAEMIA BY CATEGORIES IN CHILDREN 6-59 MONTHS FROM 2018-2021, BY CAMP

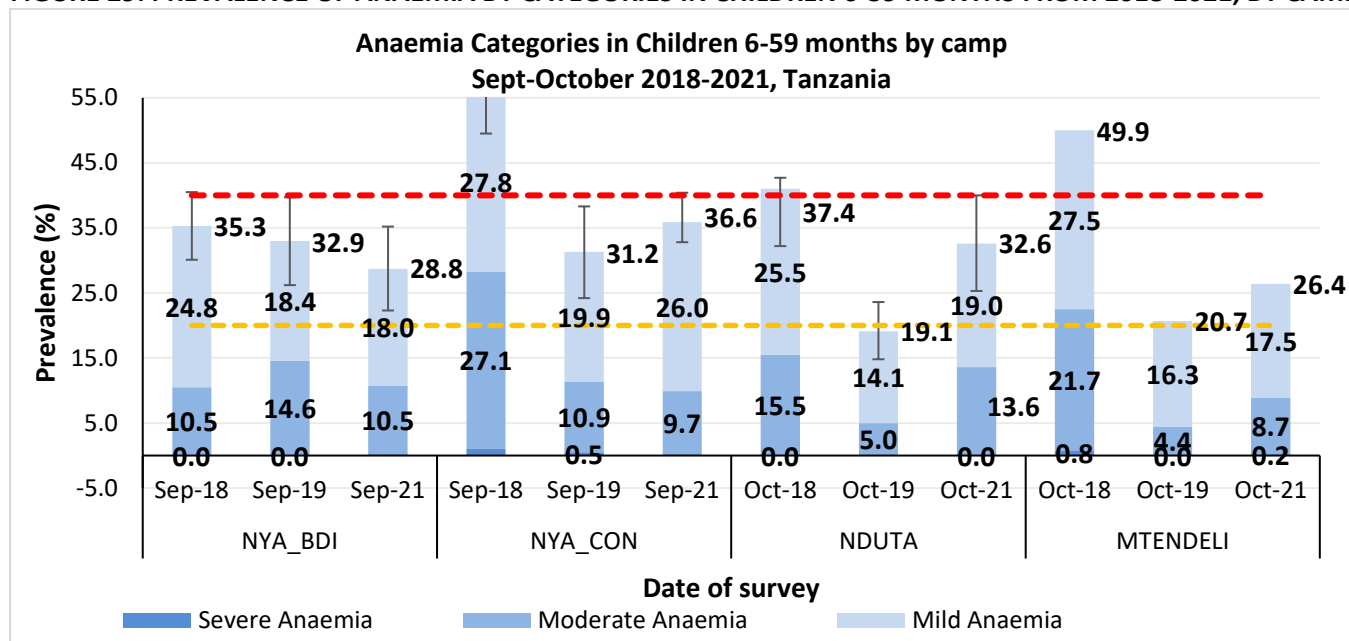


FIGURE 30: PREVALENCE OF TOTAL ANAEMIA (<11 G/DL), AND MODERATE AND SEVERE ANAEMIA (<10 G/DL) WITH 95% CI IN CHILDREN 6-59 MONTHS FROM 2018 - 2021, BY CAMP

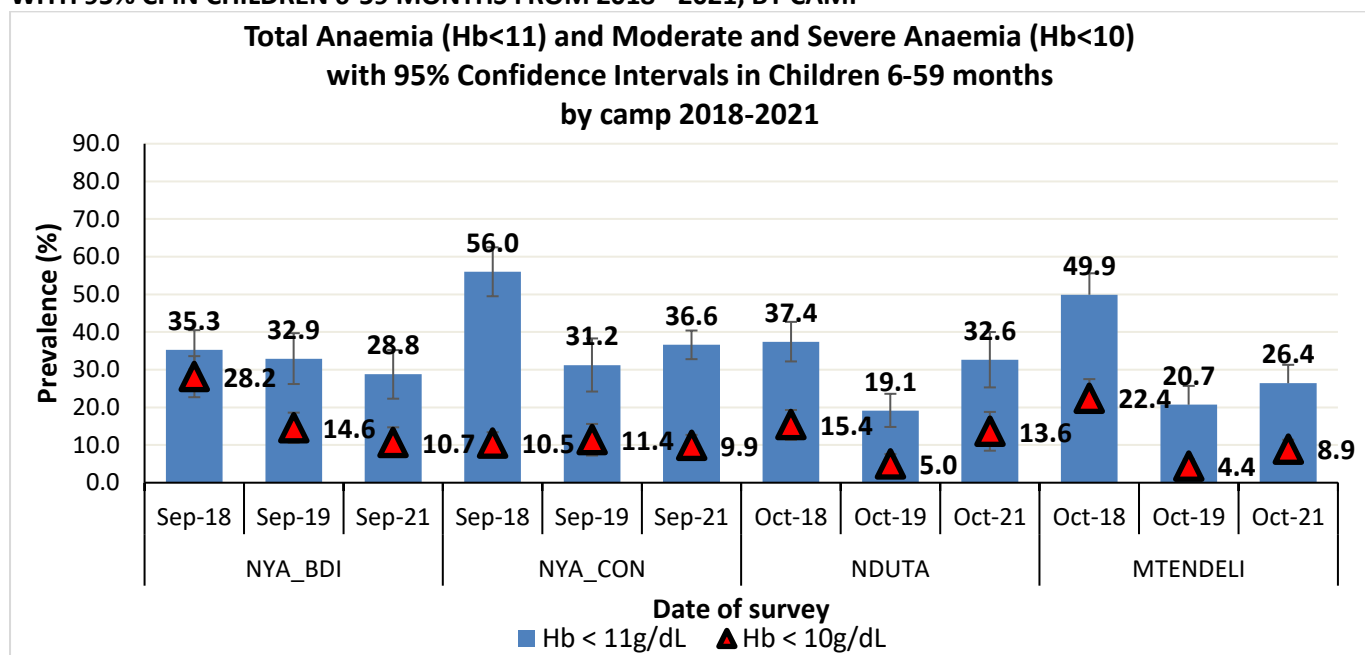
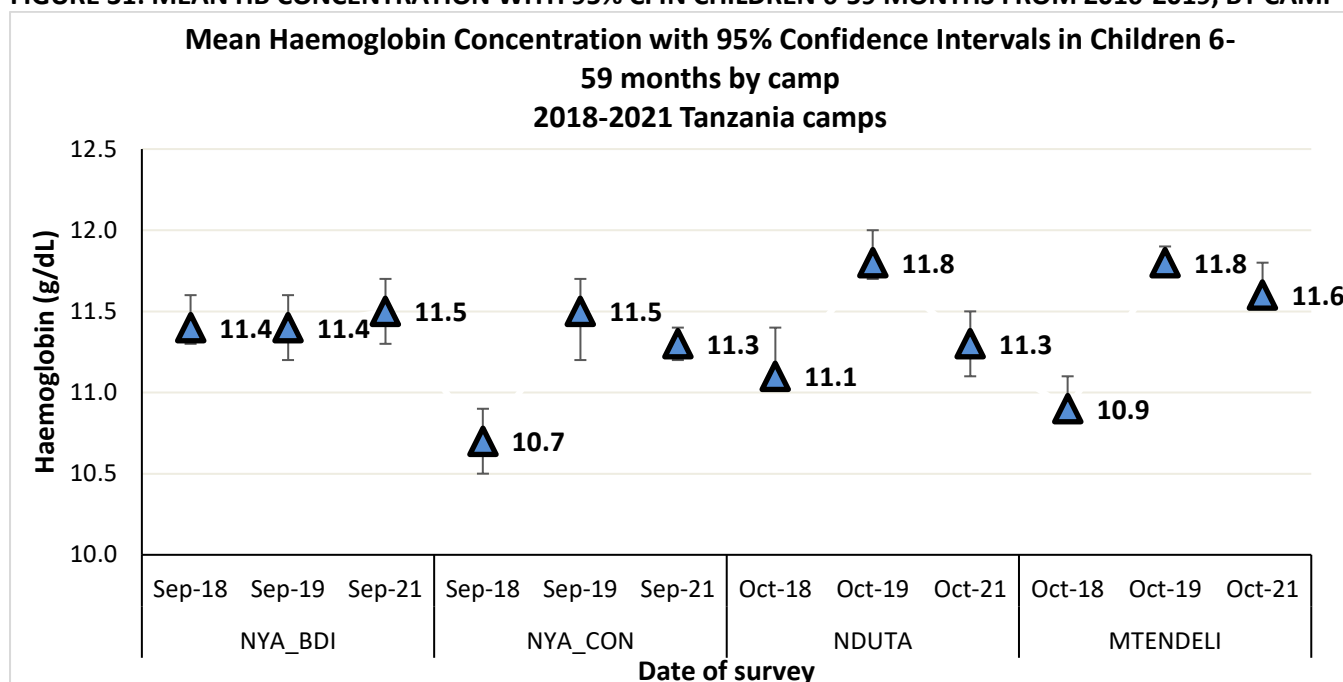


FIGURE 31: MEAN HB CONCENTRATION WITH 95% CI IN CHILDREN 6-59 MONTHS FROM 2016-2019, BY CAMP



4.3. Children 0-23 Months

The timely initiation of breastfeeding in children aged 0-23months ranged between 80% to 86% in all camps. Exclusive breastfeeding in children aged 0-5months was 90.9% in Nyarugusu Burundian, 82.1% in Nyarugusu Congolese, 69.1% in Nduta and 79.5% in Mtendeli camp. The EBF for Nduta is below the recommended standard of 75% according to WHO.

The prevalence of children who consumed iron rich food or iron fortified food was 94.3% in Nyarugusu Burundian, 79.4% in Nyarugusu Congolese, 83.9% in Nduta and 77.1 in Mtendeli camp. While the prevalence of children using bottle, feeding was 0.8% in Nyarugusu Burundian, 0.4 in Nyarugusu Congolese, 1.07% for Nduta and 1.8% for Mtendeli camp.

Table 73: Prevalence of Infant and Young Child Feeding Practices Indicators, By Camp

Survey Area	N	Nyarugusu New Camp		N	Nyarugusu Old Camp		N	Nduta		N	Mtendeli	
		n	% (95% CI)		n	% (95% CI)		n	% (95% CI)		n	% (95% CI)
WHO INDICATORS												
Timely initiation of breastfeeding (0-23 mo)	243	211	86.9% [80.8 - 93.0]	251	216	86.1% [80.6 - 91.6]	265	234	88.3% [83.9 - 92.7]	214	174	81.3% [73.7 - 89.0]
Exclusive breastfeeding under 6 months (0-5 mo)	65	59	90.8% [84.1 - 97.7]	57	47	82.1% [73.0 - 91.3]	68	47	69.1% [55.3 - 83.0]	39	31	79.5 [67.7 - 91.3]
Predominant breastfeeding under 6 months (0-5 mo)	65	63	96.9% [92.6 – 100]	57	51	89.5% [79.6 - 99.4]	68	57	83.8% 73.4 - 94.3]	39	36	92.3% [83.9 – 100]

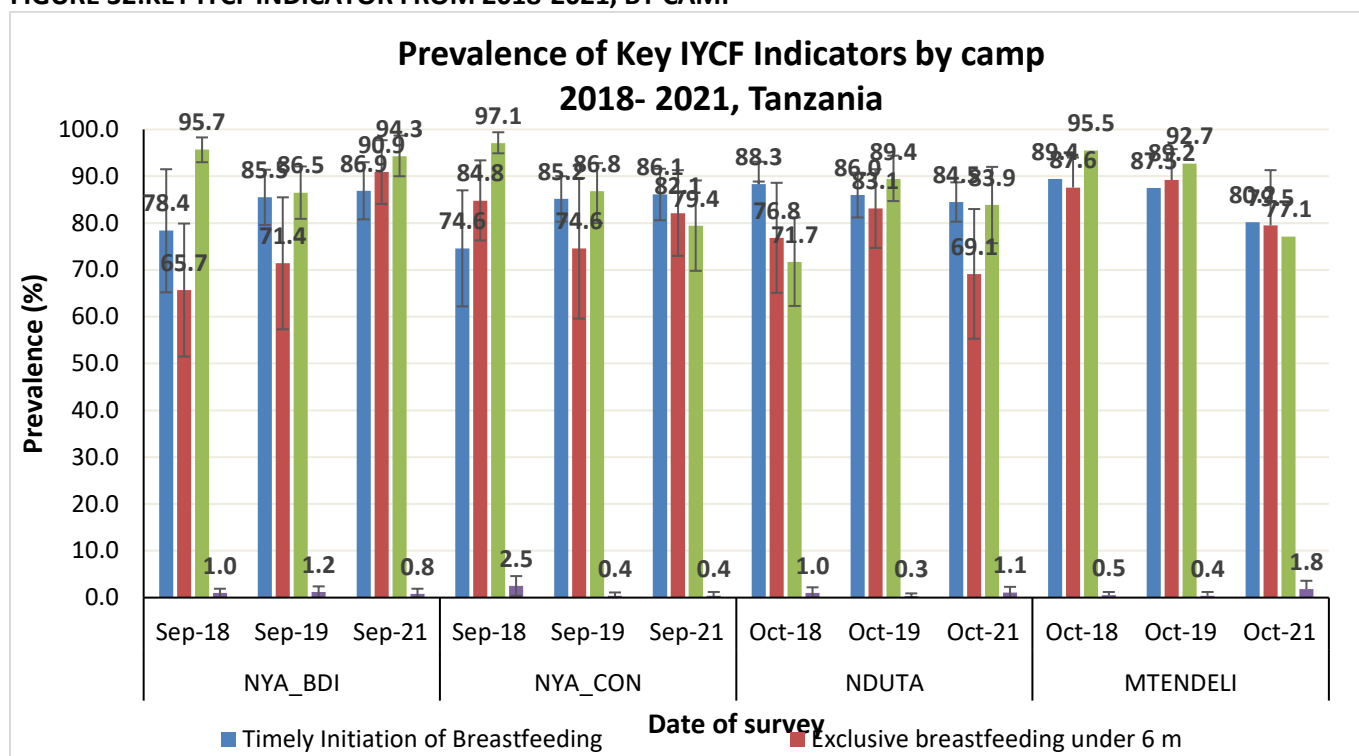
Continued breastfeeding at 1 year (12-15 mo)	46	37	80.4% [63.9 - 97.0]	44	42	95.5% [89.1 - 100]	66	53	80.3% [70.7 - 89.6]	42	35	83.3% [73.8 - 92.9]
Continued breastfeeding at 2 years (20-23 mo)	39	23	59.0% [42.7 - 75.3]	39	23	59.0% [36.6 - 81.4]	43	26	60.5% [47.0 - 73.9]	38	22	57.9% [35.6 - 80.2]
Introduction of solid, semi-solid or soft foods (6-8 mo)	32	16	50.0% [28.0 - 72.0]	42	27	64.3% [48.6 - 80.0]	29	19	65.5% [43.2 - 87.9]	36	26	72.2% [60.6 - 83.9]
Consumption of iron-rich or iron-fortified foods (6-23 mo)	192	18 1	94.3% [90.0 - 98.7]	20 2	16 1	79.7% [69.8 - 89.6]	21 1	17 7	83.9% [75.7 - 92.0]	17 5	13 5	77.1% [65.8 - 88.5]
Bottle feeding (0-23 mo)	261	2	0.8% [0 - 1.9]	26 0	1	0.4% [0 - 1.2]	28 0	3	1.07% [0 - 2.3]	21 7	4	1.8% [0.2 - 3.6]
UNHCR INDICATORS												
No breastfeeding under 6 months (0-5 mo)	65	1	1.5% [0 - 4.8]	57	1	1.8% [0 - 5.4]	68	3	4.4% [0 - 10.8]	39	1	2.6% [0 - 7.9]
No breastfeeding under 12 months (0-11 mo)	129	6	4.7% [1.2 - 8.1]	13 6	3	2.2% [0 - 4.7]	13 1	8	6.1% [1.9 - 10.4]	10 1	3	3.0% [0 - 6.2]

Note:

Results in the above table should be interpreted with caution due to the fact that, it was not feasible to achieve large sample size for some IYCF indicators (e.g. 6-8 months) given the nature of the survey which was primarily based on GAM in children aged 6-59 months. As the results, the confidence limits may be too wider and hence under or overestimation of prevalence of indicators.

Below is figure presenting prevalence of a few IYCF indicators between 2018 to 2021, by camp

FIGURE 32:KEY IYCF INDICATOR FROM 2018-2021, BY CAMP



Prevalence of Intake

Infant formula

Proportion children aged 0 – 23 months who were receiving infant formula was 0.8% for Burundian Nyarugusu, 1.5% in Nyarugusu Congolese, 1.4% in Nduta and 0.9% in Mtendeli camp.

Table 74: Infant Formula Intake in Children Aged 0-23 Months, By Camp

Survey Area	N	Proportion of children aged 0-23 months who receive infant formula (fortified or non-fortified)	
		n	% (95% CI)
Nyarugusu BDI	261	2	0.8% [0 - 1.9]
Nyarugusu CON	259	4	1.5% [0 - 3.4]
Nduta	280	4	1.4% [0 - 3.1]
Mtendeli	217	2	0.9% [0 - 2.2]

Fortified Blended Foods

FBF intake among children aged 6 – 23months was 16.4% in Nyarugusu Burundian, 16.3% in Nyarugusu Congolese, 17.8% in Nduta and 18.1% in Mtendeli camp.

Table 75: FBF Intake in Children Aged 6-23 Months, By Camp

Survey Area	N	Proportion of children aged 6-23 months who receive FBF	
		n	% (95% CI)
Nyarugusu BDI	195	32	16.4% [5.6 - 27.2]
Nyarugusu CON	203	33	16.3% [6.2 - 26.3]
Nduta	213	38	17.8% [2.2 - 33.5]
Mtendeli	177	32	18.1%

			[2.7 - 33.5]
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Despite distribution of Super cereal plus (CSB++) to children aged 6 – 23 months through BSFP, proportion of intake of FBF++ was 78% in Nyarugusu new camp, 70% in Nyarugusu old camp, 66% in Nduta and 77% in Mtendeli. See table 66 below. The BSFP was set in Burundians and Congolese refugee camps following high prevalence of Anaemia among young children aged 6 – 23 months.

Table 76: FBF++ Intake in Children Aged 6-23 Months, By Camp

Survey Area	N	Proportion of children aged 6-23 months who receive FBF++	
		n	% (95% CI)
Nyarugusu BDI	196	173	88.3% [80.8 - 95.7]
Nyarugusu CON	203	149	73.4% [62.1 - 84.7]
Nduta	213	175	82.2% [73.7 - 90.7]
Mtendeli	278	134	75.3% [63.6 - 87.0]

Special nutritional products

The special nutrition product for children 6-23 month is CSB++ where the coverage is indicated in the Table 53 above, the MNP is provided to children 24-59month in the camp however some families use it to all under five children. The proportion of children 6-23 month who used the MNP during the survey period were:

Table 77: MNP Intake in Children Aged 6-23 Months, By Camp

Survey Area	N	Proportion of children aged 6-23 months who receive MNP	
		n	% (95% CI)
Nyarugusu BDI	196	13	6.6% [0.7 - 12.6]
Nyarugusu CON	203	3	1.5% [0 - 3.6]
Nduta	212	2	0.9% [0 - 2.3]
Mtendeli	177	1	0.6% [0 - 1.7]

4.4. Women 15-49 Years

Assessment of physiological status among women was part of the survey. Women were assessed for their physiological status like pregnant or lactating status. The table below describes the physiological status among assessed women.

Table 78: Women Physiological Status and Age, By Camp

Survey Area	N	Non-pregnant, non-lactating	Pregnant	N	Lactating with infant less than 6 months	Lactating with infant greater than 6 months	Mean age in years
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		n	% (95% CI)	n	% (95% CI)		n	% (95% CI)	n	% (95% CI)	[min, max]
Nyarugusu BDI	234	112	47.9% [41.0-54.7]	30	12.8% [7.4-18.3]	93	32	34.4% [24.0-44.8]	61	65.6% [55.2-76.0]	26.4 [Min,15–Max,49]
Nyarugusu CON	196	92	46.9% [38.9-54.9]	26	13.3% [8.1-18.4]	79	26	32.9% [21.1-44.7]	53	67.1% [55.3-78.9]	27.0 [Min,15–Max,48]
Nduta	259	102	39.4% [32.7-46.1]	43	16.6% [11.2-22.0]	119	38	31.9% [24.2-39.7]	81	68.1% [60.3-75.9]	27.8 [Min,15–Max,46]
Mtendeli	228	110	48.3% [41.2-55.3]	35	15.4% [10.2-20.5]	85	24	28.2% [14.5-41.9]	61	71.8% [58.1-85.5]	28.0 [Min,15–Max,49]

Proportion of women who were neither pregnant nor lactating was 47.9% in Nyarugusu Burundian, 46.9% in Nyarugusu Congolese, 39.4% in Nduta and 48.3% in Mtendeli camp. Proportion of pregnant women high in Nduta by 16.6%, lactating with an infant below six months was small in Mtendeli and high in Nyarugusu Burundian while proportion of women with children greater or equal to six months was almost the same range across all the camps.

MUAC in women

The MUAC cut-off was set at 230 mm regardless of physiological status of the woman. Prevalence of MUAC <230 mm among non-pregnant and non-lactating women was 9.9% in Nyarugusu Burundian, 2.2% in Nyarugusu Congolese, 9.8% in Nduta and 6.4% in Mtendeli camp. Nyarugusu Burundian and Nduta had high prevalence compared to other camps. Most of women were explaining that due to ration reduction they had to prioritize children first in family meal before adults.

Table 79: Prevalence of MUAC Malnutrition in Non-Pregnant, Non-Lactating Women, By Camp

Survey Area	N	Prevalence of MUAC < 230 mm	
		n	% (95% CI)
Nyarugusu BDI	111	11	9.9% [4.6 - 15.2]
Nyarugusu CON	91	2	2.2% [0 - 35.1]
Nduta	102	10	9.8% [1.2 - 18.5]
Mtendeli	110	7	6.4% [1.6 - 11.2]

Further analysis indicated that prevalence of MUAC among pregnant women was 3.3% in Nyarugusu Burundian, 3.9% in Nyarugusu Congolese, 14% in Nduta and 0% in Mtendeli camp. Nduta camp had a highest prevalence when compared to other camps.

Table 80: Prevalence of MUAC Malnutrition in Pregnant Women , By Camp

Survey Area	N	Prevalence of MUAC < 230 mm	
		n	% (95% CI)
Nyarugusu BDI	30	1	3.30% [0 - 10.4]
Nyarugusu CON	26	1	3.90% [0 - 11.8]

Nduta	43	6	14.00% [3.3 - 24.6]
Mtendeli	35	0	0%

Prevalence of MUAC among lactating women was 4.3% in Nyarugusu Burundian, 3.8% in Nyarugusu Congolese, 3.4% in Nduta and 4.7% in Mtendeli camp.

Table 81: Prevalence of MUAC Malnutrition in Lactating Women with an Infant less than 6 Months, By Camp

Survey Area	N	Prevalence of MUAC < 230 mm	
		n	% (95% CI)
Nyarugusu BDI	93	4	4.3% [0.3 - 8.3]
Nyarugusu CON	79	3	3.8% [0 - 8.3]
Nduta	119	4	3.40% [0.2 - 6.5]
Mtendeli	85	4	4.7% [0.2 - 9.2]

BSFP Enrolment

Enrolment at BSFP for pregnant and lactating women start from second trimester of the women's pregnancy and continue until six months post-delivery. Coverage of BSFP among Pregnant women was 73.3% in Nyarugusu Burundian, 88.5% in Nyarugusu Congolese, 69.8% in Nduta and 88.6% in Mtendeli camp. Compare to 2019 SENS there has been some improvement for this year on BSFP coverage. While the coverage for BSFP among the lactating women was 100% for both Congolese and Burundian in Nyarugusu camp, 97.4% in Nduta and 91.3% in Mtendeli camp

Table 82: Coverage of The Blanket Supplementary Feeding Programme Among Pregnant Women.

Survey Area	Programme	Number/total	% (95% CI)
Nyarugusu BDI	Blanket feeding programme enrolment	22/30	73.3% [57.3 - 89.4]
	Product name	CSB+	
	Target age group	Pregnant	
Nyarugusu CON	Blanket feeding programme enrolment	23/26	88.5% [75.4 - 100]
	Product name	CSB+	
	Target age group	Pregnant	
Nduta	Blanket feeding programme enrolment	30/43	69.8% [49.7 - 89.9]
	Product name	CSB+	
	Target age group	Pregnant	
Mtendeli	Blanket feeding programme enrolment	31/35	88.6% [75.0 - 100]
	Product name	CSB+	
	Target age group	Pregnant	

Coverage of BSFP among lactating women was 41% in Nyarugusu new camp, 31% in Nyarugusu old camp, 57% in Nduta and 78% in Mtendeli camp. Coverage was the lowest in Nyarugusu old camp and the highest in Mtendeli camp. Some pregnant women were not able to get into BSFP enrolment due admission criteria which needs them to prove their pregnancy through ANC and completed the first three months.

Table 83: Coverage of The Blanket Supplementary Feeding Programme Lactating Women

Survey Area	Programme	Number/total	% (95% CI)
Nyarugusu BDI	Blanket feeding programme enrolment	32/32	100%
	Product name	CSB+	
	Target age group	Lactating women	
Nyarugusu CON	Blanket feeding programme enrolment	26/26	100%
	Product name	CSB+	
	Target age group	Lactating women	
Nduta	Blanket feeding programme enrolment	37/38	97.4% [91.8 – 100]
	Product name	CSB+	
	Target age group	Lactating women	
Mtendeli	Blanket feeding programme enrolment	22/24	91.7% [78.8 - 100]
	Product name	CSB+	
	Target age group	Lactating women	

Anaemia

Prevalence of anaemia among non-pregnant women aged 15 to 49 years was 19.7% in Nyarugusu Burundian, 25.4% in Nyarugusu Congolese, 19.2% in Nduta and 12.0% in Mtendeli camp. The UNHCR target for total anaemia is <20% of which Nyarugusu Congolese was above the limit. Severe Anaemia was observed to 0.5% in Nyarugusu Burundian and Nduta camp. The mean haemoglobin concentration was 12.9g/dL in Nyarugusu Burundian, 12.8/dL in Nyarugusu Congolese, 13.1g/dL in Nduta and 13.2g/dL in Mtendeli camp.

Table 84: Prevalence of Total Anaemia, Anaemia Categories, And Mean Haemoglobin Concentration in Non-Pregnant Women of Reproductive Age (15-49 Years), By Camp

		Nyarugusu Burundian N = 203	Nyarugusu Congolese N = 170	Nduta N = 215	Mtendeli N = 193
Total Anaemia (Hb<12.0 g/dL)		19.7% [12.6 - 26.8]	25.4% [16.3 - 34.3]	19.2% [12.4 - 26.0]	12.0% [7.2 - 16.8]
Mild Anaemia (Hb 11.0-11.9 g/dL)		11.8% [6.3 - 17.4]	16.6% [9.7 - 23.4]	12.6% [6.6 - 18.7]	7.3% [3.4 - 11.2]
Moderate Anaemia (8.0-10.9 g/dL)		7.4% [2.9 - 11.8]	8.3% [4.8 - 11.8]	6.1% [3.1 - 9.0]	4.7% [1.6 - 7.8]
Severe Anaemia (<8.0 g/dL)		0.5% [0 - 1.5]	0%	0.5% [0 - 1.4]	0%
Mean Hb (g/dL) (95% CI) [range]	Cluster design	12.9g/dL [12.7 - 13.2] [Min,6.7–Max, 16.3]	12.8g/dL [12.7 - 13.2] [Min,6.7–Max,16.3]	13.1g/dL [12.8 - 13.4] [Min,7.3–Max,18.4]	13.2g/dL [12.9 - 13.4] [Min,8.1–Max,15.6]

Anaemia prevalence (mild, moderate, and severe) and mean Hb results in women of reproductive age (non-pregnant) from 2018 to 2021 are presented in figures 32 and 33 below.

FIGURE 33: PREVALENCE OF ANAEMIA BY CATEGORIES IN WOMEN OF REPRODUCTIVE AGE (NON-PREGNANT)

FROM 2018-2021, BY CAMP

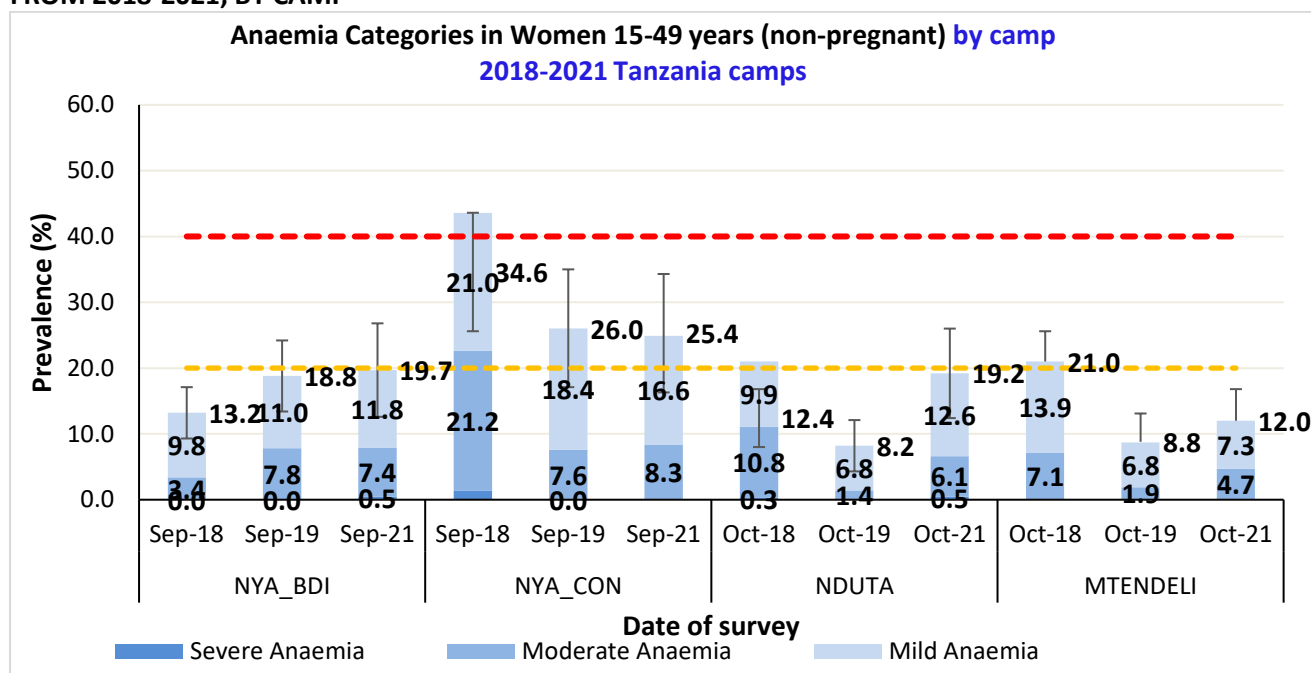
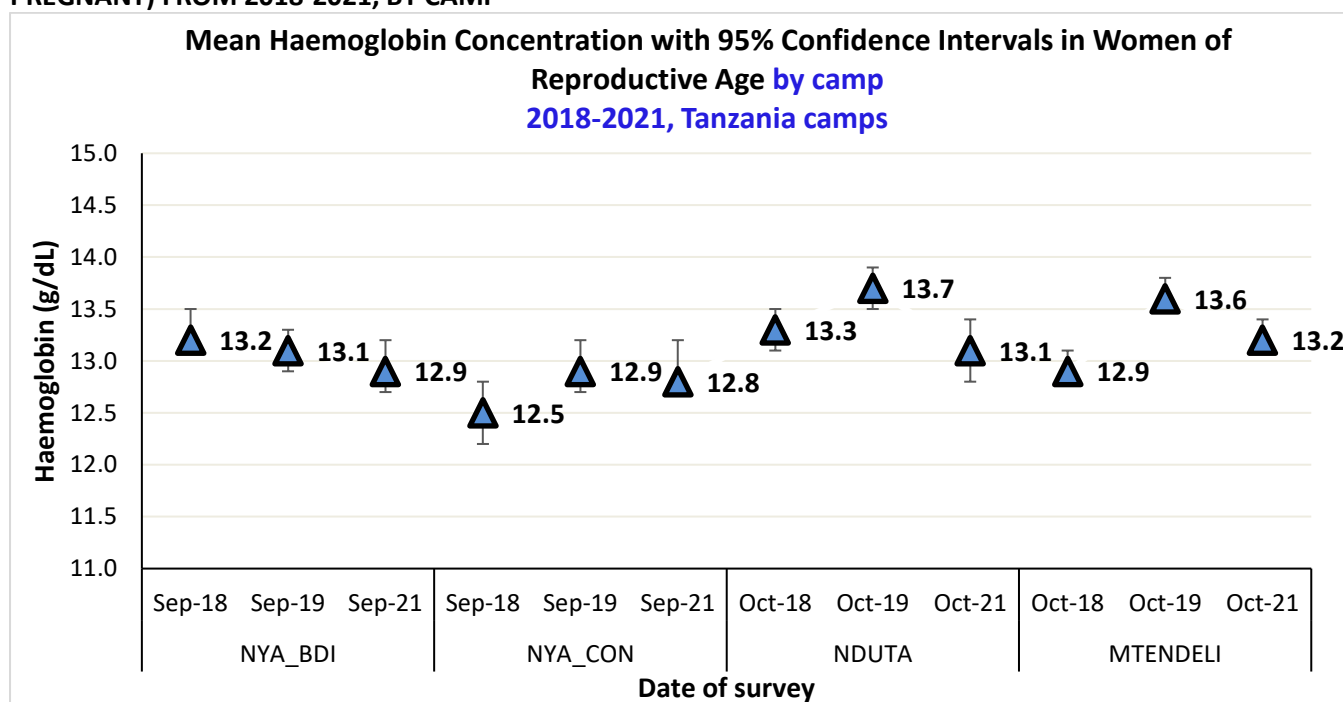


FIGURE 34: MEAN HAEMOGLOBIN CONCENTRATION WITH 95% CI IN WOMEN OF REPRODUCTIVE AGE (NON-PREGNANT) FROM 2018-2021, BY CAMP



ANC Enrolment

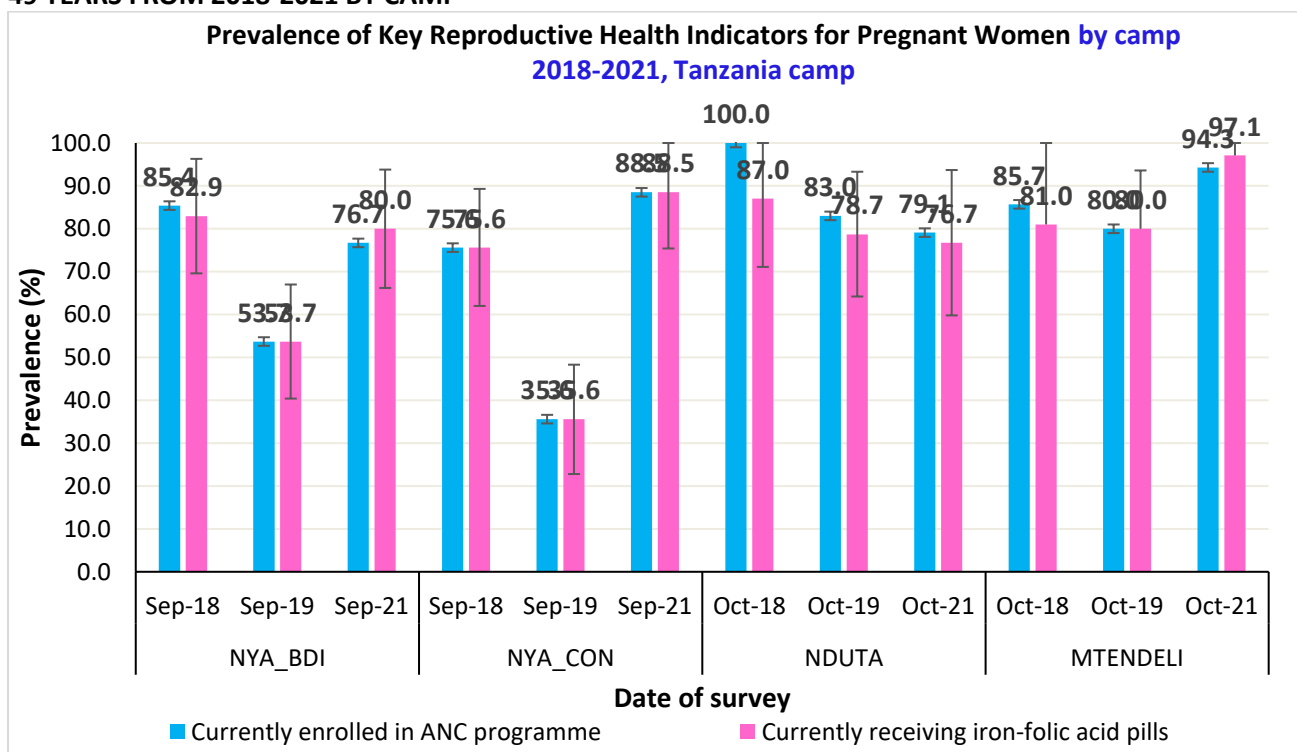
Coverage of ANC enrolment was 76.7% in Nyarugusu Burundian, 88.5% in Nyarugusu Congolese, 79.1% in Nduta and 94.3% in Mtendeli camp. There has been improvement for ANC coverage compared to 2019 in Nyarugusu camp for both populations. Proportion of pregnant women who were receiving IFA's was 80% in Nyarugusu Burundian, 88.5% in Nyarugusu Congolese, 76.7% in Nduta and 97.1% in Mtendeli camp.

Table 85: ANC Enrolment and Iron-Folic Acid Pills Coverage Among Pregnant Women (15-49 Years) By Camp

Survey Area	N	Currently enrolled in ANC programme		Currently receiving iron-folic acid pills	
		n	% (95% CI)	n	% (95% CI)
Nyarugusu BDI	30	23	76.70% [62.5 - 90.9]	24	80.0% [66.2 - 93.8]
Nyarugusu CON	26	23	88.50% [75.4 – 100]	23	88.5% [75.4 – 100]
Nduta	43	34	79.10% [62.5 - 95.7]	33	76.7% [59.8 - 93.7]
Mtendeli	35	33	94.30% [86.1 – 100]	34	97.1% [91.2 – 100]

The ANC enrolment and coverage of IFA's supplementation among pregnant women from 2018 to 2021 are presented in figures 34 below.

FIGURE 35: ANC ENROLMENT AND COVERAGE OF IRON-ACID FOLIC SUPPLEMENTATION IN PREGNANT WOMEN 15-49 YEARS FROM 2018-2021 BY CAMP



4.5. Food Security

Total household surveyed for food security is 233 for Nyarugusu Burundian, 168 for Nyarugusu Congolese, 234 for Nduta and 178 for Mtendeli, all the camps were able to cover 100% of the planned households.

Table 86: Food Security Sampling Information by Camp

Total households surveyed for Food Security	Planned	Actual	% of target
Nyarugusu BDI	233	233	100%
Nyarugusu CON	168	168	100%
Nduta	234	234	100%

Mtendeli	178	178	100%
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Access to food assistance

Refugees in the camp depend purely on in-kind food assistance through general food distribution across the three camps. The food is provided by WFP through partners. A full ration a refugee food basket contains of cereals at 380g, pulses at 120g, super cereal with sugar at 25g vegetable oil at 20g and salt at 5g per person per day intended to provide a minimum of 2100kcal per person as recommended by Sphere standards. Currently the food cycle covers 42 days. Due to funding constrain the food ration was reduced to 68% since October 2020. See table 82 below

Since 2020 the food distribution methodology was tailored to COVID-19 pandemic measures to ensure protection of POCs from contracting the virus. Measures undertaken pre-packing of food commodities for speedy delivery and collection, and increasing the days of distribution from 5 to 10 days, changing from 30 days food ration to 42 days for GFD etc.

Table 87: Food Assistance Type, Amount and Distribution Schedule for The Last Distribution in Nyarugusu Burundian, Nyarugusu Congolese, Nduta and Mtendeli Camps

Type	Distribution schedule (days)	Commodities/products distributed	Amount per person per day (g/day) Reduced ration (68%)	Current food basket provides 1374 Kcal per person per day vs. 2100 recommended
In-kind	42	Cereals	310	1037
	42	Legumes	60	204
	42	Oil	0	133
	42	Salt	15	0
	42	Fortified blended food	5	0

All camps 100% of the surveyed individual receive in kind food assistance from the general food distribution. See table 83 below.

Table 88: Food Assistance Coverage

Survey Area	N	Proportion of households receiving a food assistance including in-kind food assistance	
		n	% (95% CI)
Nyarugusu Burundian	233/233		100%
Nyarugusu Congolese	167/167		100%
Nduta	234/234		100%
Mtendeli	178/178		100%

In-kind food distribution

Refugees currently receive 42 days food ration cycle. Most of the household the ration didn't last the number of days expected due to several reasons mentioned by the families. The mean duration of the food ration lasts was 27 days for Nyarugusu Burundian, 28 days for Nyarugusu Congolese, 29 days for Nduta and 30 days for Mtendeli camp out of 42 days expected

Table 89: Reported Duration of General Food Distribution, By Camp

Average number of days the general food distribution lasts	Nyarugusu Burundian N= 233	Nyarugusu Congolese N= 168	Nduta N = 227	Mtendeli N= 178
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Mean (Days) (95% CI) [range]	Cluster design	27.3 [25.8 - 28.7] [Min,3 – Max,42]	28.7 [27.3 - 30.1] [Min,3 – Max,42]	29.8 [28.7 - 30.9] [Min,14 – Max,42]	30.7 [29.7 - 31.7] [Min,14 – Max,42]
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Coverage of Basic Needs

The tables 90, 91, 92 and 93 below describes some basic needs that a particular household could not afford if were not provided as an assistance to refugees.

Table 90: Description of Basic Needs Not Met by The Households, In Nyarugusu Burundian

Basic needs not met by the households:	Number/total	% (95% CI)
Food	173/233	74.3% [61.5 - 87.0]
Water	91/233	39.1% [25.2 - 52.9]
Hygiene items, clothes, shoes	162/233	69.5% [55.5 - 83.5]
Health costs (including medicines)	88/233	37.8% [24.2 - 51.3]
Rent, shelter repair, household items (e.g. mattress, blankets, jerrycan), utilities and bills (e.g. electricity, water bills, phone calling credit)	110/233	47.2% [32.1 - 62.4]
Firewood / fuel for cooking or heating	102/233	43.8% [30.6 - 56.9]
Assets for a livelihood activity (e.g. seeds, tools, farming, fishing, petty trade, etc.)	57/233	24.5% [11.4 - 37.6]
Debts repayment	82/233	35.2% [21.4 - 49.0]
Saved some money, support other family members, relatives, friends	57/233	24.5% [11.4 - 37.6]
Education (e.g. school fees, uniform, books)	47/233	20.2% [7.7 - 32.7]
Other	38/233	16.3% [4.6 - 28.]3

Table 91: Description of Basic Needs Not Met by The Households, In Nyarugusu Congolese

Basic needs not met by the households:	Number/total	% (95% CI)
Food	118/168	70.2% [57.4 - 83.1]
Water	42/168	25.0% [11.1 - 38.9]
Hygiene items, clothes, shoes	116/168	69.1% [56.7 - 81.4]
Health costs (including medicines)	83/168	49.4% [35.8 - 63.0]
Rent, shelter repair, household items (e.g. mattress, blankets, jerrycan), utilities and bills (e.g. electricity, water bills, phone calling credit)	90/168	53.6% [38.3 - 68.9]
Firewood / fuel for cooking or heating	80/168	47.7% [32.9 - 62.3]

Assets for a livelihood activity (e.g. seeds, tools, farming, fishing, petty trade, etc.)	41/168	24.4% [11.3 - 37.6]
Debts repayment	51/168	30.4% [14.9 - 45.8]
Saved some money, support other family members, relatives, friends	31/168	18.5% [4.9 - 32.1]
Education (e.g. school fees, uniform, books)	30/168	17.9% [4.0 - 31.7]
Other	31/168	18.5% [4.5 - 32.4]

Table 92: Description of Basic Needs Not Met by The Households, In Nduta Camp

Basic needs not met by the households:	Number/total	% (95% CI)
Food	161/227	70.9% [55.0 - 86.9]
Water	48/227	21.2% [7.5 - 34.8]
Hygiene items, clothes, shoes	156/227	68.7% [55.2 - 82.3]
Health costs (including medicines)	87/227	38.3% [22.4 - 54.3]
Rent, shelter repair, household items (e.g. mattress, blankets, jerrycan), utilities and bills (e.g. electricity, water bills, phone calling credit)	132/227	58.2% [41.4 - 74.9]
Firewood / fuel for cooking or heating	128/227	56.4% [39.7 - 73.1]
Assets for a livelihood activity (e.g. seeds, tools, farming, fishing, petty trade, etc.)	69/227	30.4% [14.7 - 46.1]
Debts repayment	70/227	30.8% [16.7 - 45.0]
Saved some money, support other family members, relatives, friends	49/227	21.6% [7.1 - 36.0]
Education (e.g. school fees, uniform, books)	39/227	17.2% [2.9 - 31.4]
Other	40/227	17.6% [4.1 - 31.2]

Table 93: Description of Basic Needs Not Met by The Households, In Mtendeli Camp

Basic needs not met by the households:	Number/total	% (95% CI)
Food	118/178	66.3% [50.6 - 82.0]
Water	47/178	26.4% [9.7 - 43.1]
Hygiene items, clothes, shoes	134/178	75.3% [61.3 - 89.3]
Health costs (including medicines)	89/178	50.0% [34.0 - 66.0]
Rent, shelter repair, household items (e.g. mattress, blankets, jerrycan), utilities and bills (e.g. electricity, water bills, phone calling credit)	108/178	60.7% [42.3 - 79.1]
Firewood / fuel for cooking or heating	86/178	48.3% [31.0 - 65.7]

Assets for a livelihood activity (e.g. seeds, tools, farming, fishing, petty trade, etc.)	60/178	33.7% [16.1 - 51.4]
Debts repayment	77/178	43.3% [26.4 - 60.1]
Saved some money, support other family members, relatives, friends	46/178	25.8% [10.5 - 41.2]
Education (e.g. school fees, uniform, books)	34/178	19.1% [3.7 - 34.5]
Other	30/178	16.9% [2.3 - 31.4]

For the negative coping mechanism used for the past seven days in Nyarugusu Burundian they used several coping mechanisms where most of the community rely on less and less expensive food as their negative coping mechanism followed by borrow food or rely on help from a friend or relative.

Table 94: Negative Coping Strategies Used in Nyarugusu Burundian Over the Past 7 Days

Proportion of households reporting using the following negative coping strategies over the past 7 days*:	Number/total	% (95% CI)
Rely on less preferred and/or less expensive foods	207/233	88.8% [83.3 - 94.4]
Borrow food, or rely on help from a friend or relative	183/233	78.5% [71.4 - 85.6]
Reduce the number of meals eaten in a day	161/233	69.1% [57.3 - 81.0]
Limit portion sizes at mealtime	178/233	76.4% [64.8 - 88.0]
Reduce consumption by adults so children could eat	134/233	61.4% [50.5 - 72.2]

* The total will be over 100% as households may use several negative coping strategies.

For Nyarugusu Congolese majority of the family members used less preferred or less expensive food as the major negative coping mechanism followed by reducing the number of meals eaten in a day.

Table 95: Negative Coping Strategies Used by The Surveyed Population in Nyarugusu Congolese Camp Over the Past 7 Days

Proportion of households reporting using the following negative coping strategies over the past 7 days*:	Number/total	% (95% CI)
Rely on less preferred and/or less expensive foods	137/168	81.6% [73.6 - 89.5]
Borrow food, or rely on help from a friend or relative	87/168	51.8% [38.4 - 65.2]
Reduce the number of meals eaten in a day	99/168	58.9% [47.7 - 70.2]
Limit portion sizes at mealtime	95/168	56.6% [44.5 - 68.6]
Reduce consumption by adults so children could eat	92/168	54.8% [42.2 - 67.4]

* The total will be over 100% as households may use several negative coping strategies.

Same for Nduta majority of the families use to rely on less preferred and less expensive food as one of the main coping mechanisms followed by borrowing food or rely on help from a friend or relative.

Table 96: Negative Coping Strategies Used by The Surveyed Population in Nduta Camp Over The Past 7 Days

Proportion of households reporting using the following negative coping strategies over the past 7 days*:	Number/total	% (95% CI)
Rely on less preferred and/or less expensive foods	186/227	81.9% [73.7 - 90.2]
Borrow food, or rely on help from a friend or relative	140/227	61.7% [52.1 - 71.3]
Reduce the number of meals eaten in a day	103/227	45.4% [32.1 - 58.7]
Limit portion sizes at mealtime	113/227	49.8% [36.3 - 63.2]
Reduce consumption by adults so children could eat	103/227	45.4% [31.4 - 59.3]

* The total will be over 100% as households may use several negative coping strategies.

For Mtendeli as well the most preferred negative coping mechanism was to rely on less preferred or less expensive food followed by borrowing food or rely on help from a friend or relative.

Table 97: Negative Coping Strategies Used by The Surveyed Population in Mtendeli Camp Over The Past 7 Days

Proportion of households reporting using the following negative coping strategies over the past 7 days*:	Number/total	% (95% CI)
Rely on less preferred and/or less expensive foods	148/178	83.2% [72.3 - 94.0]
Borrow food, or rely on help from a friend or relative	102/178	57.3% [45.4 - 69.2]
Reduce the number of meals eaten in a day	85/178	47.8% [33.5 - 62.0]
Limit portion sizes at mealtime	89/178	50.0% [35.8 - 64.2]
Reduce consumption by adults so children could eat	82/178	46.1% [31.5 - 60.7]

* The total will be over 100% as households may use several negative coping strategies.

Average reduced coping strategy index (rCSI) was 23.3 in Nyarugusu Burundian, 19.5 in Nyarugusu Congolese, 17.7 in Nduta and 17.1 in Mtendeli camp.

Table 98: Average Rcsi*, By Camp

Average rCSI		Nyarugusu Burundian N = 233	Nyarugusu Congolese N = 168	Nduta N = 227	Mtendeli N = 178
Mean (95% CI) [range]	Cluster design	23.2 [17.7 - 28.7] [Min,0 – Max,56]	19.5 [13.7 - 25.4] [Min,0 – Max,56]	17.7 [11.7 - 23.7] [Min,0 – Max,56]	17.1 [10.4 - 23.9] [Min,0 – Max,56]

*Maximum rCSI is 56.

Food Consumption Score (FCS) and FSC-Nutrition (FCS-N) results

The last food distribution ended in August 2021 before the SENS survey. The distribution modality used is individual scoping where each family member receives 68% of the food ration for 42 days. This follows the

32% food ration cut which occur since October 2020. The consumption score has reduced compared to 2019 due to several reasons including the ration reduction, closure of the market and refugees' movements restriction which hinder them opportunity to access other food type.

The mean FCS was 37.7 in Nyarugusu Burundian, 43.0 in Nyarugusu Congolese, 40.3 in Nduta and 40.1 in Mtendeli camp.

Table 99: Average Fcs* By Camp

Average FCS					
		Nyarugusu Burundian N = 233	Nyarugusu Congolese N= 168	Nduta N= 227	Mtendeli N= 178
Mean (95% CI) [range]	Cluster design**	37.7 [35.0 - 40.4] [Min,5.5 – Max,73.5]	43.0 [40.1 - 45.9] [Min,10.5 – Max,76.5]	40.3 [38.2 - 42.3] [Min,5.5 – Max,70.5]	40.1 [37.9 - 42.3] [Min,9.0 – Max,76.5]

*Maximum FCS is 112 (129.5 if specialized nutritious foods are included).

In all the camps the acceptable food consumption score ranged between 71.3% - 81.6% according to WFP standard. In Nyarugusu Burundian, 71.3% of the households were at acceptable level, 18.9% borderline and 9.9% poor. In Nyarugusu Congolese, 81.6% of the households were at the acceptable, 15.5% Borderline and Poor 3%. In Nduta, acceptable was 78.0%, borderline 18.5% and poor 3.5%. Mtendeli camp had 76.4% acceptable, 21.0% borderline and 2.3% poor. However, the poor food consumption score ranged between 2.3% - 9.9%.

Table 100: Food Consumption Score by Categories, By Camp

Camp	FCS profiles	Number/total	% (95% CI)
Nyarugusu Burundia	Acceptable FCS > 35	166/233	71.3% [60.2 - 82.3]
	Borderline 21.5≤FCS≤35	44/233	18.9% [11.3 - 26.4]
	Poor FCS≤21	23/233	9.9% [4.1 - 15.6]
Nyarugusu Congolese	Acceptable FCS > 35	137/168	81.6% [71.9 - 91.2]
	Borderline 21.5≤FCS≤35	26/168	15.5% [8.2 - 22.8]
	Poor FCS≤21	5/168	3.0% [0 - 6.0]
Nduta	Acceptable FCS > 35	177/227	78.0% [67.7 - 88.3]
	Borderline 21.5≤FCS≤35	42/227	18.5% [9.6 - 27.5]
	Poor FCS≤21	8/227	3.5% [0.7 - 6.4]
Mtendeli	Acceptable FCS > 35	136/178	76.4% [63.3 - 89.5]
	Borderline 21.5≤FCS≤35	38/178	21.4% [9.8 - 32.9]
	Poor FCS≤21	4/178	2.3%

Food Consumption Score Nutritional Quality Analysis (FCS-N) was performed, and results presented in Table 107, 108, 109 and 110. Consumption of protein, Vitamin A and Iron food was analysed where it indicates that majority of the households eat food rich in protein at least daily in all the three camps while majority of the households never eat Haemo iron rich foods. For the Vitamin A rich food majority of the household use it sometime.

In Nyarugusu Burundian about 68.2% of the households use protein rich food at least daily while 6.0% of the household never consume protein rich food. For the Vitamin A rich food majority of household 57.1% eat Vitamin A rich food sometime and 24.9% never consume Vitamin A rich food. Around 75.5% household never used iron rich food while only 1.3% of the household use iron rich food at least daily.

Table 101: Consumption Frequency Categories of Each Nutrient Rich Food Groups (Fcs-N) In Nyarugusu Burundian

Nutrient rich food groups	Consumption frequency categories	Number/total	% (95% CI)
Protein rich foods	Never	14/233	6.0% [1.9 - 10.2]
	Sometimes	60/233	25.8% [16.3 - 35.2]
	At least daily	159/233	68.2% [56.2 - 80.3]
Vitamin A rich foods	Never	58/233	24.9% [15.3 - 34.5]
	Sometimes	133/233	57.1% [49.0 - 65.2]
	At least daily	42/233	18.0% [10.0 - 26.1]
Haem iron rich foods	Never	176/233	75.5% [65.5 - 85.6]
	Sometimes	54/233	23.2% [13.2 - 33.2]
	At least daily	3/233	1.3% [0 - 2.7]

In Nyarugusu Congolese about 76.8% of the households use protein rich food at least daily while 1.8% of the household never consume protein rich food. About 66.1% of the households sometimes consume food rich in Vitamin A and 16.1% never consume Vitamin A rich food. For the Iron rich food 45.2% household never used iron rich food while only 10.1% of the household use iron rich food at least daily.

Table 102: Consumption Frequency Categories of Each Nutrient Rich Food Groups (Fcs-N) In Nyarugusu Congolese

Nutrient rich food groups	Consumption frequency categories	Number/total	% (95% CI)
Protein rich foods	Never	3/168	1.8% [0 - 3.8]
	Sometimes	36/168	21.4% [13.6 - 29.2]
	At least daily	129/168	76.8% [68.6 - 85.0]
Vitamin A rich foods	Never	27/168	16.1% [8.8 - 23.3]

	Sometimes	111/168	66.1% [56.7 - 75.4]
	At least daily	30/168	17.9% [9.8 - 25.9]
	Never	76/168	45.2% [32.3 - 58.1]
Haem iron rich foods	Sometimes	75/168	44.6% [34.3 - 55.0]
	At least daily	17/168	10.1% [4.5 - 15.7]

In Nduta about 78.0% of the households use protein rich food at least daily while 3.1% of the household never consume protein rich food. About 67.8% of the households sometimes consume food rich in Vitamin A and 11.9% never consume Vitamin A rich food. For the Iron rich food 67.8% household never used iron rich food while only 3.5% of the household use iron rich food at least daily.

Table 103: Consumption Frequency Categories of Each Nutrient Rich Food Groups (Fcs-N) In Nduta Camp

Nutrient rich food groups	Consumption frequency categories	Number/total	% (95% CI)
Protein rich foods	Never	7/227	3.1% [0.3 - 5.9]
	Sometimes	43/227	18.9% [12.8 - 25.1]
	At least daily	177/227	78.0% [71.8 - 84.1]
Vitamin A rich foods	Never	27/227	11.9% [5.3 - 18.5]
	Sometimes	154/227	67.8% [58.4 - 77.3]
	At least daily	46/227	20.3% [11.7 - 28.8]
Haem iron rich foods	Never	156/227	68.7% [56.0 - 81.5]
	Sometimes	63/227	27.8% [15.8 - 39.8]
	At least daily	8/227	3.5% [1.0 - 6.0]

In Mtendeli about 84.8% of the households use protein rich food at least daily while only 0.6% of the household never consume protein rich food. About 75.8% of the households sometimes consume food rich in Vitamin A and 11.9% never consume Vitamin A rich food. For the Iron rich food 75.8% household never used iron rich food while only 2.3% of the household use iron rich food at least daily.

Table 104: Consumption Frequency Categories of Each Nutrient Rich Food Groups (Fcs-N) In Mtendeli Camp

Nutrient rich food groups	Consumption frequency categories	Number/total	% (95% CI)
Protein rich foods	Never	1/178	0.6% [0 - 1.8]
	Sometimes	26/178	14.6%

			[4.3 - 25.0]
	At least daily	151/178	84.8% [74.4 - 95.2]
Vitamin A rich foods	Never	26/178	14.6% [7.2 - 22.0]
	Sometimes	135/178	75.8% [67.5 - 84.2]
	At least daily	17/178	9.6% [3.8 - 15.3]
Haem iron rich foods	Never	135/178	75.8% [66.2 - 85.5]
	Sometimes	39/178	21.9% [13.5 - 30.4]
	At least daily	4/178	2.3% [0.1 - 4.4]

Acquisition of food items was mainly through in-kind assistance across the four camps. Proportion of households sourced food through in-kind assistance was 91.4% In Nyarugusu Burundian, 88.7% in Nyarugusu Congolese, 96.0% in Nduta and 97.8% in Mtendeli camp. In Nyarugusu, Nduta and Mtendeli has below 5% of household which are able to purchase food through their own cash while 11.3% of the Nyarugusu Congolese were able to purchase food using their own cash.

Table 105: Food Acquisition Sources, by Camp

Camp	Food acquisition sources	Number/total	% (95% CI)
Nyarugusu Burundian	Purchase using their own cash	12/233	5.2% [2.5 - 7.8]
	Own production (crops, livestock, fishing/hunting, gathering)	3/233	1.3% [0 - 2.8]
	Traded goods/services, barter	1/233	0.4% [0 - 1.3]
	Borrowed (loan/credit from traders)	2/233	0.9% [0 - 2.6]
	Received as gift (from family relatives or friends/neighbour)	0/233	0
	In-kind or voucher-based food assistance	213/233	91.4% [87.6 - 95.3]
	Other	2/233	0.9% [0 - 2.1]
Nyarugusu Congolese	Purchase (using cash grants and/or with their own cash)	19/168	11.3% [4.1 - 18.5]
	Own production (crops, livestock, fishing/hunting, gathering)	0/168	0
	Traded goods/services, barter	0/168	0
	Borrowed (loan/credit from traders)	0/168	0
	Received as gift (from family relatives or friends/neighbour)	0/168	0
	In-kind food assistance	149/168	88.7% [81.5 - 95.9]
	Other	0/168	0
Nduta	Purchase (using cash grants and/or with their own cash)	8/227	3.5% [0.1 - 6.9]

	Own production (crops, livestock, fishing/hunting, gathering)	0/227	0
	Traded goods/services, barter	0/227	0
	Borrowed (loan/credit from traders)	0/227	0
	Received as gift (from family relatives or friends/neighbour)	1/227	0.4% [0 - 1.4]
	In-kind food assistance	218/227	96.0% [92.4 - 99.7]
	Other	0/227	0
Mtendeli	Purchase (using cash grants and/or with their own cash)	3/178	1.7% [0 - 4.2]
	Own production (crops, livestock, fishing/hunting, gathering)	0/178	0
	Traded goods/services, barter	1/178	0.6% [0 - 1.7]
	Borrowed (loan/credit from traders)	0/178	0
	Received as gift (from family relatives or friends/neighbour)	0/178	0
	In-kind food assistance	174/178	97.8% [94.1 - 100]
	Other	0/178	0

FIGURE 36: TRENDS OF FOOD CONSUMPTION PROFILES AND RCSI FROM 2019 TO 2021, BY CAMP

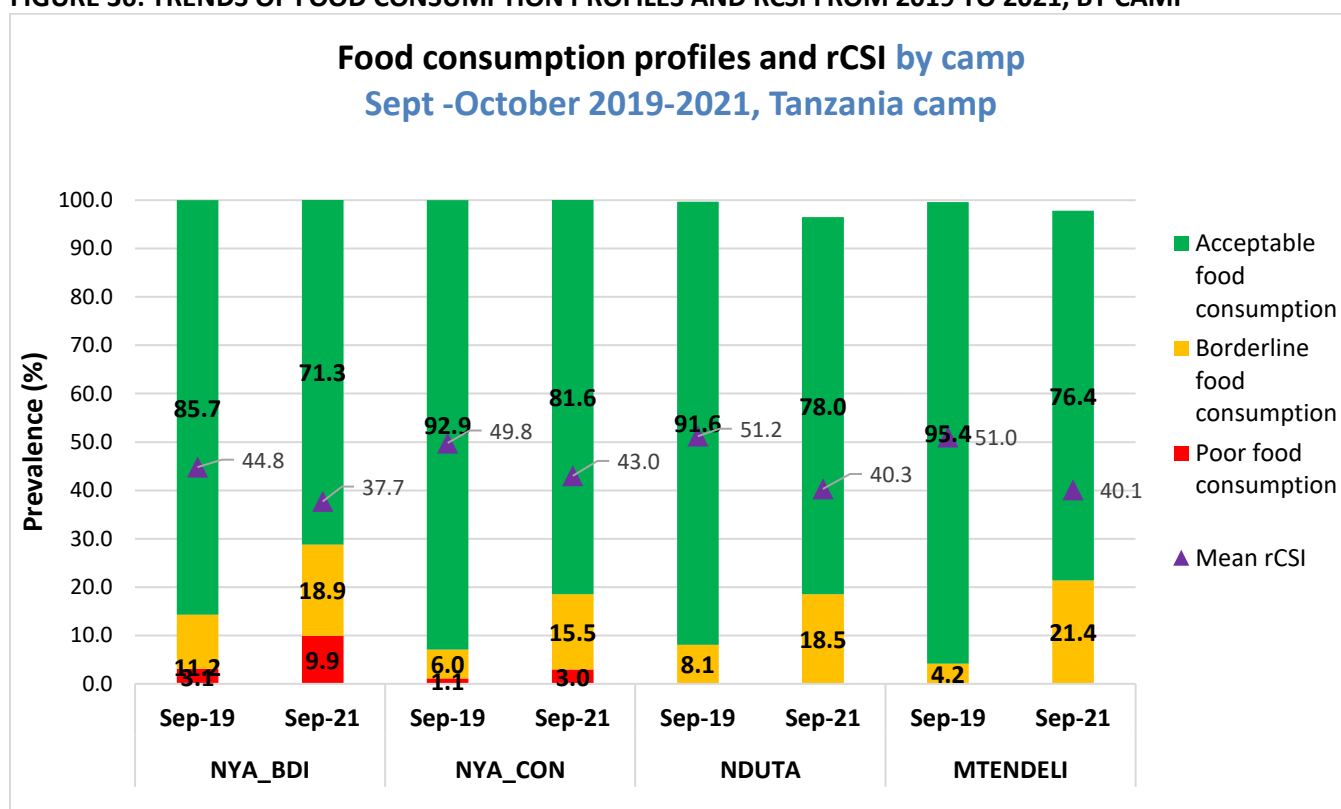


FIGURE 37: TRENDS OF FREQUENCY CONSUMPTION OF PROTEIN, VITAMIN A AND HAEM IRON RICH FOODS FROM

2019 TO 2021, IN NYARUGUSU BURUNDIAN CAMP

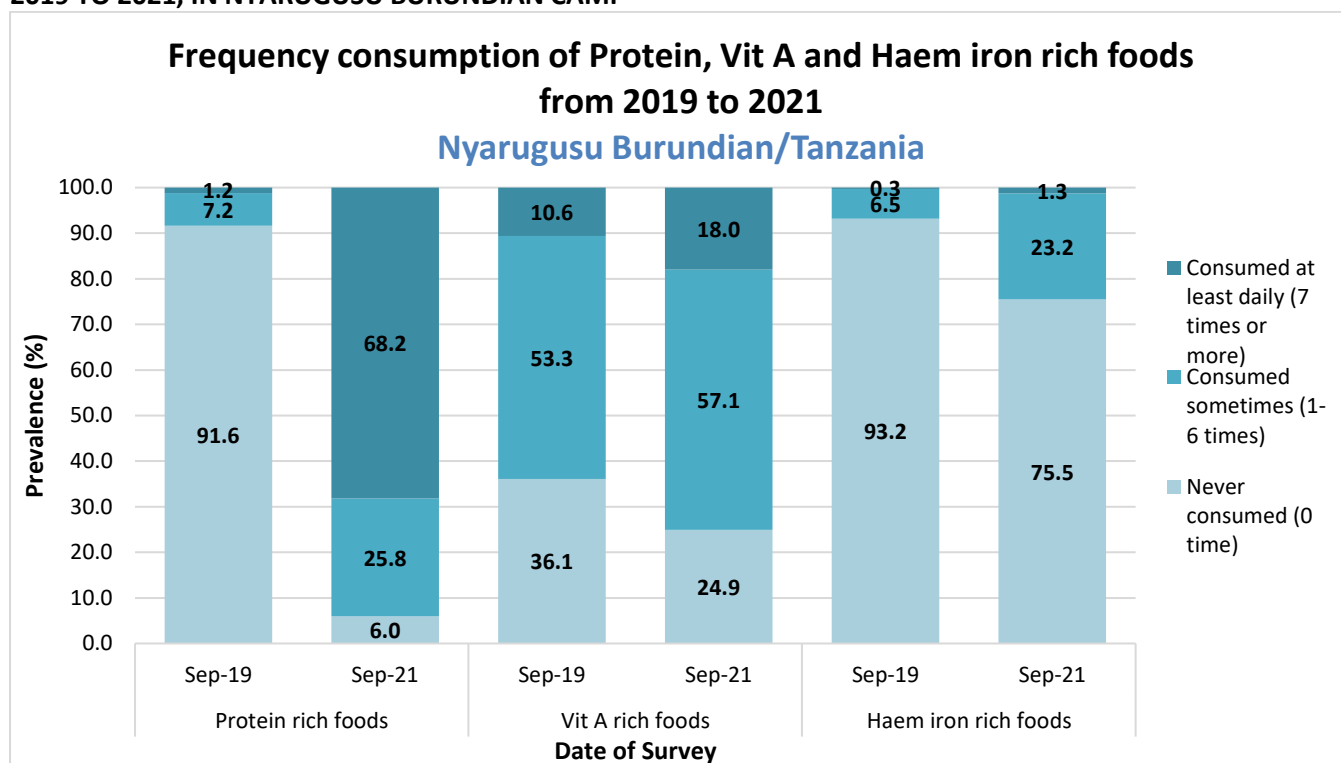


FIGURE 38: TRENDS OF FREQUENCY CONSUMPTION OF PROTEIN, VITAMIN A AND HAEM IRON RICH FOODS FROM 2019 TO 2021, IN NYARUGUSU CONGOLESE CAMP

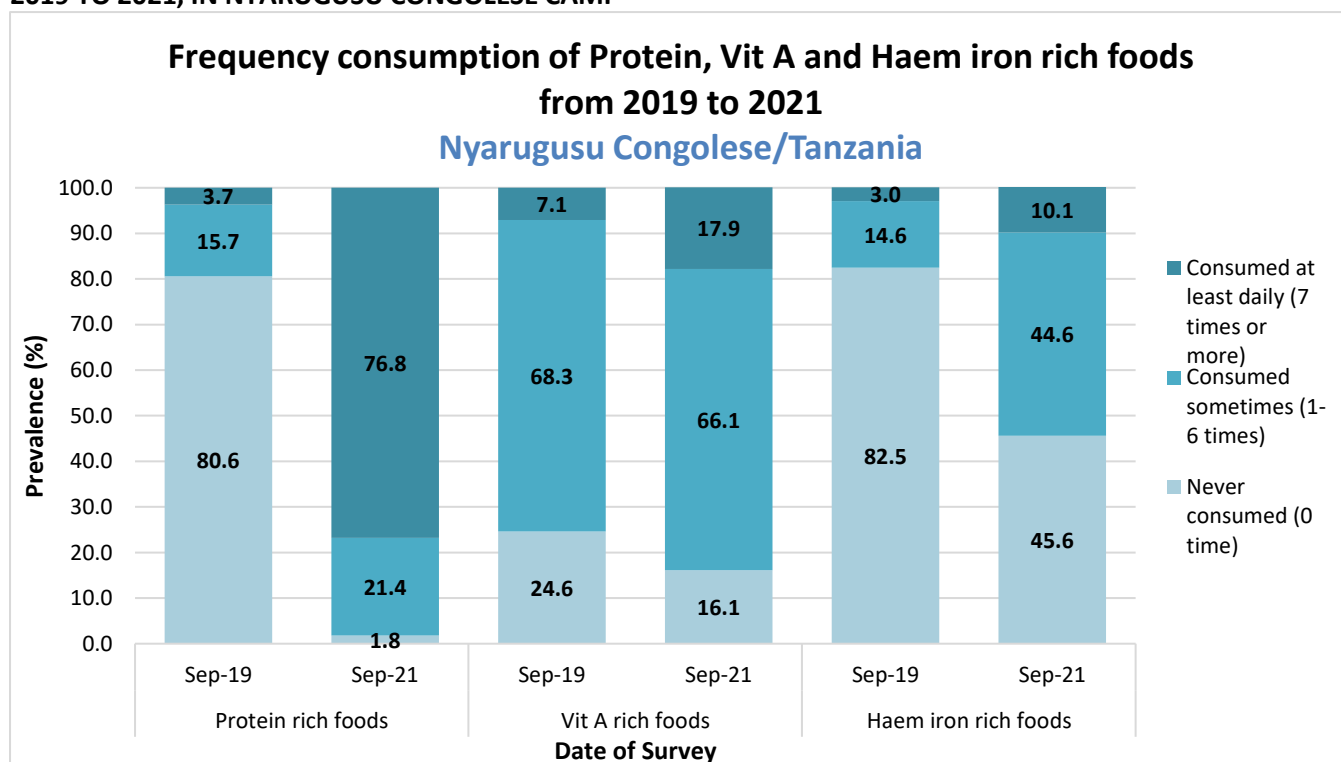


FIGURE 39: TRENDS OF FREQUENCY CONSUMPTION OF PROTEIN, VITAMIN A AND HAEM IRON RICH FOODS FROM 2019 TO 2021, IN NYARUGUSU CONGOLESE CAMP

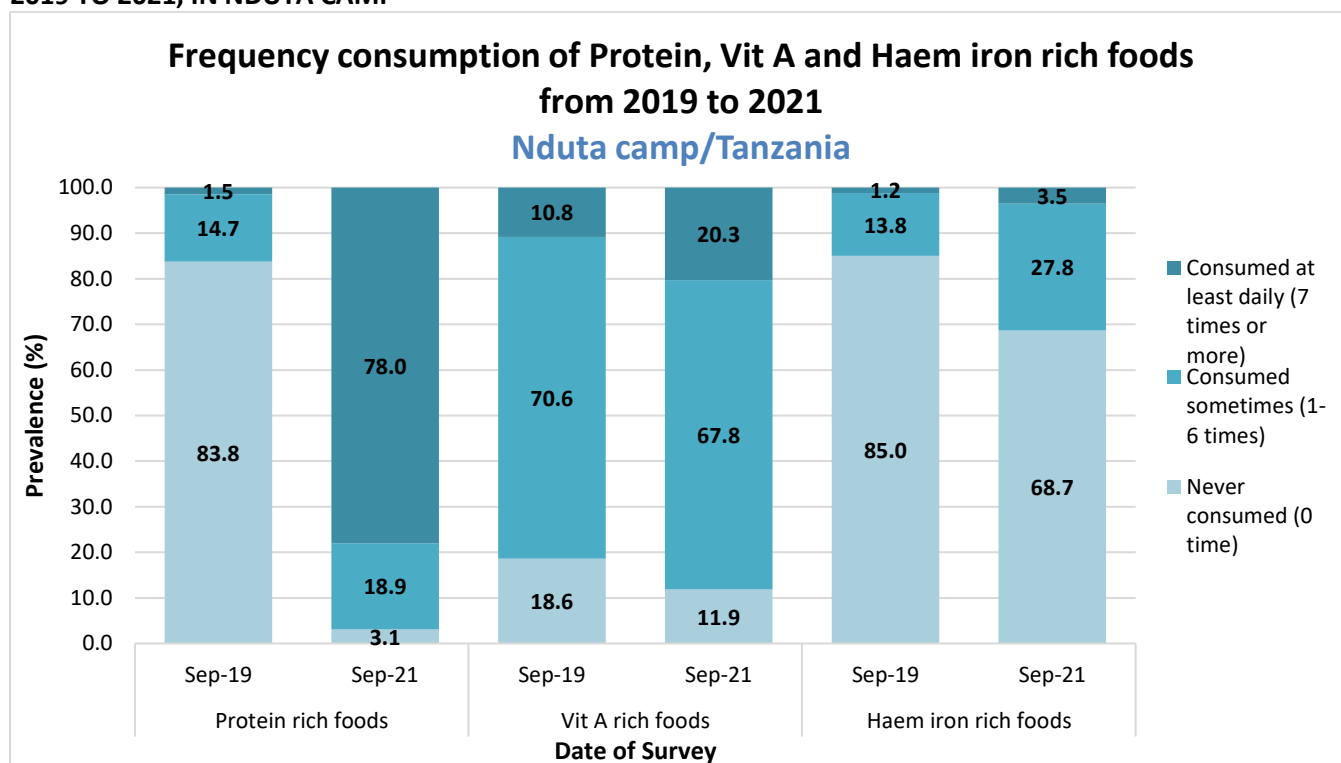
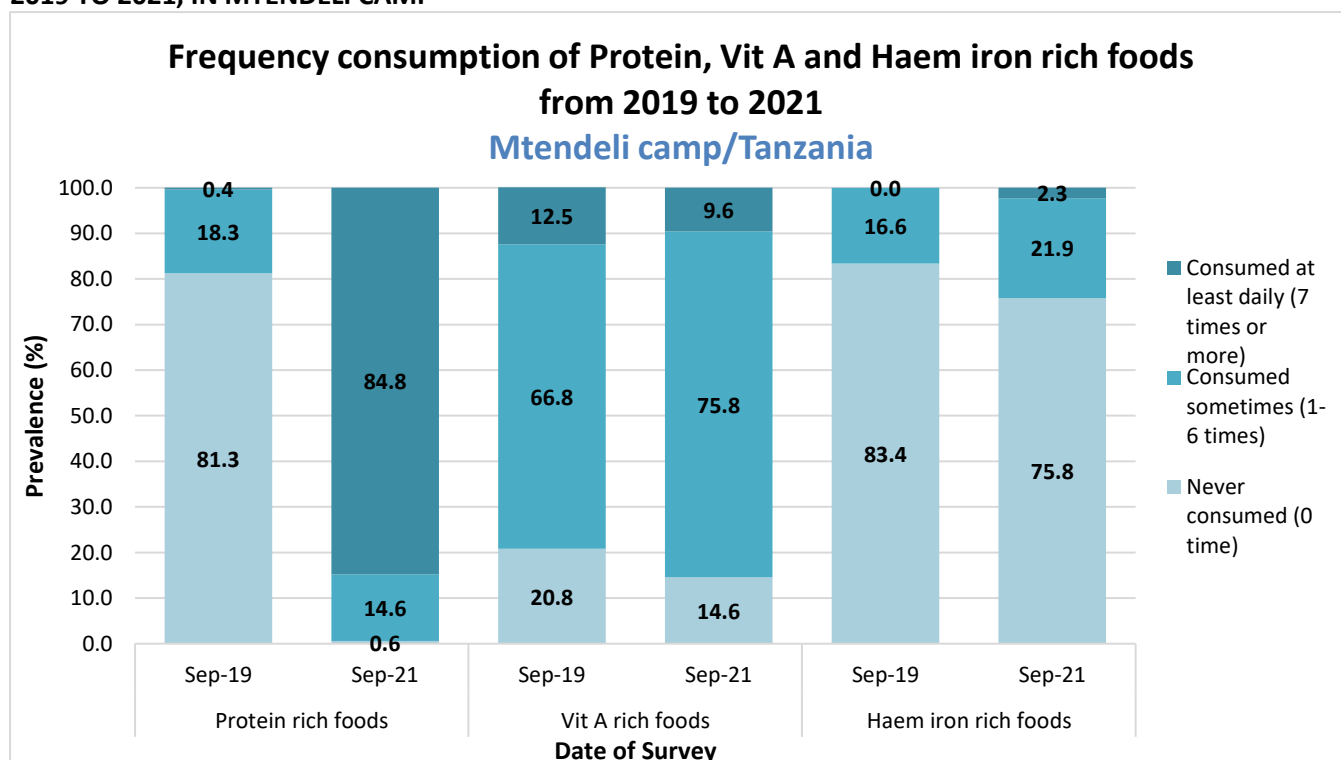


FIGURE 40: TRENDS OF FREQUENCY CONSUMPTION OF PROTEIN, VITAMIN A AND HAEM IRON RICH FOODS FROM 2019 TO 2021, IN MTENDELI CAMP



4.6. Mosquito Net Coverage

For the mosquito net household Survey was 83.3% for Nyarugusu Burundian which was the smallest coverage and 98.7% for Nduta camp which was the highest coverage. The survey managed to reach at least 80% which is the acceptable range.

Table 106: Mosquito Net Coverage Sampling Information by Camp

Total households surveyed for Mosquito net coverage	Planned	Actual	% of target
Nyarugusu New Camp	233	194	83.3%
Nyarugusu Old Camp	168	148	88.1%
Nduta	227	224	98.7%
Mtendeli	178	173	97.2%

Observation of the type of mosquito net brand was part of the assessment and below is the list of mosquito nets (LLIN and Non-LLIN) that were observed during the survey by camp.

Table 107: List of Mosquito Net Brand Name Observed During Assessment by Camp

	Nyarugusu Burundian	Nyarugusu Congolese	Nduta	Mtendeli
LLIN mosquito net brands observed during the survey	76	98	460	396
Non-LLIN mosquito net brands observed during the survey	10	14	4	6

Mosquito Net Ownership

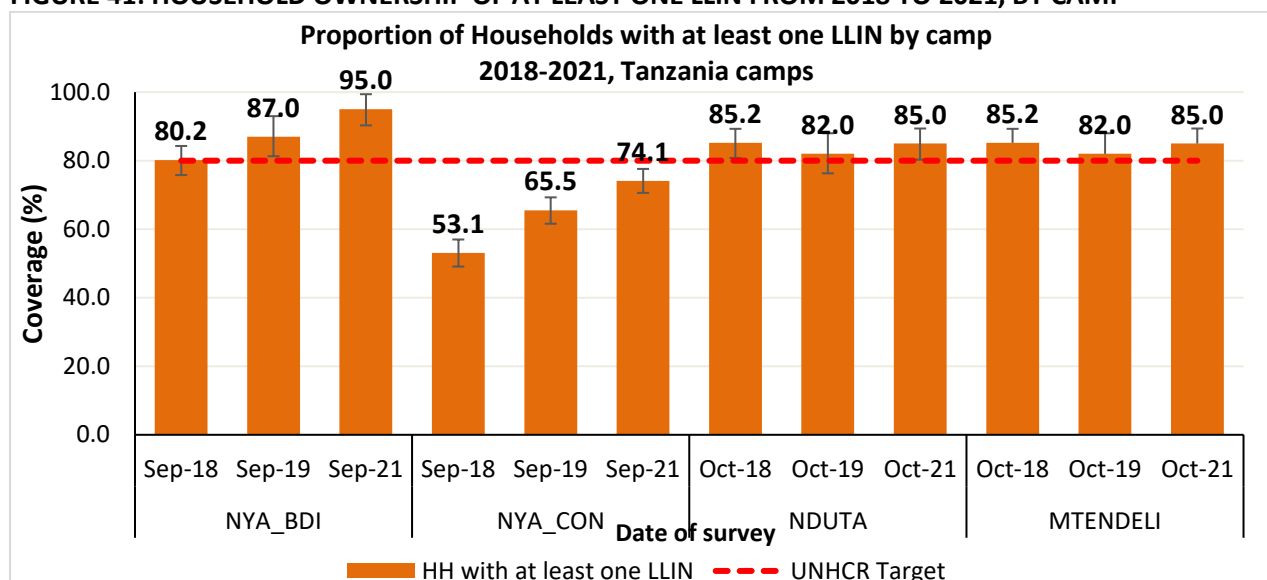
Proportion of households owning at least one mosquito net of any type was 30.9% in Nyarugusu Burundian, 50.0% in Nyarugusu Congolese, 86.6% in Nduta and 83.2% in Mtendeli camp. Proportion of households owning at least one LLIN ranged from 27% in Nyarugusu Burundian to 85% in Nduta camp. See table 118 below.

Table 108: Household Mosquito Net Ownership by Camp

Survey Area	N	Proportion of total households owning at least one mosquito net of any type		Proportion of total households owning at least one LLIN	
		n	% (95% CI)	n	% (95% CI)
Nyarugusu New Camp	194	60	30.9% [23.2 - 38.6]	53	27.3% [20.3 - 34.3]
Nyarugusu Old Camp	148	74	50.0% [40.7 - 59.3]	62	41.9% [33.2 - 50.6]
Nduta	224	194	86.6% [78.4 - 94.8]	192	85.7% [76.8 - 94.6]
Mtendeli	173	144	83.2% [71.5 - 95.0]	141	81.5% [68.8 - 94.3]

Trend of mosquito net ownership from 2018 to 2021 by camp was plotted as shown in figure 34 below. The trend shows that the mosquito net ownership in Nyarugusu is very low especially for Burundian population compared to Congolese, however in Nduta and Mtendeli camp the coverage is above 80%. According to most of the caregivers in Nyarugusu they said distribution of net was not done for some time now.

FIGURE 41: HOUSEHOLD OWNERSHIP OF AT LEAST ONE LLIN FROM 2018 TO 2021, BY CAMP



Average number of LLIN per household was at 1.3 for both Congolese and Burundian in Nyarugusu camp while 2.4 and 2.8 for Nduta and Mtendeli camp. The average number of persons per LLIN was 15.5 in Nyarugusu Burundian, 11.0 for Nyarugusu Congolese, 2.6 in Nduta and 2.7 in Mtendeli camp. UNHCR target is 1 net per 2 persons. This means the average mean for Nyarugusu is not in a recommended standard.

Table 109: Number of Nets by Camp

Survey Area	N	Average number of LLINs per household	Average number of persons per LLIN
		Mean	Mean
Nyarugusu New Camp	60	1.3	15.5
Nyarugusu Old Camp	74	1.3	11.0
Nduta	194	2.4	2.6
Mtendeli	144	2.8	2.7

Mosquito Net Utilization

The utilization of mosquito net across all the camps is a big challenge where proportional of population of all ages who slept under LLIN was 15.9% for Nyarugusu Burundian, 25.4% for Nyarugusu Congolese, 59.4% for Nduta and 57.9% for Mtendeli camp. For children 0-59 month who slept under LLIN is also a challenge especially to Nyarugusu camp where 21.8% was observed for Nyarugusu Burundian, 32.1% for Nyarugusu Congolese, 65.7% for Nduta and 68.2% for Mtendeli camp. For the proportional of pregnant women who slept under mosquito net were 24.0% for Nyarugusu Burundian, 27.0% for Nyarugusu Congolese, 61.1% for Nduta and at least Mtendeli has 84.9% coverage.

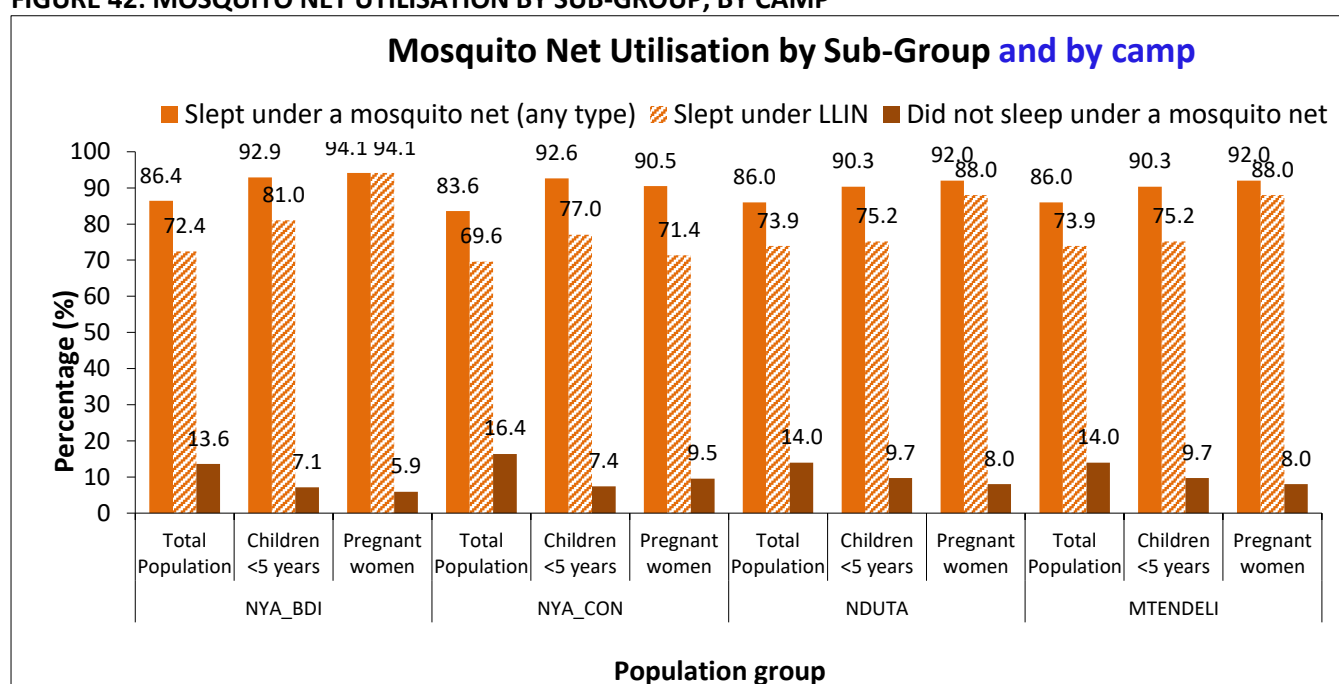
Table 110: Mosquito Net Utilisation by Camp.

	Camp	Proportion of total population (all ages)		Proportion of 0-59 months		Proportion of pregnant women	
		n	%	n	%	n	%
Slept under net of any type	Nyarugusu Burundian	210	18.0%	74	23.7%	13	26.0%
Slept under LLIN		185	15.9%	68	21.8%	12	24.0%

Slept under net of any type	Nyarugusu Congolese	313	29.4%	113	39.0%	13	35.1%
Slept under LLIN		271	25.4%	93	32.1%	10	27.0%
Slept under net of any type	Nduta	723	59.3%	240	65.8%	31	59.6%
Slept under LLIN		709	59.6%	236	65.7%	31	59.6%
Slept under net of any type	Mtendeli	625	59.6%	211	69.9%	28	84.9%
Slept under LLIN		607	57.9%	206	68.2%	28	84.9%

Figure 41 below presents utilization of mosquito net of any type, LLIN and those who did not sleep under mosquito net of any type.

FIGURE 42: MOSQUITO NET UTILISATION BY SUB-GROUP, BY CAMP



For the households received indoor residual spraying was as higher as 96% to 97% across all the camp. This could be the reason to why most of the families does not use LLIN as they belief the indoor spraying have reduced the risk of malaria.

Table 111: Indoor Residual Spraying Household Coverage in Nyarugusu BDI, Nyarugusu CON, Nduta and Mtendeli Camp.

Survey Area	N	Proportion of households covered by IRS in the last 6 months/12 months	
		n	% (95% CI)
Nyarugusu Burundian	194	188	96.9% [94.6 - 99.2]
Nyarugusu Congolese	148	144	97.3% [94.7 - 99.9]
Nduta	224	217	96.9% [92.1 – 100]
Mtendeli	173	166	96.0% [92.3 - 99.6]

5. LIMITATIONS

Reallocation and Repatriation exercise: there was a repatriation and camp reallocation that was ongoing in the camps where some time you find the clusters selected don't have household therefore replacement with reserved clusters was done.

Language barrier: the translation of language from Swahili to Kirundi and then Kirundi to Swahili when assessing caretakers some time the meaning of the question can be misinterpreted.

6. DISCUSSION

6.1. Nutritional status of young children

Age distribution for children aged 6-59 month was split in to five categories, 6–11-month, 12–23-month, 24–35-month, 36-47 month and 48-59 month. The sex ratio was 1.0 in all the camps except Nyarugusu Congolese which was 1.2, meaning likely there was bias in sampling and data collection in children aged 6 – 59 months. However, the proportion of children with no exact birthdate was 2% for Nyarugusu Burundian camp, 3% for Nyarugusu Congolese camp, 0% for Nduta and 0% for Mtendeli. Compare to the last SENS in 2019 this time most of the parents had birth cards especially in Nduta and Mtendeli where the birth registration exercise was ongoing most of the children assessed had birth registration cards.

The prevalence of global acute malnutrition (GAM) as per 2021 SENS Survey has remained below the UNHCR target (GAM below 10%). The GAM prevalence was 3.0% in Nyarugusu Burundian, 0.4% for Nyarugusu Congolese, 1.8% for Nduta and 1.0% for Mtendeli. There was no severe wasting across the camp as well as Oedema. However, the prevalence of GAM in all camps indicated low/very low levels (acceptable) according to WHO classification.

Comparing to previous years the Nutritional status among refugees in Tanzania has been stable for the couple of years.

Prevalence of stunting, which measure the chronic malnutrition in children aged 6 – 59 months, remained very high (critical) across all camps as per WHO standard of $\geq 30\%$. However, there was reduced trend compared to the 2019 SENS. Improvement has been observed mainly in Nduta and Mtendeli where the stunting prevalence was above 50% but has reduced to below 40% in 2021. The stunting for 2021 SENS was 42.6% (37.8-47.5%) for Nyarugusu Burundian, 36.6% (30.4-43.2) for Nyarugusu Congolese, 39.9% (27.5-40.3) for Nduta and 33.6% (27.5-40.3) for Mtendeli camp. While the Stunting prevalence for 2019 SENS was 47.7% (43.4%-52.1%) for Nyarugusu Burundian, 42.7% (37.9%-47.6%) for Nyarugusu Congolese, 52.1% (47.3%-56.9%) for Nduta and 51.9% (47.1%-56.8%) for Mtendeli camp. For the past two years there has been a lot of interventions which targeted stunting reduction example the blanket supplementary feeding to pregnant, lactating and children under two years although there was a food ration cut but still the SFP for special group was maintained at 100%.

Disaggregation by age group showed infants aged 12– 23 month and 24-35 months were more affected by stunting compared to children on other age group. A detailed analysis will require to understand why most of this age group are stunted while looking at the time the refugee has been in the camp these age group children are born in the camp. In all the camps also the boys' children are more affected by chronic malnutrition than girls children.

6.2. Programme coverage and enrolment

Coverage for measles vaccination with card or confirmation from the mother in children aged 9 – 59 months was 99.6% in Nyarugusu Burundian, 99.2% in Nyarugusu Congolese, 99.7% in Nduta and 99.6 in Mtendeli camp. For the Measles coverage with card Nyarugusu Burundian was 91.6% Nyarugusu Congolese was 85.7%, Nduta was 94.6% and Mtendeli was 96.3% respectively. Comparing with the last SENS in 2019 there has been increase for the coverage of Measles by card where in 2019 was 85.6% in Nyarugusu Burundian, 82.1% in Nyarugusu Congolese, 65.5% for Nduta and 74.7% in Mtendeli camp. In 2019 Nduta had very low coverage compared to other camps however for 2021 survey there is some improvement and most of women had vaccination cards for children which they were documented.

Vitamin A supplementation within last 6 months with cards and confirmation from the mother in children aged 6 – 59 months was above 90% in all camps whereby Nyarugusu Burundian was 99%, Nyarugusu Congolese was 96.3%, Nduta was 98.8% and Mtendeli was 98.7%. for the Vitamin A coverage with card was 94% for Nyarugusu Burundian, 91.2% for Nyarugusu Congolese, 88.0% for Nduta and 95.6% for Mtendeli camp. Compare with 2019 there is improvement especially for Nduta camp where the coverage was below 39.7% in 2019, other camps the coverage was 79.3% in Nyarugusu Burundian, 68.8% in Nyarugusu Congolese and 67.5% in Mtendeli. For past two year a lot of community sensitization has been done during

Vitamin A campaign but also the partners have increase the service delivery post to ensure every child aged 6-59 month receive Vitamin A and it is documented in the clinic cards.

Coverage of deworming in children aged 12 – 59 months was very poor this year and this is due to the new Government directive that deworming should not be provided during the campaign at it does not have much impact. Deworming was conducted along with Vitamin A supplementation as an integrated campaign within every six months. Coverage for this year was 25.6% for Nyarugusu Burundians, 20.2% for Nyarugusu Congolese, 23.5% for Nduta and 20.2% for Mtendeli camp. Discussion and assessment are ongoing to justify why there is a need to have deworming campaign to children after every six months.

In all the camps WFP is providing blanket supplementary feeding as a means preventing stunting to children. This service is provided to children aged 6-23 month where they receive CSB++ for 60 days, pregnant and lactating women where they received CSB for 56 days. The micronutrient powder is also provided to children 24-59 month for 42 days. There is another programme of management of acute malnutrition which is the targeted supplementary feeding covering the SAM and MAM patients. Enrolment of acute and moderate cases of malnutrition into feeding programmes among children aged 6 – 59 months remained low. Enrolment at TSFP ranged from 16.7% (2.3-31.1) to 28.6% (0-73.7) across the camps. The coverage of OTP is also very low in some camp especially Nyarugusu Congolese and Nduta and high for Mtendeli camp. These could have been contributed to by several factors including the current discharge criteria for SAM cases which require the child to remain admitted in OTP until full recovery. When such a child is sampled may be considered as not admitted in the right programme. WHO recommends that children with severe acute malnutrition should only be discharged from treatment when weight-for-height/length is ≥ -2 Z-scores and they have had no oedema for at least 2 weeks or mid-upper-arm circumference is ≥ 125 mm and they have had no oedema for at least 2 weeks. However, the results should be interpreted with caution due to the fact that the sample used was only those children who were surveyed if there was no any SAM child identified during the survey in a certain camp that means the numerator will be zero.

For the enrolment coverage for BSFP and MNP was above 90% across all the camps. Compared to the last SENS in 2019 the coverage is almost the same which is more than 90%, however the ration received does not reach the number of days planned, for the BSFP several observations were identified which includes sharing of the CSB, selling to buy other family needs and exchanging to get other food items. For the MNP the ration does not last and in most of the families the MNP was received but not used some has been seen to be thrown away. Some community members also explained that MNP increasing the appetite of the children while the food ration has been reduced to 68% and that is why they are not giving MNP to children even if they receive it.

The coverage of ANC among pregnant women was 76.7% for Nyarugusu Burundian, 88.5% for Nyarugusu Congolese, 79.1% for Nduta and 94.3% for Mtendeli camp. Compare to the 2019 SENS the coverage has increased in Nyarugusu camp and some improvements are also observed. In 2019 the coverage was 36% in Nyarugusu Congolese and 54% in Nyarugusu Burundian. While there is reduction on coverage for Nduta and Mtendeli from 2019 to 2021, In Mtendeli camp the coverage was 80% and 83% in Nduta camp. During data collection some were saying the food reduction has motivated most mothers to register early at ANC so that they can be enrolled in the BSFP programme and get additional food. Some of the women spoke about fear of exposing their pregnancy early as it might disappear as per their cultural beliefs while some explained they were waiting for the second trimester so that they can enrol in both ANC and BSFP. As per WFP guideline it allows enrolment of women in BSFP from second trimester until six months post-delivery. Most of the women are aware of this and delay enrolment into ANC waiting for BSFP.

The blanket supplementary feeding to pregnant was also assessed where the coverage was 73.3% in Nyarugusu Burundian, 88.5 in Nyarugusu Congolese, 69.8% in Nduta and 88.6% in Mtendeli while the BSFP coverage for Lactating women was 100% for Nyarugusu Burundian and Congolese, 97.4% for Nduta and 91.3% for Mtendeli camp. The coverage of BSFP to pregnant women in Nduta is low compare to other camp this could be due to some reason mentioned above on WFP guideline it allows enrolment of women in BSFP from second trimester until six months post-delivery so when assessing all pregnancy on BSFP coverage some will be missed as they are not eligible.

6.3. Anaemia in young children and women

The prevalence of anaemia in children aged 6 – 59 months was 28.8% in Nyarugusu Burundian, 36.6% in Nyarugusu Congolese, 32.6% in Nduta and 26.4% in Mtendeli camp. The prevalence remained above the UNHCR target (<20%) in all the surveyed areas. Compared to 2019 Survey there is an increase trend of anaemia in all camps except Nyarugusu Burundian where in 2019 SENS it was 32.9% in Nyarugusu Burundian, 31.2% in Nyarugusu Congolese, 19.1 % in Mtendeli. Disaggregation by age indicated high prevalence of anaemia in younger children aged 6 – 23 months. The total anaemia in this particular age group was 41.5% in Nyarugusu Burundian, 51.5% in Nyarugusu Congolese, 39.5% in Nduta camp and 36.4% in Mtendeli camp. Despite the ongoing interventions, prevalence anaemia in Kasulu camps in this age group remained high (>40%) as categorized by classifications of public health significance. This could be because the 24–59-month children receive Micronutrient powder and those from 6-23 month they don't. Another reason is lack of the food diversity where most of the children in this group use only one type of food which is porridge, there is no opportunity to access other food types.

Prevalence of anaemia among non-pregnant women aged 15 to 49 years was 19.7% in Nyarugusu Burundian, 25.4% in Nyarugusu Congolese, 19.2% in Nduta and 12.0% in Mtendeli camp. The UNHCR target for total anaemia is <20% of which Nyarugusu Congolese was above the limit. When compared to 2019 there has been some increase of trend for Nduta and Mtendeli from 8% in 2019 to 19.2% in 2021 for Nduta and 9% for 2019 to 12.0% in 2021 for Mtendeli camp. This could be due to food ration reduction from 100% to 68% for the whole year of 2021.

6.4. IYCF indicators

The timely initiation of breastfeeding in children aged 0-23 months was 86.9% in Nyarugusu Burundian, 86.1% in Nyarugusu Congolese, 84.5% in Nduta and 80% in Mtendeli camp. UNHCR target of $\geq 85\%$ i.e. there is low coverage in Mtendeli camp. Exclusive breastfeeding in children aged 0-5 months was 90.9% in Nyarugusu Burundian, 82.1% in Nyarugusu Congolese, 69.1% in Nduta and 79.5% in Mtendeli camp. The EBF for Nduta is below the recommended standard of 75% according to WHO.

Continue breast feeding after one year was 80.4% in Nyarugusu Burundian, 95.5 in Nyarugusu Congolese, 80.3% in Nduta and 83.3% in Mtendeli camp while continue breast feeding after two years was 59.0% in Nyarugusu both population, 60.5% in Nduta and 57.9% in Mtendeli camp. From this result it shows that continued breastfeeding at one year was high compared to breastfeeding at two years meaning the breastfeeding practices declines as the age of the child increase majority of women stop breastfeeding before the second year of the child.

Introduction of solid food from 6-8 month was at 50.0% in Nyarugusu Burundian, 64.3% in Nyarugusu Congolese, 65.5% in Nduta and 72.2% in Mtendeli camp. This means there are some children who delay starting the complementary feeding once they are 6 months. This could be due to caretaker delaying receiving the blanket supplementary food or sometime selling food to buy other nonfood items.

The prevalence of children 6-23 month who consumed iron rich food or iron fortified food was 94.3% in Nyarugusu Burundian, 79.4% in Nyarugusu Congolese, 83.9% in Nduta and 77.1 in Mtendeli camp. From this the expectation was to have good prevalence of Anaemia as it seems most of the children are actually consuming the iron food but is the other way around. A casual analysis needs to be done to understand the causative factor.

6.5. Food security

Refugees in the camp depend purely on in-kind food assistance through general food distribution across the all the camp. Refugees currently receive 42 days food ration cycle. Most of the household the ration didn't reach the number of days entitled due to several reasons mentioned by the families. The mean duration of the food received from general ration last was 27 days for Nyarugusu Burundian, 28 days for Nyarugusu Congolese, 29 days for Nduta and 30 days for Mtendeli camp. The last distribution before data collection

refugee received 1374 Kcal per person per day which is equal to 68% of the food ration. Compare to the last Survey where the food was provided at 100%

Since 2020 the food distribution methodology was tailored to COVID-19 pandemic measures to ensure protection of POCs from contracting the virus. Measures undertaken pre-packing of food commodities for speedy delivery and collection, and increasing the days of distribution from 5 to 10 days, changing from 30 days food ration to 42 days for GFD, etc.

For the basic needs which were not afforded by majority of the families across all the camp was food and procurement of hygiene material.

The negative coping strategies that were preferred are; Nyarugusu Burundian most of the community rely on less and less expensive food as their negative coping mechanism followed by borrow food or rely on help from a friend or relative.; Nyarugusu Congolese majority of the family members used less preferred or less expensive food as the major negative coping mechanism followed by reducing the number of meals eaten in a day. Same for Nduta majority of the families use to rely on less preferred and less expensive food as one of the main coping mechanisms followed by borrowing food or rely on help from a friend or relative and Mtendeli as well the most preferred negative coping mechanism was to rely on less preferred or less expensive food followed by borrowing food or rely on help from a friend or relative.

In all the camps the food consumption score was at the acceptable range of above 35% according to WFP standard. However, when compared to 2019 Survey it has dropped from 86% to 71.3% in Nyarugusu Burundian, from 93% to 81.6% in Nyarugusu Congolese camp, from 92% to 78.0% in Nduta and from 95% to 76.4% in Mtendeli camp and this could have been due to ration reduction and poor access to markets.

6.6. Mosquito net coverage

Proportion of households owning at least one mosquito net of any type was 30.9% in Nyarugusu Burundian, 50.0% in Nyarugusu Congolese, 86.6% in Nduta and 83.2% in Mtendeli camp. Proportion of households owning at least one LLIN ranged from 27% in Nyarugusu Burundian to 85% in Nduta camp. Compare to last SENS in 2019 there is a reduction in the coverage for Nyarugusu camp and an increase in Nduta and Mtendeli where in 2019 it was 63% in Nyarugusu Burundian 73% in Nyarugusu Congolese, 69% in Nduta and 46% in Mtendeli camp. For the first time in the Survey Mtendeli managed to reach the 80% UNHCR target for the ownership of the mosquito net. Most of the household in Nyarugusu explained that the Mosquito net distribution has not happen for a very long time in the camp.

Population of all ages who slept under LLIN was 15.9% for Nyarugusu Burundian, 25.4% for Nyarugusu Congolese, 59.4% for Nduta and 57.9% for Mtendeli camp. For children 0-59 month who slept under LLIN was 21.8% for Nyarugusu Burundian, 32.1% for Nyarugusu Congolese, 65.7% for Nduta and 68.2% for Mtendeli camp. For the proportional of pregnant women who slept under mosquito net were 24.0% for Nyarugusu Burundian, 27.0% for Nyarugusu Congolese, 61.1% for Nduta and at least Mtendeli has 84.9% coverage. Compared to the last Survey in 2019 proportion for the total population, under-fives and pregnant women who slept under LLIN was 35%, 46% and 40% Nyarugusu Burundian, 47%, 59% and 43% Nyarugusu Congolese 47% 55% and 67 in Nduta and 24%, 33% and 34% for Mtendeli camp. From this data it is clear that effective interventions need to be put in place to ensure community accept the use of mosquito net. Looking at the Indoor residual spraying conducted the coverage was high above 95% across all the camps. indoor residual spray that was done could probably be the reason why community don't use net perhaps they feel safe because of the IRS done, however awareness needs to be conducted to the community.

7. CONCLUSIONS

The global acute malnutrition has remained within the acceptable range of below 10% (UNHCR target). However. there is a need to improve active case findings and referral to ensure those who are malnourished are not left unattended in the community. Stunting in Children 6-59 months remain high above 30% threshold across the camps; However, there is some improvement for the past two year when compared to the last survey conducted still close monitoring and supervision is required to ensure early ANC attendance, timely

breastfeeding and introduction of complementary feeding at 6 months. Anaemia has increase compared to the 2019 Survey conducted and it even worse to children 6-23 month in spite of the intervention in place, there is need to further investigate the possible causative reasons. Coverage of measles and vitamin A are good however deworming coverage is very low a follow-up need to be made with the ministry responsible and see if there is a possibility of reintroducing the campaign. Infant and young child feeding practices remains relatively optimal however there is a need to increase effort on IYCF practised in Nduta camp.

Mosquito net ownership and usage remains the challenge coordination between health actors need to be strengthened to ensure duplication is not done when distributing nets. Food security is still a challenge the ration cut has been existing for almost two year now, dietary diversity remains a challenge as well which increases the use of destructive coping mechanisms, stakeholders need to discuss and look on the alternative ways to help the refugees to have multiple means of accessing food including kitchen gardening, open of the markets etc.

8. RECOMMENDATIONS AND PRIORITIES

Immediate recommendations

Anthropometry and Health

- ✓ Continuation and further strengthening of nutrition treatment (SC, OTP, TSFP) for children considering acute malnutrition in both camps.
- ✓ Continue with active case findings, referral, and defaulter tracing with a scale up of further innovative approaches like “Mothers led MUAC” can be introduced to increase the case detection and referral at community level.
- ✓ Higher MUAC cut-offs can be applied considering poor concordance between MUAC and WHZ as well as low case detection by MUAC or opt to use both MUAC and WHZ.
- ✓ Intensifying community nutrition screening and strengthening household visits and follow-ups
- ✓ Ensure adequate supply of vitamin A capsules and deworming tabs in routine growth monitoring program
- ✓ Ensure sustainable supply of SAM management items (plumpy nuts, F-100 and F-75)

Anaemia

- ✓ Continue the blanket supplementary feeding (BSF) to children aged 6-23 months with CSB++ and BSFP for PLW with CSB+
- ✓ Strengthen ANC first visit and four or more visits coverage
- ✓ Continue IFA tablet supplementation among the pregnant women and intensify health education on the importance of IFAs and its adherence both at the community and during ANC Visits.
- ✓ IPT coverage for pregnant women, IRS, deworming campaigns
- ✓ Strengthening SBCC focusing on IYCF
- ✓ Promote consumption of iron fortified food products (maize meal and CSB)
- ✓ Discourage communal sharing of BSFP food product
- ✓ Continue with MNP program and promote proper use
- ✓ Scale up ANC coverage and promote early enrolment in BSFP

IYCF

- ✓ Scale up a package of IYCF materials to facilitate user-friendly communication and dissemination of appropriate IYCF messages.
- ✓ Ensure IYCF awareness campaign during world breast feeding campaign for IYCF awareness.
- ✓ Maintain Baby Friendly Hospital Initiatives.
- ✓ Enhance distribution of mosquito nets in all camps to increase the coverage of LLINs
- ✓ Roll out of UNHCR multisectoral IYCF framework for action in the camps as part of nutrition preventive interventions

Coverage of Mosquito Net Coverage

- ✓ Enhance distribution of mosquito nets in all camps to increase the coverage of LLINs.

Medium term recommendations

Anthropometry and Health

- ✓ Strengthen routine vitamin A supplementation program through existing health and nutrition system and deworming must be integrated in the Vitamin A campaign.
- ✓ Generate worm infestation prevalence for children aged 12-59 months from refugees health facility labs to justify biannual vitamin A and deworming campaign.

Anaemia

- ✓ Strengthen SBCC interventions focusing on MNP utilization and other micronutrient deficiency reduction interventions.

IYCF

- ✓ Strengthen IYCF community-based activities through developing community peer-to-peer support groups. These activities should include other family members who traditionally influence IYCF practices of mothers, e.g., husbands and mothers-in-law.
- ✓ Roll out of UNHCR multisectoral IYCF framework for action in the camps as part of nutrition preventive interventions

Food Security

- ✓ Strengthen the backyard/sack gardening interventions to enhance the household dietary diversity which has a significant role on improving the nutritional status.

Coverage of Mosquito Net Coverage

- ✓ Conduct indoor residual spraying in all camps to reduce the incidence of malaria and consequently anaemia.

Long term Recommendations

Anthropometry and Health

- ✓ Institutionalize vitamin A supplementation for the camps on established schedules independent of National campaigns and establish child health nutrition days for the camps.
- ✓ Conduct casual analysis to why Anemias and Stunting rate remain high in spite of all the interventions in place.

Food Security

- ✓ Consider introduction of e-voucher program for foods diversifications.
- ✓ Advocate mobilization of funds to increase GFD from the current 68% to 100%

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10. SURVEY PARTICIPANTS AND SUPPORT

A. List of all government departments, international agencies, International NGOs, National NGOs and other organizations that supported or participated in the survey.

- UNHCR
- WFP
- UNICEF
- WVT
- TRCS
- MSF
- Ministry of Home Affairs
- Ministry of Health
- Tanzania Food and Nutrition Center

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11. APPENDICES

Appendix 1: SMART Plausibility Check (PC) Report

Overall data quality Nyarugusu Burundian

Criteria	Flags*	Unit	Excel.	Good	Accept	Problematic	Score
Flagged data (% of out of range subjects)	Incl	%	0-2.5 0	>2.5-5.0 5	>5.0-7.5 10	>7.5 20	0 (0.5 %)
Overall Sex ratio (Significant chi square)	Incl	p	>0.1 0	>0.05 2	>0.001 4	<=0.001 10	0 (p=0.901)
Age ratio(6-29 vs 30-59) (Significant chi square)	Incl	p	>0.1 0	>0.05 2	>0.001 4	<=0.001 10	0 (p=0.454)
Dig pref score - weight	Incl	#	0-7 0	8-12 2	13-20 4	> 20 10	0 (4)
Dig pref score - height	Incl	#	0-7 0	8-12 2	13-20 4	> 20 10	0 (6)
Dig pref score - MUAC	Incl	#	0-7 0	8-12 2	13-20 4	> 20 10	0 (5)
Standard Dev WHZ .	Excl	SD	<1.1 and	<1.15 and	<1.20 and	>=1.20 or	0 (0.99)
.	Excl	SD	>0.9 0	>0.85 5	>0.80 10	<=0.80 20	
Skewness WHZ	Excl	#	<±0.2 0	<±0.4 1	<±0.6 3	>=±0.6 5	0 (0.00)
Kurtosis WHZ	Excl	#	<±0.2 0	<±0.4 1	<±0.6 3	>=±0.6 5	0 (0.03)
Poisson dist WHZ-2	Excl	p	>0.05 0	>0.01 1	>0.001 3	<=0.001 5	1 (p=0.031)
OVERALL SCORE WHZ =			0-9	10-14	15-24	>25	1 %

The overall score of this survey is 1 %, this is excellent.

Overall data quality Nyarugusu Congolese.

Criteria	Flags*	Unit	Excel.	Good	Accept	Problematic	Score
Flagged data (% of out of range subjects)	Incl	%	0-2.5 0	>2.5-5.0 5	>5.0-7.5 10	>7.5 20	0 (0.7 %)
Overall Sex ratio (Significant chi square)	Incl	p	>0.1 0	>0.05 2	>0.001 4	<=0.001 10	4 (p=0.044)
Age ratio(6-29 vs 30-59) (Significant chi square)	Incl	p	>0.1 0	>0.05 2	>0.001 4	<=0.001 10	2 (p=0.092)
Dig pref score - weight	Incl	#	0-7 0	8-12 2	13-20 4	> 20 10	0 (4)
Dig pref score - height	Incl	#	0-7 0	8-12 2	13-20 4	> 20 10	0 (5)
Dig pref score - MUAC	Incl	#	0-7	8-12	13-20	> 20	

			0	2	4	10	0 (7)
Standard Dev WHZ	Excl	SD	<1.1	<1.15	<1.20	>=1.20	
.			and	and	and	or	
.	Excl	SD	>0.9	>0.85	>0.80	<=0.80	
			0	5	10	20	0 (0.95)
Skewness WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	0 (0.04)
Kurtosis WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	0 (-0.08)
Poisson dist WHZ-2	Excl	p	>0.05	>0.01	>0.001	<=0.001	
			0	1	3	5	0 (p=0.519)
OVERALL SCORE WHZ =			0-9	10-14	15-24	>25	6 %

The overall score of this survey is 6 %, this is excellent.

Overall data quality Nduta camp

Criteria	Flags*	Unit	Excel.	Good	Accept	Problematic	Score
Flagged data (% of out of range subjects)	Incl	%	0-2.5	>2.5-5.0	>5.0-7.5	>7.5	
			0	5	10	20	0 (0.7 %)
Overall Sex ratio (Significant chi square)	Incl	p	>0.1	>0.05	>0.001	<=0.001	
			0	2	4	10	0 (p=0.935)
Age ratio(6-29 vs 30-59) (Significant chi square)	Incl	p	>0.1	>0.05	>0.001	<=0.001	
			0	2	4	10	0 (p=0.843)
Dig pref score - weight	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	0 (3)
Dig pref score - height	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	0 (7)
Dig pref score - MUAC	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	0 (6)
Standard Dev WHZ	Excl	SD	<1.1	<1.15	<1.20	>=1.20	
.			and	and	and	or	
.	Excl	SD	>0.9	>0.85	>0.80	<=0.80	
			0	5	10	20	0 (0.97)
Skewness WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	0 (0.13)
Kurtosis WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	0 (-0.04)
Poisson dist WHZ-2	Excl	p	>0.05	>0.01	>0.001	<=0.001	
			0	1	3	5	0 (p=0.493)
OVERALL SCORE WHZ =			0-9	10-14	15-24	>25	0 %

The overall score of this survey is 0 %, this is excellent.

Overall data quality Mtendeli.

Criteria	Flags*	Unit	Excel.	Good	Accept	Problematic	Score
Flagged data (% of out of range subjects)	Incl	%	0-2.5 0	>2.5-5.0 5	>5.0-7.5 10	>7.5 20	0 (0.6 %)
Overall Sex ratio (Significant chi square)	Incl	p	>0.1 0	>0.05 2	>0.001 4	<=0.001 10	0 (p=0.660)
Age ratio(6-29 vs 30-59) (Significant chi square)	Incl	p	>0.1 0	>0.05 2	>0.001 4	<=0.001 10	0 (p=0.724)
Dig pref score - weight	Incl	#	0-7 0	8-12 2	13-20 4	> 20 10	0 (5)
Dig pref score - height	Incl	#	0-7 0	8-12 2	13-20 4	> 20 10	0 (7)
Dig pref score - MUAC	Incl	#	0-7 0	8-12 2	13-20 4	> 20 10	2 (9)
Standard Dev WHZ .	Excl	SD	<1.1 and	<1.15 and	<1.20 and	>=1.20 or	5 (0.90)
.	Excl	SD	>0.9 0	>0.85 5	>0.80 10	<=0.80 20	
Skewness WHZ	Excl	#	<±0.2 0	<±0.4 1	<±0.6 3	>=±0.6 5	0 (0.18)
Kurtosis WHZ	Excl	#	<±0.2 0	<±0.4 1	<±0.6 3	>=±0.6 5	1 (0.31)
Poisson dist WHZ-2	Excl	p	>0.05 0	>0.01 1	>0.001 3	<=0.001 5	0 (p=0.693)
OVERALL SCORE WHZ =			0-9	10-14	15-24	>25	8 %

The overall score of this survey is 8 %, this is excellent.

Appendix 2: Population size and Assigned clusters

Nyarugusu Burundian: September 2021

Zone	Village	Cluster	TEAM	Hoseholds						
Zone 10	Village A6	1	1	3	4	7	18	43	44	45
					64	74	81	89	91	95
Zone 10	Village G6	2	2	1	33	38	39	42	48	58
					60	66	76	79	81	80
Zone 10	Village I6	3	3	10	18	19	20	21	29	51
					52	54	58	65	71	73
Zone 11	Village A7	4	4	2	5	6	9	10	12	14
					17	18	21	22	32	38
Zone 11	Village D7	5	5	4	6	12	14	16	18	22
					24	27	28	34	36	40
Zone 11	Village I7	6	6	5	6	10	17	27	28	31
					44	45	49	52	58	63
									69	75

Zone 11				10	11	25	26	34	37	38
	Village W4	7	1		45	47	51	60	63	65
									66	69
				39	73	88	91	94	109	112
Zone 12	Village A8	8	2		120	131	134	144	145	147
Zone 12									153	161
				2	7	8	16	18	20	30
	Village D8	9	3		39	41	59	63	96	108
									118	124
Zone 12				5	10	15	20	34	41	46
	Village D6	10	4		50	51	52	54	69	70
									73	75
				4	10	21	29	30	37	38
Zone 8	Village C4	11	5		45	50	51	66	73	74
									84	88
Zone 8				5	18	19	24	26	46	49
	Village D4	12	6		59	68	81	88	115	122
									134	136
Zone 8				11	24	30	32	37	49	52
	Village F4	13	6		59	65	68	71	72	84
									90	120
Zone 8				2	5	14	23	27	29	37
	Village I4	14	5		41	44	48	53	60	74
									82	86
Zone 8				15	31	33	46	59	62	65
	Village M4	15	4		73	75	91	107	117	118
									121	130
Zone 8				12	33	36	69	74	93	94
	Village P4	16	3		105	110	120	127	172	179
									188	195
Zone 8				1	5	18	19	22	27	28
	Village S4	17	2		29	34	43	49	50	54
									56	58
				11	14	23	34	46	48	58
Zone 9	Village A5	18	1		61	70	74	75	79	90
									105	106
Zone 9				3	6	14	16	23	31	32
	Village C5	19	1		42	44	51	56	86	87
									88	117
Zone 9				9	12	13	28	48	65	71
	Village E5	20	2		88	112	120	124	129	130
									132	133
Zone 9				17	24	28	32	38	41	49
	Village H5	21	3		55	95	98	100	116	117
									128	132
Zone 9				3	4	20	22	28	31	40
	Village L5	22	4		49	54	56	59	70	73
									74	81
Zone 9				5	10	16	27	34	42	56
	Village N5	23	5		61	62	71	87	100	113
									115	122
Zone 9				17	41	56	65	70	71	86
	Village O5	24	6		89	96	99	105	112	120
									121	142

Zone 9				6	12	16	21	22	26	32
	Village T5	25	6		42	49	53	58	69	89
									91	97
Zone 9				11	16	17	18	35	60	87
	Village U5	26	5		99	123	160	161	169	179
									187	258
Zone 9				4	9	10	12	14	15	19
	Village V5	27	4		25	27	29	31	33	34
									38	39
Zone 9				8	32	33	41	51	78	80
	Village W5	28	3		81	86	102	136	158	179
									186	191
Zone 9				3	7	25	53	58	66	86
	Village X5	29	1		110	113	129	136	140	145
									159	199
Zone 9				4	5	8	10	13	15	16
	Village Y5	30	2		47	48	57	66	74	87
									96	100

Nyarugusu Congolese September 2021

Zone	Village	Cluster	TEAM	Total No. Hhhlds							
Zone 1	Village A1	1	1	43	58	101	136	144	149	159	193
						200	225	231	237		
	Village B1	2	2	47	63	73	90	110	118	134	139
						142	149	185	202		
Zone 1	Village D1	3	3	29	56	65	74	82	86	97	98
						152	158	186	195		
	Village E1	4	4	42	66	69	80	92	122	123	136
						143	160	177	212		
Zone 10	Village M6	5	5	1	9	16	25	31	41	47	48
						58	63	97	106		
Zone 10	Village R6	6	6	2	3	13	24	31	36	41	53
						58	60	62	63		
Zone 11	Village O7	7	1	5	17	20	41	42	47	48	53
						57	66	72	90		
Zone 11	Village U7	RC									
Zone 2	Village B2	8	2	9	38	52	62	83	97	99	138
						144	177	184	186		
	Village E2	9	3	6	7	11	23	32	53	80	100
						118	126	136	153		
	Village F2	10	4	41	60	61	62	74	87	107	127
Zone 2						137	152	185	189		
	Village G2	11	5	2	36	38	94	111	118	124	127
						137	168	200	265		
	Village I2	RC									
Zone 3	Village G1	12	6	1	24	28	33	35	47	62	80
						89	113	119	182		
	Village K1	13	1	48	56	62	77	84	108	123	127
Zone 3						129	132	172	177		
	Village M1	14	2	11	15	30	58	69	75	79	84
						94	148	186	190		
Zone 4	Village K2	15	3	22	24	36	49	75	79	120	139
						142	152	155	159		

	Village O2	16	4	11	16	18	31	41	52	112	139
						164	188	194	196		
	Village P2	17	5	4	18	48	51	53	59	71	79
						85	100	114	140		
	Village S2	18	6	17	64	72	164	170	173	174	200
						205	215	224	230		
Zone 5	Village A3	19	1	1	9	19	32	75	95	98	167
							171	195	261	269	
	Village B3	20	2	7	14	19	24	35	36	113	139
							204	207	221	233	
	Village C3	21	3	1	9	28	36	37	73	110	128
							187	218	243	261	
Zone 6	Village O1	22	4	3	45	54	56	64	71	84	95
							100	120	121	135	
	Village Q1	23	5	8	39	54	94	96	102	110	164
							172	218	237	353	
	Village R1	24	6	14	16	59	69	85	86	143	160
							173	192	199	212	
	Village U1	25	1	10	30	43	73	88	116	135	139
							141	145	161	178	
Zone 7	Village VB	RC									
	Village G3	26	2	29	31	35	54	69	76	89	95
							96	97	99	100	
	Village H3	27	3	9	19	29	52	80	103	130	146
							171	181	193	195	
	Village O3	28	4	17	31	42	54	56	71	83	86
							95	100	103	116	

Nduta Camp; October 2021

Zone	Village	Cluster	TEAM	Households							
Zone 1				2	7	20	22	29	33	34	35
					53	58	60	61	66	69	71
	Village 17	1	1		72	76					
				11	12	13	14	16	34	35	49
					51	59	60	62	67	73	84
	Village 20	2	2		91	93					
				4	7	9	11	12	14	17	22
					23	27	31	32	33	34	35
Zone 11	Village 25	3	3		36	38					
				1	3	4	7	8	12	13	15
					18	19	22	28	31	32	38
	Village 7	4	4		39	45					
				3	4	10	13	15	16	20	31
					34	37	39	53	57	65	68
	Village 1	5	5		70	75					
				1	3	4	6	8	10	11	15
Zone 11					17	18	19	20	21	23	25
	Village 16	6	6		26	27					
				4	7	9	18	20	22	24	31
	Village 3	7	1		33	35	38	42	47	52	58
					61	67					

Zone 12				4	5	7	8	9	14	19	21
	Village 25	8	2		25 40	28 44	31	32	33	37	39
Zone 13				3	4	5	6	7	10	13	14
	Village 9	9	3		15 39	17 44	22	23	24	25	27
Zone 14				1	2	4	7	8	9	12	13
	Village 15	10	4		15 28	16 29	17	18	20	23	24
Zone 19				1	3	5	6	7	8	9	10
	Village 15	11	5		12 21	13 22	14	16	17	19	20
Zone 20				1	2	7	8	11	15	16	17
	Village 2	13	1		18 33	19 34	20	24	26	28	29
Zone 3				1	2	3	4	5	6	8	10
	Village 12	14	2		11 24	13 26	14	19	21	22	23
	Village 1	15	3		8 48 107	9 50 120	15 53	17 55	18 62	22 78	25 83
	Village 14	16	4		5 32 69	8 34 72	14 36	15 41	17 44	19 53	25 67
Zone 4											
	Village 2	RC									
Zone 5				7	11	18	20	21	23	26	29
	Village 1	17	5		32 59	34 60	37	39	41	48	52
Zone 6				2	3	4	8	11	17	18	19
	Village 3	18	6		25 43	26 47	27	31	38	40	42
				3	6	13	30	54	61	63	66
	Village 8	19	1		70 95	73 97	75	78	79	92	93
Zone 7				1	2	3	4	9	10	11	18
	Village 1	20	2		19 42	27 50	28	32	34	36	37
				7	10	13	14	16	17	20	27
	Village 20	21	3		29 39	30 42	33	34	35	37	38
Zone 8											
	Village 5	RC									
Zone 9				1	6	7	15	20	28	31	32
	Village 12	22	4		39 73	42 88	44	58	63	65	70
				8	11	23	24	29	30	32	36
	Village 7	12	6		40 80	49 83	51	54	57	66	69
Zone 10				5	8	9	10	11	12	17	20
	Village 17	23	5		30 74	35 77	46	57	62	71	72
Zone 11				4	5	13	22	32	33	37	38
	Village 3	24	6		39 62	44 67	50	53	54	55	60

				6	8	10	12	13	15	16	17
	Village 23	25	3		28	33	34	35	37	38	39
Zone 9				2	4	10	13	15	16	18	22
	Village 6	26	1		24	26	27	29	31	34	36
					39	42					

Mtendeli Camp; October 2021

Zone	Population size	Cluster	TEAM	Hhhlds							
Zone A	Village 2	1	1	5	8	15	18	21	22	23	28
Zone A	Village 3	2	2	2	6	7	8	12	19	22	24
Zone A	Village 4	3	3	6	20	22	24	26	27	28	29
Zone A	Village 6	4	4	11	13	14	16	20	21	24	25
Zone A	Village 8	5	5	2	8	10	19	20	23	27	28
Zone B	Village 1	6	6	2	15	18	23	29	30	34	40
Zone B	Village 10	7	1	7	8	11	12	5	9	13	16
Zone B	Village 3	8	2	6	9	14	18	19	21	24	33
Zone B	Village 4	9	3	3	13	15	18	21	23	35	58
Zone B	Village 6	10	4	2	6	10	13	18	25	26	30
Zone C	Village 1	11	5	5	7	8	10	14	17	27	29
Zone C	Village 2	12	6	7	20	23	25	29	30	32	36
Zone C	Village 5	13	1	7	8	11	18	21	23	29	32
Zone C	Village 6	14	2	1	4	9	11	20	21	27	31
Zone D	Village 2	15	3	9	11	15	19	24	31	35	38
Zone D	Village 4	16	4	6	16	34	46	48	51	54	66
Zone D	Village 5	17	5	3	5	8	10	16	17	18	19
Zone D	Village 3	18	6	4	7	13	31	35	44	52	53
Zone F	Village 3	19	1	5	14	15	18	25	26	32	40
Zone F	Village 5	20	2	1	6	7	8	11	13	17	22
Zone F	Village 8	21	3	2	3	5	6	8	10	11	12

Zone G	Village 1	22	4	1	7	13	14	32	33	40	43
					44	48	52	55	59		
Zone G	Village 5	23	5	1	20	22	24	27	28	30	31
					34	37	38	39	44		
Zone H	Village 3	24	6	5	9	17	18	23	25	26	35
					38	40	41	42	44		
Zone H	Village 5	25	6	2	4	9	10	11	12	17	18
					19	29	31	34	40		
Zone H	Village 8	26	5	4	5	7	8	9	10	11	13
					16	17	18	23	24		
Zone G	Village 2	RC		11	15	24	43	44	45	46	49
					57	58	59	83	91		
Zone G	Village 8	RC		1	3	17	19	32	33	35	36
					39	41	44	46	49		

Appendix 3: Evaluation of Enumerators (results from anthropometric standardization test Nyarugusu Camp)

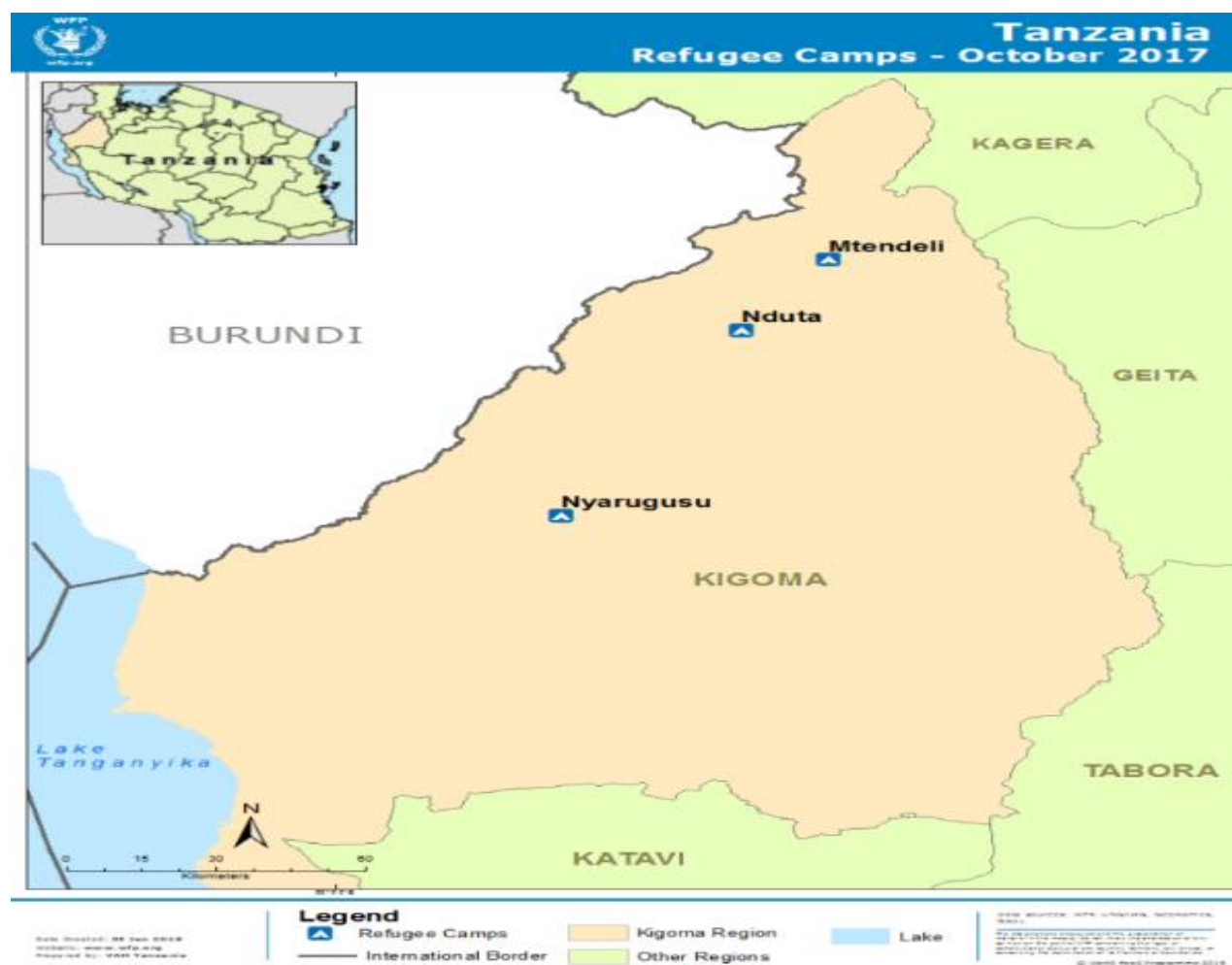
Measurement	Precision					Accuracy					OUTCOME			
Weight		subjects	mean	SD	max	Technical error	TEM/mean	Coef of reliability	Bias from superv	Bias from median			From	From
		#	kg	kg	kg	TEM (kg)	TEM (%)	R (%)	Bias (kg)	Bias (kg)			Supervisor	Median
	Supervisor	10	11.3	1.9	0.8	0.2	1.8	98.8	0	0.09	TEM poor	R value acceptable	Bias good	Bias acceptable
	Enumerator 1	10	11	2.2	5.2	1.19	10.8	70	0.39	0.33	TEM reject	R value reject	Bias reject	Bias reject
	Enumerator 2	10	11.3	1.9	1.8	0.44	3.9	94.7	0.18	0.12	TEM reject	R value poor	Bias poor	Bias poor
	Enumerator 3	10	11.3	1.9	0.2	0.07	0.6	99.9	0.12	0.05	TEM acceptable	R value good	Bias poor	Bias acceptable
	Enumerator 4	10	11.3	1.9	0.2	0.05	0.4	99.9	0.12	0.04	TEM acceptable	R value good	Bias poor	Bias good
	Enumerator 5	10	11.3	1.9	0.2	0.06	0.6	99.9	0.12	0.04	TEM acceptable	R value good	Bias poor	Bias acceptable
	Enumerator 6	10	11.4	2	3	0.67	5.9	88.5	0.26	0.17	TEM reject	R value reject	Bias reject	Bias poor

	enum inter 1st	6x10	11.3	1. 9	-	0.44	3.9	94.8	-	-	TEM reject	R value poor		
	enum inter 2nd	6x10	11.2	1. 9	-	0.67	6	87.8	-	-	TEM reject	R value reject		
	inter enum + sup	7x10	11.3	1. 9	-	0.52	4.6	92.4	-	-	TEM reject	R value poor		
	TOTAL intra+inter	6x10	-	-	-	0.82	7.3	81.8	-	-	TEM reject	R value reject		
	TOTAL+ sup	7x10	-	-	-	0.76	6.8	83.9	-	-	TEM reject	R value reject		
Height		subject s	mea n	S D	ma x	Technica l error	TEM/mea n	Coef of reliabilit y	Bias from super v	Bias from media n			From	From
		#	cm	c m	cm	TEM (cm)	TEM (%)	R (%)	Bias (cm)	Bias (cm)			Superviso r	Median
	Supervisor	10	87.1	8. 2	1.4	0.42	0.5	99.7	0	0.95	TEM acceptabl e	R value good	Bias good	Bias poor
	Enumerato r 1	10	86.4	8. 2	1.1	0.44	0.5	99.7	0.63	0.5	TEM acceptabl e	R value good	Bias acceptabl e	Bias acceptabl e
	Enumerato r 2	10	86.2	8. 1	1.6	0.46	0.5	99.7	0.94	0.29	TEM acceptabl e	R value good	Bias poor	Bias good
	Enumerato r 3	10	86.6	8. 2	1.3	0.39	0.5	99.8	0.63	0.51	TEM good	R value good	Bias acceptabl e	Bias acceptabl e

	Enumerator 4	10	86.5	8.2	1	0.37	0.4	99.8	0.77	0.48	TEM good	R value good	Bias acceptable	Bias acceptable
	Enumerator 5	10	86.1	8.1	0.9	0.42	0.5	99.7	1.07	0.32	TEM acceptable	R value good	Bias poor	Bias good
	Enumerator 6	10	86.5	8.3	2.7	0.81	0.9	99	0.83	0.53	TEM poor	R value good	Bias poor	Bias acceptable
	enum inter 1st	6x10	86.4	8	-	0.65	0.8	99.3	-	-	TEM acceptable	R value good		
	enum inter 2nd	6x10	86.4	8	-	0.46	0.5	99.7	-	-	TEM good	R value good		
	inter enum + sup	7x10	86.5	8	-	0.6	0.7	99.4	-	-	TEM acceptable	R value good		
	TOTAL intra+inter	6x10	-	-	-	0.76	0.9	99.1	-	-	TEM acceptable	R value good		
	TOTAL+ sup	7x10	-	-	-	0.78	0.9	99	-	-	TEM acceptable	R value good		

Suggested cut-off points for acceptability of measurements				
Parameter		MUAC mm	Weight Kg	Height cm
individual	good	<2.0	<0.04	<0.4
TEM	acceptable	<2.7	<0.10	<0.6
(intra)	poor	<3.3	<0.21	<1.0
	reject	>3.3	>0.21	>1.0
Team TEM	good	<2.0	<0.10	<0.5
(intra+inter)	acceptable	<2.7	<0.21	<1.0
and Total	poor	<3.3	<0.24	<1.5
	reject	>3.3	>0.24	>1.5
R value	good	>99	>99	>99
	acceptable	>95	>95	>95
	poor	>90	>90	>90
	reject	<90	<90	<90
Bias	good	<1	<0.04	<0.4
	acceptable	<2	<0.10	<0.8
	poor	<3	<0.21	<1.4
	reject	>3	>0.21	>1.4

Appendix 4: Maps of area



Appendix 5: Questionnaires

UNHCR Standardized Expanded Nutrition Survey (SENS) Questionnaire

Greeting and reading of rights:

THIS STATEMENT IS TO BE READ TO THE HEAD OF THE HOUSEHOLD OR, IF THEY ARE ABSENT, ANOTHER ADULT MEMBER OF THE HOUSE BEFORE THE INTERVIEW. DEFINE HEAD OF HOUSEHOLD AS MEMBER OF THE FAMILY WHO MANAGES THE FAMILY RESOURCES AND IS THE FINAL DECISION MAKER IN THE HOUSE.

- Hello, my name is _____ and I work with [organisation/institution]. We would like to invite your household to participate in a survey that is looking at the nutrition and health status of people living in this [camp / survey area].
- UNHCR is sponsoring this nutrition survey.
- Taking part in this survey is totally your choice. You can decide to not participate, or if you do participate you can stop taking part in this survey at any time for any reason. If you stop being in this survey, it will not have any negative effects on how you or your household is treated or what assistance you receive.

- If you agree to participate, we will ask you some questions about your family and we will also measure all the children in the household who are older than 6 months and younger than 5 years [*and/or women*]. In addition to these assessments, we will test a small amount of blood from the finger of the children and women to see if they have anaemia.
- Before we start to ask you any questions or take any measurements, we will ask you to give us your verbal consent. Be assured that any information that you will provide will be kept strictly confidential.
- You can ask me any question that you have about this survey before you decide to participate or not.
- If you do not understand the information or if your questions were not answered to your satisfaction, do not declare your consent on this form. Thank you.

STANDARD SENS VARIABLE NAMES SHOWN IN RED.

IDENTIFICATION VARIABLES SHOWN IN BLUE TO BE ADAPTED DEPENDING ON CONTEXT (E.G. SURVEY DESIGN, MULTIPLE CAMPS, CAMP LAYOUT). Note that in some camps, the words 'block' and 'section' may not be used and other words may be used for these (e.g. zone, quarter). Adapt the wording accordingly.

OPTIONAL SENS VARIABLE NAMES SHOWN IN GREEN.

CAPITAL LETTERS refer to instructions for the surveyors. They should not be deleted from the questionnaire and should not be read to the respondent during the interview.

DEMOGRAPHY
1 questionnaire per household

THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO THE HEAD OF THE HOUSEHOLD OR, IF THEY ARE ABSENT, ANOTHER ADULT MEMBER OF THE HOUSEHOLD.

No	QUESTION	ANSWER CODES
SECTION IDENTIFICATION THIS SECTION IS TO BE COMPLETED IN ALL SELECTED HOUSEHOLDS. THIS MODULE IS MANDATORY TO COMPLETE.		
ID1	Camp Name CAMPNAME	<input type="text"/>
ID2	Section Code / Number SECTION	<input type="text"/>
ID3	Zone Code / Number ZONE	<input type="text"/>
ID4	Block Code / Number BLOCK	<input type="text"/>
ID5	Date of interview (dd/mm/yyyy) SURVDAT	Day/Month/Year..... <input type="text"/> / <input type="text"/> / <input type="text"/>
ID6	Cluster Number CLUSTER	<input type="text"/>
ID7	Team Number TEAM	<input type="text"/>
ID8	Household Number HH	<input type="text"/>

No	QUESTION	ANSWER CODES
SECTION DM1: Household Head Information		
Note	THESE QUESTIONS NEED TO BE ASKED TO THE HEAD OF THE HOUSEHOLD OR, IF THEY ARE ABSENT, ANOTHER ADULT MEMBER OF THE HOUSEHOLD.	
DM1A	Was consent given for conducting the interview? ENSURE THAT YOU HAVE INTRODUCED THE TEAM AND INFORMED THEM ABOUT THE INTERVIEW. DMCONST	Yes1 No2 Absent.....3 <div style="text-align: right;"> <input type="text"/> IF ANSWER IS 2 or 3 STOP HERE </div>

DM1B	<p>Was consent given for conducting the interview using Mobile Data Collection (use of smartphone or tablet)?</p> <p>ENSURE THAT YOU HAVE INTRODUCED THE TEAM AND INFORMED THEM ABOUT THE INTERVIEW.</p> <p>MDCCONST</p>	<p>Yes.....1 No2 Absent.....3</p>	<p>_____ IF ANSWER IS 2 or 3 STOP HERE</p>
DM2	<p>What is the sex of the household head?</p> <p>THE HOUSEHOLD HEAD IS THE PERSON RESPONSIBLE FOR MAKING THE DECISIONS FOR THE HOUSEHOLD AS A WHOLE. USE THE TERM AGREED UPON DURING THE TRAINING.</p> <p>HHHSEX</p>	<p>Male.....m Female f</p>	<p>_____</p>
DM3	<p>What is the age of the household head (years)?</p> <p>YOU DO NOT NEED TO SEE PROOF OF AGE.</p> <p>Lower limit=6 Upper limit=98</p> <p>HHHAGE</p>	<p>RECORD THE NUMBER IN YEARS IF KNOWN. RECORD 97 IF 97 YEARS OR OLDER. RECORD 98 IF UNKNOWN.</p>	<p>_____ years</p>
DM4	<p>What is the country of origin of the household head? (OPTIONAL)</p> <p>HHHCTRY</p>	<p>Country A1 Country B2 Country C3 Country D4 Country E5 Other6 Don't know8</p>	<p>_____</p>
SECTION DM2: Mixed populations SENS (out-of-camp settings) (if applicable)			
Note	<p>THESE QUESTIONS NEED TO BE ASKED TO THE HEAD OF THE HOUSEHOLD OR, IF THEY ARE ABSENT, ANOTHER ADULT MEMBER OF THE HOUSEHOLD. EXPLAIN TO THE RESPONDENT THAT THESE QUESTIONS WILL BE KEPT CONFIDENTIAL.</p>		
DM5	<p>Is the household head a national of this country [INSERT COUNTRY]? (IF APPLICABLE)</p> <p>HHHHOST</p>	<p>Yes.....1 No2 Don't know8</p>	<p>_____ IF ANSWER IS 2 OR 8</p>

			GO TO DM7
DM6	Has the household head been forced to move from his/her place of origin? (IF APPLICABLE) HHHIDP	Yes1 No2 Don't know8	<input type="text"/> GO TO DM8
DM7	Has the household head been forced to move from his/her country of origin to this country [INSERT COUNTRY]? (IF APPLICABLE) HHHREFUG	Yes1 No2 Don't know8	<input type="text"/>
SECTION DM3: Survey of Household Members			
DM8	What is the total number of household members? Lower limit=1 Upper limit=30 DMHHSIZE	RECORD THE NUMBER.	<input type="text"/> <input type="text"/> people
Note	ASK INTERVIEWEE IF THOSE ARE ALL THE MEMBERS IN THE HOUSEHOLD AND THAT NO ONE IS MISSING. THESE QUESTIONS NEED TO BE COMPLETED FOR EACH HH MEMBER WHO LIVES IN THE HOUSEHOLD.		
DM9	Name of household member ONLY WRITE FIRST NAME. NAME	<input type="text"/>	
DM10	What is the sex of the household member? HHMSEX	Malem Femalef	<input type="text"/>
DM11	What is the age of the household member (years)? YOU DO NOT NEED TO SEE PROOF OF AGE. Lower limit=0 Upper limit=98 HHMAGE	RECORD THE NUMBER IN YEARS IF KNOWN. IF AGE IS LESS THAN 1 YEAR, RECORD 0. RECORD 97 IF 97 YEARS OR OLDER. RECORD 98 IF UNKNOWN.	<input type="text"/> <input type="text"/> years
DM12	Is the household member currently pregnant? HHMPREG	Yes1 No2 Don't know8	<input type="text"/>
DM15	Was consent given for taking the GPS coordinates of the household?	Yes1 No2	<input type="text"/>

	(OPTIONAL)		
	GPSCONST		
Note	Summary messages WRITE DOWN THE SUMMARY DATA PROVIDED BELOW ON THE PARTICIPANTS AND MEASURES CONTROL SHEET.		
DM16	Total number of children under 5 (0-4 years) <div style="text-align: center;"> <div> <div></div> <div></div> </div> <div>children under-5</div> </div> <div style="text-align: center;">TOTU5</div>		
DM17	Total number of women aged 15-49 years <div style="text-align: center;"> <div> <div></div> <div></div> </div> <div>women</div> </div> <div style="text-align: center;">TOTWM</div>		
DM18	Total number of pregnant women aged 15-49 years <div style="text-align: center;"> <div> <div></div> <div></div> </div> <div>pregnant women</div> </div> <div style="text-align: center;">TOTPREG</div>		
	Interviewer: I confirm that questionnaire is complete: yes/no		
	Supervisor: I confirm that questionnaire is complete.: yes/no MESSAGE TO INTERVIEWER: DO NOT ANSWER THIS QUESTION.		

Summary			
Years old	Female	Male	Total
U2 (0-1 years)	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTFU2</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTMU2</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTU2</div> </div>
U5 (0-4 years)	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTFU5</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTMU5</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTU5</div> </div>
5-14 (5-14 years)	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTF514</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTM514</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOT514</div> </div>
14 years or younger (0-14 years)	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTFU15</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTMU15</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTU15</div> </div>
Between 15 years and 64 years	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTF1564</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTM1564</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOT1564</div> </div>
65 years and older	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTF65OLD</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOTM65OLD</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>TOT65OLD</div> </div>
Total household size (all ages)	<div> <div> <div></div> <div></div> <div></div> </div> <div>HHFSIZE</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>HHMSIZE</div> </div>	<div> <div> <div></div> <div></div> <div></div> </div> <div>DMHHSIZE</div> </div>

FOOD SECURITY
1 Questionnaire per household

THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO THE MAIN CARETAKER WHO IS RESPONSIBLE FOR COOKING THE MEALS.

No	QUESTION	ANSWER CODES
SECTION IDENTIFICATION THIS SECTION IS TO BE COMPLETED IN ALL SELECTED HOUSEHOLDS. THIS MODULE IS MANDATORY TO COMPLETE.		
ID1	Camp Name CAMPNAME	<input type="text"/>
ID2	Section Code / Number SECTION	<input type="text"/>
ID3	Zone Code / Number ZONE	<input type="text"/>
ID4	Block Code / Number BLOCK	<input type="text"/>
ID5	Date of interview (dd/mm/yyyy) SURVDAT	Day/Month/Year..... <input type="text"/> / <input type="text"/> / <input type="text"/>
ID6	Cluster Number CLUSTER	<input type="text"/>
ID7	Team Number TEAM	<input type="text"/>
ID8	Household Number HH	<input type="text"/>

No	QUESTION	ANSWER CODES
SECTION FS1: Food assistance and cooking fuel (if applicable)		
Note	THIS QUESTIONNAIRE NEED TO BE ASKED TO THE MAIN CARETAKER WHO IS RESPONSIBLE FOR COOKING THE MEALS.	
FS1	Was consent given for conducting the interview? ENSURE THAT YOU HAVE INTRODUCED THE TEAM AND INFORMED THEM ABOUT THE INTERVIEW. FSCONST	Yes..... 1 No 2 Absent..... 3 <div style="text-align: right;"> <input type="text"/> IF ANSWER IS 2 or 3 STOP HERE </div>

FS2	What is your household's assistance category? (IF APPLICABLE) HHASSIST	Category A 1 Category B 2 Category C 3 Category D 4 Other 6 Don't know 8	<input type="text"/>
FS3	Does your household receive food assistance (general in-kind food distribution and/or cash grants and/or food vouchers) [INSERT LOCAL NAMES OF FOOD ASSISTANCE PROGRAMMES]? FOODASS	Yes 1 No 2 Don't know 8	<input type="text"/> IF ANSWER IS 1 OR 8 GO TO FS5
FS4	Why do you not have access to the food assistance programmes [INSERT LOCAL NAMES OF FOOD ASSISTANCE PROGRAMMES]? YNOFOODA	Ration card and/or cash grants and/or food voucher not given even if eligible 1 Not registered 2 Registered but determined not eligible 3 Other 6 Don't know 8	<input type="text"/> GO TO FS10
FS5	How many days did the food from the general in-kind food distribution from the [INSERT] cycle of [INSERT LAST CYCLE MONTH] last? (IF APPLICABLE) Lower limit=1 Upper limit=98 GFDLAST	RECORD THE NUMBER OF DAYS IF KNOWN. RECORD 98 IF UNKNOWN.	<input type="text"/>
FS10	Which of your household's basic needs can you not meet? DO NOT READ THE ANSWERS. SELECT ALL THAT APPLY.	Food 01 Water 02 Hygiene items, clothes, shoes 03 Health costs (including medicines) 04 Rent, shelter repair, household items (e.g. mattress, blanket, jerrycan), utilities and bills (e.g. electricity, water bills, phone calling credit) 05 Firewood/fuel for cooking or heating 06 Assets for a livelihood activity (e.g. seeds, tools, farming, fishing, petty trade, etc.) 07 Debt repayment 08 Save some money or support other family members, relatives, friends . 09 Education (e.g. school fees, uniform, books) 10	<input type="text"/>

	NEEDSNOT: FOODB / WATERB / HYGIENEB / HEALTHB / HOUSEB / FUELB / LIVELIB / DEBTSB / SAVINGB / EDUCAB / NEEDSMET / OTHERB / DKNB	All basic needs are met..... 11 Other 96 Don't know 98	
SECTION FS2: Coping Strategies and Reduced Coping Strategy Index (rCSI)			
Note	EXPLAIN TO THE RESPONDENT THAT THE QUESTIONS APPLY TO ALL HOUSEHOLD MEMBERS AND NOT ONLY TO HIM/HER.		
FS14	In the past 4 weeks, have you or anyone in your household needed to stop a child from attending school? (OPTIONAL) SCHOOL	Yes 1 No 2 Don't know 8	<input type="text"/>
FS15	In the past 4 weeks, have you or anyone in your household needed to sold any assets that would not have normally sold in order to buy food or basic goods (e.g. sold items such as a car, motorbike, plough, sewing machine, tools, seed stock, livestock, productive land)? (OPTIONAL) SELLIV	Yes 1 No 2 Don't know 8	<input type="text"/>
FS16	In the past 4 weeks, have you or anyone in your household needed to ask for money from strangers (begging)? (OPTIONAL) BEG	Yes 1 No 2 Don't know 8	<input type="text"/>
FS17	In the past 4 weeks, have you or anyone in your household needed to move to a poorer quality shelter? (OPTIONAL) SHELTER	Yes 1 No 2 Don't know 8	<input type="text"/>
FS18	In the past 4 weeks, have you or anyone in your household needed to send household members under the age of 16 to work? (OPTIONAL) CHILDLAB	Yes 1 No 2 Don't know 8	<input type="text"/>
FS19	In the past 4 weeks, have you or anyone in your household needed to send a member of the household to work far away? (OPTIONAL) WORKAWAY	Yes 1 No 2 Don't know 8	<input type="text"/>
FS20	In the past 4 weeks, have you or anyone in your household needed to engage in activities for money or items that you	Yes 1 No 2 Don't know 8	<input type="text"/>

	feel puts you or other members of your household at risk of harm (e.g. illegal activities like hunting, fishing, survival sex, drug dealing, early marriage, joining armed groups, etc.)? (OPTIONAL) RISKYACT		
FS21	In the past 4 weeks, have you or anyone in your household needed to skip paying rent / debt repayments to meet other needs? (OPTIONAL) RENTDEBT	Yes..... 1 No 2 Don't know..... 8	
FS22	In the past 4 weeks, have you or anyone in your household needed to take out new loans or borrowed money? (OPTIONAL) LOANBRW	Yes..... 1 No 2 Don't know..... 8	
FS23	In the past 4 weeks, have you or anyone in your household needed to reduce expenditure on hygiene items, water, baby items, health or education in order to meet household food needs? (OPTIONAL) REDUCE	Yes..... 1 No 2 Don't know..... 8	
Note	EXPLAIN TO THE RESPONDENT THAT THE QUESTIONS APPLY TO ALL HOUSEHOLD MEMBERS AND NOT ONLY TO HIM/HER.		
FS24	In the past 7 days, how many days did your household rely on less preferred and/or less expensive food due to lack of food or money to buy food? Lower limit=0 Upper limit=7 LESSEXP	RECORD THE NUMBER OF DAYS, FROM 0-7.	
FS25	In the past 7 days, how many days did your household borrow food or rely on help from a friend or relative due to lack of food or money to buy food? Lower limit=0 Upper limit=7 BRW	RECORD THE NUMBER OF DAYS, FROM 0-7.	
FS26	In the past 7 days, how many days did your household reduce the number of	RECORD THE NUMBER OF DAYS, FROM 0-7.	

	meals eaten in a day due to lack of food or money to buy food? Lower limit=0 Upper limit=7 LESSMEAL		
FS27	In the past 7 days, how many days did your household limit portion sizes at mealtime due to lack of food or money to buy food? Lower limit=0 Upper limit=7 REDMEAL	RECORD THE NUMBER OF DAYS, FROM 0-7.	<input type="text"/>
FS28	In the past 7 days, how many days did your household reduce consumption by adults so children could eat, due to lack of food or money to buy food? IN HOUSEHOLDS WIHTOUT CHILDREN UNDER 5 YEARS OF AGE, THE ANSWER SHOULD BE '0'. Lower limit=0 Upper limit=7 REDADULT	RECORD THE NUMBER OF DAYS, FROM 0-7.	<input type="text"/>
SECTION FS3 : FCS and FCS-N			
FS29	How many days over the last 7 days, did members of your household eat the following food items, prepared and/or consumed at home? READ THE LIST OF FOODS AND DO NOT PROBE. ONLY RECORD THE CONSUMPTION OF SIGNIFICANT QUANTITIES OF FOOD BY THE HOUSEHOLD. WRITE '0' IF NOT CONSUMED IN THE LAST 7 DAYS.		
		Number of days eaten in past 7 days	
	1. In the past 7 days, how many days did your household eat any [INSERT CEREALS LOCALLY AVAILABLE] (e.g. wheat, corn/maize, barley, buckwheat, millet, oats, rice, rye, sorghum, teff) or any foods made from these such as [INSERT LOCAL FOODS] (e.g. bread, porridge, noodles, ugali, nshima, pasta). Or any [INSERT WHITE ROOTS AND TUBERS LOCALLY AVAILABLE] (e.g. green bananas, lotus root, parsnip, taro, plantains, white potatoes, white yam, white	<input type="text"/> Lower limit=0 Upper limit=7	

	<p><i>cassava, white sweet potato</i>) or any foods made from roots such as [INSERT LOCAL FOODS]. Or any [INSERT OTHER STARCHY FOODS LOCALLY AVAILABLE] (e.g. <i>green bananas, plantains</i>)</p> <p>CRLROTU</p>	
	<p>2. In the past 7 days, how many days did your household eat any [INSERT LEGUMES, NUTS AND SEEDS LOCALLY AVAILABLE] (e.g. <i>dried beans, chickpeas, lentils, nuts, seeds</i>) or any foods made from these such as [INSERT LOCAL FOODS] (e.g. <i>hummus, peanut butter</i>)</p> <p>PULSE</p>	<div style="text-align: right;"> _ </div> <p>Lower limit=0 Upper limit=7</p>
	<p>3. In the past 7 days, how many days did your household eat any [INSERT MILK AND MILK PRODUCTS LOCALLY AVAILABLE] (e.g. <i>fresh milk, sour milk, infant formula, cheese, kefir, yogurt</i>)</p> <p>MILK</p>	<div style="text-align: right;"> _ </div> <p>Lower limit=0 Upper limit=7</p>
	<p>4. In the past 7 days, how many days did your household eat any meat, fish and eggs (e.g. <i>goat, beef, chicken, pork, blood, fish including canned tuna, snails, and/or other seafood, eggs</i>)</p> <p>PROT</p>	<div style="text-align: right;"> _ </div> <p>IF ANSWER IS 0 GO TO QUESTION 5</p> <p>Lower limit=0 Upper limit=7</p>
	<p>4.1. In the past 7 days, how many days did your household eat any [INSERT FLESH MEAT LOCALLY AVAILABLE] (e.g. <i>beef, goat, lamb, mutton, pork, rabbit, chicken, duck, cane rat, guinea pig, rat, agouti frogs, snakes, insects</i>)</p> <p>FLSHMT</p>	<div style="text-align: right;"> _ </div> <p>Lower limit=0 Upper limit=7</p>
	<p>4.2. In the past 7 days, how many days did your household eat any [INSERT ORGAN MEAT OR BLOOD-BASED FOODS LOCALLY AVAILABLE] (e.g. <i>liver, kidney, heart</i>)</p> <p>ORGMT</p>	<div style="text-align: right;"> _ </div> <p>Lower limit=0 Upper limit=7</p>
	<p>4.3. In the past 7 days, how many days did your household eat any [INSERT FRESH, DRIED OR CANNED FISH OR SHELLFISH LOCALLY AVAILABLE] (e.g. <i>anchovies, tuna, sardines, shark, whale, roe/fish eggs,</i></p>	<div style="text-align: right;"> _ </div> <p>Lower limit=0 Upper limit=7</p>

	<p><i>clam, crab, lobster, crayfish, mussels, shrimp, octopus, squid, sea snails)</i></p> <p>FISHSF</p>	
	<p>4.4. In the past 7 days, how many days did your household eat any eggs from [INSERT EGGS LOCALLY AVAILABLE] (<i>e.g. eggs from chicken, duck, guinea fowl</i>)</p> <p>EGGS</p>	<p style="text-align: right;"> __ </p> <p>Lower limit=0 Upper limit=7</p>
	<p>5. In the past 7 days, how many days did your household eat any [INSERT ANY VEGETABLES AND LEAVES LOCALLY AVAILABLE] (<i>e.g. spinach, cassava leaves, onion, carrot, lettuce, bamboo shoots, cabbage, pepper, tomato, eggplant, zucchini, etc.</i>)</p> <p>VEGL</p>	<p style="text-align: right;"> __ </p> <p>IF ANSWER IS 0 GO TO QUESTION 6</p> <p>Lower limit=0 Upper limit=7</p>
	<p>5.1. In the past 7 days, how many days did your household eat any [INSERT VITAMIN A RICH VEGETABLES AND TUBERS LOCALLY AVAILABLE] (<i>e.g. carrot, pumpkin, squash, or sweet potato that are orange inside, red sweet pepper</i>)</p> <p>VITAV</p>	<p style="text-align: right;"> __ </p> <p>Lower limit=0 Upper limit=7</p>
	<p>5.2. In the past 7 days, how many days did your household eat any [INSERT DARK GREEN LEAFY VEGETABLES LOCALLY AVAILABLE INCLUDING WILD FORMS AND VITAMIN A RICH LEAVES] (<i>e.g. amaranth, arugula (rocket), cassava leaves, kale, broccoli, spinach</i>)</p> <p>GREENV</p>	<p style="text-align: right;"> __ </p> <p>Lower limit=0 Upper limit=7</p>
	<p>6. In the past 7 days, how many days did your household eat any [INSERT ANY FRUITS LOCALLY AVAILABLE INCLUDING WILD FRUITS], and 100% fruit juice made from these (<i>e.g. mango, apricot, peach, apple, avocados, banana, coconut flesh, lemon, orange, etc.</i>)</p> <p>FRT</p>	<p style="text-align: right;"> __ </p> <p>IF ANSWER IS 0 GO TO QUESTION 7</p> <p>Lower limit=0 Upper limit=7</p>
	<p>6.1. In the past 7 days, how many days did your household eat any [INSERT VITAMIN A RICH FRUITS LOCALLY AVAILABLE], and 100% fruit juice made from these (<i>e.g. mango (ripe, fresh and dried), cantaloupe</i>)</p>	<p style="text-align: right;"> __ </p> <p>Lower limit=0 Upper limit=7</p>

	<p><i>melon (ripe), apricot (fresh or dried), ripe papaya, passion fruit (ripe), dried peach</i></p> <p>VITAFRT</p>	
	<p>7. In the past 7 days, how many days did your household eat any [INSERT OILS AND FATS LOCALLY AVAILABLE] added to food or used for cooking (<i>e.g. vegetable / nut oil made from almond, avocado, canola, coconut, cottonseed, groundnut, maize, olive, rapeseed, safflower, sesame, soybean, sunflower/walnut, ghee, butter, margarine, mayonnaise, palm oil -not red palm oil, shortenings, sour cream</i>)</p> <p>FATS</p>	<div style="text-align: right;"> _ </div> <p>Lower limit=0 Upper limit=7</p>
	<p>8. In the past 7 days, how many days did your household eat any [INSERT SWEETS, SWEETENED SODA OR JUICE DRINKS AND SUGARY FOODS LOCALLY AVAILABLE] (<i>e.g. sugar, honey, syrup, soda drinks, chocolates, candies, cookies, sweet biscuits and cakes</i>)</p> <p>SWTS</p>	<div style="text-align: right;"> _ </div> <p>Lower limit=0 Upper limit=7</p>
	<p>9. In the past 7 days, how many days did your household eat any [INSERT SPICES, CONDIMENTS AND BEVERAGES LOCALLY AVAILABLE] (<i>e.g. black pepper, salt, chilies, soy sauce, hot sauce, fish powder, fish sauce, ginger, herbs, magi cubes, ketchup, mustard, coffee, tea, milk/cream in small quantities</i>)</p> <p>SPICE</p>	<div style="text-align: right;"> _ </div> <p>Lower limit=0 Upper limit=7</p>
	<p>10. In the past 7 days, how many days did your household eat any [INSERT SPECIALIZED NUTRITIOUS FOODS AVAILABLE] (<i>e.g. CSB, Super Cereals</i>) (IF APPLICABLE)</p> <p>SPENUTF</p>	<div style="text-align: right;"> _ </div> <p>Lower limit=0 Upper limit=7</p>
FS30	How was this food acquired?	<div style="display: flex; justify-content: space-between;"> <div> <p>Purchase (using cash grants and/or with their own cash).....01</p> <p>Own production (crops, livestock, fishing/hunting, gathering).....02</p> <p>Traded goods/services, barter ..03</p> <p>Borrowed (loan/credit from traders)04</p> <p>Receive as gift (from family relatives or friend/neighbor).....05</p> <p>In-kind or voucher based food</p> </div> <div style="text-align: right;"> _ _ </div> </div>

		assistance.....06 Other96 Don't know98	
	FOODSOU		
ID9	Please take a GPS reading (OPTIONAL) AVOID TAKING IT INSIDE THE HOUSE OR UNDER TREES (TO MAKE IT FASTER). GPS	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
	Interviewer: I confirm that questionnaire is complete: yes/no		
	Supervisor: I confirm that questionnaire is complete.: yes/no MESSAGE TO INTERVIEWER: DO NOT ANSWER THIS QUESTION.		

MOSQUITO NET COVERAGE
1 questionnaire per household

THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO THE HEAD OF THE HOUSEHOLD OR, IF THEY ARE ABSENT, ANOTHER ADULT MEMBER OF THE HOUSEHOLD.

No	QUESTION	ANSWER CODES
SECTION IDENTIFICATION THIS SECTION IS TO BE COMPLETED IN ALL SELECTED HOUSEHOLDS. THIS MODULE IS MANDATORY TO COMPLETE.		
ID1	Camp Name CAMPNAME	<input type="text"/>
ID2	Section Code / Number SECTION	<input type="text"/>
ID3	Zone Code / Number ZONE	<input type="text"/>
ID4	Block Code / Number BLOCK	<input type="text"/>
ID5	Date of interview (dd/mm/yyyy) SURVDAT	Day/Month/Year..... <input type="text"/> / <input type="text"/> / <input type="text"/>
ID6	Cluster Number CLUSTER	<input type="text"/>
ID7	Team Number TEAM	<input type="text"/>
ID8	Household Number HH	<input type="text"/>

No	QUESTION	ANSWER CODES
SECTION TN1: Details on the Household		
Note	THESE QUESTIONS NEED TO BE ASKED TO THE HEAD OF THE HOUSEHOLD OR, IF THEY ARE ABSENT, ANOTHER ADULT MEMBER OF THE HOUSEHOLD.	
TN1	Was consent given for conducting the interview? ENSURE THAT YOU HAVE INTRODUCED THE TEAM AND INFORMED THEM ABOUT THE INTERVIEW. TNCONST	Yes..... 1 No 2 Absent..... 3 <input type="text"/> IF ANSWER IS 2 or 3 STOP HERE
TN2	What is the total number of household members?	<input type="text"/>

	<p>RECORD NUMBER.</p> <p>TNHHSIZE</p>		
TN3	<p>How many people live in this household and slept here last night?</p> <p>RECORD NUMBER.</p> <p>TOTHH</p>		<div> <div></div> <div></div> </div>
TN4	<p>How many children 0-59 months live in this household and slept here last night?</p> <p>RECORD NUMBER OR TYPE 0 IF THERE AREN'T ANY CHILDREN BELOW 5 YEARS.</p> <p>TOTCH</p>		<div> <div></div> <div></div> </div>
TN5	<p>How many pregnant women live in this household and slept here last night?</p> <p>RECORD NUMBER OR TYPE 0 IF THERE AREN'T ANY PREGNANT WOMEN.</p> <p>TOTPW</p>		<div> <div></div> <div></div> </div>
TN6	<p>Did you have your house sprayed with insecticide in an indoor residual spray campaign in the past 6/12 months? (IF APPLICABLE)</p> <p>EXPLAIN THAT THIS IS NOT THE CAN OF INSECTICIDE THAT CAN BE SPRAYED IN THE HOUSE.</p> <p>HHIRS</p>	<p>Yes..... 1</p> <p>No2</p> <p>Don't know 8</p>	<div> <div></div> </div>
TN7	<p>Do you have mosquito bed nets in this household that can be used while sleeping?</p> <p>MOSNETS</p>	<p>Yes..... 1</p> <p>No2</p> <p>Don't know8</p>	<div> <div></div> </div> <p>IF ANSWER IS 2 OR 8 STOP NOW</p>
TN8	<p>How many of these mosquito bed nets that can be used while</p>		<div> <div></div> <div></div> </div>

	<p>sleeping does your household have?</p> <p>PROBE FOR ANY NETS CURRENTLY NOT IN USE THAT ARE BEING SAVED OR STORED (STILL IN THEIR PACKAGE). RECORD REPORTED NUMBER.</p> <p>Lower limit=1 Upper limit=10</p> <p>NUMNETS</p>		Nets
<p>SECTION TN2: Observation of Bed Nets</p> <p>THIS SECTION IS TO BE COMPLETED FOR ALL BED NETS USED FOR SLEEPING REPORTED BY THE RESPONDENT.</p>			
Note	THESE QUESTIONS ARE ASKED FOR EACH BED NET USED FOR SLEEPING REPORTED BY THE RESPONDENT.		
TN9	<p>Can the bed net be observed?</p> <p>ASK RESPONDENT TO SHOW YOU THE NET IN THE HOUSEHOLD.</p> <p>NETSOBS</p>	<p>Yes..... 1</p> <p>No2</p>	<p><input type="checkbox"/> IF ANSWER IS 2 SKIP TO TN12</p>
TN10	<p>What is the brand of the net observed?</p> <p>LOOK AT THE TAG ON THE NET. IF THERE IS NONE OR IS UNREADABLE, SELECT 'UNIDENTIFIABLE'/'DON'T KNOW'.</p> <p>NETBRAND</p>	<p>DAWAPLUS..... 01</p> <p>DURANET.....02</p> <p>INTERCEPTOR.....03</p> <p>LIFENET..... 04</p> <p>MAGNET..... 05</p> <p>MIRANET..... 06</p> <p>OLYSET..... 07</p> <p>PANDANET08</p> <p>PERMANET09</p> <p>ROYALSENTRY.....10</p> <p>SAFENET 11</p> <p>VEERALIN..... 12</p> <p>YALE 13</p> <p>YORKOOL 14</p> <p>Insecticide treated net (ITN) NAME #1 15</p> <p>ITN NAME #216</p> <p>ITN NAME #317</p> <p>Other (please specify).....96</p> <p>Unidentifiable/Don't know98</p>	<p><input type="checkbox"/><input type="checkbox"/> IF ANSWER IS 96 GO TO TN11</p>

TN11	If other, please specify the brand name of net		
	BRANDOTH		
	TOTLN		
SECTION TN3: Survey of household members THIS SECTION IS TO BE COMPLETED FOR EACH HH MEMBER WHO LIVES HERE AND SLEPT HERE LAST NIGHT.			
Note	THESE QUESTIONS NEED TO BE COMPLETED FOR EACH HH MEMBER WHO LIVES IN THE HOUSEHOLD AND SLEPT HERE LAST NIGHT.		
TN12	ID of household member		
	HHMID		
TN13	What is the sex of the household member?	Male m Female f	
	HHMSEX		
TN14	How old is the household member?	<5 years 1 ≥5 years 2	
	HHMAGE		
TN15	Is the household member currently pregnant?	Yes 1 No 2 Don't know 8	
	HHMPREG		
TN16	Did the household member sleep under a net last night?	Yes 1 No 2 Don't know 8	
	SLPNET		
TN17	Select the brand of the net under which the household member slept ASK THE RESPONDENT TO PHYSICALLY IDENTIFY WHICH OF THE OBSERVED NETS S/HE SLEPT UNDER.	RESPONSES FROM TN10 SHOWN HERE. EXAMPLE: NETBRAND1-PERMANET NETBRAND2-PERMANET NETBRAND3-Unidentifiable/Don't know NETBRAND4- OLYSET	
	SLPBRAND		

ID9	Please take a GPS reading (OPTIONAL) AVOID TAKING IT INSIDE THE HOUSE OR UNDER TREES (TO MAKE IT FASTER). GPS	<div style="border: 1px solid black; height: 40px; width: 100%;"></div>	
Note	Error messages		
	The total number of children in the household declared at the beginning of the form (TN4) does not match the number of children you have entered in the group (TN14). Please review to ensure they match.		
	The total number of pregnant woman in the household you declared at the beginning of the form (TN5) does not match the number of pregnant woman you have entered (TN15). Please review to ensure they match.		
	Interviewer: I confirm that questionnaire is complete: yes/no		
	Supervisor: I confirm that questionnaire is complete.: yes/no MESSAGE TO INTERVIEWER: DO NOT ANSWER THIS QUESTION.		
	Summary		
	Total household members	Total <5	Total Pregnant
Slept under a net of any type	TN18 <div style="text-align: center;"> _ _ _ </div> TOTSLPNT	TN20 <div style="text-align: center;"> _ _ _ </div> TOTCHNT	TN22 <div style="text-align: center;"> _ _ _ </div> TOTPWNT
Slept under an LLIN	TN19 <div style="text-align: center;"> _ _ _ </div> TOTSLPLN	TN21 <div style="text-align: center;"> _ _ _ </div> TOTCHLN	TN23 <div style="text-align: center;"> _ _ _ </div> TOTPWLN

CHILDREN 0-59 ANTHROPOMETRY, HEALTH, IYCF & ANAEMIA
1 questionnaire per child 0-59 months

THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO ALL CHILDREN BETWEEN 0-59 MONTHS IF THE IYCF MODULE IS INCLUDED (OR 6-59 MONTHS OF AGE IF THE IYCF MODULE IS NOT INCLUDED).

No	QUESTION	ANSWER CODES
SECTION IDENTIFICATION THIS SECTION IS TO BE COMPLETED IN ALL SELECTED HOUSEHOLDS. THIS MODULE IS MANDATORY TO COMPLETE.		
ID1	Camp Name CAMPNAME	<input type="text"/>
ID2	Section Code / Number SECTION	<input type="text"/>
ID3	Zone Code / Number ZONE	<input type="text"/>
ID4	Block Code / Number BLOCK	<input type="text"/>
ID5	Date of interview (dd/mm/yyyy) SURVDAT	Day/Month/Year..... <input type="text"/> / <input type="text"/> / <input type="text"/>
ID6	Cluster Number CLUSTER	<input type="text"/>
ID7	Team Number TEAM	<input type="text"/>
ID8	Household Number HH	<input type="text"/>

No	QUESTION	ANSWER CODES
SECTION CHILD1: Details of the Child 0-59 months or 6-59 months THIS SECTION IS TO BE ADMINISTERED TO ALL CHILDREN IN THE SELECTED HOUSEHOLDS BETWEEN 0-59 MONTHS OR 6-59 MONTHS: DEPENDING ON WHICH SENS MODULE IS INCLUDED.		
Note	THESE QUESTIONS NEED TO BE ASKED TO THE MOTHER OR THE MAIN CAREGIVER.	
CH1	ID Number ID	<input type="text"/>

CH2	<p>Was consent given for conducting the interview and the measurements?</p> <p>ENSURE THAT YOU HAVE INTRODUCED THE TEAM AND INFORMED THEM ABOUT THE INTERVIEW AND THE MEASUREMENTS.</p> <p>CHCONST</p>	<p>Yes1</p> <p>No.....2</p>	<p>_____</p> <p>IF ANSWER IS 2 STOP HERE</p>
CH3	<p>Name of the child</p> <p>ONLY WRITE FIRST NAME.</p> <p>CHNAME</p>	<p>_____</p>	
CH4	<p>Sex of [NAME OF CHILD]?</p> <p>SEX</p>	<p>Malem</p> <p>Female..... f</p>	<p>_____</p>
CH5	<p>Do you have an official age documentation for [NAME OF CHILD]?</p> <p>XDOBK</p>	<p>Yes1</p> <p>No.....2</p>	<p>_____</p> <p>IF ANSWER IS 2 GO TO CH7</p>
CH6	<p>[NAME OF CHILD]'s date of birth</p> <p>THE EXACT BIRTH DATE SHOULD ONLY BE TAKEN FROM AN AGE DOCUMENTATION SHOWING DAY, MONTH AND YEAR OF BIRTH.</p> <p>FOR PAPER-BASED SURVEYS: RECORD FROM AGE DOCUMENTATION. LEAVE BLANK IF NO VALID AGE DOCUMENTATION.</p> <p>BIRTHDAT</p>	<p>Day/Month/Year..... _ _ / _ _ / _ _ _ _ </p>	
CH7	<p>Age of [NAME OF CHILD] in months</p>	<p>SINCE NO AGE DOCUMENTATION IS AVAILABLE, ESTIMATE AGE</p>	<p>____ ____months</p>

	Lower limit=0 months (or 6 months if the IYCF module is not included) Upper limit=59.99 months MONTHS	USING A LOCAL EVENTS CALENDAR. FOR PAPER-BASED SURVEYS: IF AGE DOCUMENTATION AVAILABLE, RECORD THE AGE IN MONTHS FROM THE DATE OF BIRTH.	
Note	Verify that the child is \${MONTHS} months old. Remember, if they are older than 59 months; they are not eligible for inclusion and you should stop here.		
SECTION CHILD2: Time of Arrival in Country of Asylum (optional/if applicable) THIS SECTION IS TO BE ADMINISTERED TO ALL CHILDREN BETWEEN 0 AND 59 MONTHS OF AGE (OR BETWEEN 6 AND 59 MONTHS IS THE IYCF MODULE IS NOT INCLUDED).			
Note	EXPLAIN TO THE RESPONDENT THAT THESE QUESTIONS WILL BE KEPT CONFIDENTIAL AND WILL NOT AFFECT THE ASSISTANCE THEY RECEIVE / ARE ENTITLED TO.		
CH8	Does [NAME OF CHILD] arrive to [camp name / country of asylum] before or after [INSERT THE EVENT RESPONSIBLE FOR THE INFLUX OF REFUGEES]? (OPTIONAL/IF APPLICABLE) CHARRIVE	Arrived before [INSERT EVENT].....1 Arrived after [INSERT EVENT] (new arrival)2 Don't know8	<div style="border: 1px solid black; width: 40px; height: 20px; margin-left: auto;"></div>
SECTION CHILD3: Nutrition, Health and Anaemia Status of the Child 6-59 months THIS SECTION IS TO BE ADMINISTERED TO ALL CHILDREN BETWEEN 6 AND 59 MONTHS OF AGE. EXCLUDE HB MEASUREMENTS IF SENS MODULE 3 (ANAEMIA MODULE) IS NOT INCLUDED. IN MDC SURVEYS, THIS SECTION IS AUTOMATICALLY SKIPPED FOR THE CHILDREN NOT ELIGIBLE BASED ON AGE (<6 MONTHS).			
CH9	Is [NAME OF CHILD] currently present in the household? CHPRES	Yes1 No.....2	<div style="border: 1px solid black; width: 40px; height: 20px; margin-left: auto;"></div> IF ANSWER IS 2 GO TO CH16
CH10	[NAME OF CHILD]'s weight in kilograms (±0.1kg) DON'T FORGET THE DECIMAL. Lower limit=3.0kg Upper limit=31.0kg		<div style="border: 1px solid black; width: 60px; height: 20px; margin-left: auto;"></div> kg

	WEIGHT		
CH1 1	Was the [NAME OF CHILD] dressed with clothes for the weight measurement? (OPTIONAL) CLOTHES	Yesy No.....n	_
CH1 2	[NAME OF CHILD]'s length/height in cm (±0.1cm) DON'T FORGET THE DECIMAL. Lower limit=54.0cm Upper limit=124.0cm HEIGHT		_ _ _ . _ cm
CH1 3	Was [NAME OF CHILD] measured lying down or standing up? MEASURE	Child lying down.....l Child standing uph	_
CH1 4	Clinical examination: Does the [NAME OF CHILD] present bilateral pitting oedema? EDEMA	Yesy No.....n	_
CH1 5	[NAME OF CHILD]'s middle upper arm circumference (MUAC) in mm (±1mm) or cm (±0.1cm) MEASURE LEFT ARM. APPLICABLE ONLY IF MUAC MEASURED IN CM: DON'T FORGET THE DECIMAL. Lower limit=70mm Upper limit=235mm MUAC		_ _ _ mm OR _ _ . _ cm
CH1 6	Is [NAME OF CHILD] currently being treated in [NAME OF NUTRITION	Yes TSFP1 Yes TFP (OTP/SC)2 No.....3 Don't know8	_

	<p>PROGRAMMES] for malnutrition?</p> <p>SHOW COMMODITY GIVEN IN TSFP AND TFP (OTP/SC).</p> <p>ENROL</p>		
CH1 7	<p>Is [NAME OF CHILD] currently enrolled in the BSFP? (IF APPLICABLE)</p> <p>SHOW COMMODITY/PACKAGING GIVEN IN BSFP.</p> <p>BSFP</p>	<p>Yes 1</p> <p>No..... 2</p> <p>Don't know 8</p>	
CH1 8	<p>Has [NAME OF CHILD] been vaccinated against measles?</p> <p>CHECK VACCINATION CARD (ONLY FOR CHILDREN OLDER THAN 9 MONTHS).</p> <p>MEASLES</p>	<p>Yes, card 1</p> <p>Yes, recall 2</p> <p>No or don't know 3</p>	
CH1 9	<p>Has [NAME OF CHILD] received a vitamin A capsule in the past six months?</p> <p>CHECK VACCINATION/HEALTH CARD AND SHOW CAPSULE.</p> <p>VITA</p>	<p>Yes, card 1</p> <p>Yes, recall 2</p> <p>No or don't know 3</p>	
CH2 0	<p>Was [NAME OF CHILD] given any drug for intestinal worms in the last six months? (IF APPLICABLE)</p> <p>SHOW TABLET.</p> <p>DEWORM</p>	<p>Yes 1</p> <p>No..... 2</p> <p>Don't know 8</p>	
CH2 1	<p>Has [NAME OF CHILD] had diarrhoea in the past 2 weeks?</p>	<p>Yes 1</p> <p>No..... 2</p> <p>Don't know 8</p>	

	<p>CASE DEFINITION: THREE OR MORE LOOSE OR LIQUID STOOLS DURING 24 HOURS.</p> <p>DIAR</p>		<p>IF ANSWER IS 2 OR 8 GO TO CH23</p>
CH2 2	<p>Did you give [INSERT LOCAL NAME FOR WHO ORS] to [NAME OF CHILD] when s/he had diarrhoea? (OPTIONAL)</p> <p>SHOW ORS SACHET.</p> <p>DIARORS</p>	<p>Yes1 No.....2 Don't know8</p>	<p>_____</p>
CH2 3	<p>Did you give zinc tablets or syrup to [NAME OF CHILD] when s/he had diarrhoea? (OPTIONAL)</p> <p>SHOW ZINC TABLET OR SYRUP.</p> <p>DIARZINC</p>	<p>Yes1 No.....2 Don't know8</p>	<p>_____</p>
CH2 4	<p>Units of measurement of your HemoCue device (g/dL or g/L)</p> <p>HBUNIT</p>	<p>g/dLgdl g/Lgl</p>	<p>_____ _____ _____</p>
CH2 5	<p>[NAME OF CHILD]'s haemoglobin (Hb) in g/dL (±0.1 g/dL) or in g/L (±1g/L)</p> <p>APPLICABLE ONLY IF HB MEASURED IN G/DL: DON'T FORGET THE DECIMAL.</p> <p>Lower limit=2.0g/dL Upper limit=22.0g/dL</p> <p>CHHB</p>		<p>_____ _____ . ____ g/dL</p> <p>OR</p> <p>_____ _____ ____ g/L</p>
CH2 6	<p>Automatic referral for child with signs of acute malnutrition who is not already enrolled in a nutrition programme:</p> <ul style="list-style-type: none"> • Child needs to be referred for moderate acute malnutrition (if MUAC<125mm and MUAC≥115 mm and/or WHZ<-2 and WHZ≥-3 and if ENROL equals to 3 or 8). • Child needs to be referred for severe acute malnutrition (if MUAC<115mm and/or WHZ<-3 and/or bilateral pitting oedema is yes and if ENROL equals to 3 or 8). 		

	<p>FILL OUT A REFERRAL FORM: ONE SLIP IS FOR THE MOTHER/CAREGIVER AND THE OTHER IS FOR THE HEALTH FACILITY.</p> <p>REFMAM/REFSAM</p>		
CH2 7	<p>Automatic referral for child who has severe anaemia:</p> <ul style="list-style-type: none"> Child needs to be referred for severe anaemia (if Hb<7.0g/dL). <p>FILL OUT A REFERRAL FORM: ONE SLIP IS FOR THE MOTHER/CAREGIVER AND THE OTHER IS FOR THE HEALTH FACILITY.</p> <p>REFANEM</p>		
<p>SECTION IYCF1: Breastfeeding Status of the Child 0-23 months (part 1)</p> <p>THIS SECTION IS TO BE ADMINISTERED TO THE MOTHER OR THE MAIN CAREGIVER WHO IS RESPONSIBLE FOR FEEDING THE CHILD AND THE CHILD SHOULD BE BETWEEN 0 AND 23 MONTHS OF AGE. EXCLUDE IF SENS MODULE 3 (IYCF MODULE) IS NOT INCLUDED.</p> <p>IN MDC SURVEYS, THIS SECTION IS AUTOMATICALLY SKIPPED FOR THE CHILDREN NOT ELIGIBLE BASED ON AGE (≥ 24 MONTHS).</p>			
Note	THESE QUESTIONS NEED TO BE ASKED TO THE MOTHER OR THE MAIN CAREGIVER WHO IS RESPONSIBLE FOR FEEDING THE CHILD.		
IF1	<p>Has [NAME OF CHILD] ever been breastfed?</p> <p>EVERBF</p>	<p>Yes 1</p> <p>No..... 2</p> <p>Don't know 8</p>	<p>_____</p> <p>IF ANSWER IS 2 or 8 GO TO IF4</p>
IF2	<p>How long after birth did you first put [NAME OF CHILD] to the breast?</p> <p>INITBF</p>	<p>Less than one hour 1</p> <p>Between 1 and 23 hours 2</p> <p>More than 24 hours 3</p> <p>Don't know 8</p>	<p>_____</p>
IF3	<p>Was [NAME OF CHILD] breastfed yesterday during the day or at night?</p> <p>YESTBF</p>	<p>Yes 1</p> <p>No..... 2</p> <p>Don't know 8</p>	<p>_____</p>
<p>SECTION IYCF2: Breastfeeding Status of the Child 0-23 months (part 2)</p> <p>THIS SECTION IS TO BE ADMINISTERED TO THE MOTHER OR THE MAIN CAREGIVER WHO IS RESPONSIBLE FOR FEEDING THE CHILD AND THE CHILD SHOULD BE BETWEEN 0 AND 23 MONTHS OF AGE. EXCLUDE IF SENS MODULE 3 (IYCF MODULE) IS NOT INCLUDED.</p> <p>IN MDC SURVEYS, THIS SECTION IS AUTOMATICALLY SKIPPED FOR THE CHILDREN NOT ELIGIBLE BASED ON AGE (≥ 24 MONTHS).</p>			
IF4	<p>Now I would like to ask you about liquids that [NAME OF CHILD] may have had yesterday during the day and at night. I am interested in whether your child had the item even if it was</p>		

<p>combined with other foods. Yesterday, during the day or at night, did [NAME] receive any of the following?</p> <p>ASK ABOUT EVERY LIQUID. EVERY QUESTION MUST HAVE AN ANSWER. IF ITEM WAS GIVEN, SELECT 'YES'. IF ITEM WAS NOT GIVEN, SELECT 'NO'. IF CAREGIVER DOES NOT KNOW, SELECT 'DON'T KNOW'.</p>		
		Yes No DK
4A. Plain water WATER	4A.....	1 2 8
4B. Infant formula, for example [INSERT LOCALLY AVAILABLE BRAND NAMES OF INFANT FORMULA, ALL TYPES] INFORM	4B.....	1 2 8
4C. Milk such as tinned, powdered, or fresh animal milk, for example [INSERT LOCALLY AVAILABLE BRAND NAMES OF TINNED AND POWDERED MILK] MILK	4C.....	1 2 8
4D. Juice or juice drinks, for example [INSERT LOCALLY AVAILABLE BRAND NAMES OF JUICE DRINKS] JUICE	4D.....	1 2 8
4E. Clear broth BROTH	4E.....	1 2 8
4F. Sour milk or yogurt, for example [INSERT LOCAL NAMES] YOGURT	4F.....	1 2 8
4G. Thin porridge, for example [INSERT LOCAL NAMES] THINPOR	4G.....	1 2 8
4H. Tea or coffee with milk WHTACOF	4H.....	1 2 8
4I. Any other water-based liquids, for example [INSERT OTHER WATER-BASED LIQUIDS]	4I.....	1 2 8

	AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] (e.g. sodas, other sweet drinks, herbal infusion, gripe water, clear tea with no milk, black coffee, ritual fluids)		
	WATLQD		
IF5	Yesterday, during the day or at night, did [NAME] eat solid or semi-solid (soft, mushy) food? FOOD	Yes.....1 No..... 2 Don't know..... 8	<input type="text"/>
SECTION IYCF3: Bottle Feeding for the Child 0-23 months IN MDC SURVEYS, THIS SECTION IS AUTOMATICALLY SKIPPED FOR THE CHILDREN NOT ELIGIBLE BASED ON AGE (≥ 24 MONTHS).			
IF6	Did [NAME OF CHILD] drink anything from a bottle with a nipple yesterday during the day or at night? BOTTLE	Yes.....1 No..... 2 Don't know..... 8	<input type="text"/>
SECTION IYCF4: Iron -fortified or Iron-rich Foods for the Child 6-23 months IN MDC SURVEYS, THIS SECTION IS AUTOMATICALLY SKIPPED FOR THE CHILDREN NOT ELIGIBLE BASED ON AGE (< 6 MONTHS AND ≥ 24 MONTHS).			
IF7	<p>Now I would like to ask you about some particular foods [NAME OF CHILD] may eat. I am interested in whether your child had the item even if it was combined with other foods. Yesterday, during the day or at night, did [NAME] consume any of the following?</p> <p>ASK ABOUT EVERY ITEM. EVERY QUESTION MUST HAVE AN ANSWER.</p> <p>IF ITEM WAS GIVEN, SELECT 'YES'. IF ITEM WAS NOT GIVEN, SELECT 'NO'. IF CAREGIVER DOES NOT KNOW, SELECT 'DON'T KNOW'.</p> <p style="text-align: right;">Yes No DK</p>		
	7A. [INSERT COMMON MEAT, FISH, POULTRY AND LIVER/ORGAN FLESH FOODS USED THE LOCAL SETTING] (e.g. beef, goat, lamb, mutton, pork, rabbit, chicken, duck, liver, kidney, heart) FLESHFD	7A.....1 2 8	
	7B. [INSERT FBF AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] (e.g. CSB+, WSB+) (IF APPLICABLE)	7B.....1 2 8	

<p>FBF</p> <p>7C. [INSERT FBF++ AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] (e.g. CSB++, WSB++) (IF APPLICABLE)</p> <p>FBFSUPER</p> <p>7D. [INSERT RUTF PRODUCTS AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] (e.g. Plumpy’Nut®, eeZeePaste™) (IF APPLICABLE)</p> <p>SHOW SACHET.</p> <p>RUTF</p> <p>7E. [INSERT RUSF PRODUCTS AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] (e.g. Plumpy’Sup®, eeZeeRUSF™) (IF APPLICABLE)</p> <p>SHOW SACHET.</p> <p>RUSF</p> <p>7F. [INSERT LNS PRODUCTS AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] (e.g. Nutributter®, eeZee20™, Plumpy’doz®, eeZee50™) (IF APPLICABLE)</p> <p>SHOW SACHET / POT.</p> <p>LNS</p> <p>7G. [INSERT LOCALLY AVAILABLE BRAND NAMES OF IRON FORTIFIED INFANT FORMULA] (e.g. Nan, S26 infant formula) (IF APPLICABLE)</p> <p>INFORMFE</p> <p>7H. [INSERT ANY IRON FORTIFIED SOLID, SEMI-SOLID OR SOFT FOODS DESIGNED SPECIFICALLY FOR INFANTS AND YOUNG CHILDREN AVAILABLE IN</p>	<p></p> <p>7C.....1 2 8</p> <p>7D.....1 2 8</p> <p>7E.....1 2 8</p> <p>7F.....1 2 8</p> <p>7G.....1 2 8</p> <p>7H.....1 2 8</p>
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	<p>THE LOCAL SETTING THAT ARE DIFFERENT THAN DISTRIBUTED COMMODITIES AND USE LOCALLY AVAILABLE BRAND NAMES] (e.g. <i>Cerelac</i>, <i>Weetabix</i>) (IF APPLICABLE)</p> <p>FOODFE</p>		
IF8	<p>Yesterday, during the day or at night, did [NAME] consume any food to which you added a [INSERT LOCAL NAME FOR MICRONUTRIENT POWDER OR SPRINKLES] like this? (IF APPLICABLE)</p> <p>SHOW MICRONUTRIENT POWDER SACHET.</p> <p>MNP</p>	<p>Yes.....1</p> <p>No..... 2</p> <p>Don't know..... 8</p>	<div></div>
ID9	<p>Please take a GPS reading (OPTIONAL)</p> <p>AVOID TAKING IT INSIDE THE HOUSE OR UNDER TREES (TO MAKE IT FASTER).</p> <p>GPS</p>	<div></div>	
	Interviewer: I confirm that questionnaire is complete: yes/no		
	Supervisor: I confirm that questionnaire is complete.: yes/no		
	MESSAGE TO INTERVIEWER: DO NOT ANSWER THIS QUESTION.		

WOMEN ANTHROPOMETRY, HEALTH & ANAEMIA

1 questionnaire per woman 15-49 years

THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO ALL ELIGIBLE WOMEN AGED BETWEEN 15 AND 49 YEARS IN THE SELECTED HOUSEHOLD.

No	QUESTION	ANSWER CODES
SECTION IDENTIFICATION THIS SECTION IS TO BE COMPLETED IN ALL SELECTED HOUSEHOLDS. THIS MODULE IS MANDATORY TO COMPLETE.		
ID1	Camp Name CAMPNAME	<input type="text"/>
ID2	Section Code / Number SECTION	<input type="text"/>
ID3	Zone Code / Number ZONE	<input type="text"/>
ID4	Block Code / Number BLOCK	<input type="text"/>
ID5	Date of interview (dd/mm/yyyy) SURVDAT	Day/Month/Year..... <input type="text"/> / <input type="text"/> / <input type="text"/>
ID6	Cluster Number CLUSTER	<input type="text"/>
ID7	Team Number TEAM	<input type="text"/>
ID8	Household Number HH	<input type="text"/>

No	QUESTION	ANSWER CODES
SECTION WM1: Details of the Woman 15-49 years THIS SECTION IS TO BE ADMINISTERED TO ALL ELIGIBLE WOMEN AGED BETWEEN 15 AND 49 YEARS IN THE SELECTED HOUSEHOLDS.		
Note	THESE QUESTIONS NEED TO BE ASKED TO EACH ELIGIBLE WOMAN.	
WM1	ID Number WMID	<input type="text"/>
WM2	Was consent given for conducting the interview and the measurements? ENSURE THAT YOU HAVE INTRODUCED THE TEAM	Yes.....1 No2 Absent.....3 IF ANSWER IS 2 OR 3 STOP HERE

	AND INFORMED THEM ABOUT THE INTERVIEW AND THE MEASUREMENTS. WMCONST		
WM3	Name of the woman ONLY WRITE FIRST NAME. WMNAME	<input type="text"/>	
WM4	Age of [NAME OF WOMAN] in years ONLY WOMEN BETWEEN 15 AND 49 ARE BEING INTERVIEWED. Lower limit=15 years Upper limit=49 years WMAGE		<input type="text"/> <input type="text"/> years
SECTION WM2: Anthropometry, Physiological and Anaemia Status of the Woman 15-49 years THIS SECTION IS TO BE ADMINISTERED TO ALL ELIGIBLE WOMEN BETWEEN 15 AND 49 YEARS IN THE SELECTED HOUSEHOLD.			
WM5	Are you pregnant? PREGNANT	Yes 1 No 2 Don't know 8	<input type="text"/> IF ANSWER IS 2 OR 8 GO TO WM8
WM6	Are you currently <u>enrolled</u> in the ANC programme? ANC	Yes 1 No 2 Don't know 8	<input type="text"/>
WM7	Are you currently <u>receiving</u> iron-folate pills? SHOW PILL. FEREC	Yes 1 No 2 Don't know 8	<input type="text"/>
WM8	Are you currently breastfeeding? (OPTIONAL) LACTAT	Yes 1 No 2 Don't know 8	<input type="text"/> IF ANSWER IS 2 OR 8 GO TO WM10
WM9	Is the child you are breastfeeding younger than 6 months old? (OPTIONAL) LACTATU6	Yes 1 No 2 Don't know 8	<input type="text"/>

WM10	<p>Are you currently enrolled in the BSFP? (IF APPLICABLE)</p> <p>SHOW COMMODITY/PACKAGING GIVEN IN BSFP.</p> <p>WMBSFP</p>	<p>Yes 1 No 2 Don't know 8</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div>
WM11	<p>[NAME OF WOMAN]'s MUAC in mm (± 1mm) or cm (± 0.1cm) (OPTIONAL)</p> <p>MEASURE LEFT ARM. APPLICABLE ONLY IF MUAC MEASURED IN CM: DON'T FORGET THE DECIMAL.</p> <p>Lower limit=160 mm Upper limit=500 mm</p> <p>WMMUAC</p>		<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> mm OR <div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> cm
WM12	<p>Units of measurement of your HemoCue device (g/dL or g/L)</p> <p>WMHBUNIT</p>	<p>g/dLgdl g/Lgl</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div>
WM13	<p>[NAME OF WOMAN]'s haemoglobin in g/dL (± 0.1 g/dL) or in g/L (± 1g/L)</p> <p>APPLICABLE ONLY IF HB MEASURED IN G/DL: DON'T FORGET THE DECIMAL.</p> <p>Lower limit=2.0g/gL Upper limit=22.0g/dL</p> <p>WMHB</p>		<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> g/dL OR <div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> g/L
ID9	<p>Please take a GPS reading (OPTIONAL)</p> <p>AVOID TAKING IT INSIDE THE HOUSE OR UNDER TREES (TO MAKE IT FASTER).</p> <p>GPS</p>	<div style="border: 1px solid black; width: 100%; height: 20px; margin: 0 auto;"></div>	
WM14	<p>Automatic referral for woman with signs of acute malnutrition:</p> <ul style="list-style-type: none"> Woman needs to be referred for acute malnutrition (if MUAC < [INSERT VALUE] mm) (TO BE INCLUDED ONLY IF MUAC IS MEASURED). 		

	<p>FILL OUT A REFERRAL FORM: ONE SLIP IS FOR THE WOMAN AND THE OTHER IS FOR THE HEALTH FACILITY.</p> <p>WMREFMAL</p>
WM15	<p>Automatic referral for woman who has severe anaemia:</p> <ul style="list-style-type: none"> • Woman needs to be referred for severe anaemia (if Hb<8.0g/dL). <p>FILL OUT A REFERRAL FORM: ONE SLIP IS FOR THE WOMAN AND THE OTHER IS FOR THE HEALTH FACILITY.</p> <p>WMREFAN</p>
	<p>Interviewer: I confirm that questionnaire is complete: yes/no</p>
	<p>Supervisor: I confirm that questionnaire is complete.: yes/no</p> <p>MESSAGE TO INTERVIEWER: DO NOT ANSWER THIS QUESTION.</p>

Appendix 6: Local event calendar used during the survey to estimate age of young children

Calendar of Events 2016-2021 – SENS Surveys, Refugee Camps, Tanzania – Data Collection: September					
Season & Agricultural calendar	Religious Holidays/National Holidays	National Events	Regional / Local Events	Month / Year	Age (month)
Beginning long rain		Primary School National Exam		September 2021	0
Dry season	Nane Nane day: 8 th Eid El Adha: 12 th			August 2021	1
Dry season Start cotton selling	Saba Saba day: 7 th		Rwandan independence and Liberation day	July 2021	2
Dry season Cotton harvesting	End of Ramadan: 3 rd WRD: 20 th	Vitamin A/Deworming Mass campaign Death of Burundi president(Nkurunziza)		June 2021	3
End long rain Cotton harvesting	Workers day: 1 st Beginning of Ramadan: 5 th		Gatumba events	May 2021	4
End long rain	Sheikh Abeid Amani Karume day: 7 th Easter: 21 st Union day: 26 th		Genocide	April 2021	5
Long rain	Women's day: 8 th	Death of Tanzania president – Magufuli		March 2021	6
Long rain	Valentine's day: 14 th		Heroes Day on 1 st Rentree scolaire: 2 nd	February 2021	7
Long rain	New year's day: 1 st Zanzibar Revolution: 12 th			January 2021	8
Long rain Cotton planting	HIV/AIDS day: 1 st Independence day: 9 th Christmas: 25 th Boxing day: 26 th	Vitamin A/Deworming Mass campaign	Umunsi w'abamugaye, Iminsi 16 yo kurwanya ihohoterwa	December 2021	9
Long rain Cotton planting	Mawlid: 20 th			November 2020	10
Beginning long rain Cotton planting	Nyerere Day: 14 th			October 2020	11
Beginning long rain		Primary School National Exam		September 2020	12
Dry season	Nane Nane day: 8 th Eid El Adha: 21 st		Rwandan independence	August 2020	13

			and Liberation day		
Dry season Start cotton selling	Saba Saba day: 7 th			July 2020	14
Dry season Cotton harvesting	End of Ramadan: 15 th WRD: 20 th	Vitamin A/Deworming Mass campaign	Gatumba events	June 2020	15
End long rain Cotton harvesting	Workers day: 1 st Beginning of Ramadan: 16 th		Genocide	May 2020	16
End long rain	Easter: 1 st Sheikh Abeid Amani Karume day: 7 th Union day: 26 th			April 2020	17
Long rain			Heroes Day on 1 st Rentree scolaire: 2 nd	March 2020	18
Long rain	Valentine's day: 14 th			February 2020	19
Long rain	New year's day: 1 st Zanzibar Revolution: 12 th		Umunsi w'abamugaye, Iminsi 16 yo kurwanya ihohoterwa	January 2020	20
Long rain Cotton planting	HIV/AIDS day: 1 st Independence day: 9 th Christmas: 25 th Boxing day: 26 th	Vitamin A/Deworming Mass campaign		December 2019	21
Long rain Cotton planting	Mawlid: 30 th			November 2019	22
Beginning long rain Cotton planting	Nyerere Day: 14 th			October 2019	23
Beginning long rain		Primary School National Exam		September 2019	24
Dry season	Nane Nane day: 8 th Eid El Adha: 31 st		Rwandan independence and Liberation day	August 2019	25
Dry season Start cotton selling	Saba Saba day: 7 th			July 2019	26
Dry season Cotton harvesting	End of Ramadan: 24 th WRD: 20 th	Vitamin A/Deworming Mass campaign	Gatumba events	June 2019	27
End long rain Cotton harvesting	Workers day: 1 st		Genocide	May 2019	28

	Beginning of Ramadan: 26 th				
End long rain	Sheikh Abeid Amani Karume day: 7 th Easter: 16 th Union day: 26 th			April 2019	29
Long rain			Heroes Day on 1 st Rentree scolaire: 2 nd	March 2019	30
Long rain	Valentine's day: 14 th			February 2019	31
Long rain	New year's day: 1 st Zanzibar Revolution: 12 th	Sworn - DRC president (Tshisekedi)	Umunsi w'abamugaye, Iminsi 16 yo kurwanya ihohoterwa	January 2019	32
Long rain Cotton planting	HIV/AIDS day: 1 st Independence day: 9 th Mwalid: 11 th Christmas: 25 th Boxing day: 26 th	Vitamin A/Deworming Mass campaign		December 2018	33
Long rain Cotton planting				November 2018	34
Beginning long rain Cotton planting	Nyerere Day: 14 th			October 2018	35
Beginning long rain	Eid El Adha: 12 th	Primary School National Exam		September 2018	36
Dry season	Nane Nane day: 8 th		Rwandan independence and Liberation day	August 2018	37
Dry season Start cotton selling	End of Ramadan: 5 th Saba Saba day: 7 th			July 2018	38
Dry season Cotton harvesting	Beginning of Ramadan: 6 th WRD: 20 th	Vitamin A/Deworming Mass campaign	Gatumba events	June 2018	39
End long rain Cotton harvesting	Workers day: 1 st		Genocide	May 2018	40
End long rain	Sheikh Abeid Amani Karume day: 7 th Union day: 26 th			April 2018	41
Long rain	Easter: 27 th		Heroes Day on 1 st Rentree scolaire: 2 nd	March 2018	42

Long rain	Nilad-un-Nabi: 4 th Valentine's day: 14 th			February 2018	43
Long rain	New year's day: 1 st Zanzibar Revolution: 12 th		Umunsi w'abamugaye, Iminsi 16 yo kurwanya ihohoterwa	January 2018	44
Long rain Cotton planting	HIV/AIDS day: 1 st Independence day: 9 th Christmas: 25 th Boxing day: 26 th	Vitamin A/Deworming Mass campaign Swearing ceremony		December 2017	45
Long rain Cotton planting				November 2017	46
Beginning long rain Cotton planting	Nyerere Day: 14 th	Presidential Elections		October 2017	47
Beginning long rain	Eid El Adha: 23 th	Primary School National Exam		September 2017	48
Dry season	Nane Nane day: 8 th		Rwandan independence and Liberation day	August 2017	49
Dry season Start cotton selling	Saba Saba day: 7 th End of Ramadan: 16 th			July 2017	50
Dry season Cotton harvesting	Beginning of Ramadan: 17 th WRD: 20 th	Vitamin A/Deworming Mass campaign	Gatumba events	June 2017	51
End long rain Cotton harvesting	Workers day: 1 st		Genocide	May 2017	52
End long rain	Sheikh Abeid Amani Easter: 5 th Karume day: 7 th Union day: 26 th			April 2017	53
Long rain			Heroes Day on 1 st Rentre scolaire: 2 nd	March 2017	54
Long rain	Valentine's day: 14 th			February 2017	55
Long rain	New year's day: 1 st Mawlid: 2 nd Zanzibar Revolution: 12 th		Umunsi w'abamugaye, Iminsi 16 yo kurwanya ihohoterwa	January 2017	56
Long rain Cotton planting	HIV/AIDS day: 1 st	Vitamin A/Deworming Mass campaign		December 2016	57

	Independence Day: 9 th Christmas: 25 th Boxing day: 26 th				
Long rain Cotton planting				November 2016	58
Beginning long rain Cotton planting	Eid El Adha: 4 th Nyerere Day: 14 th			October 2016	59
Beginning long rain		Primary School National Exam		September 2016	60