JOINT STANDARDIZED EXPANDED NUTRITION SURVEY

FINAL REPORT

(AYSAITA AND BERHALE) REFUGEE CAMPS

AFAR REGION – ETHIOPIA

SURVEYS CONDUCTED: 22nd AUG – 3rd SEPT 2017

REPORT COMPLETED: NOVEMBER 2017

Jointly coordinated by UNHCR, WFP, ARRA and GOAL

TABLE OF CONTENTS

CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ARRA	Administration for Refugee & Returnee Affairs
BSFP	Blanket Supplementary Feeding Program
CSB+	Corn-Soya-Blend plus
GAM	Global Acute Malnutrition
GFD	General Food Distribution
Hb	Haemoglobin
HFA	Height-for-Age
HAZ	Height-for-Age Z-score
HH	Household
IP	Implementing Partner
IYCF	Infant and young children feeding
Kcal	Kilocalorie
Kg	Kilogram
MUAC	Mid-Upper Arm Circumference
NGO	Non-Governmental Organization
OTP	Outpatient Therapeutic feeding Program
SAM	Severe Acute Malnutrition
SC	Stabilization Center
SFP	Supplementary Feeding Program
TFP	Therapeutic Feeding Program
TSFP	Targeted Supplementary Feeding Program
UNHCR	United Nations High Commissioner for Refugees
WASH	Water Sanitation and Health
WFA	Weight-for-Age
WHZ	Weight-for-Height / Length Z-score
WFH	Weight-for-Height
WFP	World Food Programme
WHO	World Health Organization

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Executive Summary

Aysaita and Berhale refugee camps are situated in Afar regional state which is located in the north-east part of Ethiopia. In 2017, Standardized Expanded Nutrition Surveys (SENS) were conducted by UNHCR in collaboration with WFP, ARRA and GOAL from 22nd August to 3rd of September 2017 in both camps.

This was a follow up to the previous SENS surveys conducted in July/Aug 2015 and Sep/Oct 2016. Anthropometry and health, anaemia, Infant and young child feeding (IYCF), food security, water sanitation and hygiene (WASH) modules following the UNHCR SENS guidelines and mortality module following the SMART methodology were covered in both camps. Mosquito net coverage module was not conducted due to the fact that the two camps lies in the malaria free zone and mosquito net has never been distributed in the refugee camps.

Objectives of the survey: The overall objective of the health and nutrition survey was to assess the general health and nutrition status of the refugee population, and formulate workable recommendations for appropriate nutritional and public health interventions.

Primary objectives:

- To determine the prevalence of acute malnutrition among children 6-59 months.
- To determine the prevalence of stunting among children 6-59 months.
- To assess the two-week period prevalence of diarrhoea among children 6-59 months.
- To assess the prevalence of anaemia among children 6-59 months and women of reproductive age (non-pregnant, 15-49 years)
- To estimate the coverage of measles vaccination among children 9-59 months.
- To estimate the coverage of vitamin A supplementation in the last six months among children 6-59 months
- To investigate IYCF practices among children 0-23 months
- To assess the proportion of households those use an adequate quantity of water per person per day.
- To assess the proportion of households who say they are satisfied with their water supply.
- To determine the coverage of ration cards and the duration the GFD ration lasts for recipient households.
- To determine the extent to which negative coping strategies are used by households.
- To assess household dietary diversity.
- To establish recommendations on actions to be taken to address the situation.

Secondary objectives:

- To estimate the coverage of selective feeding programs for children 6-59 months.

- To determine enrolment into Antenatal Care clinic and coverage of iron-folic acid supplementation in pregnant women.
- To assess crude and under-five mortality rates in the camps in the last three months.

Methodology:

An exhaustive sampling technique was used during data collection as the number of households that were physically counted by the survey team members prior to the survey was less than 600[1]. The data was collected using SMART phones pre-installed with Open Data Kit facility (ODK) Version 1.4.5. Due to small size of the total populations residing in the camps, an exhaustive survey was conducted by including all children aged 6 – 59 months from all households in the both camps.

Two survey groups, with six teams for Berhale and four teams for Aysaita consist of 6 members each team were organized. Team members were; team leader, interviewer, translator, anthropometric measurer, anthropometric assistant and haemoglobin measurer. Team leaders and Interviewers were trained for five days in Mekele while measures for anthropometric and translators were trained for 2 days with measurements followed by standardization and pilot field test.

The teams were mobilized into the two locations and data were collected simultaneously from two camps at a time. During data collection, supervisors were assigned to each team. Overall survey activities were coordinated by SENS coordinators from UNHCR, WFP and ARRA in both locations. The two coordinators were mainly monitoring and following up of the daily data quality by checking the plausibility of the data and giving feedback to data collectors every morning.

Questionnaires for the five standard SENS modules and an additional mortality module were uploaded onto android mobile phones for data collection at household and individual level indicators. The data were collected every day and in the evening a crosschecking of the collected information was done against household listing forms which was used as a backup especially for anthropometry and health. Data was uploaded from the mobile devices to the server, then downloaded and analysed to see the qualities of the anthropometric measurements and feedback was given to the survey teams next day morning before going for data collection.

All eligible children aged 0-59 months who are currently living in the camps were included in the assessment of anthropometry, measles vaccination and vitamin A coverage, enrolment in the nutrition program, and diarrhoea for the recall period of the last two weeks, haemoglobin test (assessment of nutritional anaemia) where applicable and infant and young child feeding in children aged 0-23 months. Household Food Security, WASH and the Women questionnaires were administered in every other household.

[1] UNHCR SENS_v2 guidelines, 2013

ENA for SMART software version 9th July 2015 were employed to analyse anthropometric and mortality data, and Epi info version 3.5.4 were used to analyse other variables.

Table 1: Afar Camps 2017 SENS Summary of Key Findings

CHILDREN (6-59 months)	Aysaita Exhaustive		Berhale Exhaustive		Classification of public health
Acute Malnutrition (WHO 2006 Growth Standards)	No./total	%	No./total	%	
Prevalence of global malnutrition (<-2 z-score and/or oedema)	120/627	19.2%	110/480	22.9 %	**Critical if ≥ 15%**
Prevalence of moderate malnutrition (<-2 z-score and >=-3 z-score, no oedema)	97/627	15.5%	94/480	19.6%	
Prevalence of severe malnutrition (<-3 z-score and/or oedema)	23/627	3.7%	16/480	3.3 %	**Critical if ≥2%**
Oedema	0/627	0.0%	0/480	0.0%	
Stunting (WHO 2006 Growth Standards)					
Prevalence of stunting (<-2 z-score)	203/618	32.8%	153/468	32.7 %	Critical if ≥ 40%
Prevalence of moderate stunting (<-2 z-score and >=-3 z-score)	109/618	25.6%	101/468	21.6%	
Prevalence of severe stunting (<-3 z-score)	45/618	7.3%	52/468	11.1 %	
Mid Upper Arm Circumference (MUAC)					
Prevalence of global malnutrition (< 125 mm and/or oedema)	77/634	12.1%	67/487	13.8 %	
Prevalence of moderate malnutrition (< 125 mm and >= 115 mm, no oedema)	58/635	9.1%	43/487	8.8 %	
Prevalence of severe malnutrition (< 115 mm and/or oedema)	19/635	3.0%	24/487	4.9 %	
Anaemia (6-59 months)					
Total Anaemia (Hb <11 g/dl)	160/626	25.6%	184/477	38.6%	**High if ≥ 40%**
Mild (Hb 10-10.9 g/dl)	123/626	19.6%	105/477	22.0%	
Moderate (Hb 7-9.9 g/dl)	37/626	5.9%	79/477	16.6%	
Severe (Hb<7.0 g/dl)	0/619	0.0%	0/477	0.0%	
Programme Coverage					
Therapeutic program (WHZ and MUAC criteria)	12/52	23.1%	4/31	12.9%	
TSFP (WHZ and MUAC criteria)	37/129	28.7%	8/106	7.5%	
BSFP (6 – 23m for Asyita and 6 - 59m for Berhale)	160/239	66.9%	324/400	81.0%	
Measles vaccination with card (9-59 months)	129/562	23.0%	128/425	30.1%	
Measles vaccination with card or	538/562	95.7%	396/425	93.2%	**Target of ≥**

CHILDREN (6-59 months)	Aysaita Exhaustive		Berhale Exhaustive		Classification of public health
Acute Malnutrition (WHO 2006 Growth Standards)	No./total	%	No./total	%	
recall (9-59 months)					**95%**
Vitamin A supplementation coverage with card, within past 6 months (6-59 months)	155/627	24.7%	114/485	23.5%	
Vitamin A supplementation coverage with card or recall, within past 6 months (6-59 months)	612/627	97.6%	394/485	81.2%	**Target of ≥ 90%**
Morbidity					
Diarrhoea in the past 2 weeks	59/627	9.4%	32/486	6.6%	
CHILDREN (0-23 months)					
Infant and Young children Feeding Practices					
Timely initiation of breastfeeding (0-23 months)	83/239	34.7%	34/190	17.9%	
Exclusive breastfeeding under 6 months (0-5 months)	6/23	26.1%	2/11	18.2%	
Continued breastfeeding at 1 year (12-15 months)	19/59	32.2%	13/50	26.0%	
Continued breastfeeding at 2 years (20-23 months)	6/30	20.0%	4/22	18.2%	
Introduction of solid, semi-solid or soft foods (6-8 months)	13/20	65.0%	2/4	50.0%	
Consumption of iron-rich or iron-fortified foods (6-23 months)	70/73	95.9%	21/21	100%	
Bottle feeding (0-23 months)	3/107	2.8%	1/42	2.4%	
WOMEN 15-49 years					
Anaemia (non-pregnant) (UNHCR SENS cut off)					
Total Anaemia (Hb <12.0 g/dl)	51/231	22.1% (16.9-28.0%)	49/168	29.2% (22.4-36.7%)	**High if ≥ 40%**
Mild (Hb 11.0-11.9)	36/231	15.6% (11.2-20.9%)	35/168	20.8% (15.0-27.8%)	
Moderate (Hb 8.0-10.9)	15/231	6.5% (3.7-10.5%)	12/168	7.1% (3.7-12.1%)	
Severe (Hb<8.0)	0/231	0.0%	2/168	1.2% (0.1-4.2%)	
Programme coverage , pregnant and lactating					
Pregnant women currently enrolled in the ANC	21/23	91.3% (72.0-98.9%)	18/20	90.0% (68.3-98.8%)	
Pregnant women currently receiving	19/23	82.6%	18/20	90.0%	

CHILDREN (6-59 months)	Aysaita Exhaustive		Berhale Exhaustive		Classification of public health
Acute Malnutrition (WHO 2006 Growth Standards)	No./total	%	No./total	%	
Iron-folic acid pills		(61.2-95.0%)		(68.3-98.8%)	
WASH (WATER QUANTITY, SAFE EXCRETA DISPOSAL)					
Proportion of households using an improved drinking water source	250/251	99.6% (97.8-100%)	164/164	100.0%	
Proportion of households that use a covered or narrow necked container for storing their drinking water	99/252	39.3% (33.2-45.6%)	118/164	71.5% (64.0-78.3%)	
≥20lpppd	130/252	51.6% (45.2-57.9%)	86/165	52.1% (44.2-59.9%)	
15- <20lpppd	42/252	16.7% (12.3-21.9%)	22/165	13.3% (8.5-19.5%)	
<15lpppd	80/252	31.7% (26.0-37.9%)	57/165	34.5% (27.3-42.3%)	
Proportion of households that say they are satisfied with the drinking water supply	230/252	91.3% (87.1-94.4%)	156/165	94.5% (89.9-97.5%)	
Average consumption (Litres per person per day)	21.76		23.77		**UNHCR target is ≥20 lpppd**
Improved excreta disposal facility (improved toilet facility, 1 household)	38/248	15.3% (11.1-20.4%)	56/163	34.4% (27.1-42.2%)	
Shared family toilet (improved toilet facility, 2 households)	18/248	7.3% (4.4-11.2%)	41/163	25.2% (18.7-32.5%)	
Communal toilet (improved toilet facility, 3 households or more)	84/248	33.9% (28.0-40.1%)	44/163	27.0% (20.3-34.5%)	
unimproved toilet (unimproved toilet facility or public toilet)	108/248	43.5% (37.3-50.0%)	22/163	13.5% (8.7-19.7%)	
Proportion of households with children under three years old that dispose of faeces safely	80/172	46.5% (38.9-54.3%)	99/107	92.5% (85.8-96.7%)	
FOOD SECURITY					
Proportion of HH with a ration card	250/251	99.6%	165/165	100.0%	
Average number of days the food ration lasts	16.74		22.49		
Average duration (%) in relation to the theoretical duration of the ration	55.8%		74.9%		
Household Dietary Diversity Score {Mean (sd)}	5.45 SD = 1.61		5.33 SD = 1.78		
Proportion of households reporting using the following coping strategies over the past month*:					
Borrowed cash, food or other items with or without interest	211/250	84.4% (79.3-88.7%)	125/165	75.8% (68.5-82.1%)	

CHILDREN (6-59 months)	Aysaita Exhaustive		Berhale Exhaustive		Classification of public health
Acute Malnutrition (WHO 2006 Growth Standards)	No./total	%	No./total	%	
Sold any assets that would not have normally sold (furniture, seed stocks, tools, other NFI, livestock etc.)	40/251	15.9% (11.6-21.1%)	5/165	3.0% (1.0-6.9%)	
Requested increased remittances or gifts as compared to normal	6/251	2.4% (0.9-5.1%)	11/165	6.7% (3.4-11.6%)	
Reduced the quantity and/or frequency of meals and snacks	32/249	12.9% (9.0-17.7%)	56/164	34.1% (26.9-41.9%)	
Begged	3/249	1.2% (0.2-3.5%)	5/165	3.0% (1.0-6.9%)	
Engaged in potentially risky or harmful activities	0/251	0%	2/165	1.2% (0.1-4.3)	
Mortality					
Crude Mortality Rate (CMR)/10,000/day	6/2738	0.24	1/1958	0.06	High if >1
Under 5 Mortality Rate (U5MR) /10,000/day	4/647	0.69	1/460	0.24	High if >2

Result Interpretation

The table below shows the public health significance malnutrition classification among children under 5 years old.

Table 2: Classification of Public Health Significance for Children Under 5 Years of Age

Prevalence %	Critical	Serious	Poor	Acceptable
Low weight-for-height	≥15	10-14	5-9	<5
Low height-for-age	≥40	30-39	20-29	<20

Source: WHO (1995) Physical Status: The Use and Interpretation of Anthropometry and WHO (2000). The Management of Nutrition in Major Emergencies

Table 3: Classification of public health significance

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

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

Table 4: simplified classification of the severity of gam, anaemia, and stunting in refugee setting (UNHCR operational guidance)

PREVALENCE%	HIGH		MEDUIM	LOW
GAM	≥15 Critical	10-14 Serious	5-9	<5
ANAEMIA U5	≥40		20-39	5-19
STUNTING	≥30		20-29	<20

Source: UNHCR operational guidance

SUMMARY OF KEY FINDINGS

The overall nutrition situation in Afar refugee camps was critical with high prevalence of Global Acute Malnutrition (GAM) above the emergency threshold ≥15% (WHO classification), with prevalence of SAM being ≥2% of critical (UNHCR classification) in both the surveyed camps. Prevalence of GAM in Aysaita camp have shown statistically significant increase from 13.7% in 2016 to 19.2% in 2017, whereas the change in Berhale camp was not statistically significant. There has been number of challenges which could possibly be the contributing factors (food ration cuts, poor enrolment for

SAM and MAM cases in the nutrition programme and we well blanket SFP in both the camps, high defaulter rate (from nutrition programme), high selling rate of therapeutic products and food ration reported by nutrition team. In addition, challenges related to low IYCF indicators, inadequate sanitation and hygiene services which in-turn contributed to occurrences of diarrhoea, prevalence of anaemia and other health indicators would have contributions in affecting the nutritional status of children.

Stunting prevalence in the camps reported 32.8% in Aysaita (remained stable compared to 31.4% in 2016) and 32.7% in Berhale (increased compared to 15.2% in 2016), which is classified as SERIOUS (WHO classifications) in both the camps.

Figure 1: Trend of Prevalence of GAM for Afar Camps: 2013-2017.

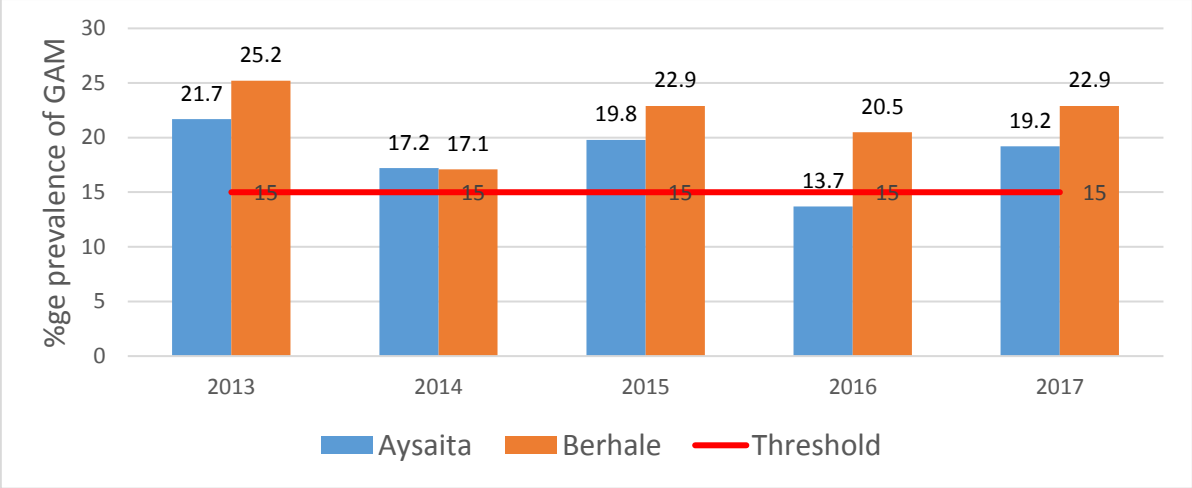
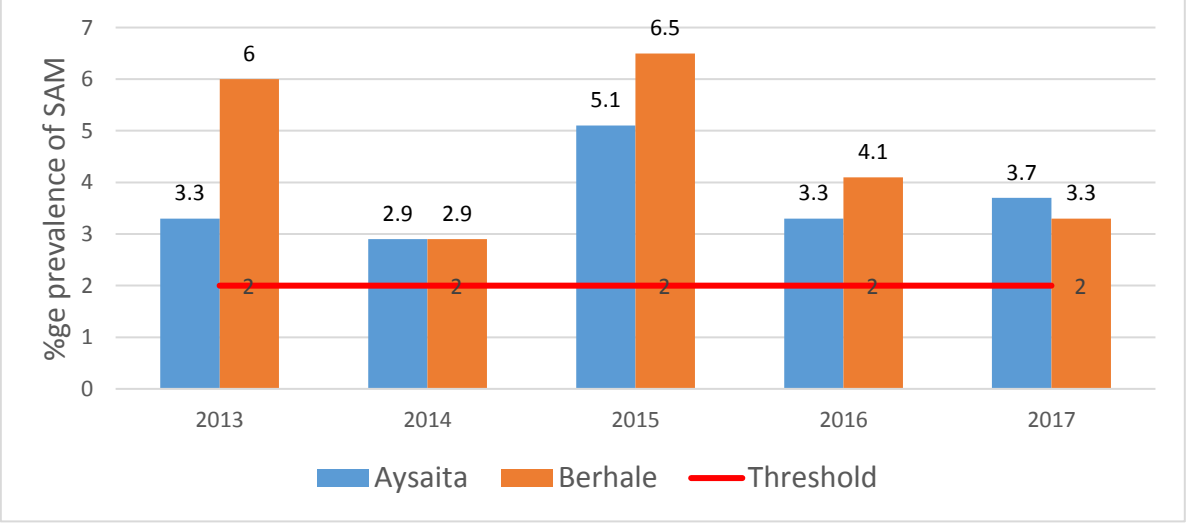


Figure 2: Trend of Prevalence of SAM for Afar Camps: 2013-2017.



Prevalence of severe acute malnutrition (SAM) have shown slight increment from 3.3% to 3.7% in Aysaita and from 4.1% to 3.3% reduction in Berhale between 2016 and 2017

respectively. The changes did not indicate statistically significant difference between the two years.

INTERPRETATIONS

- Prevalence of anaemia among children aged 6-59 months was 25.6% in Aysaita (stable compared to 26.5% in 2016), and 38.6% in Berhale (significance increase compared to 16.2% in 2016). Albeit the result for both camps have shown to be at medium level public health significance and above the 20% of acceptable level (WHO classifications).
- The prevalence of anaemia in women of reproductive age (15 - 49 years) was 22.1% in Aysaita, and 29.2% in Berhale camps. When compared to 2016 results, prevalence of anaemia amongst women of non-pregnant, child bearing age (15-49 yrs) have shown statistically significant increment from 12.2% to 22.1% in Aysaita and 19.4% to 29.2 % in Berhale in 2017 respectively.
- Timely initiation of breastfeeding were reported to be 34.7% and 17.9% in Aysaita and Berhale camps respectively. Exclusive breastfeeding percentage was low as 18.2% in Berhale camp and 26.2% in Aysaita. Introduction of solid and semi-solid foods for infants from 6 months showed as low coverage as 35% in Aysaita to 50% in Berhale camps. In general IYCF indicators reported reduction compared to the results in 2016 and requires attention.
- Add on the issue of very low enrolment of SAM and MAM in the programme and BSFP in both the camps.
- Add on FS (GFD lasts 16.7 and 22.4 days ot of 30 days expected, refugees using negative coping strategies, HDD
- The mortality indicators remained within acceptable level according to the SPHERE standards; crude mortality rates was <1 death per 10,000 per day and under five mortality rate <2 deaths per 10,000 per day.

CONCLUSIONS

Prevalence of acute malnutrition in Afar camps remained critical with overall GAM of 20.1% and SAM 3.5%, which is above the emergency threshold of 15% for GAM and 2% for SAM. An increase in GAM prevalence was noted when compared to 2016 nutrition survey results and a couple of contributing factors including slight ration reduction, poor IYCF practices and enrolment of were thought to link with deterioration of the nutritional status. Prevalence of stunting was below the emergency threshold of 40% but above the acceptable UNHCR and SPHERE standards of 20%. Given that malnutrition levels remain above the UNHCR acceptable standards, the need to continue with scale up and provision of adequate holistic services remains a key priority.

RECOMMENDATIONS:

Immediate term

1. At least quarterly WHZ screening to be conducted at BSFP centres in addition to elevated cut-off point MUAC screening after every two weeks to continuously ensure timely enrolment of eligible children in the appropriate programs and boost the nutrition program coverages.

2. Community outreach program needs continued strengthening focusing on active case finding, referral and systematic follow up of defaulters; screening for malnutrition at key contact points; continuous training and on job training on preventive nutrition and regular follow up at the household level.

3. Harmonized, simplified health, nutrition, WASH and food utilization messages should be disseminated at all contact points in the community and service centres such as markets, health facilities, nutrition facilities, general food distribution centres, early childhood education centres and at household level to promote positive behaviour change.

4. Step up community engagement and involvement in understanding matters related to nutrition and the role of the communities in supporting pregnant lactating women and children in preventing malnutrition.

5. Community sensitisation have to be considered to hinder the high selling rate of therapeutic foods, general rations and emphasize on the current cash distributed for replacement of cereals should be made clear to refugees is part of general rations.

6. Health and nutrition partners should be proactive to disseminate key messages related to hygiene promotion and nutrition education to UNHCR persons of concern.

Medium term

1. High prevalence of acute malnutrition and high prevalence of anaemia indicates the need for continuation and strengthening of Blanket Supplementary Feeding Program (BSFP) for all children 6-59 months in both the camps and all Pregnant and Lactating Women (PLW) and focusing on windows of opportunities to reduce the prevalence of stunting and halt the intergenerational effect of malnutrition.

2. IYCF should be strengthened through rolling out the UNHCR multi-sectoral IYCF friendly framework for action in the two camps and formation of mother to mother supportive groups should be emphasized.

3. Strengthen the integration of nutrition and health services at all contact points for women and children.

4. Liaise with Woreda Offices to get continuous deworming and Vit. A supplementation where there is supply issues i.e. Berhale camp.

5. Joint regular monitoring and evaluation (with emphasis on supportive supervision) of health, nutrition and WASH programs in each camp are important to identify capacity needs and to address gaps in programme delivery in a timely manner.

6. Usage of improved latrine facility in both camps are shown to be very low. It was also observed that most of the refugees' households lack adequate water storage containers. Constructions of new latrines to replace the filled once would increase coverage and reduce the use of unimproved latrines. Strengthened hygiene promotion and providing adequate storage water containers are key factors for enhanced personal hygiene.

Long term

1. Generally, some increase in prevalence of GAM, stunting in younger children, and anaemia in Aysaita and Berhale is an indication of a set of possible underlying causes which cannot be deduced from this survey. A qualitative study is recommended to explore concrete factors that may be attributing to high and increasing prevalence.

2. Advocate for funding to increase rations in the refugee food basket with provision of the minimum recommended levels of both macro and micronutrient to address acute malnutrition, as well as reduction of prevalence of anaemia in children aged 6 to 59 months.

3. Livelihood opportunities including; agricultural, animal husbandry and related income generation activities are strongly recommended to complement the gap faced over the cycle of the general ration.

INTRODUCTION

The Government of Ethiopia has been receiving and providing protection for Eritrean-Afar refugees who have fled to Ethiopia since the 2000 Ethio-Eritrean border war to escape oppression due to violation of human rights, forced military mobilization and restriction of movement. In Afar regional state refugees have been settled in two camps namely Aysaita and Berhale. There is significant number of refugee populations who also lives in the host community by the ties of clans and ethnicities. UNHCR, WFP and humanitarian partners in coordination with the Ethiopian government through ARRA has been providing basic humanitarian assistance and international protection for Eritrean Afar refugees hosted in Asayita and Berhale camps, in Afar Regional State. During the survey refugee population in the two camps was 23,899 including 3,015 children aged below five years.[2]

NUTRITION SITUATION

Nutrition programs were running through ARRA and GOAL in both camps of Afar, Aysaita and Berhale with the support from UNHCR and WFP. At the time of the survey, the following nutrition program were operational;-

- Targeted Supplementary Feeding Programmes (TSFP) for Moderately Acute Malnourished (MAM) children 6-59 months, Pregnant & Lactating Women (PLW) and patients with chronic illnesses such as Tuberculosis (TB) and Human Immunodeficiency Virus (HIV).
- Infant and you child feeding practices implemented in the two camps
- Outpatient and inpatient therapeutic feeding programmes for Severely Acute Malnourished (SAM) cases.
- Blanket Supplementary Feeding Programme (BSFP) for all children 6-23 months in Aysaita, 6-59 months in Berhale and Pregnant and Lactating Women (PLW).
- Periodic mass screening of children 6-59 months using MUAC or Weight for Height or a combination

Stabilization centres in both camps were handled by ARRA while GOAL was implementing BSFP, TSFP and OTP with the support from UNHCR and WFP.

FOOD SECURITY

Food security situation is primarily dependent on the WFP monthly food assistance, which is managed by ARRA. Food distribution usually takes place on monthly base.

[2] UNHCR ProGres database, July 2017

Food assistance modalities have been changed recently for Berhale with cash combined food assistance and for Aysaita it started in September 2014. The monthly food ration per refugee at the time of the survey was comprised of 6kg of cereals/wheat grain and 100 birr cash meant for 10kg cereals, 1.5kg of pulses, 0.9kg of Vegetable oil, and 0.15kg of Iodized salt in Aysaita. The ration for Berhale has been changed recently, with the introduction of cash of 50Birr meant for 5kg cereals, 11kg of in-kind cereals, keeping the rest of the food basket contents same as for Aysaita. The rations were expected to provide a total of 1928kcal[3] which is 92% of the minimum recommended ration of 2100kcal/p/d. The main objective of introducing the cash is that to create dietary diversity and reduce pressure on sell of food assistances.

HEALTH

Basic health services were provided by ARRA with the support of UNHCR in the two camps. The health centers in the camps provides primary health services which comprises of curative and preventive aspects, including outpatient department, inpatient ward, laboratory service, maternal and child health (MCH) and under 5 clinic. There was a reliable referral system that enables treatment of cases which need further medical attention at secondary and tertiary levels. Such cases were referred to Mekele, Dubti, Dese and Addis Ababa hospitals.

WASH

Water, Sanitation and Hygiene services were operational in both camps. Secondary data were indicating water supply from improved sources within the recommended UNHCR standards of above 20 litres per person per day while majority of refugee uses communal and shared family latrines.

[3] 20% of cereals meant for milling cost and compensation of losses excluded.

SURVEY OBJECTIVES

The overall objective of the nutrition survey was to assess the general health and nutrition status of refugees, mortality indices and deduce workable recommendations for appropriate nutritional and public health interventions.

Primary objectives:

- To determine the prevalence of acute malnutrition among children 6-59 months.
- To determine the prevalence of stunting among children 6-59 months.
- To assess the two-week period prevalence of diarrhoea among children 6-59 months.
- To assess the prevalence of anaemia among children 6-59 months and women of reproductive age (non-pregnant, 15-49 years)
- To estimate the coverage of measles vaccination among children 9-59 months.
- To estimate the coverage of vitamin A supplementation in the last six months among children 6-59 months
- To investigate IYCF practices among children 0-23 months
- To assess the proportion of households those use an adequate quantity of water per person per day.
- To assess the proportion of households who say they are satisfied with their water supply.
- To determine the coverage of ration cards and the duration the GFD ration lasts for recipient households.
- To determine the extent to which negative coping strategies are used by households.
- To assess household dietary diversity.
- To establish recommendations on actions to be taken to address the situation.

Secondary objectives:

- To estimate the coverage of selective feeding programs for children 6-59 months.
- To determine enrolment into Antenatal Care clinic and coverage of iron-folic acid supplementation in pregnant women.

  To assess crude and under-five mortality rates in the camps in the last three months.

Methodology

An exhaustive sampling technique (census) was used during data collection of this survey. Data for the five standard SENS modules and additional module of mortality data was collected using mobile phones pre-installed with Open Data Kit software (ODK) for android. ENA for SMART version 9th July 2015 and Epi-Info vs 3.5.4 were used to analyze Nutritional and other data respectively.

Sample Size

The sample size was initially calculated based on the UNHCR ProGres database with reference to the population update of 31 July 2017 shown in the table below.

Table 5: Sample size calculation from ProGres database

Parameters for Anthropometry	Berhale Camp	Aysaita camp
Estimated Prevalence of GAM (%)	20 %	13.7%
± Desired precision	5 %	5 %
Total population	11,006	12,893
Average Household size	4.4	4.0
% Children under-5	11.3 %	13.7%
Non respondent Household	5%	5 %
Children to be included	**246**	**182**
Households to be included	**578**	**388**

Prior to data collection all households were checked, empty houses were excluded and a list of HHs with inhabitants was generated for the survey. The number of household generated in both camps was below 600 households, and thus suggesting, for exhaustive sampling which was changed from simple random sampling initially planned.

The survey considered all eligible children aged 0-59 months from all households in the camp and where applicable, subjects were assessed for anthropometry, measles vaccination and vitamin A coverage, enrolment in the nutrition program, diarrhoea for the recall period of the last two weeks, prevalence of haemoglobin (assessment of nutritional anaemia) and infant and young child feeding (0-23 months) conducted. However, 50% of the household covered for anthropometric and mortality data collections were considered for Food Security, WASH, anaemia among non-pregnant women and coverage of antenatal care and iron-folate supplementations among pregnant women in each camp.

Questionnaire and Measurement Methods

Questionnaire

The questionnaires were prepared in English language and administered in Amharic and Afari language via translators. Standardization and pre testing was done before the actual survey.

Six questionnaires were designed and uploaded to mobiles through ODK software to provide information on the relevant indicators of the different target groups as indicated in the survey objectives. The six questionnaires covered the following modules

Module 1, 2a & 3: (Children 0-59 months)
This included questions and measurements on children aged 6-59 months. Information was collected on anthropometric status, oedema, enrolment in selective feeding programmes, immunization (measles), vitamin A supplementation in the last six months, morbidity from diarrhoea in past two weeks, and haemoglobin assessment. Questions related to IYCF were automatically displayed when assessing children aged 0 – 23 months in the same questionnaire.

Module 2b: (Women 15-49 years)
This included measurement of levels of haemoglobin in non-pregnant women aged 15 – 49 years and information for pregnant women aimed to assess coverage ANC, iron and folate pills.

Module 4: (Food Security)
This included questions on access and use of the GFD ration, coping mechanisms when the GFD ran out ahead of time, household dietary diversity.

Module 5: (WASH)
This included questions on the quantity of water used per household and the satisfaction with the drinking water supply, hygiene and sanitation.

Additional Module: (Mortality)
This included questions related to mortality in the last three months among the whole population.

Measurement methods

Household-level indicators

Mortality: Unlike previous surveys, mortality questionnaires were formatted into ODK system and uploaded to mobiles for interviewing.

Food security: The questionnaire used was adopted from the UNHCR's Standardized Expanded Nutrition Survey Guidelines for Refugee Populations.

WASH: The questionnaire used was adopted from the UNHCR's Standardized Expanded Nutrition Survey Guidelines for Refugee Populations.

Mosquito net: The questionnaire used was adopted from the UNHCR's Standardized Expanded Nutrition Survey Guidelines for Refugee Populations.

Individual-level indicators

Sex of children: recorded as male or female.

Birth date or age in months for children 0-59 months: the exact date of birth (day, month, and year) was recorded from birth certificates and checked on an EPI card or child health card. If no reliable proof of age was available, age was estimated in months using a local event calendar. In addition to local events calendar, the child's length/height was used for inclusion; the child had to measure between 65 cm and 110 cm.

Age of women 15-49 years: unlike children, the exact date of birth of women was not recorded but only the rounded figure in years.

Weight of children 6-59 months: measurements were taken to the closest 100 grams using an electronic scale (SECA scale) with a wooden board to stabilize it on the ground. All children were weighed without clothes.

Height/Length of children 6-59 months: children's height or length was taken to the closest millimeter using a wooden height board. Height was used to decide on whether a child should be measured lying down (length) or standing up (height). Children less than 87cm were measured lying down, while those greater than or equal to 87cm were measured standing up.

Oedema in children 6-59 months: bilateral Oedema was assessed by applying gentle thumb pressure on to the tops of both feet of the child for a period of three seconds and thereafter observing for the presence or absence of an indent.

MUAC of children 6-59 months: MUAC was measured at the mid-point of the left upper arm between the elbow and the shoulder and taken to the closest millimeter using a standard tape. MUAC was recorded in centimeters.

Child enrolment in selective feeding programme for children 6-59 months: selective feeding programme enrolment status was assessed for the outpatient therapeutic programme and for the targeted/blanket supplementary feeding programmes. This was verified by card or showing the mother or care giver the samples of the products given at the different programs

Measles vaccination in children 6-59 months: measles vaccination was assessed by checking for the measles vaccine on the EPI card if available or by asking the caregiver to recall if no EPI card was available. For ease of data collection, results were recorded on all children 6-59 months but were only analysed for children aged 9-59 months.

Vitamin A supplementation in last 6 months in children 6-59 months: whether the child received a vitamin A capsule over the past six months was recorded from the EPI card or health card if available or by asking the caregiver to recall if no card is available. A vitamin A capsule was shown to the caregiver when asked to recall.

Haemoglobin concentration in children 6-59 months and women 15-49 years: Hb concentration was taken from a capillary blood sample from the fingertip and recorded to the closest gram per decilitre by using the portable HemoCue Hb 301+ Analyser (HemoCue, Sweden). If severe anaemia was detected, the child or the woman was referred for treatment immediately.

Diarrhoea in last 2 weeks in children 6-59 months: an episode of diarrhoea was defined as three loose stools or more in 24 hours. Caregivers were asked if their child had suffered episodes of diarrhoea in the past two weeks.

ANC enrolment and iron and folic acid pills coverage: if the surveyed woman was pregnant, she was assessed by card or recall whether she was enrolled in the ANC programme and was receiving iron-folic acid pills.

Post-natal vitamin A supplementation: If the surveyed woman delivered a baby in the last six months, she was assessed by card or recall whether she had received vitamin A supplement after delivery.

Infant and young child feeding practices in children 0-23 months: Infant and young child feeding practices were assessed based on the UNHCR's Standardized Expanded Nutrition Survey Guidelines for Refugee Populations version 2 (2013).

Referrals: Children aged 6-59 months were referred to nutrition/health centre/post for treatment when MUAC was < 12.5 cm, WHZ was <-2 z-score, when oedema was present, or when haemoglobin was < 7.0 g/dL. Women of reproductive age were referred to the hospital for treatment when haemoglobin was < 8.0 g/dL.

Case Definitions, Inclusion Criteria and Calculations

Mortality: The crude death rate (CMR) was expressed as the number of deaths per 10,000 persons per day. The formula below was applied:
Crude Death Rate (CMR) = 10,000/a*f/ (b+f/2-e/2+d/2-c/2)
Where:
a = Number of recall days
b = Number of current household residents
c = Number of people who joined household during recall period
d = Number of people who left household during recall period
e = Number of births during recall period
f = Number of deaths during recall period

Malnutrition in children 6-59 months: Acute malnutrition was defined using weight-for-height index values or the presence of oedema and classified as show in the table below. Main results are reported after analysis using the WHO 2006 Growth Standards. Results using the NCHS 1977 Growth Reference are reported in **Annex 3 and 4**.

Table 6: Definitions of acute malnutrition using WFH and/or oedema in children 6–59 months

Categories of acute malnutrition	Percentage of median (NCHS Growth Reference 1977 only)	Z-scores (NCHS Growth Reference 1977 and WHO Growth Standards 2006)	Bilateral oedema
Global acute malnutrition	<80%	< -2 z-scores	Yes/No
Moderate acute malnutrition	<80% to ≥70%	< -2 z-scores and ≥ -3 z-scores	No
Severe acute malnutrition	>70%	> -3 z-scores	Yes
	<70%	< -3 z-scores	Yes/No

Stunting, also known as chronic malnutrition was defined using height-for-age index values and was classified as severe or moderate based on the cut-offs shown below. Main results are reported according to the WHO Growth Standards 2006. Results using the NCHS Growth Reference 1977 are reported in **Annex 3 and 4**.

Table 7: Definitions of stunting using WFA in children 6–59 months

Categories of stunting	Z-scores (WHO Growth Standards 2006 and NCHS Growth Reference 1977)

Stunting	<-2 z-scores
Moderate stunting	<-2 z-score and >=-3 z-score
Severe stunting	<-3 z-scores

Underweight was defined using the weight-for-age index values and was classified as severe or moderate based on the following cut-offs. Main results are reported according to the WHO Growth Standards 2006. Results using the NCHS Growth Reference 1977 are reported in **Annex 3 and 4**.

Table 8: Definitions of underweight using weight-for-age in children 6–59 months

Categories of underweight	**Z-scores (WHO Growth Standards 2006 and NCHS Growth Reference 1977)**
Underweight	<-2 z-scores
Moderate underweight	<-2 z-scores and >=-3 z-scores
Severe underweight	<-3 z-scores

Mid Upper Arm Circumference (MUAC) values were used to define malnutrition according to the following cut-offs in children 6-59 months:

Table 9: Low MUAC values cut-offs in children 6-59 months

Categories of low MUAC values	
<12.5 cm:	Global acute malnutrition
≥ 11.5 cm and <12.5 cm:	Moderate acute malnutrition
< 11.5 cm:	Severe acute malnutrition

Child enrolment in selective feeding programme for children 6-59 months: Feeding programme coverage is estimated during the nutrition survey using the direct method as follows (reference: Emergency Nutrition Assessment: Guidelines for field workers. Save the Children. 2004):

Coverage of SFP programme (%) =

$$\frac{100 \times \textit{No. of surveyed children with MAM according to SFP admission criteria who reported being registered in SFP}}{\textit{No. of surveyed children with MAM according to SFP admission criteria}}$$

Coverage of TFP programme (%) =

$$\frac{100 \times \textit{No. of surveyed children with SAM according to OTP admission criteria who reported being registered in OTP}}{}$$

No. of surveyed children with SAM according to OTP admission criteria

Infant and young child feeding practices in children 0-23 months
Infant and young child feeding practices were assessed as follows based on the UNHCR SENS IYCF module (Version 1.3 (March 2012).

Timely initiation of breastfeeding in children aged 0-23 months*:*

Proportion of children 0-23 months who were put to the breast within one hour of birth
Children 0-23 months who were put to the breast within one hour of birth
Children 0-23 months of age

Exclusive breastfeeding under 6 months*:*
Proportion of infants 0–5 months of age who are fed exclusively with breast milk: (including expressed breast milk or from a wet nurse, ORS, drops or syrups (vitamins, breastfeeding minerals, medicines)
Infants 0–5 months of age who received only breast milk during the previous day
Infants 0–5 months of age

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

Introduction of solid, semi-solid or soft 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

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

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

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 in children 6-59 months and women of reproductive age:

Anaemia was classified according to the following cut-offs in children 6-59 months and non-pregnant women of reproductive age. Pregnant women were not included in this surveys for the assessment of anaemia as recommended by UNHCR {pregnant women are not to be included in routine nutrition surveys for the assessment of anaemia due sample size issues, (usually a small number of pregnant women are found) as well as the difficulties in assessing gestational age in pregnant women)}.

Table 10: Definition of anaemia (WHO 2000)

Age/Sex groups	Categories of Anaemia (Hb g/dL)			
	Total	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

1.3.5 Classification of public health problems and targets

Mortality: The following thresholds are used for mortality.

Table 11: Mortality benchmarks for defining crisis situations

Emergency threshold
CDR > 1/10,000 / day: 'very serious' CDR > 2 /10,000 /day: 'out of control' CDR > 5 /10,000 /day: 'major catastrophe' (double for U5MR thresholds)

Anthropometric data: The target for the prevalence of global acute malnutrition (GAM) for children 6-59 months of age by camp, country and region should be < 10% and the target for the prevalence of severe acute malnutrition (SAM) should be <2%. Table 1.8 shows the classification of public health significance of the anthropometric results for children under-5 years of age according to WHO:

Table 12: Classification of public health significance for under 5 children

Prevalence %	Critical	Serious	Poor	Acceptable
Low weight-for-height	≥15	10-14	5-9	<5
Low height-for-age	≥40	30-39	20-29	<20
Low weight-for-age	≥30	20-29	10-19	<10

Selective feeding programmes:
*Table 13: Performance indicators for selective feeding programmes **

	Recovery	Case fatality	Defaulter rate	Coverage		
				Rural areas	Urban areas	Camps

SFP	>75%	<3%	<15%	>50%	>70%	>90%
TFP	>75%	<10%	<15%	>50%	>70%	>90%

* UNHCR and WFP selective feeding guideline 2011 and SPHERE standards for performance

Measles vaccination coverage: UNHCR recommends target coverage of 95% (same as Sphere Standards).

Vitamin A supplementation coverage: UNHCR performance indicator; target for vitamin A supplementation coverage for children aged 6-59 months by camp, country and region should be >90%.

Anemia data*:* As per global Standard (WHO and UNHCR) the prevalence of anaemia in children 6-59 months of age and in women 15-49 years of age should be low i.e. <20%. The severity of the public health situation should be classified according to WHO criteria as shown below.

Table 14: Classification of public Health significance (WHO 2000)

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

WASH: Diarrhoea contributes to high infant and child morbidity and mortality by directly affecting children's nutritional status. WASH interventions are one of the key interventions to reduce the incidence of diarrheal diseases. Hygienic conditions and adequate access to safe water and sanitation services is a matter of ensuring human dignity and is recognised as a fundamental human right. The following standards (amongst others) apply to UNHCR WASH programmes:

Table 15: UNHCR WASH Programme Standards

UNHCR Standard	**Indicator**
Average quantity of water available per person/day	> or = 20 liters
Latrine provision	20 people/latrine
Soap provision	> 250 g per person per month

Training, coordination and supervision

Core survey teams (Team leader and Interviewer) were trained for 5 days in Mekelle. A total of six in Berhale and four in Aysiata survey teams were established. And each team consists six members (Team Leader, anthropometry measurer, anthropometric assistant, Interviewer, HB measurer and translator). Other team members were refreshed at their respective camps, followed by standardization and pilot test. The survey was coordinated and supervised by technical experts from UNHCR, ARRA and WFP.

Data Collection and Analysis

With the aforementioned team organization, the data collection lasted for 4 days in each camps. Each survey teams were trained and equiped with all the necessary equipments and mobile phones to collect data. Everday records were checked before being transfered to the server. Some data were checked against the paper Household Listing form and key information back up templates, either confirmed or marked to be returned to the team for correction and/or confirmation the following day (in case of any error).
Records were downloaded from the server each evening. Data for children 6-59 months were then transferred from the .csv files into ENA for SMART software to generate Plausibility check. Feedback were given to the teams in every morning for their attention on the following data collection day.

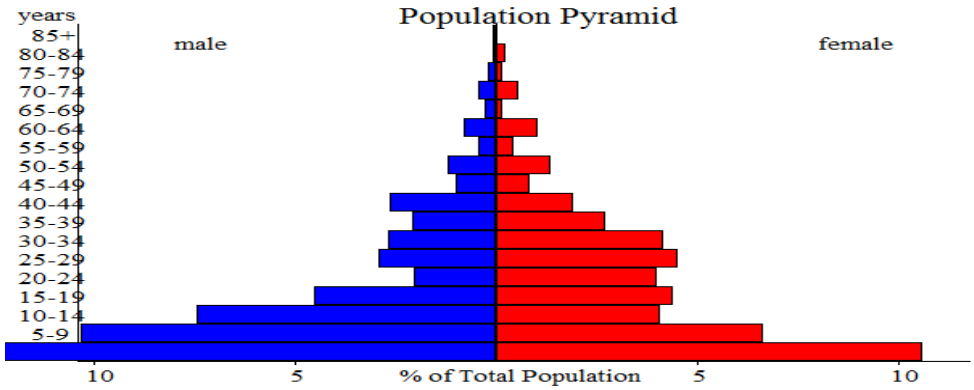
RESULTS FROM AYSAITA CAMP

Table 16: Distribution of Age and Sex of Sample, Aysaita.

	Boys		Girls		Total		Ratio
AGE (mo)	**no.**	**%**	**no.**	**%**	**no.**	**%**	**Boy: girl**
6-17	86	57.3	64	42.7	150	23.7	1.3
18-29	113	64.6	62	35.4	175	27.6	1.8
30-41	84	51.5	79	48.5	163	25.7	1.1
42-53	60	47.2	67	52.8	127	20.0	0.9
54-59	11	57.9	8	42.1	19	3.0	1.4
Total	354	55.8	280	44.2	634	100.0	1.3

The overall sex ratio was 1.3 which denotes equal distribution of the sexes of different age groups, it show normal trends and that there is no selection bias.

Figure 3: Population Age and Sex Pyramid, Aysaita.



Anthropometric results (based on WHO Growth Standards 2006)

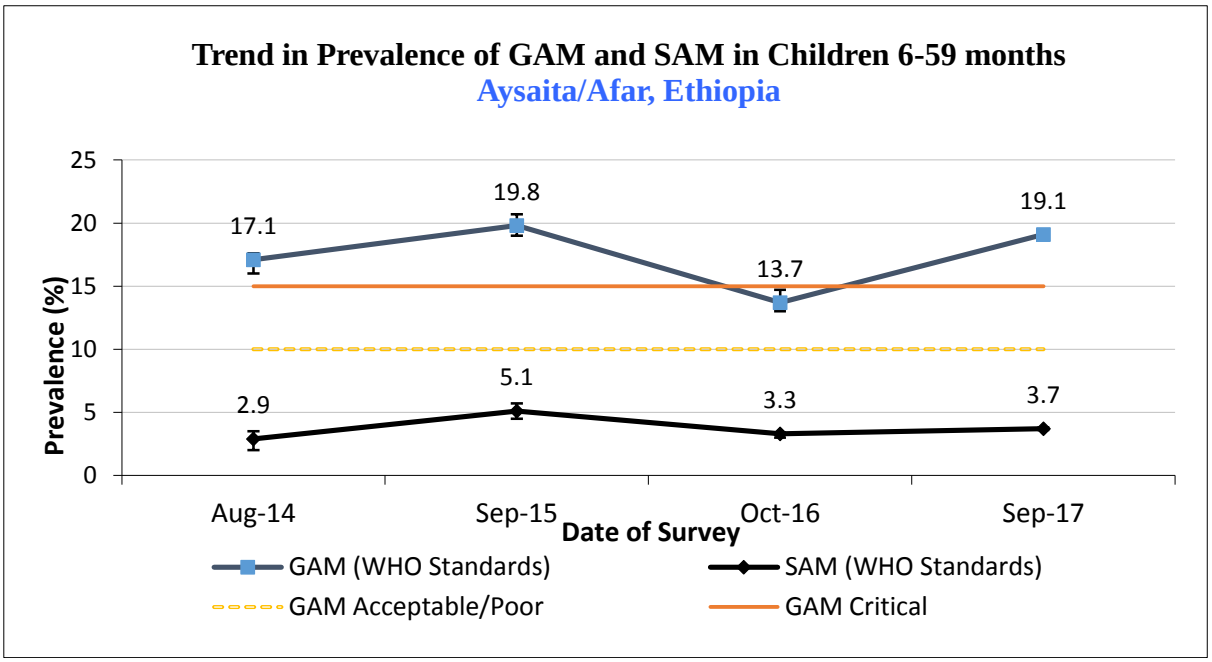
Anthropometric results were analysed and presented based on WHO Growth Standards and excluding z-scores from Observed mean (SMART flags): WHZ -3 to 3; HAZ -3 to 3; WAZ -3 to 3.

Table 17: Prevalence of Acute Malnutrition based on WHZ and/or oedema and by sex.

	All n = 627	**Boys** n = 350	**Girls** n = 277
Prevalence of global malnutrition (<-2 z-score and/or oedema)	(120) 19.2 %	(78) 22.3 %	(42) 15.2 %
Prevalence of moderate malnutrition (<-2 z-score and >=-3 z-score, no oedema)	(97) 15.5 %	(61) 17.4 %	(36) 13.0 %
Prevalence of severe malnutrition (<-3 z-score and/or oedema)	(23) 3.7 %	(17) 4.9 %	(6) 2.2 %

The prevalence of oedema was 0.0 %
Significant difference were seen between Boys and Girls on the prevalence of acute malnutrition as Boys were more prevalently acute malnourished than Girls (Table 13).

Figure 4: Trends of GAM and SAM based on WHZ and/or oedema from 2014-2017.



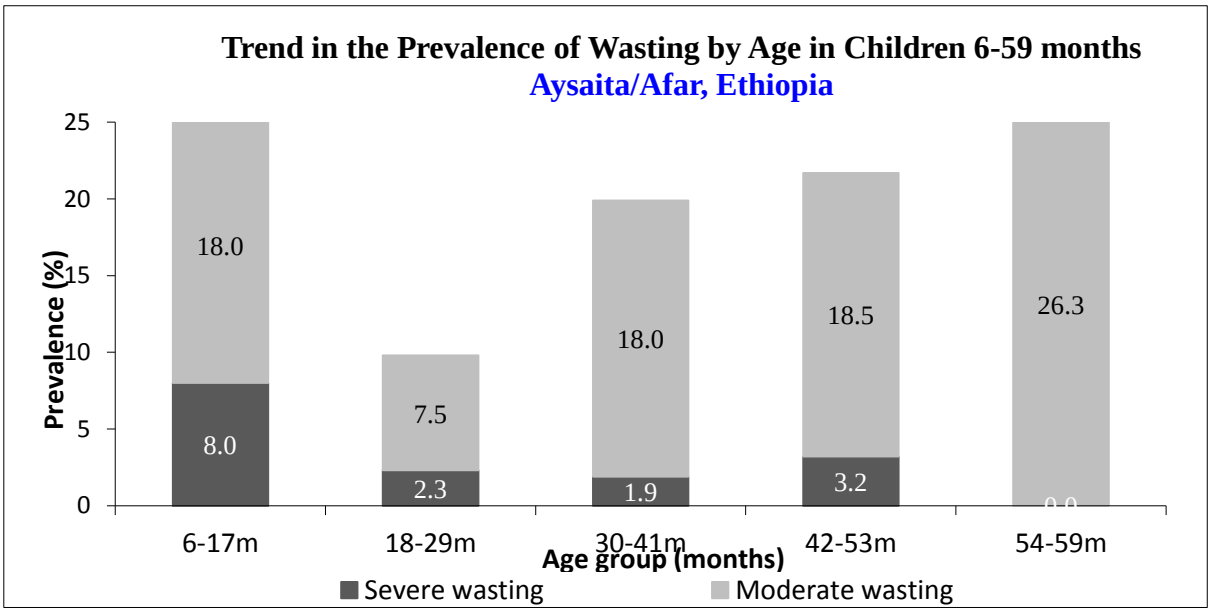
Comparison of results with 2016 shows significance increment in GAM prevalence and slight in SAM prevalence in 2017 (Figure 4).

Table 18: Prevalence of acute malnutrition by age, based on WHZ and/or oedema

Age (mo)	Total no.	Severe wasting (<-3 z-score)		Moderate wasting (>= -3 & <-2 z-score)		Normal (> = -2 z score)		Oedema	
		No.	%	No.	%	No.	%	No.	%
6-17	150	12	8.0	27	18.0	111	74.0	0	0.0
18-29	173	4	2.3	13	7.5	156	90.2	0	0.0
30-41	161	3	1.9	29	18.0	129	80.1	0	0.0
42-53	124	4	3.2	23	18.5	97	78.2	0	0.0
54-59	19	0	0.0	5	26.3	14	73.7	0	0.0
Total	627	23	3.7	97	15.5	507	80.9	0	0.0

The youngest children (6-17 months) was the most affected by acute malnutrition as compared to other age groups.

Figure 5: Trends in the prevalence of WAZ by age group.



Wasting, both severe and moderate was the highest among the youngest age group (Figure 5).

Table 19: Distribution of severe acute malnutrition and oedema based on WHZ.

	<-3 z-score	**>=-3 z-score**
Oedema present	Marasmic kwashiorkor No. 0 (0.0 %)	Kwashiorkor No. 0 (0.0 %)
Oedema absent	Marasmic No. 23 (3.6 %)	Not severely malnourished No. 610 (96.4 %)

All the cases of SAM were due to wasting and no oedema was detected (Table 15).

Figure 6: Distribution of WHZ based on WHO Growth Standards.

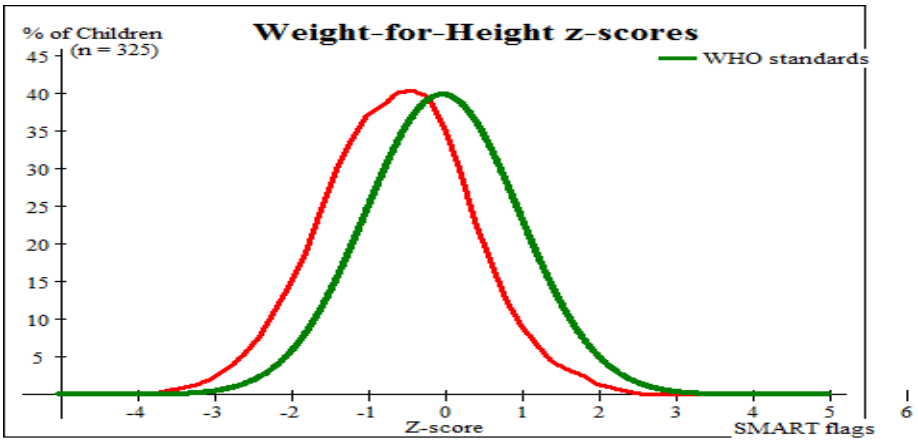


Figure 6 is a comparison of the surveyed and reference weight-for-height z-score (WHZ) distribution. The survey distribution (in red) followed a normal distribution and was shifted to the left of the WHO reference, showing an average lower z-scores, and therefore high malnutrition.

Table 20: Prevalence of acute malnutrition based on MUAC and/or oedema and by sex.

	All n = 634	**Boys** n = 354	**Girls** n = 280
Prevalence of global malnutrition (< 125 mm and/or oedema)	(77) 12.1 %	(41) 11.6 %	(36) 12.9 %
Prevalence of moderate malnutrition (< 125 mm and >= 115 mm, no oedema)	(58) 9.1 %	(29) 8.2 %	(29) 10.4 %
Prevalence of severe malnutrition (< 115 mm and/or oedema)	(19) 3.0 %	(12) 3.4 %	(7) 2.5 %

The prevalence of GAM as measured by MUAC was 12.1%

Table 21: Prevalence of acute malnutrition by age, based on MUAC and/or oedema

		Severe wasting (< 115 mm)		Moderate wasting (>= 115 mm and < 125 mm)		Normal (> = 125 mm)		Oedema	
Age (mo)	**Total no.**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
6-17	150	16	10.7	33	22.0	101	67.3	0	0.0
18-29	175	1	0.6	16	9.1	158	90.3	0	0.0
30-41	163	0	0.0	5	3.1	158	96.9	0	0.0
42-53	127	2	1.6	4	3.1	121	95.3	0	0.0
54-59	19	0	0.0	0	0.0	19	100.0	0	0.0
Total	634	19	3.0	58	9.1	557	87.9	0	0.0

Table 22: Prevalence of underweight based on weight-for-age z-scores by sex

	All n = 627	**Boys** n = 349	**Girls** n = 278
Prevalence of underweight (<-2 z-score)	(203) 32.4 %	(124) 35.5 %	(79) 28.4 %
Prevalence of moderate underweight (<-2 z-score and >=-3 z-score)	(162) 25.8 %	(99) 28.4 %	(63) 22.7 %
Prevalence of severe underweight (<-3 z-score)	(41) 6.5 %	(25) 7.2 %	(16) 5.8 %

Out of the total number of children surveyed 32.4% were underweight, and 6.5% were severely underweight (Table 21).

Table 23: Prevalence of underweight by age, based on weight-for-age z-scores

		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.**	**%**
6-17	148	20	13.5	47	31.8	81	54.7	0	0.0
18-29	173	8	4.6	43	24.9	122	70.5	0	0.0
30-41	162	7	4.3	33	20.4	122	75.3	0	0.0
42-53	125	5	4.0	31	24.8	89	71.2	0	0.0

54-59	19	1	5.3	8	42.1	10	52.6	0	0.0
Total	627	41	6.5	162	25.8	424	67.6	0	0.0

Table 24: Prevalence of stunting based on HAZ and by sex.

	All n = 617	**Boys** n = 343	**Girls** n = 274
Prevalence of stunting (<-2 z-score)	(202) 32.7%	(113) 32.9%	(89) 32.5%
Prevalence of moderate stunting (<-2 z-score and >=-3 z-score)	(157) 25.4%	(83) 24.2%	(74) 27.0%
Prevalence of severe stunting (<-3 z-score)	(45) 7.3%	(30) 8.7%	(15) 5.5%

The prevalence of stunting was 32.7%

Table 25: Prevalence of stunting by age based on height-for-age z-scores_Aysaita.

Age (mo)	**Total no.**	**Severe stunting (<-3 z-score)**		**Moderate stunting (>= -3 and <-2 z-score)**		**Normal (> = -2 z score)**	
		No.	**%**	**No.**	**%**	**No.**	**%**
6-17	146	16	11.0	45	30.8	85	58.2
18-29	169	12	7.1	48	28.4	109	64.5
30-41	158	9	5.7	37	23.4	112	70.9
42-53	125	6	4.8	23	18.4	96	76.8
54-59	19	2	10.5	4	21.1	13	68.4
Total	617	45	7.3	157	25.4	415	67.3

Children under 30 months of age appeared to be more affected by stunting than the older ones.

Figure 7 : Trends in the prevalence of stunting by age in children 6-59 months

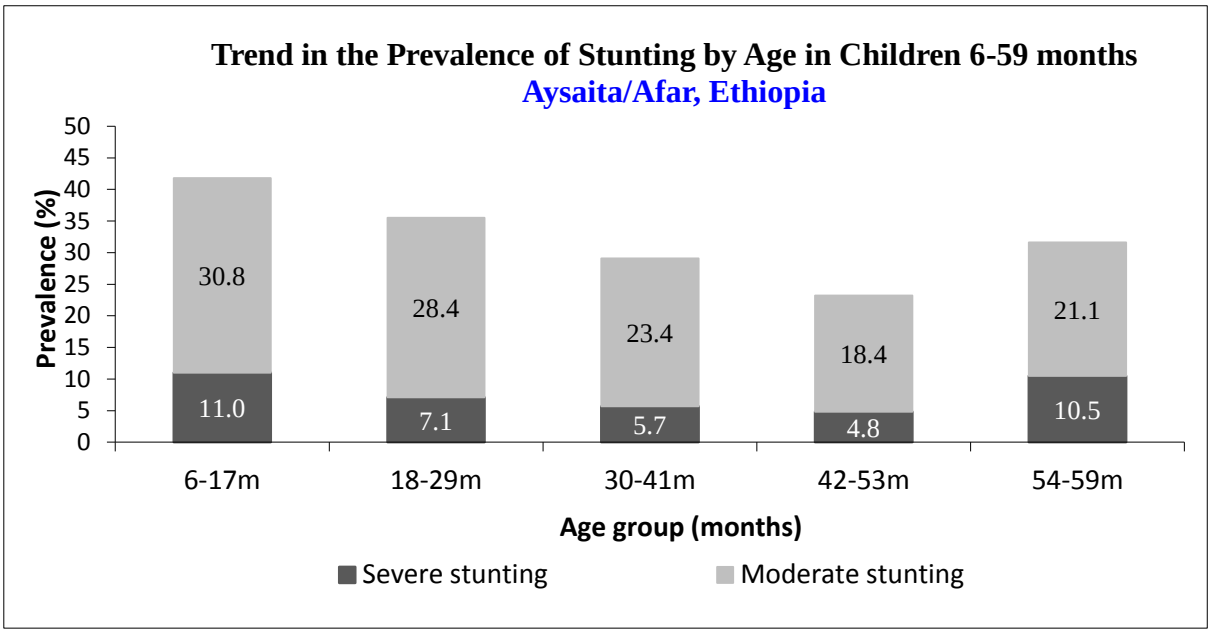
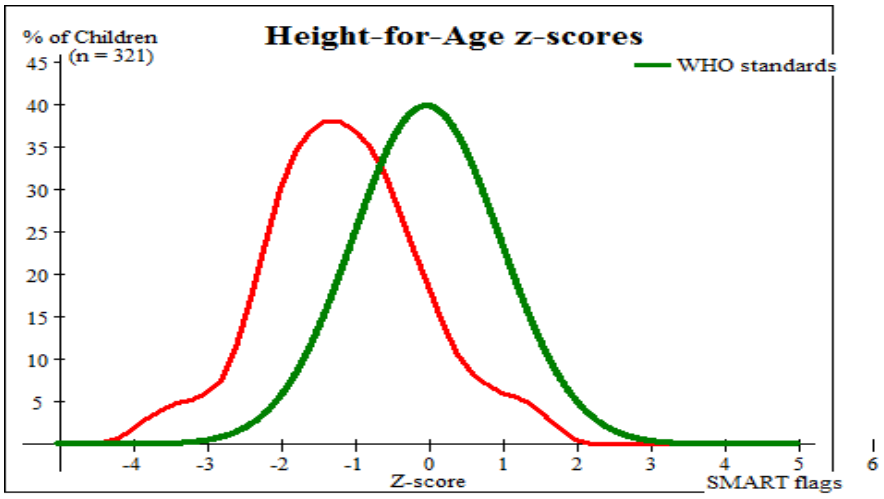


Figure 8: Distribution of HAZ based on WHO Growth Standards.



The height-for-age distribution for the survey (red) is compared to the WHO distribution (green) in Figure 8. The distribution followed a typical bell shape, and was also shifted to the left of the reference, indicating an average lower mean z-score for the survey sample.

Table 26: Mean z-scores, Design Effects and excluded subjects.

Indicator	n	Mean z-scores ± SD	Design Effect (z-score < -2)	z-scores not available*	z-scores out of range
Weight-for-Height	627	-1.17±1.01	1.00	1	6
Weight-for-Age	627	-1.58±0.97	1.00	1	6
Height-for-Age	617	-1.46±1.15	1.00	1	16

* contains for WHZ and WAZ the children with oedema.

Mortality results

Table 27: Mortality rates_Aysaita

Crude Mortality Rate (CMR) total No. of death /10,000/day = 0.24(0.01-8.35;95% CI)
Under 5 Mortality (U5MR) total No. of death /10,000/day = 0.69 (0.02-19.59 ;95% CI)

Mortality rates CMR and U5MR was below the emergency threshold at acceptable levels. However this result is to be interpreted with caution due to the wide confidence interval.

Feeding programme coverage results

Table 28: Estimated programme coverage for acutely malnourished children

	Number/total	**%**
Supplementary feeding programme coverage (WHZ >= - 3 AND WHZ < - 2 OR MUAC >= 115 mm AND MUAC < 125 mm)	37/129	28.7%
Therapeutic feeding programme coverage (WHZ < - 3 OR MUAC < 115mm)	9/52	23.1%
Blanket Supplementary (WHZ >= - 2 OR MUAC >= 125)	160/239	66.9%

Estimated programme coverage for supplementary, therapeutic and blanket feeding programme was far lower than expected standards for refugee settings (>90%).

Measles vaccination coverage results Aysaita

Table 29: Measles vaccination coverage for children aged 9-59 months (n=538)

	Measles (with card) n=129	**Measles (with card or confirmation from mother) n=538**
YES	23.0% (19.6-26.7)	95.7% (93.6-97.2%)

The measles coverage with card or recall was in line with the recommendation which is above 95% target at 95.7% (93.6-97.2, 95% CI).

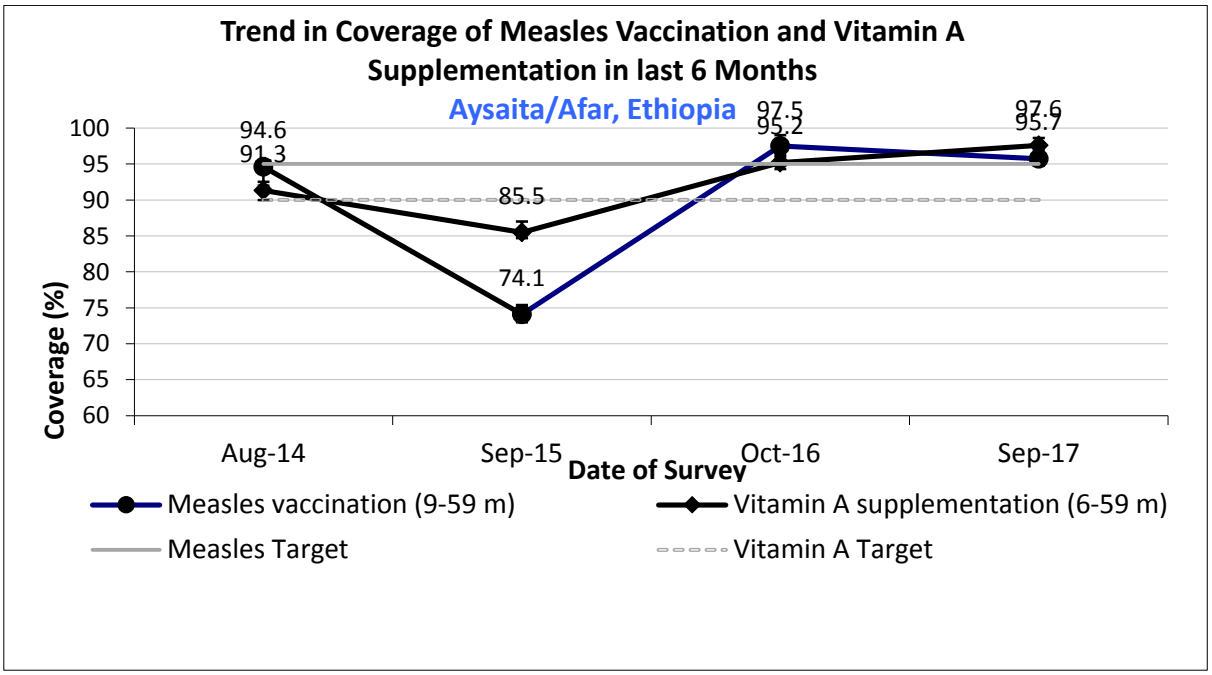
Vitamin A supplementation coverage results

Table 30: Vit. A supplementation in 6-59 months within past 6 months (n=612)

	Vitamin A capsule (with card) n=155	**Vitamin A capsule (with card or confirmation from mother) n=612**
YES	24.7% (21.4-28.3%)	97.6% (96.0-98.6%)

Vitamin A coverage by card or recall from the mother was 97.6% (96.0-98.6%) which is in line with UNHCR and sphere standards.

Figure 9: Coverage of measles and vit A supplementation in 6-59m (2014-2017)



Diarrhoea

Table 31: Period prevalence of diarrhoea

	Number/total	**% (95% CI)**
Diarrhoea in the last two weeks	59/627	9.4%

Prevalence of diarrhoea among surveyed children aged 6 to 59 months was 9.4% for Aysaita and 6.6% for Berhale.

Anaemia results

Table 32: Prevalence of anaemia and Hb concentration in 6-59 months of age

Anaemia in Children 6-59 months	**All n =626**
Total Anaemia (Hb<11.0 g/dL)	(n=160) 25.6%
Mild Anaemia (Hb 10.0-10.9 g/dL)	(n=123) 19.6%
Moderate Anaemia (7.0-9.9 g/dL)	(n =37) 5.9%
Severe Anaemia (<7.0 g/dL)	0%
Mean Hb (g/dL)	11.67 g/dL and (1.14SD) [min 7.5 to max 15.0]

25.6% of children aged 6-59 months were anaemic (table 15). Comparison with 26.5% anaemia in there is no significant difference.

Figure 10: Anaemia categories in children 6-59 months from 2013-2017

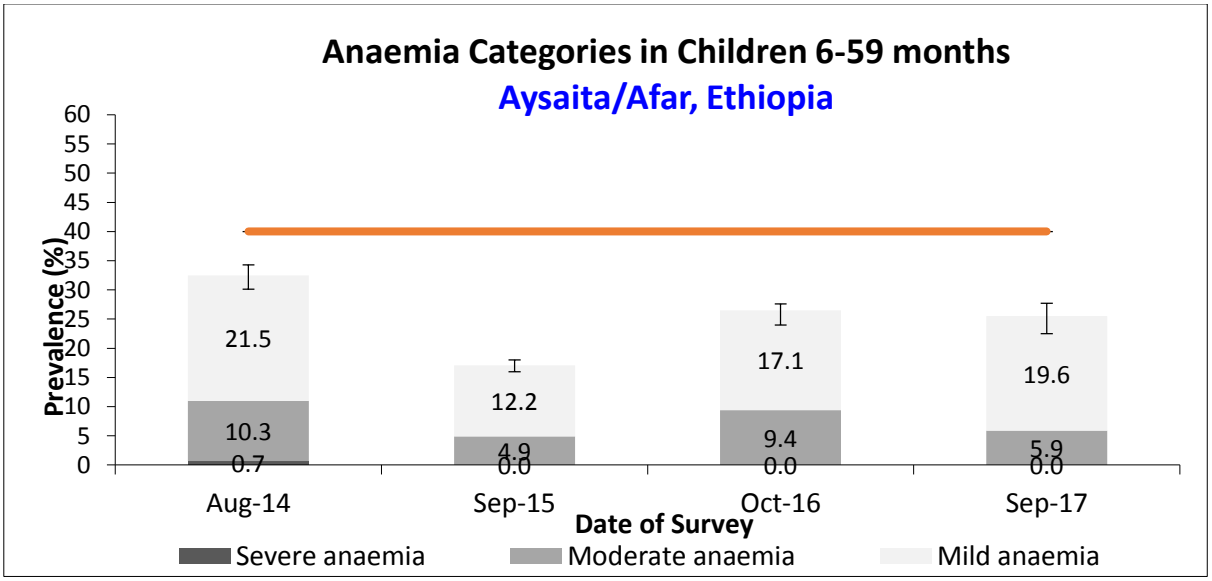


Figure 11: Mean Haemoglobin concentration in 6-59 months from 2013-2017

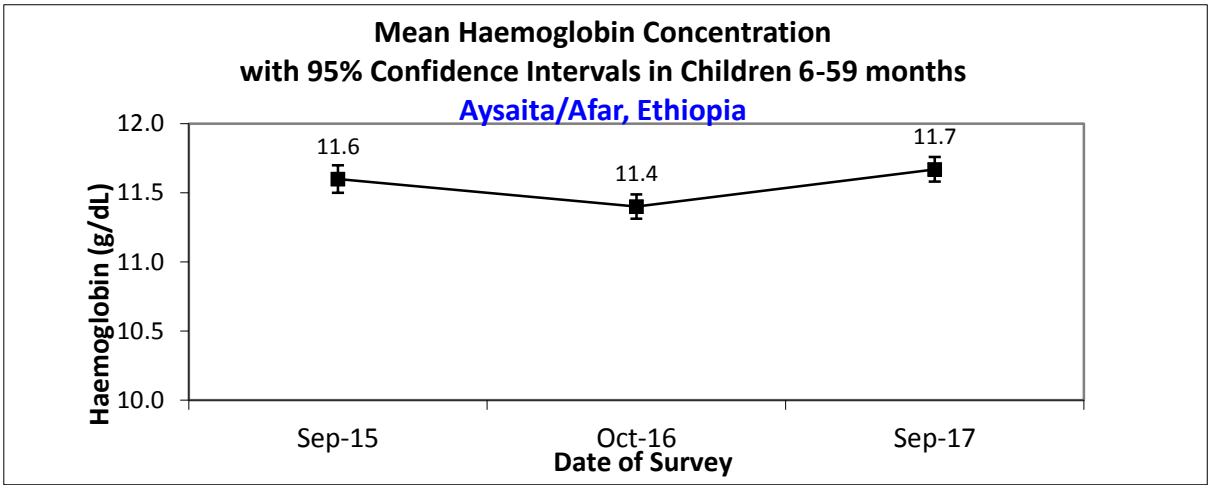


Table 33: Prevalence of anaemia by age

Age group	No.	Severe Anaemia (<7.0 g/dL)		Moderate Anaemia (7.0-9.9 g/dL)		Mild Anaemia (Hb 10.0-10.9 g/dL)		Total Anaemia (Hb<11.0 g/dL)		Normal (Hb≥11.0 g/dL)	
		no	%	no	%	no	%	no	%	no	%
6-23	184	0	0	10	5.4%	35	19.0%	45	24.5%	139	75.5%
24-35	146	0	0	10	6.8%	30	20.5%	40	27.4%	106	72.6%
36-59	262	0	0	12	4.6%	50	19.1%	62	23.7%	200	76.3%
Total	626	0	0	37	5.9%	123	19.6%	160	25.6%	466	74.4%

In table 29 above; Categorisation of anaemia by age group shows anaemia in children 23-35 months age group is slightly higher than other age groups.

Children 0-23 months

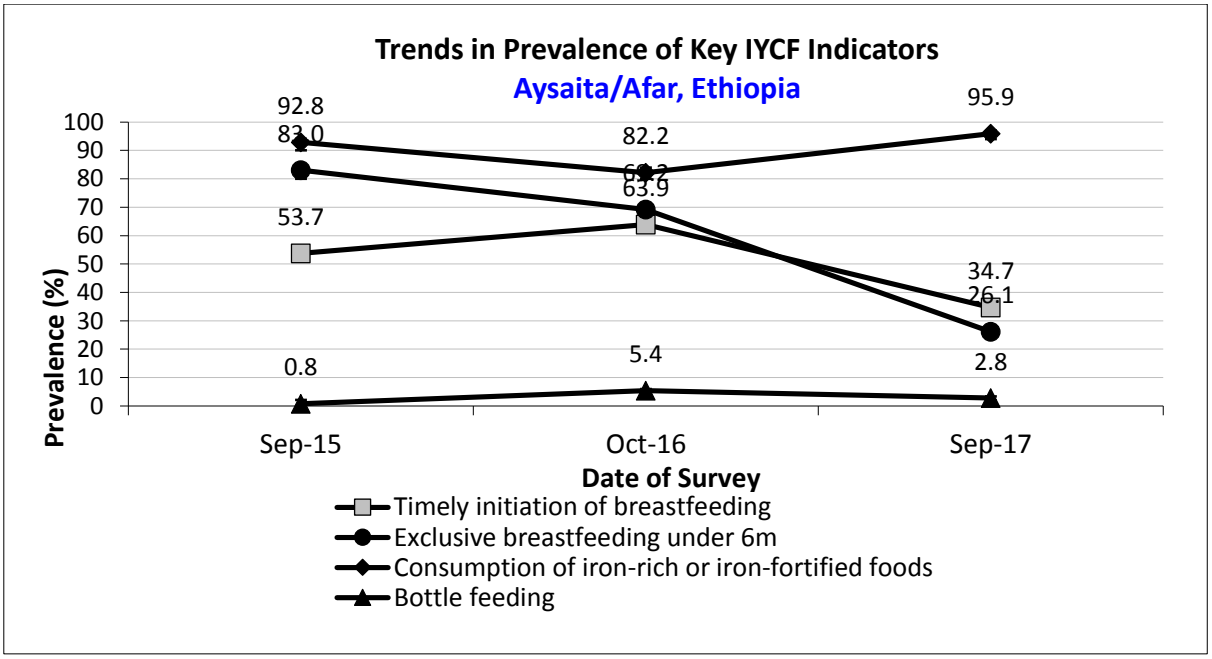
Table 34: Prevalence of Infant and Young Child Feeding Practices Indicators

Indicator	Age range	No./ total	Prevalence (%) & 95% CI
Timely initiation of breastfeeding	0-23 months	83/239	34.7%
Exclusive breastfeeding under 6 months	0-5 months	6/23	26.1%
Continued breastfeeding at 1 year	12-15 months	19/59	32.2%
Continued breastfeeding at 2 years	20-23 months	6/30	20.0%
Introduction of solid, semi-solid or soft foods	6-8 months	13/20	65.0%
Consumption of iron-rich or iron-fortified foods	6-23 months	70/73	95.9%
Bottle feeding	0-23 months	3/107	2.8%

Note that when IYCF indicators are collected in nutritional surveys based on anthropometric sample of children aged 0-59 months, it is not feasible to achieve a large enough sample size for some of the indicators to be estimated as precisely as desired, especially for indicators covering a very narrow age range (e.g. 6-8 and 12-15 months). Hence, IYCF indicators need to be interpreted with caution.

Less than half (34.7%) of children below 2 years had been introduced to breast milk within an hour of birth (Table 30). The exclusive breastfeeding prevalence was 26.1%. About one third (32.2%) of the sampled children were still breastfeeding at 1 year, whilst less than a quarter (20%) were still breastfeeding at 2 years. Consumption of iron rich foods were reported as 95.9%. More than half (65.0%) of 6-8 months children as compared to 2015 (52.5%) had been introduced to solid foods. The proportion of children who were bottle fed the day before the survey were 2.8%.

Figure 12: Nutrition survey results (IYCF indicators) from 2015-2017



Prevalence of intake ANALYSIS

Infant formula

Table 35: infant formula intake in children aged 0-23 months

	Number/total	% (95% CI)
Proportion of children aged 0-23 months who receive infant formula (fortified or non-fortified)	3/107	2.8%

CSB+ intake from any source in children aged 6-23 months

	Number/total	% (95% CI)
Proportion of children aged 6-23 months who receive FBF	36/74	48.6%

CSB ++ intake in children aged 6-23 months

	Number/total	% (95% CI)
Proportion of children aged 6-23 months who receive CSB++	35/75	46.7

Women 15-49 years

Women physiological status

Table 36: Women physiological status and age, Aysaita.

Physiological status	Number/total	% of sample
Non-pregnant	233/256	91.0% (86.8-94.2%)
Pregnant	23/256	9.0% (5.8-13.2%)
Mean age (range)	26.9 years Range: 15- 48 years	

Of the sampled women aged 15-49 years in the survey, 9.0% were pregnant. The mean age of women was 26.9 years (Table 32).

Anaemia Results

Table 37: Prevalence of anaemia in non-pregnant women aged 15-49 years.

Anaemia in non-pregnant women of reproductive age (15-49 years)	**All (95% CI)** **n = 231**
Total Anaemia (<12.0 g/dL)	(51) 22.1% (16.9-28.0%)
Mild Anaemia (11.0-11.9 g/dL)	(36) 15.6% (11.2-20.9%)
Moderate Anaemia (8.0-10.9 g/dL)	(15) 6.5% (3.7-10.5%)
Severe Anaemia (<8.0 g/dL)	(0)0%
Mean Hb (g/dL)	12.67 g/dL and (1.12SD) [min 9.3 to max 16.1 g/dL]

The prevalence of anaemia among non-pregnant women was 22.1% (16.9-28.0, 95% C.I). Indicated increase compared to 12.2% in 2016.

Figure 13: Anaemia categories in non-pregnant women from 2014 to 2017

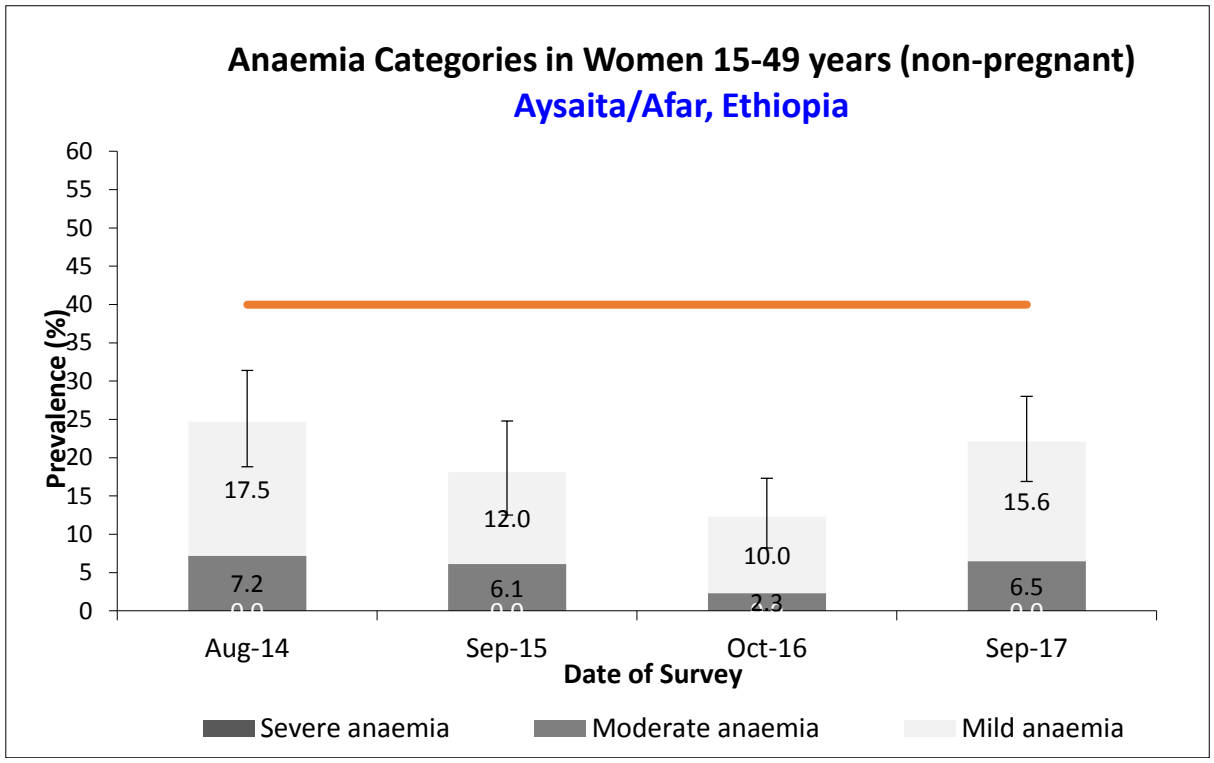


Figure 14: Mean haemoglobin concentration in non-pregnant from 2014 to 2017

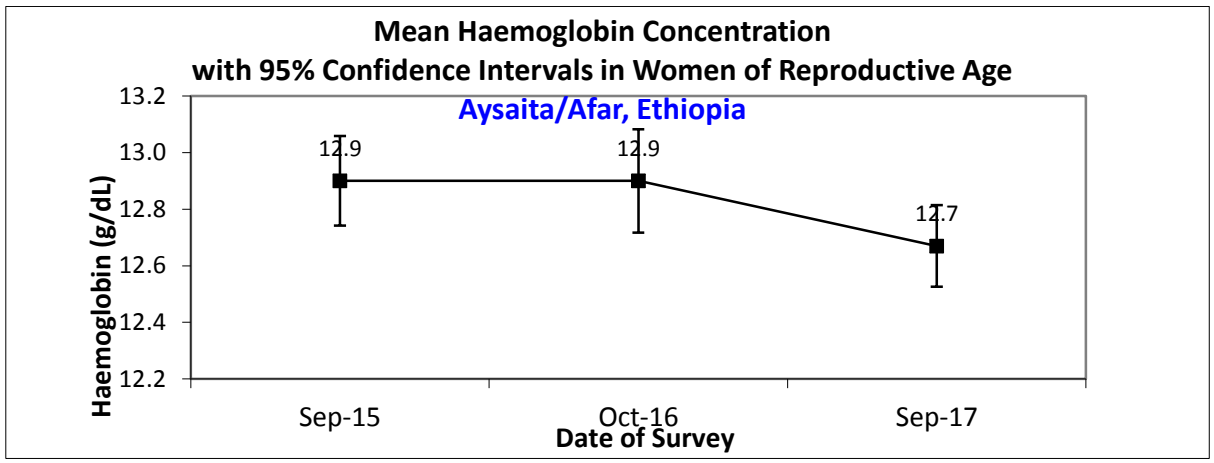


Table 38: ANC enrolment and iron-folic acid pills coverage among pregnant women

	Number /total	% (95% CI)
Currently enrolled in ANC programme	21/23	91.3% (72.0-98.9%)
Currently receiving iron-folic acid pills	19/23	82.6% (61.2-95.0%)

More than three fourth of pregnant women enrolled in ANC had received iron-folic pills

Food security

Table 39: Ration card coverage

	Number/total	**% (95% CI)**
Proportion of households with a ration card	250/251	99.6% (97.8-100%)

Almost all of the sampled households did have a ration card.

Table 40: Reported duration of general food ration 1

Average number of days the food ration lasts (Standard deviation or 95% CI)	**Average duration (%) in relation to the theoretical duration of the ration***
16.74 days out of 30 days	55.8%

Table 41: Reported duration of general food ration 2

	Number/total	**% (95% CI)**
Proportion of households reporting that the food ration lasts the entire duration of the cycle	8/250	3.2% (1.4-6.2%)
Proportion of households reporting that the food ration lasted:		
≤75% of the cycle (30 days)	236/250	94.4% (90.8-96.9%)
>75% of the cycle (30 days)	14/250	5.6% (3.1 – 9.2%)

Negative coping strategies results

Table 42: Coping strategies used by the surveyed population over the past month

	Number/total	**% (95% CI)**
Proportion of households reporting using the following coping strategies over the past month*:		
Borrowed cash, food or other items *with or without interest*	211/250	84.4% (79.3-88.7%)
Sold any assets (furniture, seed stocks, tools, other NFI, livestock etc.)	40/211	15.9% (11.6-21.1%)

Requested increase remittances or gifts as compared to normal	6/251	2.4% (0.9-5.1%)
Reduced the quantity and/or frequency of meals	32/249	12.9% (9.0-17.7%)
Begged	3/249	1.2% (0.2-3.5%)
Engaged in potentially risky or harmful activities (list activities)	0	0.0%
Proportion of households reporting using none of the coping strategies over the past month	29/246	11.8% (8.0-16.5%)

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

The most important coping strategy that was reported to be used to fill the food gap was borrowing and reducing meal quantity and frequency (Table 38).

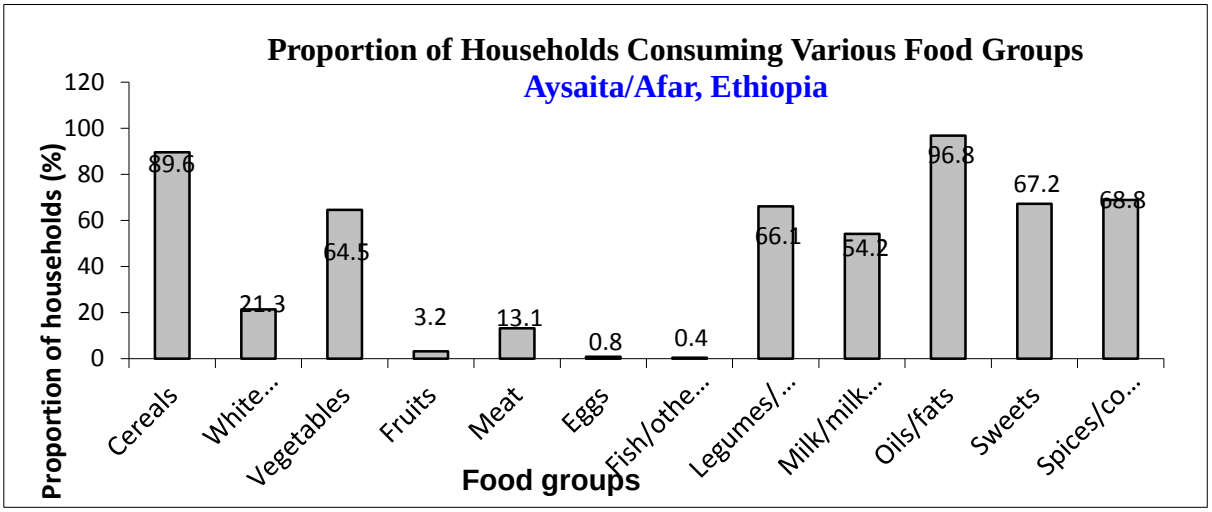
Household dietary diversity results

The general food distribution usually lasts more than one day and may be organized by family size, hence the surveyed households will be at different times of the cycle which may have an impact on the HDDS results and this needs to be considered in interpreting the data.

Table 43: Average HDDS

Average HDDS	5.45 (SD =1.61)

Figure 15: Proportion of households consuming different food groups within last 24 hours



Most common items reported to be consumed were oils/fats (96.8%), cereal, (89.6%), Spices (68.8%), Fish, eggs consumption is low.

Table 44: Consumption of food aid commodities and micronutrient rich foods by household's _Aysaita

	Number/total	% (95% CI)
Proportion of households *not consuming any* vegetables, fruits, meat, eggs, fish/seafood, and milk/milk products	32/246	13.0% (9.1-17.9%)
Proportion of households consuming either a plant or animal source of vitamin A	149/239	62.3% (55.9-68.5%)
Proportion of households consuming organ meat/flesh meat, or fish/seafood (food sources of haem iron)	33/248	13.3% (9.3-18.2%)

WASH

WASH information

Table 45: Water Quality

	Number/total	**% (95% CI)**
Proportion of households using an improved drinking water source	250/251	99.6% (97.8-100%)
Proportion of households that use a covered or narrow necked container for storing their drinking water	99/252	39.3% (33.2-45.6%)

39.3% (33.2-45.6, 95% CI) reported to have covered or narrow necked drinking water storage containers and 99.6% had improved drinking water source.

Table 46: Water Quantity 1: Amount of litres of water used per person per day

Proportion of households that use:	**Number/total**	**% (95% CI)**
≥ 20 lpppd	130/252	51.6% (45.2-57.9%)
15 – <20 lpppd	42/252	16.7% (12.3-21.9%)
<15 lpppd	80/252	31.7% (26.0-37.9%)
An average water usage in lpppd	21.8 lpppd	

Only 31.7% (26.0-37.9%) reported to be receiving <15

Table 47: Satisfaction with water supply

	Number/total	**% (95% CI)**

Proportion of households that say they are satisfied with the drinking water supply	230/252	91.3% (87.1-94.4%)

About 91.3% of the sampled household reported that they were satisfied with the drinking water supply. Only 8.7% of the sampled population were not satisfied with the drinking water supply (Figure 16), whereas amongst the 5 households who reported that they were not satisfied with water supply 80% or 4 of them reported that the drinking water supply was not enough (Table 43).

Figure 16: Proportion of households that say they are satisfied with the water supply

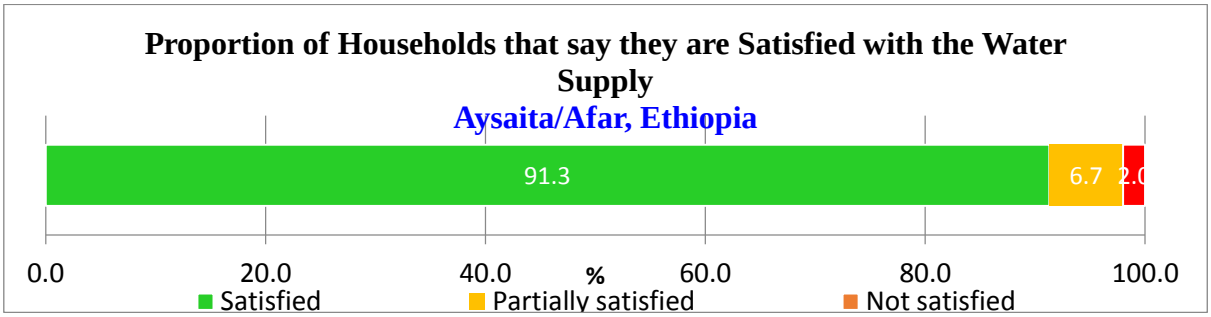


Table 48: Safe Excreta disposal

	Number/total	**% (95% CI)**
Proportion of households that use:		
Proportion of households using an improved excreta disposal facility (improved toilet facility, not shared)	38/248	15.3% (11.1-20.4%)
Proportion of households using a shared family toilet	18/248	7.3% (4.4-11.2%)
Proportion of households using a communal toilet	84/248	33.9% (28.0-40.1%)
Proportion of households using an unimproved toilet	108/248	43.5% (37.3-50.0%)
The proportion of households with children under three years old that dispose of faeces safely.	80/172	46.5% (38.9-54.3%)

Percentages of the beneficieries who were using improved toilet is only 15.3% (11.1-20.4, 95% CI) whereas about 43.5% were reported to use unimproved toilet facilities (Table 44). Further anlaysis showed only 46.5% of households surveyed with children less than three years of age had their last stools disposed into the toilet (figure 18) and 53.5% had their stools disposed-off unsafely (figure 17).

Figure 17: Households with children < 3 years whose stools were disposed safely

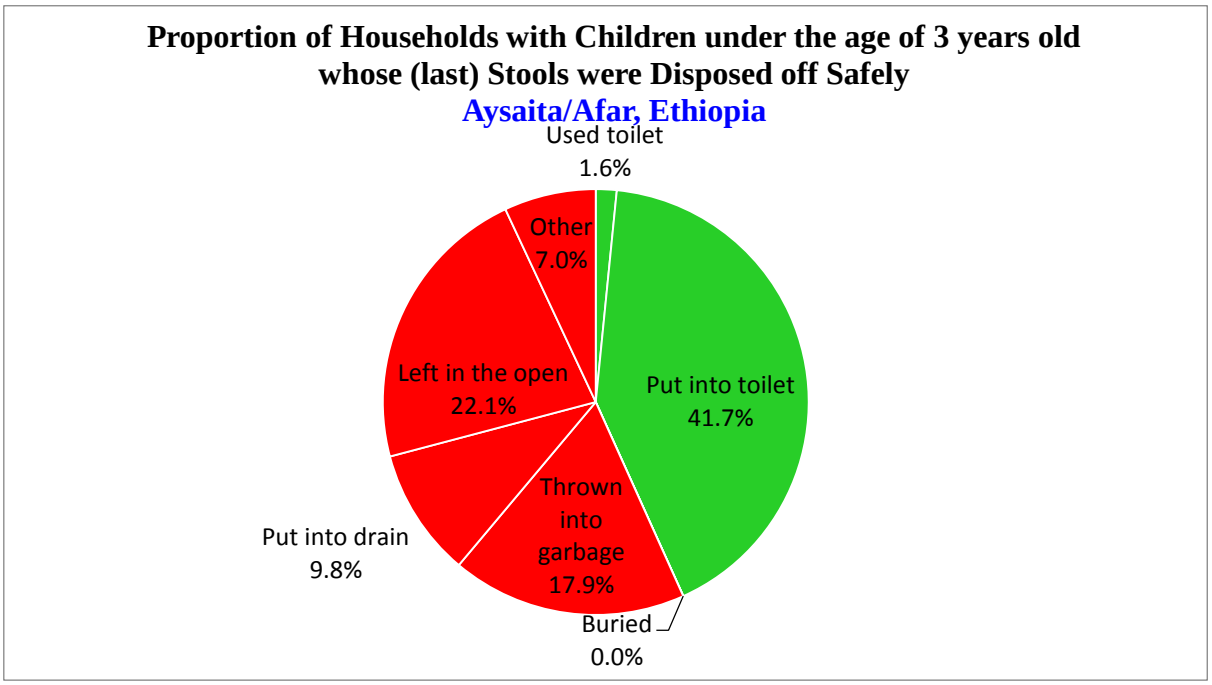
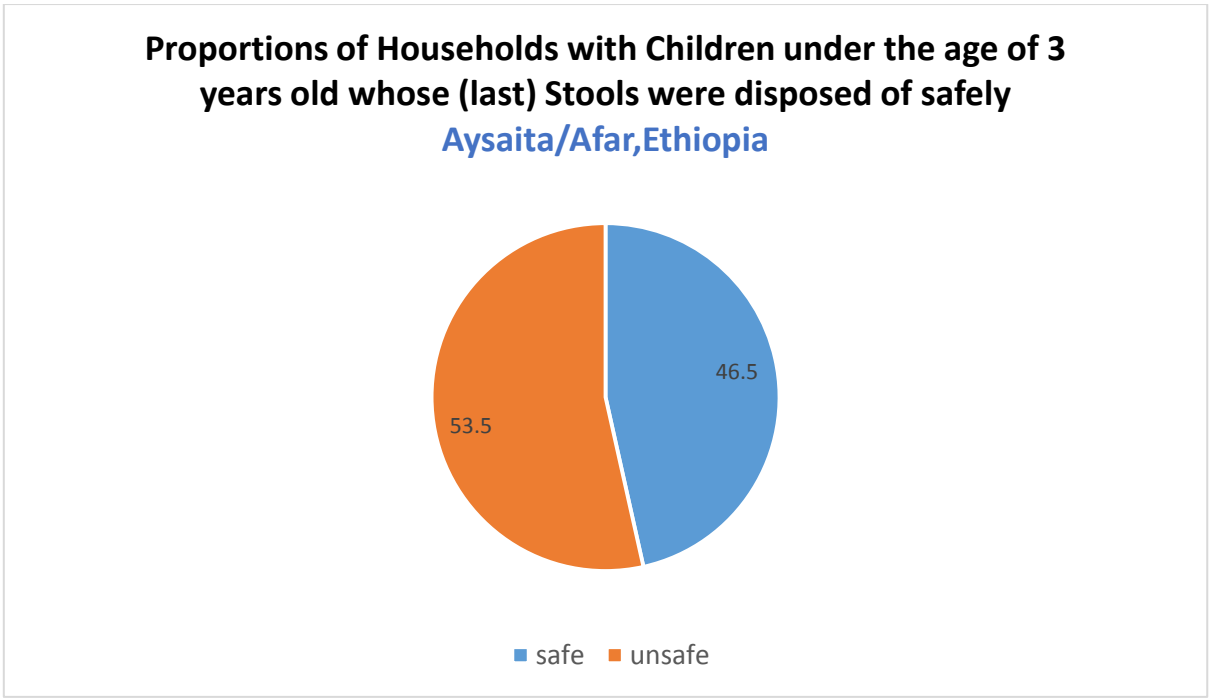


Figure 18: Households with children <3yrs old that dispose of faeces safely



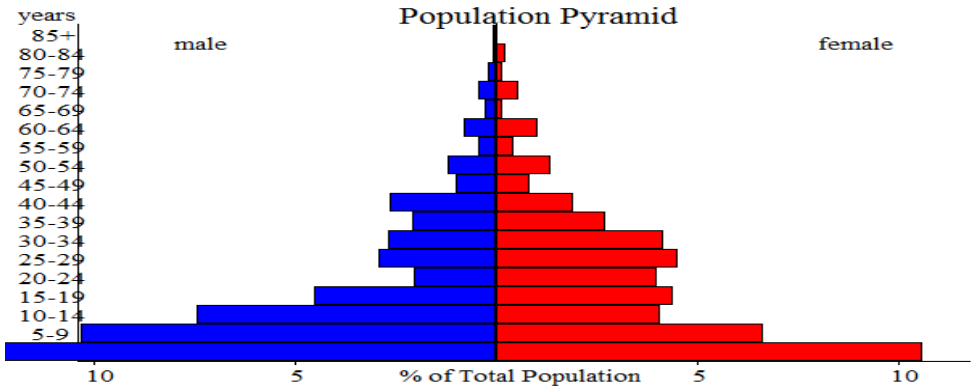
RESULTS FROM BERHALE CAMP

Table 49: Distribution of age and sex of sample, Berhale.

	Boys		Girls		Total		Ratio
AGE (mo)	**no.**	**%**	**no.**	**%**	**no.**	**%**	**Boy: Girl**
6-17	53	46.9	60	53.1	113	23.2	0.9
18-29	70	54.7	58	45.3	128	26.3	1.2
30-41	62	52.1	57	47.9	119	24.4	1.1
42-53	54	50.5	53	49.5	107	22.0	1.0
54-59	10	50.0	10	50.0	20	4.1	1.0
Total	249	51.1	238	48.9	487	100.0	1.0

The overall sex ratio was 1.0 which denotes equal distribution of the sexes of different age groups, it show normal trends and that there is no selection bias.

Figure 3.1: Population age and sex pyramid, Berhale.



Anthropometric results (based on WHO Growth Standards 2006)

Anthropometric results are analysed and presented based on WHO Growth Standards and excluding z-scores from Observed mean (SMART flags): WHZ -3 to 3; HAZ -3 to 3; WAZ -3 to 3. Results based on NCHS Growth Reference 1977 are presented in annex.

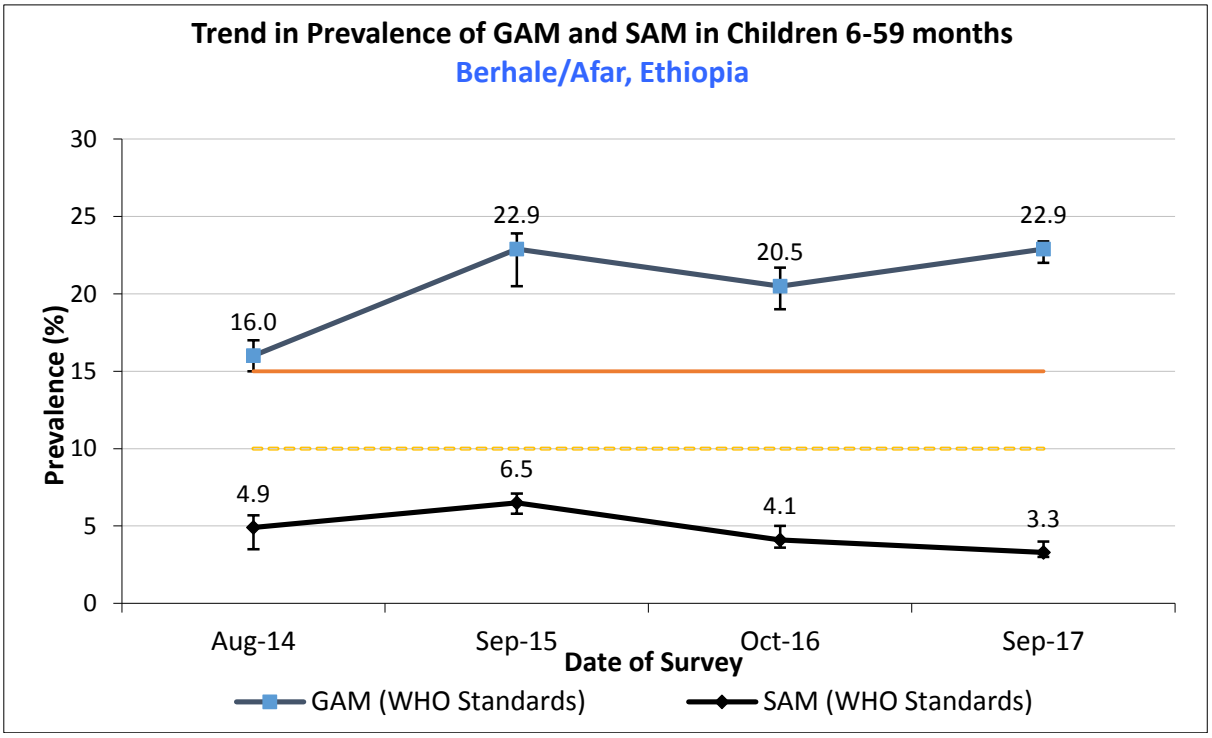
Table 50: Prevalence of acute malnutrition based on WHZ and/or oedema and by sex.

	All n = 480	**Boys** n = 246	**Girls** n = 234
Prevalence of global malnutrition (<-2 z-score and/or oedema)	(110) 22.9 %	(67) 27.2 %	(43) 18.4 %

Prevalence of moderate malnutrition (<-2 z-score and >=-3 z-score, no oedema)	(94) 19.6 %	(59) 24.0 %	(35) 15.0 %
Prevalence of severe malnutrition (<-3 z-score and/or oedema)	(16) 3.3 %	(8) 3.3 %	(8) 3.4 %

The prevalence of oedema was 0.0 %
Significant difference were seen between Boys and Girls on the prevalence of acute malnutrition as Boys were more prevalently acute malnourished than Girls (Table 46).

Figure 19: Prevalence of GAM and SAM based on WHZ from 2014 to 2017



Comparison of results from 2016 shows increment in GAM prevalence, while a slight reduction in SAM prevalence (Figure 1).

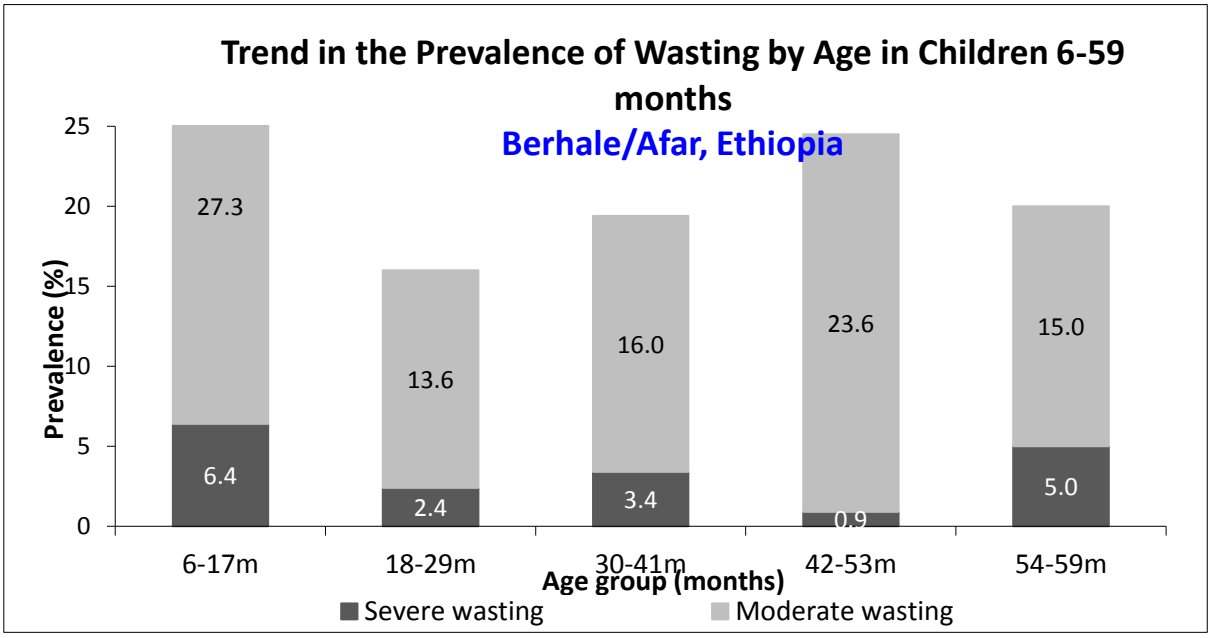
Table 51: Prevalence of acute malnutrition by age, based WHZ and/or oedema

Age (mo)	Total no.	Severe wasting (<-3 z-score)		Moderate wasting (>= -3 & <-2 z-score)		Normal (> = -2 z score)		Oedema	
		No.	%	No.	%	No.	%	No.	%
6-17	110	7	6.4	30	27.3	73	66.4	0	0.0

18-29	125	3	2.4	17	13.6	105	84.0	0	0.0
30-41	119	4	3.4	19	16.0	96	80.7	0	0.0
42-53	106	1	0.9	25	23.6	80	75.5	0	0.0
54-59	20	1	5.0	3	15.0	16	80.0	0	0.0
Total	480	16	3.3	94	19.6	370	77.1	0	0.0

The youngest children (6-17 months) was the most affected by acute malnutrition as compared to other age groups.

Figure 20: Trends in the prevalence of WAZ by age group in Berhale camp.



Wasting, both severe and moderate was the highest among the youngest age group (Figure 20).

Table 52: Distribution of SAM and oedema based on WHZ in Berhale.

	<-3 z-score	**>=-3 z-score**
Oedema present	Marasmic kwashiorkor No. 0 (0.0 %)	Kwashiorkor No. 0 (0.0 %)
Oedema absent	Marasmic No. 19	Not severely malnourished No. 467

	(3.9 %)	(96.1 %)

All the cases of SAM were due to wasting and no oedema was detected (Table 48).

Figure 21: Distribution of WHZ based on WHO Growth Standards in Berhale.

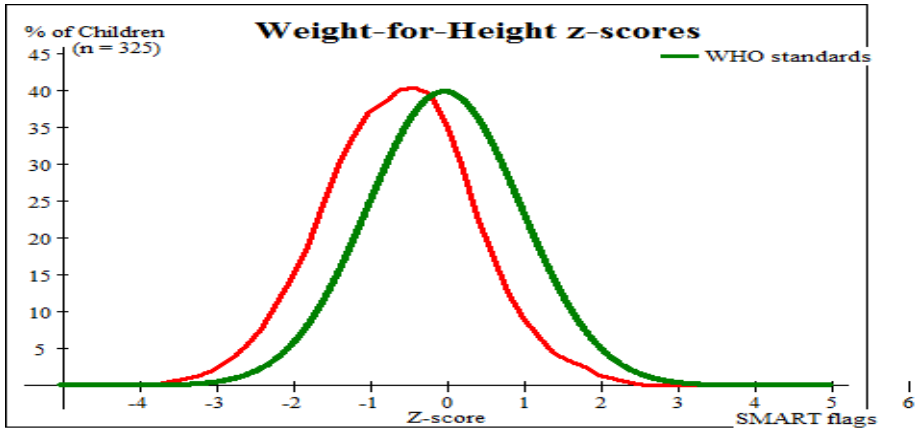


Figure 21 is a comparison of the surveyed and reference weight-for-height z-score (WHZ) distribution. The survey distribution (in red) followed a normal distribution and was shifted to the left of the WHO reference, showing an average lower z-scores, and therefore high malnutrition.

Table 53: Prevalence of acute malnutrition based on MUAC and/or oedema and by sex

	All n = 487	**Boys** n = 249	**Girls** n = 238
Prevalence of global malnutrition (< 125 mm and/or oedema)	(67) 13.8 %	(30) 12.0 %	(37) 15.5 %
Prevalence of moderate malnutrition (< 125 mm and >= 115 mm, no oedema)	(43) 8.8 %	(19) 7.6 %	(24) 10.1 %
Prevalence of severe malnutrition (< 115 mm and/or oedema)	(24) 4.9 %	(11) 4.4 %	(13) 5.5 %

The prevalence of GAM as measured by MUAC was 13.8%

Table 54: Prevalence of acute malnutrition by age, based on MUAC cut off's and/or oedema

		Severe wasting (< 115 mm)		Moderate wasting (>= 115 mm and < 125 mm)		Normal (> = 125 mm)		Oedema	
Age (mo)	**Total no.**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
6-17	113	21	18.6	29	25.7	63	55.8	0	0.0
18-29	128	0	0.0	12	9.4	116	90.6	0	0.0
30-41	119	2	1.7	1	0.8	116	97.5	0	0.0
42-53	107	1	0.9	1	0.9	105	98.1	0	0.0
54-59	20	0	0.0	0	0.0	20	100.0	0	0.0

Table 55: Prevalence of underweight based on weight-for-age z-scores by sex

	All n = 483	**Boys** n = 245	**Girls** n = 238
Prevalence of underweight (<-2 z-score)	(152) 31.5 %	(82) 33.5 %	(70) 29.4 %
Prevalence of moderate underweight (<-2 z-score and >=-3 z-score)	(107) 22.2 %	(54) 22.0 %	(53) 22.3 %
Prevalence of severe underweight (<-3 z-score)	(45) 9.3 %	(28) 11.4 %	(17) 7.1 %

A total of 31.5 % were underweight, and 9.3 % were severely underweight (Table 51).

Table 56: Prevalence of underweight by age, based on weight-for-age z-scores

		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**	**%**
6-17	111	33	29.7	42	37.8	36	32.4	0	0.0
18-29	127	8	6.3	38	29.9	81	63.8	0	0.0
30-41	118	4	3.4	17	14.4	97	82.2	0	0.0
42-53	107	0	0.0	8	7.5	99	92.5	0	0.0

54-59	20	0	0.0	2	10.0	18	90.0	0	0.0
Total	483	45	9.3	107	22.2	331	68.5	0	0.0

Table 57: Prevalence of stunting based on height-for-age z-scores and by sex.

	All n = 468	**Boys** n = 236	**Girls** n = 232
Prevalence of stunting (<-2 z-score)	(153) 32.7 %	(77) 32.6 %	(76) 32.8 %
Prevalence of moderate stunting (<-2 z-score and >=-3 z-score)	(101) 21.6 %	(46) 19.5 %	(55) 23.7 %
Prevalence of severe stunting (<-3 z-score)	(52) 11.1 %	(31) 13.1 %	(21) 9.1 %

The prevalence of stunting was 32.7 % and about 11.1% have been reported as severely stunted. Indicating an increase compared to 15.2% in 2016.

Table 58: Prevalence of stunting by age based on height-for-age z-scores_Berhale.

Age (mo)	**Total no.**	**Severe stunting (<-3 z-score)**		**Moderate stunting (>= -3 and <-2 z-score)**		**Normal (> = -2 z score)**	
		No.	**%**	**No.**	**%**	**No.**	**%**
6-17	109	28	25.7	38	34.9	43	39.4
18-29	122	16	13.1	33	27.0	73	59.8
30-41	111	8	7.2	23	20.7	80	72.1
42-53	106	0	0.0	6	5.7	100	94.3
54-59	20	0	0.0	1	5.0	19	95.0
Total	468	52	11.1	101	21.6	315	67.3

Children under 30 months of age appear to be more affected by stunting than the older ones.

Figure 22: Trends in the prevalence of stunting by age in children 6-59 months

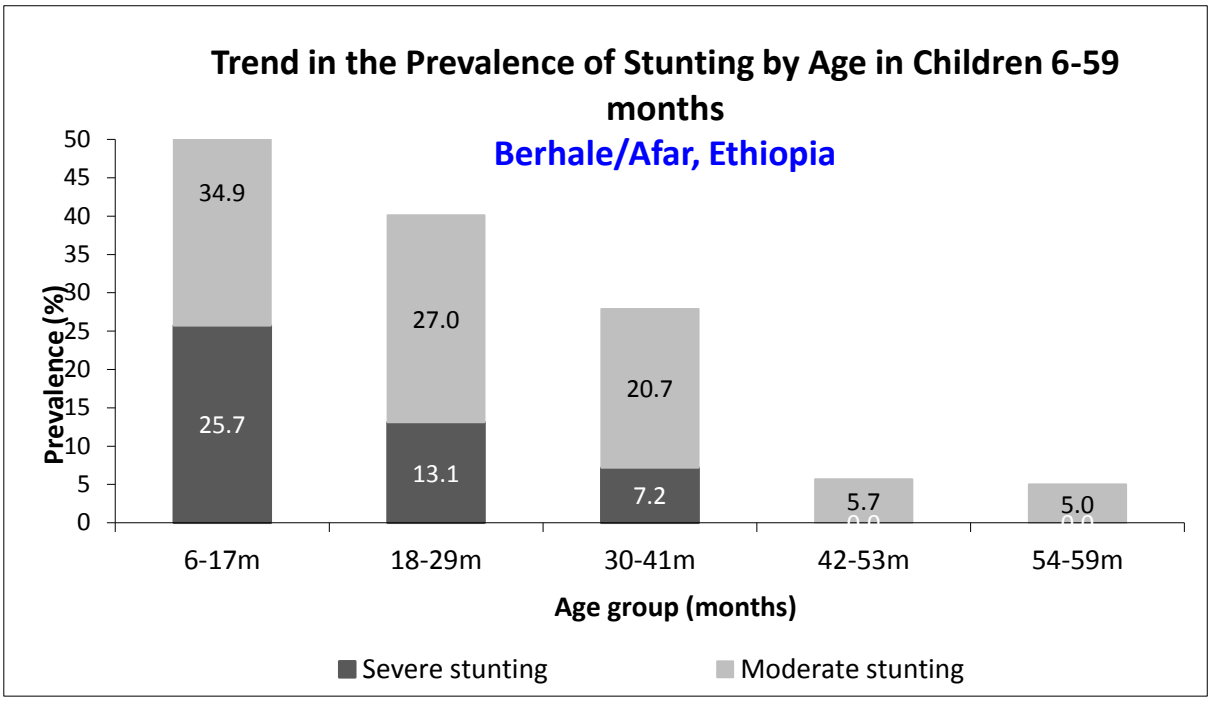
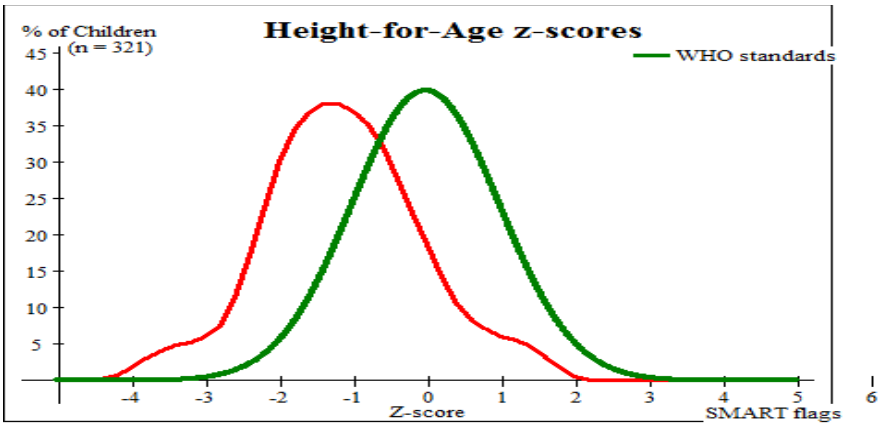


Figure 23: Distribution of HAZ based on WHO Growth Standards in Berhale camp



The height-for-age distribution for the survey (red) is compared to the WHO distribution (green) in Figure 22. The distribution followed a typical bell shape, and was also shifted to the left of the reference, indicating an average lower mean z-score for the survey sample.

Table 59: Mean z-scores, Design Effects and excluded subjects.

Indicator	n	Mean z-scores ± SD	Design Effect (z-score < -2)	z-scores not available*	z-scores out of range
Weight-for-Height	480	-1.22±1.05	1.00	1	6
Weight-for-Age	483	-1.45±1.13	1.00	1	3
Height-for-Age	468	-1.19±1.44	1.00	1	18

* contains for WHZ and WAZ the children with oedema.

Mortality results

Table 60: Mortality rates_Berhale

Crude Mortality Rate (CMR) total No. of death /10,000/day = 0.06
Under 5 Mortality (U5MR) total No. of death /10,000/day = 0.24

Mortality rates (CMR and U5MR) was below the emergency threshold at acceptable levels. However this result is to be interpreted with caution due to the wide confidence interval.

Feeding programme coverage results

Table 61: Estimated programme coverage for acutely malnourished children

	Number/total	**% (95% CI)**
Supplementary feeding programme coverage (WHZ >= - 3 AND WHZ < - 2 OR MUAC >= 115 mm AND MUAC < 125 mm)	8/106	7.5%
Therapeutic feeding programme coverage (WHZ < - 3 OR MUAC < 115mm)	4/31	12.9%
Blanket Supplementary (WHZ >= - 2 OR MUAC >= 125)	324/400	81.0%

Estimated programme coverage for supplementary and therapeutic feeding programmes were far below the expected target, while for blanket feeding programme it was 81% but still it was lower than expected standards for refugee settings (>90%).

Measles vaccination coverage results

Table 62: Measles vaccination coverage for children aged 9-59 months (n=396)

	Measles (with card) n=128	**Measles (with card or confirmation from mother) n=396**
YES	30.1%	93.2%

The measles vaccination coverage with card or recall was shown to be 93.2% which slightly short of the recommendation which is above 95%.

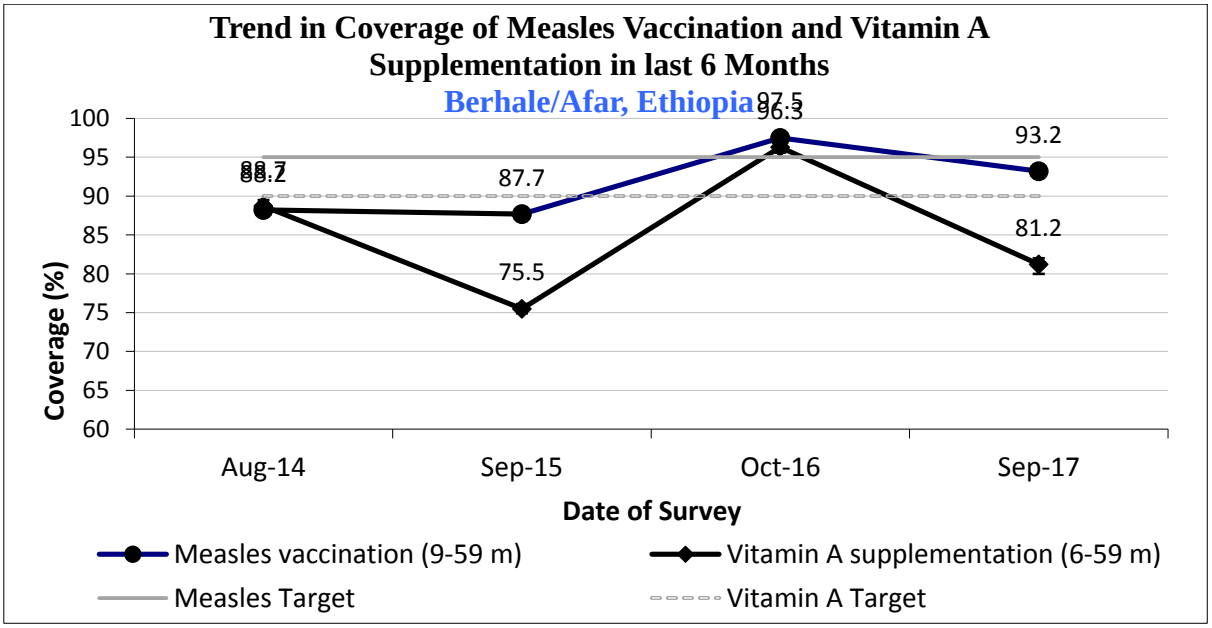
Vitamin A supplementation coverage results

Table 63: Vit A supplementation in children aged 6-59 months (n=394)

	Vitamin A capsule (with card) n=114	**Vitamin A capsule (with card or confirmation from mother) n=394**
YES	23.5%	81.2%

Vitamin A coverage by card or confirmation from the mother was 81.2% which is lower than the UNHCR target >90%. Comparison with 2016 results showed a decrease in vitamin A supplementation coverage.

Figure 24: Measles vaccination and Vit. A supplementation from 2014 to 2017



Diarrhoea results

Table 64: Period prevalence of diarrhoea

	Number/total	% (95% CI)
Diarrhoea in the last two weeks	32/486	6.6%

6.6% of the sampled children reported having had diarrhoea in the 2 weeks prior to the survey. This shows that percentage of having Diarrhoea in the last two weeks has shown slight decrease as compared to 2016 survey 8.8%.

Anaemia results

Table 65: Prevalence of anaemia and haemoglobin concentration in children 6-59 months of age

Anaemia in Children 6-59 months	**All n =477**
Total Anaemia (Hb<11.0 g/dL)	(n=184) 38.6%
Mild Anaemia (Hb 10.0-10.9 g/dL)	(n=105) 22.0%
Moderate Anaemia (7.0-9.9 g/dL)	(n =79) 16.6%
Severe Anaemia (<7.0 g/dL)	0%
Mean Hb (g/dL)	11.22 g/dL and (1.36SD) [min 7.1 to max 14.7]

38.6% of children aged 6-59 months were anaemic (table 61). Comparison with 2016 anaemia has significantly increased from 16.2%.

Figure 25: Anaemia categories in children 6-59 months from 2013-2017

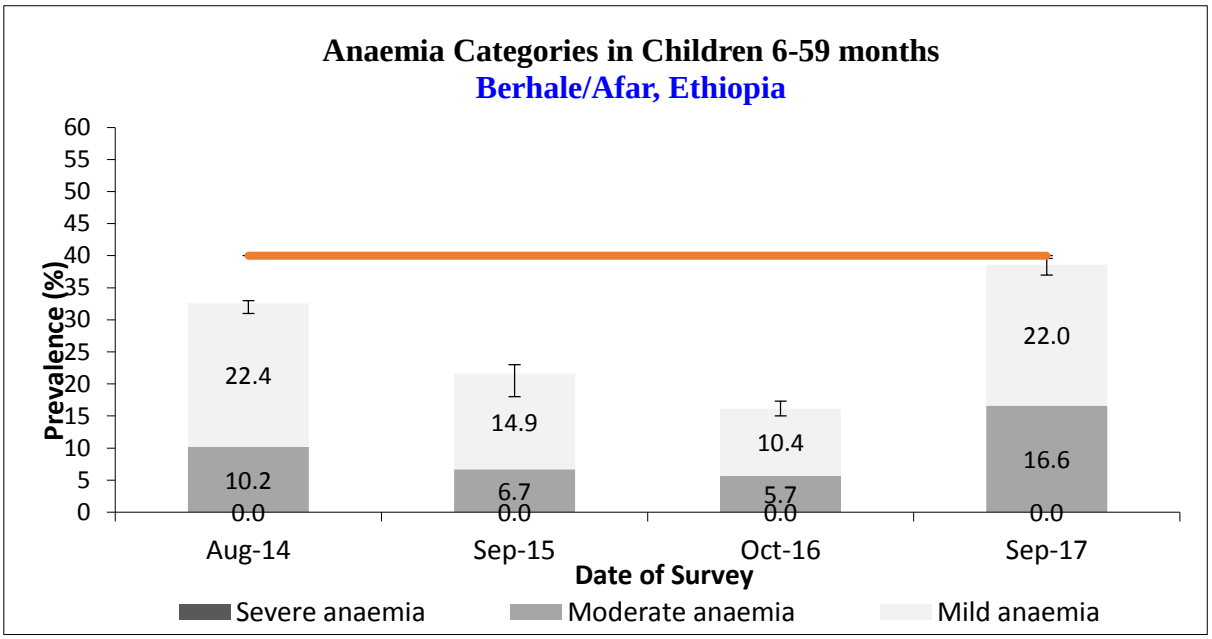


Figure 26: Mean Haemoglobin concentration in 6-59 months from 2013-2017

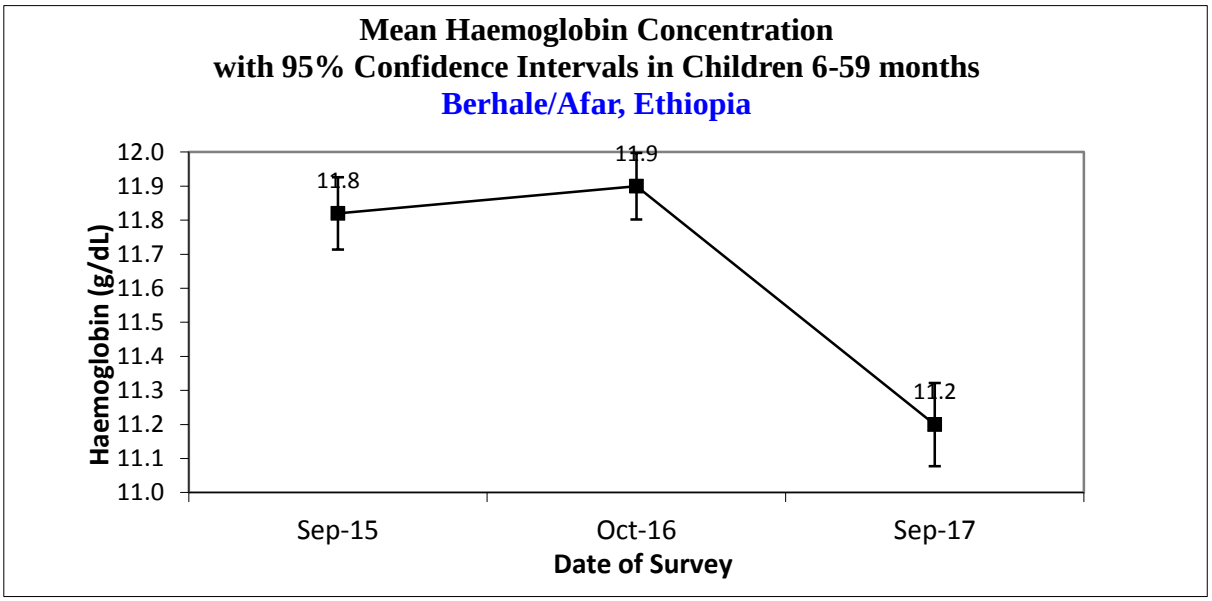


Table 66: Prevalence of anaemia by age

Age group	No.	Severe Anaemia (<7.0 g/dL)		Moderate Anaemia (7.0-9.9 g/dL)		Mild Anaemia (Hb 10.0-10.9 g/dL)		Total Anaemia (Hb<11.0 g/dL)		Normal (Hb≥11.0 g/dL)	
		no	%	no	%	no	%	no	%	no	%
6-23	132	0	0	17	12.9%	23	17.4%	40	30.3%	92	60.7%
24-35	108	0	0	14	13.0%	20	18.5%	34	31.5%	74	68.5%
36-59	193	0	0	41	21.2%	51	26.4%	92	47.7%	101	52.3%
Total	477	0	0	79	16.6%	105	22.0%	184	38.6%	293	61.4%

In table 62 above; Categorisation of anaemia by age group shows children 36-59 months were the most affected age group with prevalence of anaemia at 47.7%.

Children 0-23 months

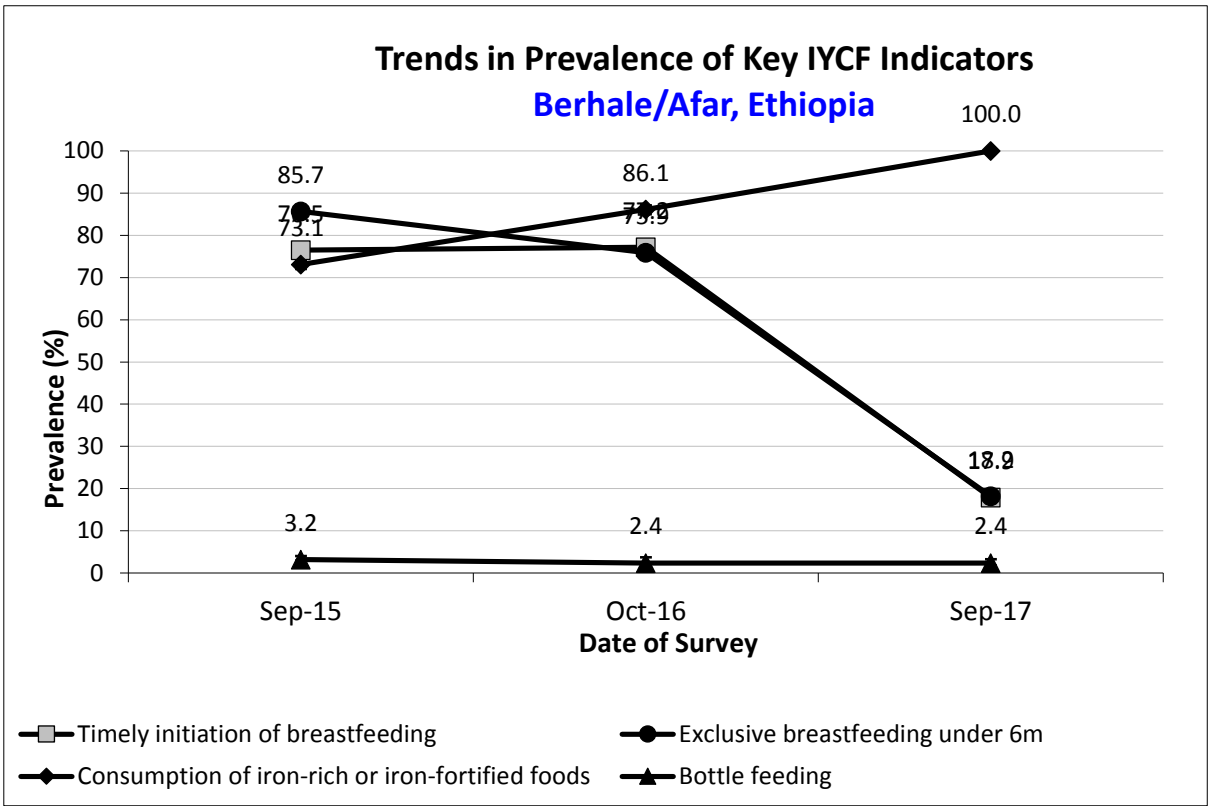
Table 67: Prevalence of Infant and Young Child Feeding Practices Indicators

Indicator	Age range	No./ total	Prevalence (%) & 95% CI
Timely initiation of breastfeeding	0-23 months	34/190	17.9%
Exclusive breastfeeding under 6 months	0-5 months	2/11	18.2%
Continued breastfeeding at 1 year	12-15 months	13/50	26.0%
Continued breastfeeding at 2 years	20-23 months	4/22	18.2%
Introduction of solid, semi-solid or soft foods	6-8 months	2/4	50.0%
Consumption of iron-rich or iron-fortified foods	6-23 months	21/21	100%
Bottle feeding	0-23 months	1/42	2.4%

Note that when IYCF indicators are collected in nutritional surveys based on anthropometric sample of children aged 0-59 months, it is not feasible to achieve a large enough sample size for some of the indicators to be estimated as precisely as desired, especially for indicators covering a very narrow age range (e.g. 6-8 and12-15 months). Hence, IYCF indicators need to be interpreted with caution.

Less than quarter (17.9%) of children below 2 years had been introduced to breast milk within an hour of birth (Table 63). The exclusive breastfeeding prevalence was 18.2%. About one fourth (26%) of the sampled children were still breastfeeding at 1 year, whilst less than a quarter (18.2%) were still breastfeeding at 2 years. Consumption of iron rich foods were reported as 100% for the specific selected age groups. Half (50%) of 6-8 months children as compared to 2016 (30.8%) had been introduced to solid foods. The proportion of children who were bottle fed the day before the survey were 2.4%.

Figure 27: Nutrition survey results (IYCF indicators) from 2015-2017



Prevalence of intake Analysis

Infant formula

TABLE: INFANT FORMULA INTAKE IN CHILDREN AGED 0-23 MONTHS, BERHALE

	Number/total	% (95% CI)
Proportion of children aged 0-23 months who receive infant formula (fortified or non-fortified)	1/42	2.4%

CSB+ intake from any source in children aged 6-23 months_Berhale

	Number/total	% (95% CI)
Proportion of children aged 6-23 months who receive FBF	4/21	19.0%

CSB ++ intake in children aged 6-23 months _Berhale

	Number/total	% (95% CI)
Proportion of children aged 6-23 months who receive CSB++	8/21	38.1%

Women 15-49 years

Women physiological status

Table 68: Women physiological status and age, Berhale

Physiological status	Number/total	% of sample
Non-pregnant	169/193	87.6% (82.1-91.9%)
Pregnant	24/193	12.4% (8.1-17.9%)
Mean age (range)	27.1 years Range: 15- 48 years	

Of the sampled women aged 15-49 years in the survey, 12.4% were pregnant. The mean age of women was 27.1years (Table 64).

Anaemia Results

Table 69: Prevalence of anaemia in non-pregnant women age 15-49 years

Anaemia in non-pregnant women of reproductive age (15-49 years)	All (95% CI) n = 168
Total Anaemia (<12.0 g/dL)	(49) 29.2% (22.4-36.7%)
Mild Anaemia (11.0-11.9 g/dL)	(35) 20.8% (15.0-27.8%)
Moderate Anaemia (8.0-10.9 g/dL)	(12) 7.1% (3.7-12.1%)
Severe Anaemia (<8.0 g/dL)	(2) 1.2% (0.1-4.2%)
Mean Hb (g/dL)	12.63 g/dL and (1.34SD) [min 6.8 to max 16.4 g/dL]

The prevalence of anaemia among non-pregnant women was 29.2% (22.4-36.7, 95% C.I). Indicated significance increase from 19.4% in 2016.

Figure 28: Anaemia categories in non-pregnant women from 2014 to 2017

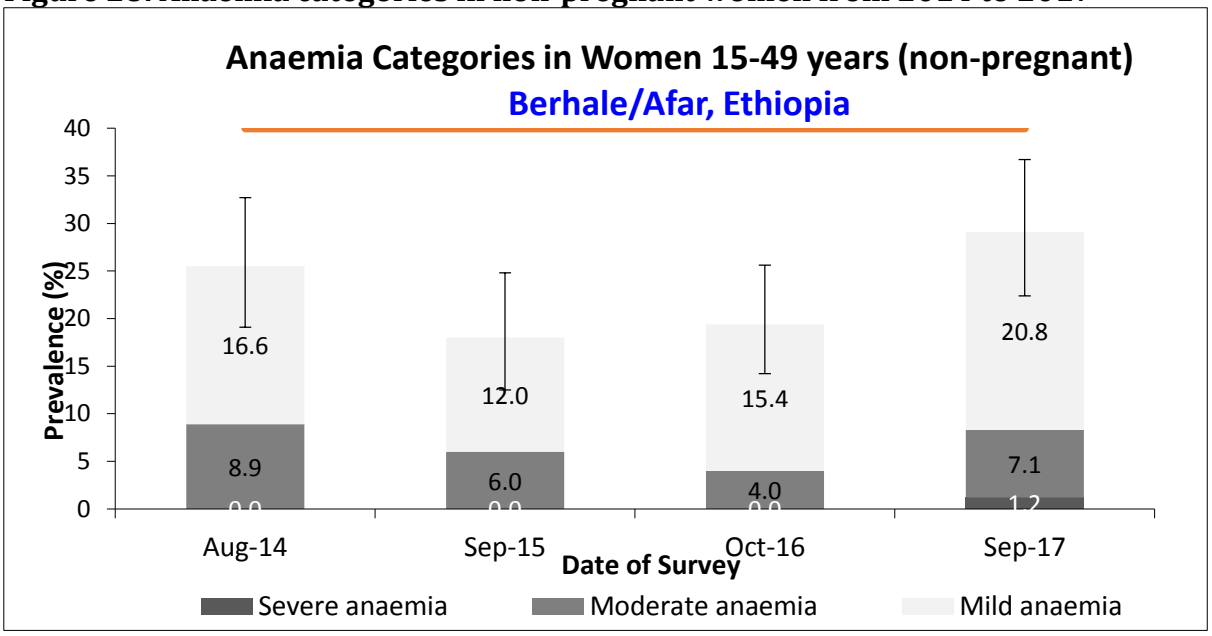


Figure 29: Mean haemoglobin concentration in non-pregnant women from 2014 to 2017

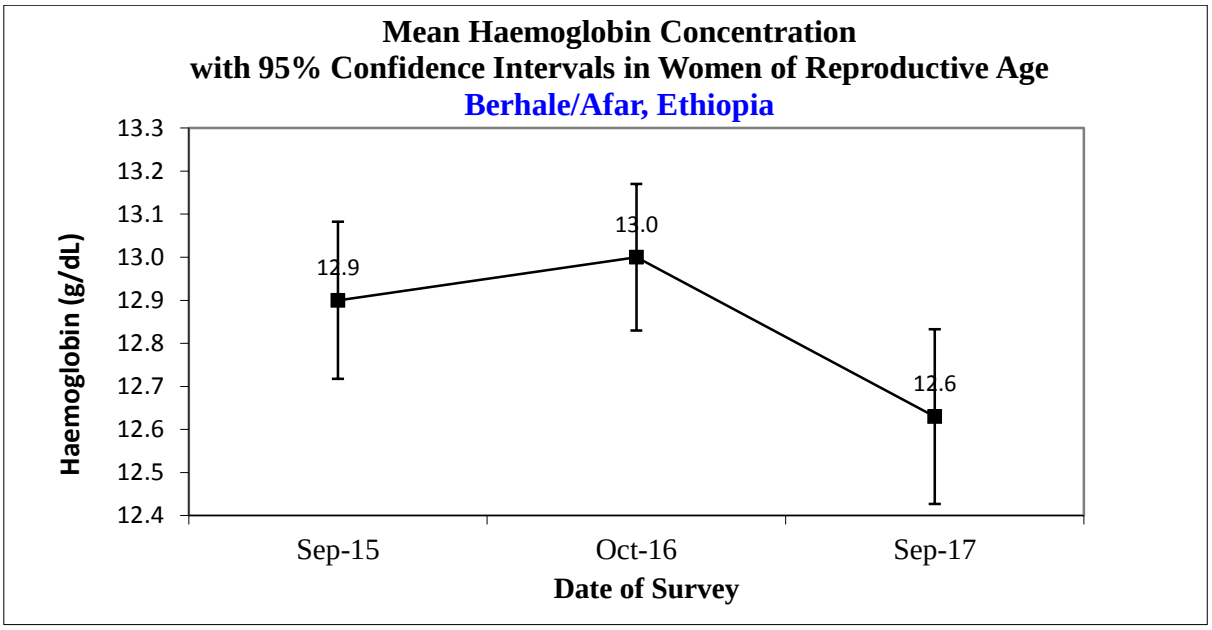


Table 70: ANC enrolment and iron-folic acid pills coverage among pregnant women

	Number /total	**% (95% CI)**
Currently enrolled in ANC programme	18/20	90.0% (68.3-98.8%)
Currently receiving iron-folic acid pills	18/20	90.0% (68.3-98.8%)

More than 83% of pregnant women enrolled in ANC had received iron-folic pills

Food security

Table 71: Ration card coverage

	Number/total	**% (95% CI)**
Proportion of households with a ration card	165/165	100%

Almost all of the sampled households did have a ration card

Table 72: Reported duration of general food ration 1

Average number of days the food ration lasts (Standard deviation or 95% CI)	**Average duration (%) in relation to the theoretical duration of the ration***
22.5 days out of 30 days	75.0%

Table 73: Reported duration of general food ration 2

	Number/total	% (95% CI)
Proportion of households reporting that the food ration lasts the entire duration of the cycle	39/165	23.6% (17.4-30.9%)
Proportion of households reporting that the food ration lasted:		
≤75% of the cycle (30 days)	82/165	49.7% (41.8-57.6%)
>75% of the cycle (30 days)	83/165	50.3% (42.4-58.2%)

Negative coping strategies results

Table 74: Coping strategies used by the surveyed population over the past month

	Number/total	% (95% CI)
Proportion of households reporting using the following coping strategies over the past month*:		
Borrowed cash, food or other items *with or without interest*	125/165	75.8% (68.5-82.1%)
Sold any assets (furniture, seed stocks, tools, other NFI, livestock etc.)	5/165	3.0% (1.0-6.9%)
Requested increase remittances or gifts as compared to normal	11/165	6.7% (3.4-11.6%)
Reduced the quantity and/or frequency of meals	56/164	34.1% (26.9-41.9%)
Begged	5/165	3.0% (1.0-6.9%)
Engaged in potentially risky or harmful activities (list activities)	2/165	1.2% (0.1-4.3%)
Proportion of households reporting using none of the coping strategies over the past month	27/164	16.5% (11.1-23.0%)

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

The most important coping strategy that was reported to be used to fill the food gap was borrowing and reducing meal quantity and frequency (Table 70).

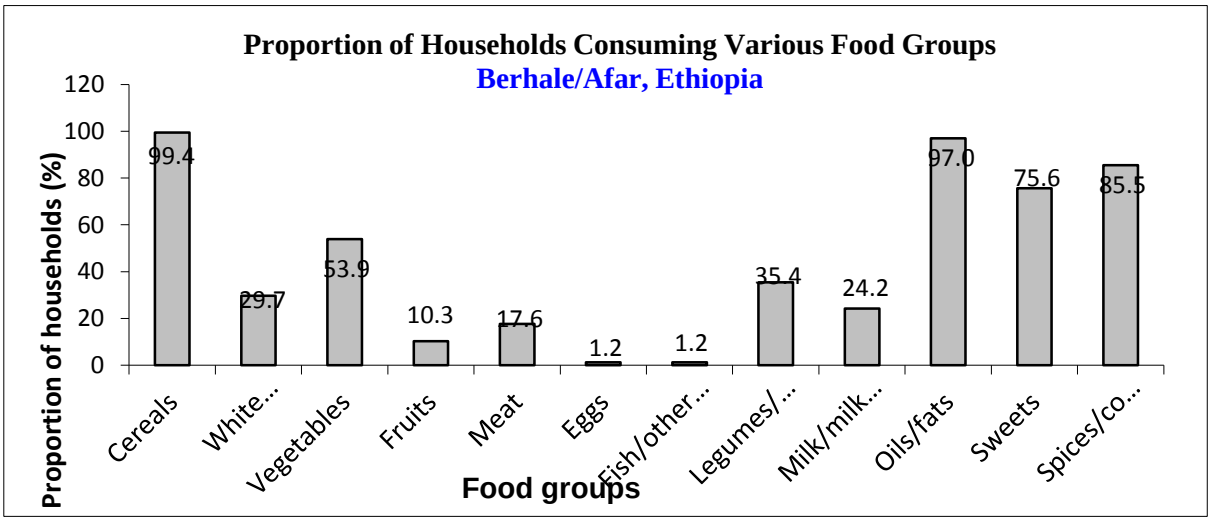
Household dietary diversity results

The general food distribution usually lasts more than one day and may be organized by family size, hence the surveyed households will be at different times of the cycle which may have an impact on the HDDS results and this needs to be considered in interpreting the data.

Table 75: Average HDDS

Average HDDS	5.33 (SD= 1.78)

Figure 30: Proportion of households consuming different food groups within last 24 hours



Most common items reported to be consumed were oils/fats (96.8%), cereal, (89.6%), Spices (68.8%), Fish, eggs consumption is low.

Table 76: Consumption of food aid commodities and micronutrient rich foods by household's _Aysaita

	Number/total	% (95% CI)
Proportion of households *not consuming any* vegetables, fruits, meat, eggs, fish/seafood, and milk/milk products	49/165	29.7% (22.8-37.3%)
Proportion of households consuming either a plant or animal source of vitamin A	63/165	38.2% (30.7-46.1%)
Proportion of households consuming organ meat/flesh meat, or fish/seafood (food sources of haem iron)	29/165	17.6% (12.1-24.3%)

WASH

WASH information

Table 77: Water Quality

	Number/total	% (95% CI)
Proportion of households using an improved drinking water source	164/164	100%
Proportion of households that use a covered or narrow necked container for storing their drinking water	118/164	71.5% (64.0-78.3%)

71.5% (64.0-78.3, 95% CI) reported to have covered or narrow necked drinking water storage containers and 100% had improved drinking water source.

Table 78: Water Quantity 1: Amount of litres of water used per person per day

Proportion of households that use:	Number/total	% (95% CI)
≥ 20 lpppd	86/165	52.1% (44.2-59.9%)
15 – <20 lpppd	22/165	13.3% (8.5-19.5%)
<15 lpppd	57/165	34.5% (27.3-42.3%)
An average water usage in lpppd	23.77 lpppd	

34.5% (12.3-21.9%) of households have reported to use <15 lpppd.

Table 79: Satisfaction with water supply

	Number/total	% (95% CI)
Proportion of households that say they are satisfied with the drinking water supply	156/165	94.5% (89.9-97.5%)

About 94.5% of the sampled household reported that they are satisfied with the drinking water supply. Only 5.5% of the sampled population were not satisfied with the drinking water supply (Figure 31), whereas amongst the 8 households who have reported that they were not satisfied with water supply 37.5% of them reported that the drinking water supply was not enough (Table 75).

Figure 31: Proportion of households that say they are satisfied with the water supply

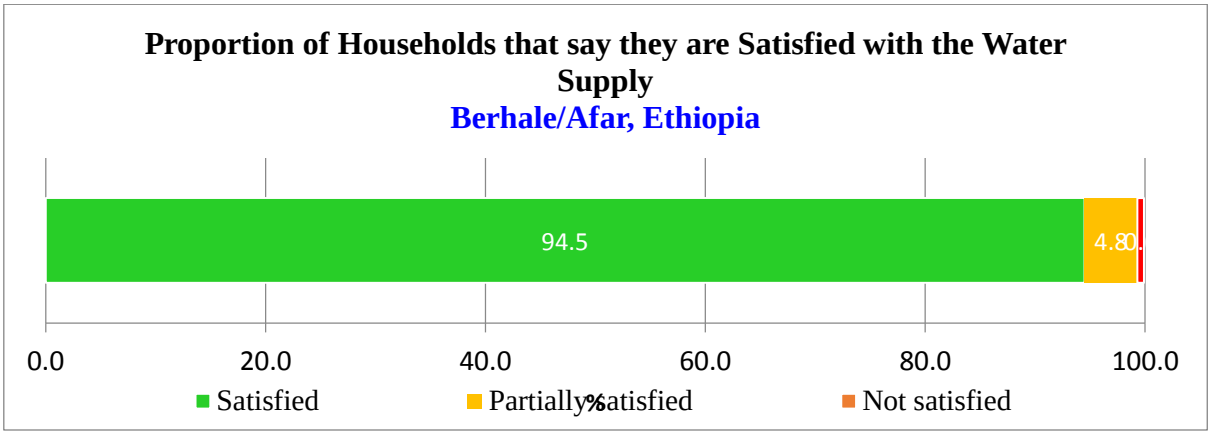


Table 80: Safe Excreta disposal

	Number/total	% (95% CI)
Proportion of households that use:		
Proportion of households using an improved excreta disposal facility (improved toilet facility, not shared)	56/163	34.4% (27.1-42.2%)
Proportion of households using a shared family toilet	41/163	25.2% (18.7-32.5%)
Proportion of households using a communal toilet	44/163	27.0% (20.3-34.5%)
Proportion of households using an unimproved toilet	22/163	13.5% (8.7-19.7%)
The proportion of households with children under three years old that dispose of faeces safely.	99/107	92.5% (85.8-96.7%)

Percentages of the beneficieries who are using improved toilet is only 34.4% (27.1-42.2, 95% CI) whereas about 13.5% were reported to use unimproved toilet facilities (Table 76). Further anlaysis showed 92.5% of households surveyed with children less than three years of age had their last stools disposed into the toilet (figure 31) and about 7.5% had their stools disposed of unsafely (figure 32) .

Figure 32: Households with children < 3 years whose stools were disposed safely

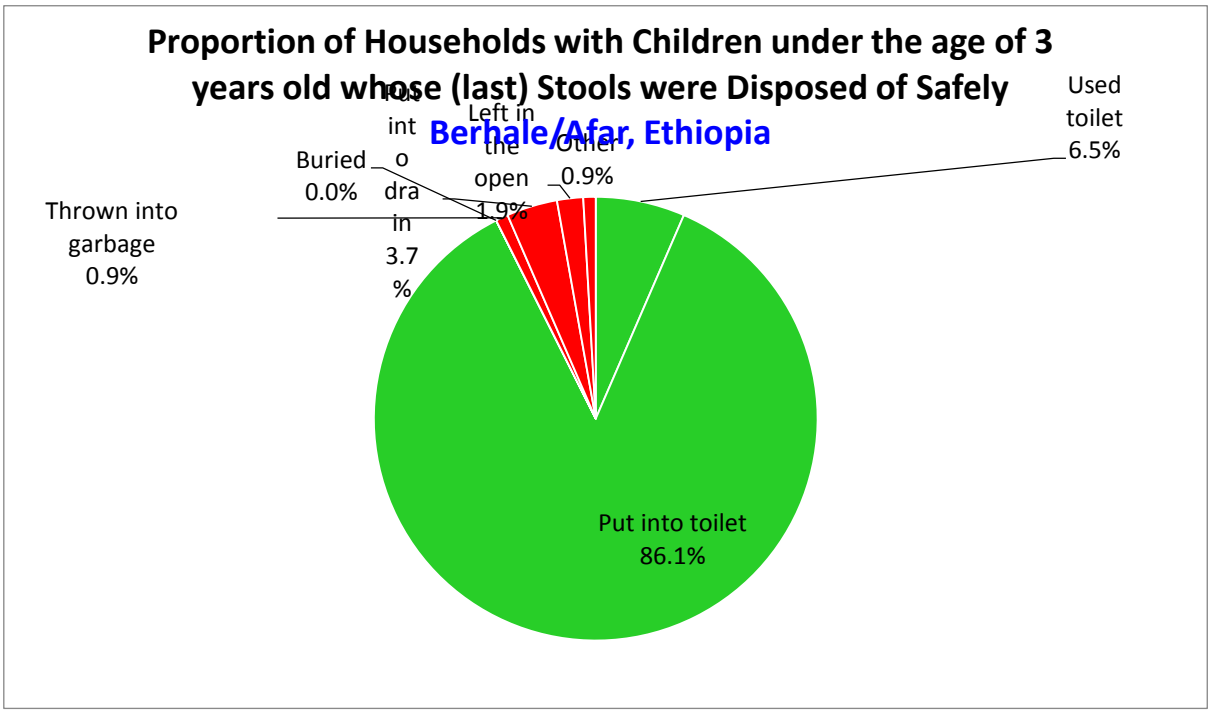
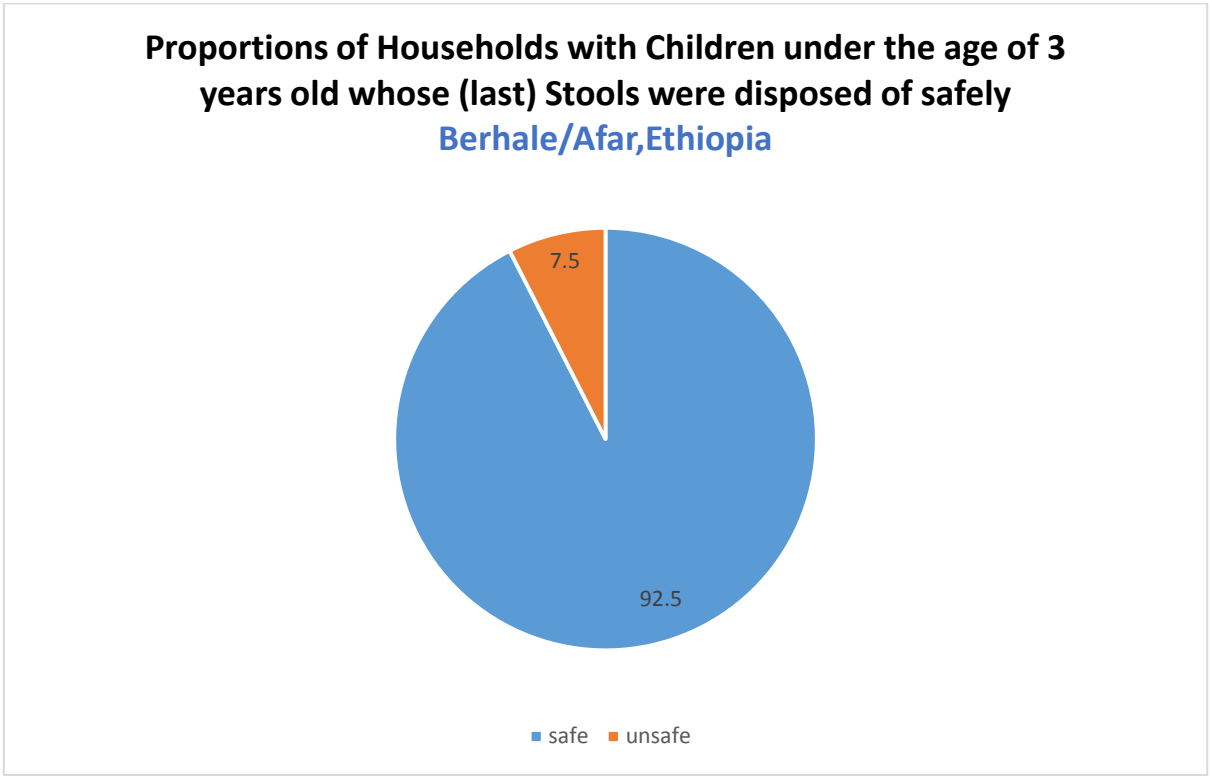


Figure 33: The proportion of households with children under three years old that dispose of faeces safely



DISCUSSION

Nutrition

In both camps of Aysaita and Berhale, prevalence of GAM was above WHO emergency threshold of 15% which is categorized as "critical" by classification of public health significance. While an increase in prevalence of GAM from 20.5% to 22.9% for Berhale camp was not statistically significant (P=0.3773), prevalence of GAM in Aysaita camp showed a statistically significant difference (P=0.0098) with an increase from 13.7% in 2016 to 19.2% in 2017. The average weighed prevalence was 20.9% and 3.5% for GAM and SAM respectively both being at critical level (WHO and UNHCR classifications).

Poor livelihood opportunities linked coupled with dry land, limits accessibility for farming and thus, inadequate supplements to general food rations received from WFP. In the same vain, refugee are obliged to sell the in-kind received food rations to meet other needs.

The communities are highly mobile resulting into delayed in capturing of acute malnourished children for admission in the feeding program, higher defaulter rate and poor monitoring of progress of MAM and SAM registered in the feeding programs.

Prevalence of stunting in the camps was 32.8% in Aysaita and 32.7% in Berhale which is above the 20% of acceptable level (SPHERE and UNHCR standards). It was noted that younger children aged 6 – 17 months were the most affected by stunting in both camps. This may be linked to poor IYCF practice due cultural believes and/or inadequate optimal breastfeeding and complementary feeding among Eritreans.

Anaemia prevalence amongst children aged 6-59 months was 25.6% in Aysaita, and 38.6% in Berhale. A significant increment in Berhale camp was noted where prevalence of anaemia increased from 16.2% in 2016 to 38.6% in 2017. This might be attributed due to the absence of de-worming for the past six months among other factors.

SENS 2017 result have shown that there is a deterioration in haemoglobin status of women of child bearing age. The prevalence of anaemia in women of reproductive age (15 - 49 years) was 22.1% in Aysaita, and 29.2% in Berhale camps. Results revealed significant increment in anaemia prevalence as compared to 2016 SENS result of 12.2% and 19.4% for Aysaita and Berhale respectively. It should be noted that distribution of CSB+ which is highly iron, ascorbic acid and other micronutrient important for formation of haemoglobin was at 30% of the normal ration. This might have attributed so significant increase of prevalence of anaemia in these camps.

Key IYCF practice indicators are shown to be poor in both camps. Timely initiation of breastfeeding were reported to be 34.7% and 17.9% in Aysaita and Berhale camps respectively. Exclusive breastfeeding percentage was low as 18.2% in Berhale camp

and 26.2% in Aysaita. Introduction of solid and semi-solid foods for infants from 6 months showed as low coverage as 65% in Aysaita to 50% in Berhale camps.

Food Security

Only 3.2% of the households have responded that the food ration lasts the entire duration of the intended days (30days) in Aysaita camp. Whereas 94% of the beneficiaries reported that the general food ration lasts for less than 75% of the days. In Berhale camp only about 23% have reported that the GFD lasts for entire duration and half of the beneficiaries have reported that GFD will last for more than 75% of the intended days. Besides, the household dietary diversity score was 5.4 which is lower 12 targeted food groups. Borrowing and reducing quantity of foods or skipping meals, were the most preferred negative coping mechanisms observed in both camps.

Health

Coverage of measles vaccination and Vitamin A supplementation seemed better in Aysaita camp as compared to Berhale. In Aysaita, measles vaccination coverage based on both immunization card and maternal recall, was 95.7% which is within acceptable standards of above 95% while in Berhale was 93.2%. Vitamin A supplementation was 97.6% in Aysaita while in Berhale was 81.2%. Aysaita seemed to meet the standard of above 90% recommended coverage while Berhale was slightly below the standards. in the past six months prior to the survey in Ayaita. This may conclude that measles and vitamin A coverage in Berhale camps were both below the recommended standards.

WASH

Proportion of households using improved water source were 99.6% and 100% in Ayaita and Berhale respectively. Average litre per person per day was 21.76 in Aysaita and 23.77 in Berhale camps, which is in line with UNHCR recommendation (>20 lpppd). Coverage of improved toilet facility was 56.5% and 86.5% in Aysaita and Berhale respectively. Use of unimproved toilets which includes public toilets and open defecation may results to adverse effects including outbreak of potential communicable diseases which may results to fatality among the refugees.

Households using covered or narrow necked water storage were only 39.3% in Aysaita, whereas 71.5% of the households were using narrow necked or covered containers to store water in Berhale.

Conclusions

Prevalence of acute malnutrition in Afar camps remained critical with overall GAM of 20.1% and SAM 3.5%, which is above the emergency threshold of 15% for GAM and 2% for SAM. An increase in GAM was noted when compared to 2016 nutrition survey results and a couple of contributing factors including slight ration reduction, poor IYCF practices and enrolment of were thought to link with deterioration of the nutritional

status. Prevalence of stunting was below the emergency threshold of 40% but above the acceptable UNHCR and sphere standards of 20%. Given that malnutrition levels remain above the UNHCR acceptable standards, the need to continue with scale up and provision of adequate holistic services remains a key priority.

Recommendations:

Immediate term

1. At least quarterly WHZ screening to be conducted at BSFP centres in addition to elevated cut-off point MUAC screening after every two weeks to continuously ensure timely enrolment of eligible children in the appropriate programs and boost the nutrition program coverages.

2. Community outreach program needs continued strengthening focusing on active case finding, referral and systematic follow up of defaulters; screening for malnutrition at key contact points; continuous training and on job training on preventive nutrition and regular follow up at the household level.

3. Harmonized, simplified health, nutrition, WASH and food utilization messages should be disseminated at all contact points in the community and service centres such as markets, health facilities, nutrition facilities, general food distribution centres, early childhood education centres and at household level to promote positive behaviour change.

4. Step up community engagement and involvement in understanding matters related to nutrition and the role of the communities in supporting pregnant lactating women and children in preventing malnutrition.

5. Community sensitisation have to be considered to hinder the high selling rate of therapeutic foods, general rations and emphasize on the current cash distributed for replacement of cereals should be made clear to refugees is part of general rations.

6. Health and nutrition partners should be proactive to disseminate key messages related to hygiene promotion and nutrition education to UNHCR persons of concern.

Medium term

1. High prevalence of acute malnutrition and high prevalence of anaemia indicates the need for continuation and strengthening of Blanket Supplementary Feeding Program (BSFP) for all children 6-59 months in both the camps and all Pregnant and

Lactating Women (PLW) and focusing on windows of opportunities to reduce the prevalence of stunting and halt the intergenerational effect of malnutrition.

2. IYCF should be strengthened through rolling out the UNHCR multi-sectoral IYCF friendly framework for action in the two camps and formation of mother to mother supportive groups should be emphasized.

3. Strengthen the integration of nutrition and health services at all contact points for women and children.

4. Liaise with Woreda Offices to get continuous deworming and Vit. A supplementation where there is supply issues i.e. Berhale camp.

5. Joint regular monitoring and evaluation (with emphasis on supportive supervision) of health, nutrition and WASH programs in each camp are important to identify capacity needs and to address gaps in programme delivery in a timely manner.

6. Usage of improved latrine facility in both camps are shown to be very low. It was also observed that most of the refugees' households lack adequate water storage containers. Constructions of new latrines to replace the filled once would increase coverage and reduce the use of unimproved latrines. Strengthened hygiene promotion and providing adequate storage water containers are key factors for enhanced personal hygiene.

Long term

1. Generally, some increase in prevalence of GAM, stunting in younger children, and anaemia in Aysaita and Berhale is an indication of a set of possible underlying causes which cannot be deduced from this survey. A qualitative study is recommended to explore concrete factors that may be attributing to high and increasing prevalence.

2. Advocate for funding to increase rations in the refugee food basket with provision of the minimum recommended levels of both macro and micronutrient to address acute malnutrition, as well as reduction of prevalence of anaemia in children aged 6 to 59 months.

3. Livelihood opportunities including; agricultural, animal husbandry and related income generation activities are strongly recommended to complement the gap faced over the cycle of the general ration.

REFERENCES

1. UNHCR Standardized Expanded Nutrition Survey Guideline
2. Final Report of Standardized Expanded Nutrition Survey, 2016.
3. Final Report of Standardized Expanded Nutrition Survey, 2015.
4. Final Report of Standardized Expanded Nutrition Survey, 2014.
5. Practical guide to the systematic use of Standards and Indicators in UNHCR operations, Second Edition, Feb/2016.

APPENDICES

Appendix 1: Plausibility Check for Aysaita Camps

Plausibility check for: Aysiata Camp

Standard/Reference used for z-score calculation: WHO standards 2006

(If it is not mentioned, flagged data is included in the evaluation. Some parts of this plausibility report are more for advanced users and can be skipped for a standard evaluation)

Overall data quality

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** (0.9 %)
Overall Sex ratio (Significant chi square)	Incl	p	>0.1 0	>0.05 2	>0.001 4	<=0.001 10	**4** (p=0.004)
Age ratio(6-29 vs 30-59) (Significant chi square)	Incl	p	>0.1 0	>0.05 2	>0.001 4	<=0.001 10	**4** (p=0.006)
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	**0** (6)
Standard Dev WHZ . .	Excl	SD	<1.1 and SD 0	<1.15 and >0.9 5	<1.20 and >0.85 10	>=1.20 or <=0.80 20	**0** (1.01)
Skewness WHZ	Excl	#	<±0.2 0	<±0.4 1	<±0.6 3	>=±0.6 5	**0** (0.13)
Kurtosis WHZ	Excl	#	<±0.2 0	<±0.4 1	<±0.6 3	>=±0.6 5	**0** (0.13)
Poisson dist WHZ-2	Excl	p	>0.05 0	>0.01 1	>0.001 3	<=0.001 5	**5** (p=0.000)
OVERALL SCORE WHZ =			0-9	10-14	15-24	>25	**13** %

The overall score of this survey is 13 %, this is good.

Appendix 2: Plausibility Check for Berhale Camp

Plausibility check for: Berhale Camp

Standard/Reference used for z-score calculation: WHO standards 2006
(If it is not mentioned, flagged data is included in the evaluation. Some parts of this plausibility report are more for advanced users and can be skipped for a standard evaluation)

Overall data quality

Criteria	Flags*	Unit	Excel.	Good	Accept	Problematic	**Score**
Flagged data	Incl	%	0-2.5	>2.5-5.0	>5.0-7.5	>7.5	
(% of out of range subjects)			0	5	10	20	**0** (1.2 %)
Overall Sex ratio	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**0** (p=0.618)
Age ratio(6-29 vs 30-59)	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**0** (p=0.117)
Dig pref score - weight	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**0** (4)
Dig pref score - height	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**4** (13)
Dig pref score - MUAC	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**2** (10)
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** (1.05)
Skewness WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	**1** (0.21)
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	**5** (p=0.000)

OVERALL SCORE WHZ = 0-9 10-14 15-24 >25 **12** %

The overall score of this survey is 12 %, this is good.

Appendix 5. Questionnaire

UNHCR Standardised 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.

- 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, I will ask you some questions about your family and I will also measure the weight and height of all the children in the household who are older than 6 months and younger than 5 years In addition to these assessments, I 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.

Note that in some camps, the words 'block' and 'section' may not be used and other words may be used for these. Adapt the wording accordingly.

CAPITAL LETTERS refer to instructions for the surveyors and should not be read to the respondent.

CHILDREN 6-59 MONTHS ANTHROPOMETRY, HEALTH AND ANAEMIA: 1 questionnaire per cluster / zones / sections *(*THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO ALL CHILDREN BETWEEN 6 AND 59 MONTHS OF AGE*)*

Section code / number:_____**Block code / number**: _____

Date of interview (dd/mm/yyyy): |__|__|/|__|__|/|__|__||__|__|	**Cluster Number (*in cluster survey only*)** |__|__|	**Team number** |__|

CH1	**CH2**	**CH3**	**CH4**	**CH5**	**CH6**	**CH7**	**CH8**	**CH9**	**CH10**	**CH11**	**CH12**	**CH13**	**CH14**	**CH15**
ID	**HH**	**Consent given** 1=Yes 2=No 3=Absent	**Sex** (m/f)	**Birthdate*** dd/mm/yyyy	**Age**** (months)	**Weight** (kg) ±100g	**Height** (cm) ±0.1cm	**Oedema** (y/n)	**MUAC** (mm)	**Child enrolled** 1=SFP 2=TFP 3=None	**Measles** 1=Yes card 2=Yes recall 3=No or don't know	**Vit. A in past 6 months** (SHOW CAPSULE) 1=Yes card	**Diarrhoea in past 2 weeks** 1=Yes 2=No 3=Don't know	**Hb** *(g/L or g/dL)*

												2=Yes recall 3=No or don't know		
01				/ /										
02				/ /										
03				/ /										
04				/ /										
05				/ /										
06				/ /										
07				/ /										
08				/ /										
09				/ /										
…				/ /										

*The exact birth date should only be taken from an age documentation showing day, month and year of birth. It is only recorded if an official age documentation is available; if the mother recalls the exact date, this is not considered to be reliable enough. **Leave blank if no official age documentation is available.**

**If no age documentation is available, estimate age using local event calendar. If an official age documentation is available, record the age in months from the date of birth.

WOMEN ANAEMIA: 1 questionnaire per cluster / zones / sections (THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO ALL WOMEN AGED BETWEEN 15 AND 49 YEARS IN THE SELECTED HOUSEHOLD)

Section code / number:___**Block code / number**: _____

Date of interview (dd/mm/yyyy): |__|__|/|__|__|/|__|__||__|__|	**Cluster Number (*in cluster survey only*)** |__|__|	**Team number** |__|

WM1	**WM2**	**WM3**	**WM4**	**WM5**	**WM6**	**WM7**	**WM8**
ID	**HH**	**Consent given** 1=Yes 2=No 3=Absent	**Age** (years)	**Are you pregnant?** 1=Yes 2=No (GO TO HB) 8=Don't know (GO TO HB)	**Are you currently <u>enrolled</u> in the ANC programme?** 1=Yes 2=No 8=Don't know	**Are you currently <u>receiving</u> iron-folate pills (*SHOW PILL*)?** 1=Yes (STOP NOW) 2=No (STOP NOW)	**Hb** (g/L or g/dL)

						8=Don't know (STOP NOW)	
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
…							

IYCF: 1 questionnaire per child 0-23 months *(*THIS QUESTIONNAIRE 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)

Section code / number:_____**Block code / number**: _____**Consent** : yes / no / absent

Date of interview (dd/mm/yyyy)	**Cluster Number (*in cluster survey only*)**	
|__|__|/|__|__|/|__|__||__|__|	|__|__|	
Team Number	**ID Number**	**HH Number**
|__|	|__|__|__|	|__|__|__|

No	**QUESTION**	**ANSWER CODES**	
SECTION IF1			
IF1	Sex	Male.....1 Female.....2	|__|

IF2	Birthdate RECORD FROM AGE DOCUMENTATION. LEAVE BLANK IF NO VALID AGE DOCUMENTATION.	Day/Month/Year.....|__|__| /|__|__| / |__|__||__|__|	
IF3	Child's age in months	IF AGE DOCUMENTATION NOT AVAILABLE, ESTIMATE USING EVENT CALENDAR. IF AGE DOCUMENTATION AVAILABLE, RECORD THE AGE IN MONTHS FROM THE DATE OF BIRTH.	|__|__|
IF4	Has [NAME] ever been breastfed?	Yes..... 1 No..... 2 Don't know 8	|__| **IF ANSWER IS 2 or 8 GO TO IF7**
IF5	How long after birth did you first put [NAME] to the breast?	Less than one hour ..... 1 Between 1 and 23 hours ..... 2 More than 24 hours..... 3 Don't know 8	|__|
IF6	Was [NAME] breastfed yesterday during the day or at night?	Yes..... 1 No..... 2 Don't know 8	|__|
SECTION IF2			

IF7	Now I would like to ask you about liquids that [NAME] may have had yesterday during the day and at night. 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] receive any of the following? ASK ABOUT EVERY LIQUID. IF ITEM WAS GIVEN, CIRCLE '1'. IF ITEM WAS NOT GIVEN, CIRCLE '2'. IF CAREGIVER DOES NOT KNOW, CIRCLE '8'. EVERY LINE MUST HAVE A CODE. REPLACE AND ADAPT THE TEXT HIGHLIGHTED IN GREY TO THE CONTEXT. THE TEXT IN *ITALICS* NEEDS TO BE DELETED FROM THE FINAL SURVEY QUESTIONNAIRE – THE LIST THAT IS PROVIDED BELOW IS AN EXAMPLE.				
			Yes	No	DK
	7A. Plain water	7A.....1		2	8
	7B. Infant formula, for example [INSERT LOCALLY AVAILABLE BRAND NAMES OF INFANT FORMULA, *ALL TYPES*]	7B.....1		2	8
	7C. Milk such as tinned, powdered, or fresh animal milk, for example [INSERT LOCALLY AVAILABLE BRAND NAMES OF TINNED AND POWDERED MILK]	7C.....1		2	8
	7D. Juice or juice drinks, for example [INSERT LOCALLY AVAILABLE BRAND NAMES OF JUICE DRINKS]	7D.....1		2	8
	7E. Clear broth				

		7E……1	2 8
	7F. Sour milk or yogurt, for example [INSERT LOCAL NAMES]	7F……1	2 8
	7G. Thin porridge, for example [INSERT LOCAL NAMES]	7G……1	2 8
	7H. Tea or coffee with milk	7H……1	2 8
	7I. Any other water-based liquids, for example [INSERT OTHER WATER-BASED LIQUIDS 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)*	7I……1	2 8
IF8	Yesterday, during the day or at night, did [NAME] eat solid or semi-solid (soft, mushy) food?	Yes……1 No……2 Don't know……8	|__|
SECTION IF3			
IF9	Did [NAME] drink anything from a bottle with a nipple yesterday during the day or at night?	Yes……1 No……2 Don't know……8	|__|

SECTION IF4			
IF10	IS CHILD AGED 6-23 MONTHS? REFER TO IF2 / IF3	Yes……1 No……2	|__| **IF ANSWER IS 2 STOP NOW**
IF11	Now I would like to ask you about some particular foods [NAME] 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? ASK ABOUT EVERY ITEM. IF ITEM WAS GIVEN, CIRCLE '1'. IF ITEM WAS NOT GIVEN, CIRCLE '2'. IF CAREGIVER DOES NOT KNOW, CIRCLE '8'. EVERY LINE MUST HAVE A CODE. REPLACE AND ADAPT THE TEXT HIGHLIGHTED IN GREY TO THE CONTEXT. THE TEXT IN *ITALICS* NEEDS TO BE DELETED FROM THE FINAL SURVEY QUESTIONNAIRE – THE LIST THAT IS PROVIDED BELOW IS AN EXAMPLE. IF A CATEGORY OF IRON-RICH FOOD (11A-11H) IS NOT AVAILABLE IN THE SETTING, DELETE IT FROM THE QUESTIONNAIRE BUT KEEP THE ORIGINAL QUESTION NUMBERS AND DO NOT CHANGE.		
			Yes No DK
	11A. [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)*		11A……..1 2 8

	11B. [INSERT FBF AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] (e.g. CSB+, WSB+)	11B……..……..1 2 8
	11C. [INSERT FBF++ AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] *(e.g. CSB++, WSB++)*	11C……..……1 2 8
	11D. [INSERT RUTF PRODUCTS AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] *(e.g. Plumpy'Nut®, eeZeePaste™)* (SHOW SACHET)	11D……..…1 2 8
	11E. [INSERT RUSF PRODUCTS AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] *(e.g. Plumpy'Sup®)* (SHOW SACHET)	11E……..…1 2 8
	11F. [INSERT LNS PRODUCTS AVAILABLE IN THE LOCAL SETTING AND USE LOCAL NAMES] *(e.g. Nutributter®, Plumpy'doz®)* (SHOW SACHET / POT)	11F……..…1 2 8
	11G. [INSERT LOCALLY AVAILABLE BRAND NAMES OF *IRON FORTIFIED* INFANT FORMULA *ONLY*] *(e.g. Nan, S26 infant formula)*	11G……..1 2 8
	11H. [INSERTST ANY *IRON FORTIFIED* SOLID, SEMI-SOLID OR SOFT FOODS DESIGNED SPECIFICALLY FOR INFANTS AND YOUNG CHILDREN AVAILABLE IN THE LOCAL SETTING THAT	11H……..…1 2 8

	ARE DIFFERENT THAN DISTRIBUTED COMMODITIES AND USE LOCALLY AVAILABLE BRAND NAMES] *(e.g. Cerelac, Weetabix)*		
IF12	**In a setting where micronutrient powders are used:** 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? (SHOW MICRONUTRIENT POWDER SACHET)	Yes…….. …1 No…….. …2 Don't know……..8	|__|

WASH: 1 questionnaire per household *(*THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO THE MAIN CARETAKER OR, IF THEY ARE ABSENT, ANOTHER ADULT MEMBER OF THE HOUSEHOLD)

Section code / number:_____**Block code / number**: _____**Consent** : yes / no / absent

Date of interview (dd/mm/yyyy)	**Cluster Number (*in cluster survey only*)**
|__|__|/|__|__|/|__|__||__|__|	|__|__|
Team Number	**HH Number**
|__|	|__|__|__|

No	**QUESTION**	**ANSWER CODES**
SECTION WS1		
WS 1	How many people live in this household and slept here last night?	|__|__|

WS 2	What is the ***main*** source of drinking water for members of your household? ADAPT LIST TO LOCAL SETTING BEFORE SURVEY. WHEN ADAPTING THE LIST, KEEP THE ORIGINAL ANSWER CODES AND DO NOT CHANGE. DO NOT READ THE ANSWERS SELECT ONE ONLY	Piped water ..... 01 Public tap/standpipe ..... 02 Tubewell/borehole (& pump) ..... 03 Protected dug well ..... 04 Protected spring ..... 05 Rain water collection ..... 06 UNHCR Tanker ..... 07 Unprotected spring ..... 08 Unprotected dug well ..... 09 Small water vendor ..... 10 Tanker truck ..... 11 Bottled water ..... 12 Surface water (e.g. river, pond) ..... 13 Other ..... 96 Don't know 98	|__|__|
WS 3	Are you satisfied with the water supply? THIS RELATES TO THE DRINKING WATER SUPPLY	Yes ..... 1 No ..... 2 Partially ..... 3 Don't know 8	|__| **IF ANSWER IS 1, 3 OR 8 GO TO WS5**
WS 4	What is the ***main*** reason you are not satisfied with the water supply?	Not enough ..... 01 Long waiting queue 02	

	ADAPT LIST TO LOCAL SETTING BEFORE SURVEY. DO NOT READ THE ANSWERS SELECT ONE ONLY	Long distance ..... 03 Irregular supply..... 04 Bad taste..... 05 Water too warm ..... 06 Bad quality ..... 07 Have to pay..... 08 Other ..... 96 Don't know 98	|__|__|
WS 5	What kind of toilet facility does this household use? ADAPT LIST TO LOCAL SETTING BEFORE SURVEY. WHEN ADAPTING THE LIST, KEEP THE ORIGINAL ANSWER CODES AND DO NOT CHANGE. DO NOT READ THE ANSWERS SELECT ONE ONLY	Flush to piped sewer system.....01 Flush to septic system.....02 Pour-flush to pit .....03 VIP/simple pit latrine with floor/slab .....04 Composting/dry latrine .....05 Flush or pour-flush elsewhere .....06 Pit latrine without floor/slab.....07 Service or bucket latrine .....08 Hanging toilet/latrine .....09 No facility, field, bush, plastic bag10	|__|__| **IF ANSWER IS 10 GO TO WS7**
WS 6	How many ***households*** share this toilet? THIS INCLUDES THE SURVEYED HOUSEHOLD	RECORD NUMBER OF HOUSEHOLDS IF KNOWN (RECORD 96 IF PUBLIC TOILET OR 98 IF UNKNOWN) **SUPERVISOR SELECT ONE ONLY**	|__|__| Households

		Not shared (**1 HH**)..... 1 Shared family (**2 HH**) ..... 2 Communal toilet (**3 HH or more**).... 3 Public toilet (**in market or clinic etc**.) ..... 4 Don't know 8	|__|
WS 7	Do you have children under three years old?	Yes..... 1 No..... 2	|__| **IF ANSWER IS 2 GO TO WS9**
WS 8	The last time [NAME OF YOUNGEST CHILD] passed stools, what was done to dispose of the stools? DO NOT READ THE ANSWERS SELECT ONE ONLY	Child used toilet/latrine.....01 Put/rinsed into toilet or latrine .....02 Buried.....03 Thrown into garbage.....04 Put/rinsed into drain or ditch .....05 Left in the open.....06 Other.....96 Don't know 98	|__|__|
SECTION WS2 **Observation Based Questions (*done after the initial questions to ensure the flow of the interview is not broken*)**			

No	OBSERVATION / QUESTION	ANSWER			
WS9	CALCULATE THE TOTAL AMOUNT OF WATER USED BY THE HOUSEHOLD PER DAY THIS RELATES TO ALL SOURCES OF WATER (DRINKING WATER AND NON-DRINKING WATER SOURCES)	Please show me the containers you used yesterday for collecting water ASSIGN A NUMBER TO EACH CONTAINER	Capacity in litres	Number of journeys made with each container	Total litres **SUPERVISOR TO COMPLETE** **HAND CALCULATION**
		1 E.g. jerry can	25 L	1 x	25
		2 E.g. jerry can	10 L	2 x	20
		3 E.g. jerry can	5 L	2 x	10
		4 E.g. jerry can	5 L	1 x	5
		5 E.g. bucket	50 L	1 x	50
		6			
		7			
		8			
		9			
		10			
		Total litres used by household			110

WS10	Please show me where you store your drinking water. ARE THE DRINKING WATER CONTAINERS COVERED OR NARROW NECKED?	All are ..... 1 Some are ..... 2 None are 3	|__|

FOOD SECURITY: 1 questionnaire per household *(*THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO THE MAIN CARETAKER WHO IS RESPONSIBLE FOR COOKING THE MEALS)

Section code / number:_____**Block code / number**: _____**Consent** : yes / no / absent

Date of interview (dd/mm/yyyy)	**Cluster Number (*in cluster survey only*)**
|__|__|/|__|__|/|__|__||__|__|	|__|__|
Team Number	**HH Number**
|__|	|__|__|__|

No	**QUESTION**	**ANSWER CODES**	
SECTION FS1			
FS1	Does your household have a ration card?	Yes.....1 No.....2	|__| **IF ANSWER**

			IS 1 GO TO FS3
FS2	Why do you not have a ration card?	Not given one at registration..... 1 Lost card..... 2 Traded/sold card..... 3 Not registered but eligible..... 4 Not eligible (not in targeting criteria)..... 5 Other.....6	|___| **GO TO FS5**
FS3	Does your household receive full or reduced ration? (OPTIONAL)	Full……..1 Half……..2 Other……..6	|___| **IF ANSWER IS 2 OR 6 GO TO FS5**
FS4	How many days did the food from the general food aid ration from the [INSERT] cycle of [INSERT MONTH] last?	RECORD THE NUMBER OF DAYS IF KNOWN (RECORD 98 IF UNKNOWN)	|___|___|
FS5	In the last month, have you or anyone in your household borrowed cash, food or other items with or without interest?	Yes.....1 No..... 2 Don't know..... 8	|___|

FS6	In the last month, have you or anyone in your household sold any assets that you would not have normally sold (furniture, seed stocks, tools, other NFI, livestock etc.)?	Yes.....1 No.....2 Don't know.....8	|___|
FS7	In the last month, have you or anyone in your household requested increased remittances or gifts as compared to normal?	Yes.....1 No.....2 Don't know.....8	|___|
FS8	In the last month, have you or anyone in your household reduced the quantity and / or frequency of meals and snacks?	Yes.....1 No.....2 Don't know.....8	|___|
FS9	In the last month, have you or anyone in your household begged?	Yes.....1 No.....2 Don't know.....8	|___|
FS10	In the last month, have you or anyone in your household engaged in: [ADD LIST OF POTENTIALLY RISKY OR HARMFUL ACTIVITIES SUCH AS LOCAL ILLEGAL ACTIVITIES] or any other risky or harmful activities?	Yes.....1 No.....2 Don't know.....8	|___|
SECTION FS2			

FS11	Now I would like to ask you about the types of foods that you or anyone else in your household ate yesterday during the day and at night. I am interested in whether you or anyone else in your household had the item even if it was combined with other foods. I am interested in knowing about meals, beverages and snacks eaten or drank inside or outside the home. READ THE LIST OF FOODS AND DO NOT PROBE. PLACE A *ONE* IN THE BOX IF ANYONE IN THE HOUSEHOLD ATE THE FOOD IN QUESTION, PLACE A *ZERO* IN THE BOX IF NO ONE IN THE HOUSEHOLD ATE THE FOOD. REPLACE AND ADAPT THE TEXT HIGHLIGHTED IN GREY TO THE CONTEXT. THE TEXT IN *ITALICS* NEEDS TO BE DELETED FROM THE FINAL SURVEY QUESTIONNAIRE – THE LIST THAT IS PROVIDED BELOW IS AN EXAMPLE.	
	1. Any [INSERT CEREALS LOCALLY AVAILABLE] (*e.g. wheat, corn/maize, corn soy blend, 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, paste*)	1……|__|
	2. Any [INSERT WHITE ROOTS AND TUBERS LOCALLY AVAILABLE] *(e.g. green bananas, lotus root, parsnip, taro, plantains, white potatoes, white yam, white cassava, white sweet potato)* or any foods made from roots such as [INSERT LOCAL FOODS]	2……|__|
	3A. Any [INSERT VITAMIN A RICH VEGETABLES AND TUBERS LOCALLY AVAILABLE] *(e.g. carrot, pumpkin, squash, or sweet potato that are orange inside, red sweet pepper)*	3A……|__|

	3B. Any [INSERT DARK GREEN LEAFY VEGETABLES LOCALLY AVAILABLE INLCUDING WILD FORMS AND VITAMIN A RICH LEAVES] (*e.g. amaranth, arugula, cassava leaves, kale, spinach*)	3B……|__|
	3C. Any [INSERT ANY OTHER VEGETABLES LOCALLY AVAILABLE] *(e.g. bamboo shoots, cabbage, green pepper, tomato, onion, eggplant, zucchini)*	3C……|__|
	4A. Any [INSERT VITAMIN A RICH FRUITS LOCALLY AVAILABLE], and 100% fruit juice made from these *(e.g. mango (ripe, fresh and dried), cantaloupe melon (ripe), apricot (fresh or dried), ripe papaya, passion fruit (ripe), dried peach)*	4A……|__|
	4B. Any [INSERT ANY OTHER FRUITS LOCALLY AVAILABLE INCLUDING WILD FRUITS], and 100% fruit juice made from these *(e.g. apple, avocados, banana, coconut flesh, lemon, orange)*	4B……|__|
	5A. Any [INSERT ORGAN MEAT OR BLOOD-BASED FOODS LOCALLY AVAILABLE] *(e.g. liver, kidney, heart)*	5A……|__|
	5B. Any [INSERT FLESH MEAT LOCALLY AVAILABLE] *(e.g. beef, goat, lamb, mutton, pork, rabbit, chicken, duck, cane rat, guinea pig, rat, agouti frogs, snakes, insects)*	5B……|__|
	6. Any eggs from [INSERT EGGS LOCALLY AVAILABLE] *(e.g. eggs from chicken, duck, guinea fowl)*	6……|__|

	7. Any [INSERT FRESH, DRIED OR CANNED FISH OR SHELLFISH LOCALLY AVAILABLE] *(e.g. anchovies, tuna, sardines, shark, whale, roe/fish eggs, clam, crab, lobster, crayfish, mussels, shrimp, octopus, squid, sea snails)*	7……..…|__|
	8. Any [INSERT LEGUMES, NUTS AND SEEDS LOCALLY AVAILABLE] *(e.g. dried peas, dried beans, lentils, nuts, seeds)* or any foods made from these such as [INSERT LOCAL FOODS] *(e.g. hummus, peanut butter)*	8……..……|__|
	9. Any [INSERT MILK AND MILK PRODUCTS LOCALLY AVAILABLE] *(e.g. milk, infant formula, cheese, kiefer, yogurt)*	9……..…|__|
	10. Any [INSERT OILS AND FATS LOCALLY AVAILABLE] added to food or used for cooking *(e.g. vegetable oil, ghee or butter)*	10……..…|__|
	11. Any [INSERT SWEETS, SWEETENED SODA OR JUICE DRINKS AND SUGARY FOODS LOCALLY AVAILABLE] *(e.g. sugar, honey, soda drinks, chocolates, candies, cookies, sweet biscuits and cakes)*	11……..……|__|
	12. Any [INSERT SPICES, CONDIMENTS AND BEVERAGES LOCALLY AVAILABLE] *(e.g. black pepper, salt, chillies, soy sauce, hot sauce, fish powder, fish sauce, ginger, herbs, magi cubes, ketchup, mustard, coffee, tea, beer, alcoholic beverages like wine, hard spirits)*	12……..…|__|