Impacts of the COVID-19 pandemic on diets, nutrition services and nutrition practices in UNICEF's Eastern and Southern Africa region: Evidence from remote surveys

Technical Report

Botswana, Eswatini, Lesotho, Kenya, Malawi, Uganda

UNICEF, August 2022

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Executive Summary

Background

In 2021, UNICEF's Eastern and Southern Africa Regional Office (ESARO) undertook research to understand the impacts of the COVID-19 pandemic on diets of young children, adolescents and pregnant and lactating women in the region. The research was undertaken in two parts: the first phase involved a desk review of all available literature across the ESAR, with a detailed report produced. The second phase involved primary data collection in six countries (Botswana, Eswatini, Kenya, Lesotho, Malawi, and Uganda) using remote methods including telephone and internet-based surveys. The results of this second phase are presented in this report.

The overall objective of the study was **to identify changes in child, adolescent and women's nutrition practices, food security and nutrition services in six countries in ESAR (Botswana, Eswatini, Kenya, Lesotho, Malawi, and Uganda) since the COVID-19 pandemic began in 2020.**

Methodology

Data collection took place remotely in six countries (Botswana, Eswatini, Lesotho, Kenya, Malawi, Uganda) between May and August 2021. Target groups included caregivers of children aged 0-23 months and 2 to 18 years; adolescents aged 10 to 18 years; pregnant and lactating women and women who recently gave birth; and health workers. Surveys were designed and administered using both Computer Assisted Telephone Interviewing (CATI) and U-Report (using the RapidPro platform) in all six countries. In Malawi, Internet of Good Things (IOGT) was also used. Surveys and polls were tailored to each respondent group, with standardized indicator modules integrated where possible. Respondents were reached either through lists provided by UNICEF that matched the target group criteria (Eswatini, Lesotho, Malawi, Uganda) or using the GeoPoll service provider and recruitment through Facebook (Kenya and Botswana).

Results

Overall, 57,589 respondents took part in the survey. A total of 14,869 people took part in the CATI surveys (compared to a target of 13,716) including 7,672 caregivers of children aged under two years; 1,466 caregivers of children aged 2-18 years; 1,386 adolescents aged 15-18 years; 2,451 pregnant and lactating women; and 1,894 health workers. A total of 42,720 people participated in U-report polls, including 16,990 caregivers of children; 23,104 adolescents aged 10-18 years; and 2,626 health workers. IOGT results were not included in the final analysis due to the small sample size. Sixty three percent of CATI survey respondents and 62% of U-report respondents were female and there was a bias towards mothers and caregivers with a higher level of education in Eswatini, Kenya, Malawi and Uganda. Data on socio-economic status were not collected.

Nutrition practices and behaviours

Children aged under two years: Twenty percent of caregivers of children under two years who responded via the CATI survey reported that their infant was breastfed less often due to COVID-19. Fifty nine percent of this sample reported reduced consumption of one or more healthy food groups for children aged 6-23 months (average 3 out of 11 healthy food groups). Animal source foods and unhealthy snacks were most frequently reported to be consumed less due to COVID-19. Respondents from the Lesotho sample were most likely to report reduced consumption for all food groups, while respondents from Botswana were least likely to report reduced consumption for all food groups. Across all countries, fruits and vegetables were most frequently reported to be consumed more. Reported breastfeeding rates were very low in this sample and minimum dietary diversity (MDD) based on 24-hour dietary recall was higher than expected, possibly due to sample and

respondent bias. In this sample, unhealthy foods were consumed on the day prior to interview by 51% of children aged 6-23 months and sweetened beverages by 48% of children.

Children and adolescents aged 2-18 years: Eighty two percent of caregivers of children aged 2-18 years and self-reporting adolescents aged 15-18 years who responded via the CATI survey reported reduced consumption of one or more healthy food groups due to COVID-19 (5.7 out of 13 food groups). Seventy three percent of caregivers of children who responded via U-Report reported that their child consumed reduced variety of foods since COVID-19. Animal source foods and unhealthy drinks and snacks were the food groups most frequently reported via the CATI survey to be consumed less among children aged 2-18 years due to COVID-19, and vegetables were most frequently reported to be consumed more. Respondents from the Kenya sample were most likely (and from Botswana and Malawi least likely) to report reduced consumption for all food groups. Results from the adolescent U-Report survey for adolescents aged 10-18 years also found that animal source foods and unhealthy drinks and snacks were the food groups most frequently reported to be consumed less, and vegetables and staple foods were the food groups most frequently reported to be consumed more.

Pregnant and lactating women and recent mothers: Eighty four percent of pregnant and lactating women and recent mothers who took part in the CATI survey reported reduced consumption of one or more healthy food groups due to COVID-19 (5.5 out of 13 food groups). Animal source foods (organ meat, meat and chicken, fish and dairy products), and unhealthy drinks and snacks were the food groups most frequently reported to be consumed less, and vegetables, beans and pulses were most frequently reported to be consumed more.

Food insecurity

A high level of food insecurity was reported in this sample. Severe household food insecurity according to the Food Insecurity Experience Scale (FIES) was reported by 39% of caregivers of children under two years, 33% of caregivers of children aged 2- 18 years, and 34% of pregnant and lactating mothers and mothers who recently gave birth. Severe or moderate household food insecurity according to the FIES was reported by 76% of caregivers of children under two years, 74% of caregivers of children aged 2-18 years, and 72% of pregnant and lactating mothers and mothers who recently gave birth. Adolescents reported on their food security experiences via standard child FIES. According to the three-point scale, many food insecurity experiences were reported by 60% of adolescents aged 15-18 years via CATI and 76% of adolescents aged 10-18 years via U-Report.

The countries with respondents reporting the highest levels of food insecurity were Lesotho (84.8% of caregivers of children under two years) and Kenya (81.4% of adolescents). Sixty percent of adolescents aged 15 to 18 years and 76% of adolescents aged 10-18 years reported many food insecurity experiences according to the child FIES on their food security experiences via the CATI and U-Report surveys respectively.

Results from the pregnant, lactating and recent mothers CATI survey revealed that, while food continued to be available on markets, food access fell due to reduced purchasing power, either because of lack of money (61% of respondents) or higher food prices (33% of respondents). Foods most frequently reported to have reduced access were animal source foods (meat, dairy, eggs) and fruit. Access to vegetables was largely reported to be unchanged or improved since COVID-19. Sixty five percent of women from this sample reported that their household income had decreased since before the pandemic.

Nutrition services

Nutrition services faced disruption during the COVID-19 pandemic across the six countries studied in ESA as reported by both service users and service providers. Almost all caregivers reported that they continued to seek treatment for their sick child during the COVID-19 pandemic. Those that did not seek treatment cited lack of

money as the main reason, although COVID-19 infection and COVID-19-related movement restrictions were cited as reasons by some. COVID-related disruption to maternal health and nutrition services was frequently reported by pregnant and recent mothers: 24% did not attend one or more antenatal care appointment; 20% reduced the frequency of their Iron and Folic Acid (IFA) supplement consumption; and 29% had disrupted birth plans. Disruptions to maternal services were most frequently reported by users in Eswatini, Kenya and Uganda.

From a health worker perspective, the largest disruptions in the provision of services were experienced in the delivery of IFA to adolescent girls due to the closure of schools (reported by 54% of health workers – up to 81% in Uganda), delivery of IFA and MMS to pregnant women, and nutrition counselling. Wasting screening and treatment were the services least frequently reported to be disrupted. Many health workers reported adaptations to normal modes of service delivery to allow their continuation in the COVID-19 context, including physical distancing and use of alternative community platforms. Service-specific adaptations were also reported, such as the integration of vitamin A supplementation into campaigns, prepositioning of wasting treatment supplies, reduced frequency of follow up visits and use of the Family mid-upper arm circumference (MUAC) approach.

Discussion and conclusions

Results from the CATI and U-Report surveys indicate that the COVID-19 pandemic had a negative impact on infant and young child feeding practices in terms of reduced frequency of breastfeeding and a negative impact on child, adolescent and mothers' diets in terms of reduced variety of foods consumed, and reduced consumption of animal source foods rich in protein and micronutrients. Results also suggest some positive impacts on diets in terms of reduced consumption of unhealthy drinks and snacks high in sugar, salt and fat, and increased consumption of micronutrient-rich vegetables. The decreased consumption of unhealthy foods is contrary to findings of the literature review reported in phase one of this study, which suggested that consumption of unhealthy foods increased in some countries. The largest dietary changes were reported in the 2-18 year and pregnant, lactating and recent mother groups, which suggests that the negative impact on young child diets (age 6-23 months) was buffered to some extent.

There was large variation in the results between the six countries, with Lesotho showing the largest negative impact on diets for the under two years age group and Kenya for the 2-18 year age group. The different demographic characteristics of the Lesotho sample compared to other countries (older age and lower level of education) may explain some of these differences.

There are several limitations in the use of remote survey methodology to estimate dietary patterns for whole countries. There are large demographic differences between the population sampled in this study and the general population, as well as potential respondent bias (Box 1). Results are therefore not generalizable across the entire population and rather should be interpreted only as an indicator of how and to what extent the COVID-19 pandemic affected diets and feeding practices in the region.

A very high level of food insecurity was reported in this sample across all age groups, which is very concerning. The highest levels of food insecurity were reported in Lesotho and Kenya. Dietary changes appear to have been driven by changes in foods purchased in markets due to both reduced incomes and higher food prices.

Results indicate that access to and uptake of nutrition services reduced during the COVID-19 pandemic, especially maternal health and nutrition services, IFA for adolescent girls due to school closures and nutrition counselling. Other services, such as wasting screening and treatment, appear to have been more resilient. In contrast, administrative data collected from countries by UNICEF in 2020 showed a sharp decline in Vitamin A supplementation coverage, especially in the first trimester, and an increase in people reached with IYCF counselling and messaging. Health workers reported that nutrition services were adapted to enable the

continuation of service delivery. Reported adaptations are in line with other documented experiences of programming in the COVID-19 context and demonstrate the outworking of policy-decisions at programme level.

The negative impact of COVID-19 on diets, services and practices is likely to affect progress against child nutrition targets in ESA for many years to come. Resources are urgently needed to re-expand and prioritise efforts to prevent stunting and micronutrient deficiencies by protecting breastfeeding, delivering micronutrient supplementation at scale, and increasing access to diverse, healthy diets for children, pregnant and lactating women, and young people. Routine health systems must be strengthened to ensure access to nutrition services for all, national social safety nets expanded to support nutritionally vulnerable households, and comprehensive strategies developed to build sustainable livelihoods. To protect against the impact of future health emergencies, social safety nets must be shock responsive, nutrition and health services delivered via platforms able to flex during crises, and nutrition risk communication and community engagement (RCCE) strategies developed during the emergency preparedness stage to enable rapid rollout at the onset of new emergencies.

Limitations

This study provided important learning for UNICEF on the use of remote survey methods to collect nutrition data in the ESA region. Use of remote survey methods enabled the collection of data on caregiver, adolescent and health worker perceptions and experiences at a time when COVID-19 related movement restrictions prevented household surveys. However, there are important limitations that limit the generalizability of some of the results. Respondent and sample bias are indicated by the very high non-response rate (significantly higher than in household surveys); large proportion of male respondents in caregiver surveys; the high level of disagreement between IYCF standardized indicator results compared to household survey data in the same countries; high level of missing IYCF data; and higher level of maternal education of survey respondents compared to household surveys in some countries. As demographic data were not collected, it is not possible to understand the direction or extent of bias or apply weightings to results. As a result, data for standardized indicators (particularly IYCF indicators) are not generalizable and should not be compared to country household survey data. More research is needed to understand inherent bias in remote survey methods and how and when remote surveys can be used to inform nutrition programming.

Recommendations

To support optimal nutrition practices

- Expand efforts to protect breastfeeding during shocks through Risk Communication and Community Engagement (RCCE) strategies that result in clear, targeted messaging, and the continuation and expansion of breastfeeding counselling services.
- Expand multi-sectoral efforts to ensure access to a diverse diet for vulnerable households during shocks, including social protection and livelihoods programmes, with an emphasis on protecting access to animal source foods including flesh foods, dairy products and eggs.
- Routinely include standardized indicators on the consumption of unhealthy foods and sugar-sweetened beverages in all national and sub-national diet-related surveys to build a repository of trend data.

To support food security

- Build preparedness plans for future crises like the COVID-19 pandemic to protect livelihoods and incomes when movement is restricted.

- Build the shock-responsiveness of social protection systems to enable scale up during crises that impact food security, livelihoods and incomes.
- Build linkages between social protection, livelihoods and nutrition interventions to protect incomes, support household food security and sustain and improve child diets.

To build resilience of nutrition services

- Explore further examples of system resilience during COVID-19 to identify characteristics and lessons that can be learned and applied to other contexts.
- Research barriers to access of ANC, IFA and birthing services in countries most negatively impacted by COVID-19 (Eswatini, Kenya and Uganda) to identify possible entry points for building system resilience in these countries.
- Explore the impact and acceptability of programme adaptations used during the COVID-19 pandemic to identify the potential for their long-term integration into national protocols and emergency preparedness plans.
- Explore alternative platforms for the delivery of IFA to adolescent girls in the context of school closures and to target out-of-school girls.

To inform the use of remote surveys for measuring child, adolescent and women's feeding practices

- Explore possible sample and respondent bias in this and other remote survey results to understand the reasons for differences between the results of remote versus household surveys and identify best practice interpretation of results.
- Develop guidance for remote surveys that gives specific guidance on sample selection and survey design to mitigate potential biases.
- Collect data on socioeconomic indicators and geographical location in all remote surveys to build an understanding of sample bias.
- Explore the utility of routine use of remote national and sub-national surveys to complement less frequent national household survey data.

Key data

Nutrition behaviours and practices indicators	
Food insecurity indicators	
Uptake of health and nutrition services indicators	

CATI summary table

Respondent group	Indicator	Indicator definition	Botswana	Eswatini	Kenya	Lesotho	Malawi	Uganda	Total
Mothers and caregivers children 2-18 years (n=7,572)	Reduced breastfeeding frequency due to COVID-19	Percentage of mothers who reported reduced frequency of breastfeeding due to COVID-19	9.7%	9.7%	36.9%	13.5%	7.0%	32.7%	19.9%
	Decreased consumption of one or more healthy food groups 6-23 months due to COVID-19	Percentage of mothers or caregivers reporting decreased consumption of one or more healthy food groups (out of 11 food groups) by their child aged 6-23 months due to COVID-19	35.2%	42.8%	64.2%	72.2%	67.2%	66.2%	59.2%
	Average number of healthy food groups with decreased consumption 6-23 months due to COVID-19	Average number of healthy food groups (out of 11) with reported decreased consumption by children aged 6-23 months due to COVID-19: mean value (standard deviation)	1.6 (2.9)	1.9 (2.9)	3.2 (3.3)	4.5 (3.8)	3.1 (3.2)	3.4 (3.3)	3.0 (3.4)
	FIES moderate and severe – caregivers of children <2 years	Percentage of mothers or caregivers of children < 2 years reporting moderate or severe household food insecurity according to the Food Insecurity Experience Scale (FIES)	58.3%	81.7%	81.2%	84.8%	73.8%	76.8%	76.4%
	FIES severe – caregivers of children < 2 years	Percentage of mothers/ caregivers of children < 2 years reporting severe household food insecurity according to the Food Insecurity Experience Scale (FIES)	27.7%	42.2%	43.5%	43.3%	42.0%	31.9%	38.8%
	Reduced health seeking for children <2 years due to COVID-19 risk	Percentage of mothers/caregivers who did not seek treatment for their sick child <2 years (n=192) due to risk of COVID-19	25.0%	2.9%	8.3%	8.0%	35.7%	6.5%	14.7%
	Reduced health seeking for children < 2 years due to COVID-19 movement restrictions	Percentage of mothers/caregivers who did not seek treatment for their sick child <2 years (n=192) due to COVID-19 related movement restrictions	15.0%	0.0%	0.0%	12.0%	0.0%	16.1%	7.4%

Caregivers of children age 2-18 years (n=1,466) and adolescents age 15-18 years (n=1,386)	Decreased consumption of one or more healthy food groups 2-18 years due to COVID-19	Percentage of children aged 2-18 years with reported decreased consumption of one or more healthy food groups (out of 13) due to COVID-19	69.2%	87.5%	92.1%	78.7%	71.5%	91.9%	81.9%
	Average number of healthy food groups with decreased consumption 2-18 years due to COVID-19	Average number of healthy food groups (out of 13) with reported decreased consumption by child aged 2-18 years due to COVID-19: mean value (standard deviation)	4.8 (4.8)	5.8 (4.0)	7.4 (4.0)	5.7 (4.6)	4.3 (4.2)	6.1 (3.6)	5.7 (4.3)
	FIES moderate and severe – caregivers of children 2-18 years	Percentage of caregivers of children aged 2-18 years reporting moderate or severe household food insecurity according to the Food Insecurity Experience Scale (FIES)	55.6%	79.3%	81.4%	81.4%	65.0%	73.0%	73.8%
	FIES severe – caregivers of children 2-18 years	Percentage of caregivers of children aged 2-18 years reporting severe household food insecurity according to the Food Insecurity Experience Scale (FIES)	25.0%	32.0%	39.5%	33.9%	37.2%	28.6%	33.2%
	Child FIES average number of food security experiences – adolescents aged 15-18 years	Average number of food insecurity experiences (out of 20) according to the Child Food Insecurity Experience Scale (FIES) for adolescents aged 15-18 years – mean (standard deviation)	6.7 (6.0)	10.1 (6.5)	10.5 (6.8)	10.4 (6.6)	8.2 (5.6)	8.5 (6.3)	9.1 (6.4)
	Child FIES many experiences (4-point scale) – adolescents aged 15-18 years	Percentage of adolescents aged 15-18 years reporting **many** food insecurity experiences according to the Child Food Insecurity Experience Scale (FIES) using 4-point scale (none, some, many, very many)	12.4%	18.0%	16.2%	19.6%	24.5%	19.8%	19.0%
	Child FIES very many experiences (4 point scale)– adolescents aged 15-18 years	Percentage of adolescents aged 15-18 years reporting **very many** food insecurity experiences according to the Child Food Insecurity Experience Scale (FIES) using 4-point scale (none, some, many, very many)	28.9%	48.1%	52.5%	48.3%	33.6%	38.1%	41.2%
	Child FIES many experiences (3-point scale) – adolescents aged 15-18 years	Percentage of adolescents aged 15-18 years reporting **many** food insecurity experiences according to the Child Food Insecurity Experience Scale (FIES) using 3-point scale (none, some, many)	41.2%	66.0%	68.7%	67.9%	58.2%	57.9%	60.2%
	Reduced health seeking for child 2-18 years due to COVID-19 risk	Percentage of caregivers and adolescents reporting that they did not seek treatment for child aged 2-18 years when sick (n=268) due to risk of COVID-19	25.0%	16.7%	30.8%	11.5%	33.3%	13.0%	21.3%

	Reduced health seeking for children 2-18 years due to COVID-19 related movement restrictions	Percentage of caregivers and adolescents reporting that they did not seek treatment for child aged 2-18 years when sick (n=268) due to COVID-19 related movement restrictions	10.0%	4.2%	0.0%	3.8%	3.3%	17.4%	6.6%
Pregnant and lactating women (PLW) and women who just gave birth (n=2,451)	Reduced consumption of one or more healthy food groups PLW and new mothers due to COVID-19	Percentage of PLW and women who just gave birth reporting reduced consumption of one or more healthy food groups due to COVID-19	64.5%	87.2%	90.0%	92.0%	78.4%	92.6%	84.2%
	Average number of healthy food groups with decreased consumption by PLW and new mothers due to COVID-19	Average number of healthy food groups (out of 13) with decreased consumption due to COVID-19 by PLW and women who just gave birth - mean value (standard deviation)	3.7 (4.2)	5.6 (4.3)	6.5 (4.0)	6.7 (3.7)	4.4 (3.9)	6.0 (3.8)	5.5 (4.1)
	FIES moderate and severe - PLW and new mothers	Percentage of PLW and mothers who just gave birth reporting moderate or severe household food insecurity according to the Food Insecurity Experience Scale (FIES)	49.60%	72.90%	80.20%	83.40%	66.70%	77.40%	71.80%
	FIES severe - PLW and new mothers	Percentage of PLW and mother who just gave birth reporting severe household food insecurity according to the Food Insecurity Experience Scale (FIES)	19.70%	30.70%	42.10%	45.60%	35.60%	30.60%	34.10%
	Reduced ANC visits due to COVID-19 risk	Percentage of pregnant women who did not attend an ANC visit due to risk of COVID-19	5.6%	6.5%	18.5%	9.2%	9.5%	8.3%	8.9%
	Reduced ANC visits due to COVID-19 related movement restrictions	Percentage of pregnant women who did not attend an ANC visit due to COVID-19 related movement restrictions	4.3%	6.0%	1.2%	3.1%	1.2%	25.6%	6.7%
	Reduced consumption IFA tablets due to lack of supply during COVID-19	Percentage of PLW and women who just gave birth who reduced consumption of iron and folic acid tablets due to no access to supplements during COVID-19	12.4%	28.6%	26.7%	9.4%	3.4%	18.6%	14.4%
	Reduced health facility births due to COVID-19 risk	Percentage of women who recently gave birth who changed their birth plans due to COVID-19	19.3%	28.4%	42.8%	19.9%	11.4%	42.8%	29.2%

U-Report results summary table

Respondent group	Indicator name	Indicator definition	Botswana	Eswatini	Lesotho	Malawi	Uganda	Total
Parents/ caregivers of children (n=16,990)	Reduced variety of foods consumed by children since COVID-19	Percentage of caregivers who reported that their child consumed less variety of foods since COVID-19	68.7%	74.4%	72.0%	72.8%	75.0%	73.0%
	Reduced frequency of meals consumed by children since COVID-19	Percentage of caregivers who reported that their child consumed meals less frequently since COVID-19	33.4%	51.5%	53.8%	68.9%	64.7%	65.1%
	Reduced meal portion consumed by children since COVID-19	Percentage of caregivers who reported that their child consumed smaller meal portions since COVID-19	46.0%	34.6%	24.0%	46.7%	41.5%	45.2%
	Children skipping meals since COVID-19	Percentage of caregivers who reported that their child skipped meals since COVID-19	30.7%	40.2%	44.0%	14.9%	41.2%	22.8%
	Reduced snacking for children since COVID-19	Percentage of caregivers who reported that their child snacked less since COVID-19	23.0%	23.8%	32.0%	20.5%	16.6%	19.8%
	Reduced food consumption due to high food cost since COVID-19	Percentage of caregivers who reported that their child's food consumption reduced since COVID-19 due to high cost of food	33.0%	34.5%	40.0%	35.9%	19.3%	31.2%
	Reduced food consumption due to lack of money since COVID-19	Percentage of caregivers who reported that their child's food consumption reduced since COVID-19 due to lack of money	55.3%	59.6%	56.0%	57.7%	73.8%	61.9%
Adolescents aged 10 - 18 years (n=23,104)	Simplified Child FIES many experiences – adolescents aged 10-19 years	Percentage of adolescents aged 10-18 years reporting **many** food insecurity experiences (out of 10) according to the Simplified Child FIES using 3-point scale (none, some, many)	63.3%	88.2%	76.9%	82.2%	34.2%	75.8%
	COVID-19 adolescent messaging	Percentage of adolescents aged 10-19 years who reported seeing or hearing messaging on healthy eating/diets since COVID-19	62.5%	47.2%	50.4%	56.5%	53.2%	54.5%
	COVID-19 no adolescent messaging	Percentage of adolescents aged 10-19 years who did not report seeing or hearing messaging on healthy eating/diets since COVID-19	30.2%	44.4%	42.4%	37.7%	39.2%	38.7%

Abbreviations

ANC	Antenatal care
CATI	Computer Assisted Telephone Interviews
CHW	Community Health Workers
CI	Confidence interval
DTA	Data Transfer Agreement
DHS	Demographic and Health Survey
ESA	Eastern and Southern Africa
ESAR	Eastern and Southern Africa Region
ESARO	Eastern and Southern Africa Regional Office
FIES	Food Insecurity Experience Scale
FTP	File Transfer Protocol
HW	Health worker
IFA	Iron and Folic Acid
IOGT	Internet of Good Things
IPC	Integrated Phase Classification
IVR	Interactive Voice Response
LTA	Long Term Agreement
MAD	Minimum Acceptable Diet
MDD	Minimum Diet Diversity
MMF	Minimum Meal Frequency
MMS	Multiple Micronutrient Supplementation
MICS	Multiple Indicator Cluster Surveys
MOH	Ministry of Health
mVAM	Mobile Vulnerability Analysis and Mapping
PII	Personal Identifiable Information
PLW	Pregnant and Lactating Women
RCCE	Risk Communication and Community Engagement
RDD	Random Digit Dialing
RS4N	Remote Survey for Nutrition
SMS	Short Message Service
WFP	World Food Programme

Glossary

Computer Assisted Telephone Interviewing (CATI): an interviewing method in which an interviewer reads questions displayed on a computer screen to a respondent during a phone call and enters the respondent's answers directly into an electronic device.

Women minimum dietary diversity index (MDD-W): an indicator that includes the percentage of women who reported consuming at least five food groups in the last 24 hours.

Child minimum dietary diversity (MDD): an indicator that includes the percentage of children 6 to 23 months of age who receive foods from four or more food groups.

Child Minimum Meal Frequency (MMF): an indicator that includes the percentage of breastfed and non-breastfed children 6 to 23 months of age, who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more.

Child Minimum Acceptable Diet (MAD): an indicator that includes the proportion of children 6-23 months of age who receive a minimum acceptable diet (apart from breast milk).

Food Insecurity Experience Scale (FIES): A standard set of questions that refer to the experiences of the individual respondent or household, focusing on self-reported food-related behaviours and experiences associated with increasing difficulties in accessing food.

1. Background

The COVID-19 pandemic has continued to evolve in Africa since the virus was first detected in Algeria on 25 February 2020. By April 2022, there were over 8.6 million confirmed cases of the virus, with South Africa remaining the epicentre of the outbreak in the region.[1]

While there are no known direct impacts of COVID-19 on child nutrition status, secondary impacts of the virus have led to reduced household incomes, disruption to food systems and reduced uptake of nutrition and health services. Prior to COVID-19, an estimated 45 million people were classified as food insecure in the Eastern and Southern Africa Region (ESAR)[2] and 10.6 million children were estimated to suffer from wasting each year. A 2020 study projected that the numbers of wasted children would increase by 14.3% in low and middle-income countries due to the secondary impacts of COVID-19.[3]

In 2021, UNICEF's Eastern and Southern Africa Regional Office (ESARO) nutrition section undertook research to understand the impacts of the COVID-19 pandemic on the diets of young children, adolescents, and pregnant and lactating mothers and infant feeding practices. The purpose of this research was to contribute to greater understanding of the impacts of the pandemic on nutrition in the region, inform response strategies to mitigate against these impacts and build nutrition resilience to future crises. The research was undertaken in two parts: the first phase involved a desk review of all available literature across the ESAR, with a detailed report produced. The second phase involved primary data collection using remote methods including telephone and internet-based surveys in six countries (Botswana, Eswatini, Kenya, Lesotho, Malawi, Uganda). The results of the second phase are presented here.

2. Objectives

The overall objective of the study was **to identify changes in child, adolescent and women's nutrition practices, food security and nutrition services in six countries in ESAR (Botswana, Eswatini, Kenya, Lesotho, Malawi, and Uganda) since the COVID-19 pandemic began in 2020.**

Specific study objectives were to:

1. Determine current nutrition practices and behaviours of women, children and adolescents.
2. Assess the impact of COVID-19 on the nutrition practices and behaviours of women, children and adolescents.
3. Determine current food security situation of households.
4. Assess the impact of COVID-19 on household food security.
5. Assess the impact of COVID-19 on the delivery of nutrition services.
6. Compare results between countries and identify common themes.

To undertake this research in the context of COVID-19 movement restrictions, remote survey methods were used. This provided a unique learning opportunity for the region. A secondary objective of the study was

[1] https://covid19.who.int/

[2] The UNICEF Eastern and Southern Africa region is made up of 21 countries: Angola, Botswana, Burundi, Comoros, Eritrea, Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Rwanda, Somalia, South Africa, South Sudan, United Republic of Tanzania, Uganda, Zambia, Zimbabwe

[3] Headey et al. 2020. Impacts of COVID-19 on childhood malnutrition and nutrition-related mortality. Comment. Lancet 396;519.

therefore to learn from the experience of designing and using remote survey methods to feed into future guidance for their use by UNICEF country offices.

3. Methodology

Study site

Data collection took place remotely in six countries: Botswana, Eswatini, Lesotho, Kenya, Malawi, and Uganda. These countries volunteered to participate in the study based on interest and agreement from Government.

Respondents

Several groups of respondents were targeted in each country, as follows:

1. Parents or caregivers of children aged 0-23 months.
2. Parents or caregivers of children aged 2-18 years.
3. Adolescents aged 10-18 years.
4. Pregnant and lactating women /women who just gave birth (up to 20 months prior to data collection).
5. Health workers/service providers at facility and community level.

Sampling

The sample size was calculated based on estimations of prevalence of each key nutritional indicator per respondent group (Table 1). In total, 2,000 respondents were required per country. For indicators with unknown prevalence, the calculation was based on a prevalence of 50% that gives the biggest sample size required.

Table 1: **Sample size calculations**

Target group	Respondents group	Indicator	Estimated prevalence	Precision in 1 stratum (± X%)		Design effect	Sample size of respondents per country
Children 0-5.9 months	Mothers or caregivers with children <2 years	Exclusive breastfeeding under 6 months	56%	±	5.0%	1.0	**379**
Children 0-23 months	Mothers or caregivers with children < 2 years	Timely initiation of breastfeeding (breastfeeding within one day of birth)	90%	±	5.0%	1.0	**140**
Children 6-23 months	Mothers or caregivers with children < 2 years	Minimum acceptable diet	11%	±	5.0%	1.0	**146**
Children 6-23 months	Mothers or caregivers with children < 2 years	Minimum meal frequency	44%	±	5.0%	1.0	**379**
Children 6-23 months	Mothers or caregivers with children < 2 years	Minimum dietary diversity	22%	±	5.0%	1.0	**266**
Children 2-18 years**	Mothers or caregivers with children aged 2-18 years	IDDS (unknown pre Covid 19 prevalence)	50%	±	5.0%	1.0	**385**
Women who just gave birth	Women who just gave birth	IFA 90+ last pregnancy	16%	±	5.0%	1.0	**206**
PLW	PLW	MDD-W (unknown pre Covid 19 prevalence)	50%	±	5.0%	1.0	**385**

Respondents were reached either through lists provided by UNICEF that matched the target group criteria (Eswatini, Lesotho, Malawi, Uganda) or using the GeoPoll service provider and recruitment through Facebook (Kenya and Botswana).

Survey methods

A cross-sectional approach was used based on Computer Assisted Telephone Interviewing (CATI) and U-Report using the RapidPro platform in all six countries. In Malawi, Internet of Good Things (IOGT) was also used, given that the platform was already in use there.

Data collected

The survey methods described above were used to collect data from each of the respondent groups, as described in Table 2. How this data was used to meet survey objectives is described in Table 3.

Surveys were designed according to guidelines in the Nutrition Information Management Surveillance and Monitoring in the context of COVID-19 Brief 1 and 2 (UNICEF, GNC and GTAM, 2020) and the Eastern and Southern Africa COVID-19 Nutrition Research Compendium (UNICEF, 2020). Surveys were designed with time constraints in mind and, where possible, similar questions were used to enable the triangulation of data. Data was collected against standardized infant and young child feeding (IYCF), dietary diversity and food security indicators to the extent possible.

Table 2: **Overview of data collected through the U-Report, CATI and IOGT**

Approach	# polls	Respondents	Poll/questionnaire	Max # questions per poll / questionnaire
CATI	4	Pregnant and lactating women / women who just gave birth	1) Mother Questionnaire (MQ)	30
		Mothers/caregivers of children under 2 years	2) Under 2 years old child questionnaire (U2Q)	
		Caregivers of children aged 2-18 and adolescents aged 15-18	3) Child Under 19 Questionnaire (CU19)	
		Health workers	4) Health workers questionnaire (HWQ)	
U Report	6	Caregivers of children	1) Change in children's food consumption	10
		Adolescents aged 10-18 years	2) Child Food Insecurity Experience 3) Change in food consumption 4) Change in food provisions 5) Change in exposure to advertising and nutrition messages.	
		Heath workers	6) Change in delivery of nutrition services	
IOGT	3	Adolescents	1) Child Food Insecurity Experience	7
		Caregivers of children	2) Change in food consumption	
		Health workers	3) Change in delivery of nutrition services	

Table 3: **Main data collected and method per study objective**

Study sub-objectives	Main data to be collected	Method and tools	Respondents
1. Determine the current nutrition practices and behaviors of	Food consumption, Adapted minimum diet diversity for women (MDD-W), IYCF practices, health and care practices.	IOGT U Report CATI: MQ, CU19, CU2	Mothers/caregivers, Children U2 Children 2-18 years old

	women, children and adolescents.			
2.	Assess the impact of COVID-19 on the nutrition practices and behaviours of women, children and adolescents.	Adapted minimum diet diversity for women (MDD-W), IYCF practices, health and care practices.	IOGT U Report CATI: MQ, CU19, CU2	Mothers/caregivers, Children U2 Children 2-18 years
3.	Determine current food security situation of households.	Household or child Food insecurity experience scale (FIES), household (HH) food provisioning market access.	IOGT U Report CATI: MQ, CU19, CU2	Mothers/caregivers, Children U2 Children 2-18 years old
4.	Assess the impact of COVID-19 on household food security.	Self-reported changes in consumption	IOGT U Report CATI: MQ, CU19, CU2	Mothers/caregivers, Children U2 Children 2-18 years old
5.	Assess the impact of COVID-19 on the delivery of nutrition services.	Impact and adaptations for each of the following services: Nutritional care services, maternal nutrition, IYCF counselling (PLW and PLW HIV+), IFA supplementation for PLW and adolescent girls, Vitamin A supplementation, prevention and treatment of wasting.	IOGT CATI: HWQ	HW
6.	Compare results between countries and identify common themes.	Use of standardized questionnaires across the 6 countries.	All	All

Computer-assisted telephone interviews (CATI)

The CATI questionnaires were purposely short to comply with guidance for the design of telephone surveys (WFP, 2017).

The questionnaires for caregivers, adolescents, and pregnant and lactating women began with the same Core module which collected data on Socio Economic Status (SES); impact of COVID-19 on livelihoods; social assistance received; household food insecurity; market access; and decision-making power for food purchase and preparation.

Specific modules were then included for each respondent group, as follows:

- **Caregivers of children under two years of age Questionnaire (CU2)** (20 min average estimated time for administration). Eligible respondents were mothers or caretakers of children under two years of age. Data were collected on 1) Household profile; 2) Food Insecurity Experience Scale (FIES); 3) mother's and youngest child profile; 4) IYCF; and 5) child illness and care.
- **Mother Questionnaire (MQ)** (20 min average time for administration). Eligible respondents were PLW or women who gave birth since January 2020. Data were collected on 1) Household profile; 2) FIES; 3) mother's profile, 4) women's diet diversity and market access; 5) Antenatal care (ANC), birth information and Iron and Folic Acid (IFA) supplementation.
- **Caregivers of children aged 2-18 years and adolescents aged 15-18 years Questionnaire (CU19)** (20 min average time for administration). Eligible respondents were mothers or caretakers of children aged 2-18 years old or adolescents themselves when aged 15-18 years. Data were collected on 1) Household

profile; 2) mother's and eldest child profile; 3A) FIES; 3B) Child FIES; 4) child's diet; 5) child illness and care; and 6) school feeding.

The questionnaire for health workers followed a different structure with a focus on the impact of COVID-19 on delivering services at health facility and community level, as follows:

- **Health Workers Questionnaire (HWQ)** (20 min average time for administration). Eligible respondents were health workers based in health facilities or in the community. Data were collected on 1) Respondent profile; 2) Nutrition promotion and Infant and Young Child Feeding (IYCF) support; 3) vitamin A supplementation; 4) Micronutrient powder (MNP) supplementation; 5) IFA supplementation for adolescent girls; 6) IFA supplementation and maternal nutrition counselling for PLW; 7) Prevention and treatment of wasting; and 8) Nutrition counselling on prevention of mother to child transmission of HIV (PMTCT).

For CATI questionnaires, simplified or adapted indicators were collected based on the list of indicators in Table 4.

Table 4: **Indicators used for CATI questionnaires**

Theme	Indicator	Definition
Food security	**Food Insecurity Experience Scale (FIES)**	Percentage of households that run out of food, did not eat food, and/or went without eating because of lack or money or resources in the last 12 months.
	Child Food Insecurity Experience Scale (Child FIES)	Percentage of children aged 15 to 18 years who were not able to get the food they wanted, skipped a meal, had the size of their meal cut, were hungry, and/or felt tired or weak because their family did not have enough food to eat.
Child health	**Proportion of children with sickness**	Percentage of children aged 0 to 59 months with sickness in the past year.
Nutrition	**Adapted women minimum dietary diversity index (MDD-W)**	Percentage of women who reported change in consumption per food group due to Covid-19-related reasons *
	Women minimum dietary diversity index (MDD-W)	Percentage of women who consumed at least five or more food groups in the last 24 hours.
	Timely initiation of breastfeeding	Percentage of women with a live birth in the two years preceding the survey that put the newborn infant to the breast within one hour of birth.
	Proportion of children exclusively breastfed until 6 months of age (EBF)	Percentage of infants aged 0 to 5 months who were fed exclusively with breast milk during the entire day prior to interview. Exclusive breastfeeding (EBF) means the baby has not received any other fluids (not even water) or foods, with the exception of oral rehydration solution, drops and syrups (vitamins, minerals, medicines).[4]
	Child minimum dietary diversity (MDD)	Percentage of children aged 6 to 23 months of age who received foods from four or more food groups during the previous day and night.
	Child Minimum Meal Frequency (MMF)	Percentage of breastfed and non-breastfed children aged 6 to 23 months who received solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more during the previous day and night.
	Child Minimum Acceptable Diet (MAD)	Proportion of children aged 6 to 23 months of age who received a minimum acceptable diet (besides breastmilk) during the previous day and night. (This is a composite indicator consisting of MDD and MMF).
	Adapted Individual dietary diversity Score (IDDS)	Percentage of individuals who reported change in consumption per food group due to Covid-19-related reasons.*

[4] This was measured by a list-based recall of liquids taken in the last 24 hours (e.g. water, juice, artificial milk) and foods (e.g. fortified foods, cereals, pulse) consumed during the past day and night. The same list was used to calculate the MDD.

U-Report

Six polls were implemented for each target group as follows:

- **Caregivers of one or more children (no age restriction):** One poll was implemented that collected data on the change in children's food consumption.
- **Adolescents between 10 and 19 years old:** Four polls were implemented that collected data on: 1) Child FIES; 2) change in food consumption; 3) change in food provisions; and 4) change in exposure to advertising and nutrition messages.
- **Heath workers:** One poll was implemented that collected data on the change in delivery of nutrition services.

Polls included a maximum of 10 questions. Questionnaires are included in Annex 4.

IOGT

Three questionnaires were implemented as follows:

- **Adolescents:** to collect data on the child FIES.
- **Caregivers of children:** to collect data on changes in child food consumption.
- **Health workers:** to collect data in changes in the delivery of nutrition services.

Questionnaires included a maximum of seven questions. Questionnaires are included in Annex 5.

Survey implementation

Surveys were carried out between May and August 2021 (Table 5).

CATI were implemented by GeoPoll while U-Report and IOGT were administered internally by UNICEF. Data cleaning and analysis were carried out using Stata. UNICEF provided contact lists for CATI for all countries except for Kenya and Eswatini where GeoPoll used their own database of telephone numbers and recruited respondents via Facebook.

Table 5: **Summary table of data collection schedule**

	Duration of data collection		
	CATI	U-Report	IOGT
Botswana	Oct-Nov 2021	Oct-Nov 2021	N/A
Eswatini	Aug 2021	Aug 2021	N/A
Kenya	July-Aug 2021	Jul-Aug 2021	N/A
Lesotho	May – July 2021	May – July 2021	NA
Malawi	June – Aug 2021	June – August 2021	July 2021
Uganda	Sept2021	Sept – Oct 2021	N/A

Limitations

Results from this survey and remote survey methods in general both have important and distinct limitations. Respondent and sample bias are indicated in the present survey by the very high non-response rate

(significantly higher than in household surveys); large proportion of male respondents for caregiver surveys; the high level of disagreement between IYCF standardized indicator results compared to household survey data in the same countries; high level of missing IYCF data; and higher level of maternal education of survey respondents compared to household surveys in some countries. As demographic data were not collected, it was not possible to understand the direction or extent of bias nor to apply weightings to results. Lack of age data by month also prevented the calculation of certain IYCF indicators. Data for standardized indicators (particularly IYCF indicators) are therefore not generalizable and should not be compared to country household survey data. This is explored more fully in Annex 1.

Some bias could be avoided in future remote surveys, for example with careful selection of more representative contacts lists; collection and analysis of demographic data (e.g. socio-economic status, urban/rural location); weighting of results according to demographic data; more thorough training of enumerators; better survey design and rigorous survey testing; daily data quality checks; and introduction of questions at the start of surveys to identify the household caregiver for participation. Other sources of bias may not be so easily overcome, such as possible inherent bias towards wealthier, more educated participants (based on the need for phone ownership and/or time to answer a survey); difficulties accessing the household caregiver by phone; and difficulties asking longer, more complex nutrition questions over the phone or internet. Remote survey methods may therefore in general not be suitable for collecting data on standardized nutrition indicators. This does not negate their use for the collection of additional data in complement to standardized indicators (as is the case for much of the data presented here), and/or indicators where frequent change is anticipated.

More research is needed to understand inherent bias in remote survey methods. This includes research into data that changes frequently that is not adequately captured in household surveys (i.e. which indicators should be targeted for remote surveys), how to meaningfully interpret results given possible inherent high non-response rates in remote surveys, how to identify the best respondents, and how to ensure an adequate sampling frame. This information will help to inform guidance on the wider use of remote survey methods in ESA region and beyond.

4. Sample characteristics

Overview of respondents

Overall, 14,869 people took part in the survey through CATI (compared to a target of 13,716) and 42,720 participated through U-report, amounting to a total of 57,789 respondents. The U-Report data from Kenya and IOGT data from Malawi were not included in the final analysis due to the very small sample size. Tables 6 and 7 summarize the number and proportion of respondents from each country, disaggregated by gender, population group and data collection tool.

The number of CATI respondents across countries is generally similar, but health workers in Lesotho are poorly represented. Overall, a greater proportion of CATI respondents were female (61.8%) than male (38.2%).

Table 6: **CATI sample characteristics**

		Botswana N=2,102	Eswatini N=2,497	Kenya N=2,637	Lesotho N=2,280	Malawi N=2,897	Uganda N=2,456	Total N=14,869
Gender	Female	70.8% (1,487)	90.8% (2,268)	45.3% (1,195)	76.5% (1,745)	68.6% (1,988)	63.7% (1,564)	69.0% (10,247)
	Male	29.1% (612)	9.0% (225)	54.7% (1,442)	23.2% (530)	31.4% (909)	36.3% (891)	31.0% (4,609)
	Unknown	0.1% (3)	0.2% (4)	-	0.2% (5)	-	0% (1)	0.1% (13)
Population group	Adolescents aged 10-18	9.6% (201)	8.4% (209)	7.6% (201)	10.9% (248)	11.3% (328)	8.1% (199)	9.3% (1,386)
	Caregivers of children aged 2-18	10.2% (214)	10.6% (265)	12.6% (332)	10.6% (241)	6.7% (193)	9.0% (221)	9.9% (1,466)
	Caregivers of children aged under 2 years	51.9% (1,090)	46.3% (1,155)	50.1% (1,321)	57.2% (1,304)	54.0% (1,563)	50.4% (1,239)	51.6% (7,672)
	Health workers	10.1% (212)	17.5% (437)	14.7% (388)	3.2% (74)	13.5% (392)	15.9% (391)	12.7% (1,894)
	PLW and recent mothers	18.3% (385)	17.3% (431)	15.0% (395)	18.1% (413)	14.5% (421)	16.5% (406)	16.5% (2,451)

Data are presented as % (n).

Table 7: **U-Report sample characteristics**

		Botswana N=1,683	Eswatini N=715	Lesotho N=1,847	Malawi N=25,440	Uganda N=13,035	Total N=42,720
Gender	Female	62.0% (1,043)	57.8% (413)	63.0% (1,164)	32.8% (8,339)	33.4% (4,353)	35.8% (15,312)
	Male	26.8% (451)	40.6% (290)	33.4% (616)	63.0% (16,031)	59.8% (7,794)	58.9% (25,182)
	Unknown	11.2% (189)	1.7% (12)	3.6% (67)	4.2% (1,070)	6.8% (888)	5.2% (2,226)
Population group	Adolescents 10-18 years	29.1% (490)	25.7% (184)	96.9% (1,789)	48.8% (12,403)	63.2% (8,238)	54.1% (23,104)
	Caregivers	64.1% (1,079)	34.4% (246)	2.8% (52)	45.2% (11,501)	31.5% (4,112)	39.8% (16,990)
	Health workers	6.8% (114)	39.9% (285)	0.3% (6)	6.0% (1,536)	5.3% (685)	6.1% (2,626)

Data are presented as % (n).

There were large differences in the number of U-report respondents by country. There were 36 times more U-Report respondents in Malawi compared to Eswatini. Lesotho's health worker U-report survey results were discarded in the analysis due to the small respondent pool. Overall, a greater proportion of respondents were male (62.2%) than female (37.8%), although in Botswana, Eswatini and Lesotho most respondents were female. U-report results for Lesotho caregivers and health workers were discarded due to the low number of respondents (n=52 and 6 respectively).

In the following sections, the characteristics of each respondent group are described in detail.

Caregivers of children under 2 years

Table 8 describes the characteristics of caregivers of children under two years of age. Sixty-five percent of responding caregivers were female and 35% were male, rising to 66% male respondents in Kenya. Two thirds of caregivers were in the 18 to 34 year age group, while one third were older than 35 years, with an overall average age of 34 years. Across all countries, caregiver respondents had a high level of education, with 69% of caregivers having been educated to secondary level or above. When compared to the latest available household survey data in each country where this was available, this reveals that the sample is biased to towards more educated respondents in Eswatini, Kenya, Malawi and Uganda. This is discussed in more detail in Annex 1. Most caregivers lived in male-headed households (73% versus 27% female headed households) with an average household size of 5.7. Caregiver respondents from Lesotho had considerably different characteristics compared to other

countries in terms of having an older age and lower level of education. This may account for some of the differences in the data for Lesotho compared to the other countries.

Table 8: **Characteristics of caregivers of children under two years (CATI U2)**

		Botswana N=1,090	Eswatini N=1,155	Kenya N=1,321	Lesotho N=1,304	Malawi N=1,563	Uganda N=1,239	Total N=7,672
Respondent gender	Female	63.8% (696)	93% (1,075)	34.4% (455)	68.9% (899)	69.1% (1,080)	62.8% (778)	65.0% (4,983)
	Male	35.9% (391)	6.8% (78)	65.6% (866)	30.7% (400)	30.9% (483)	37.2% (461)	34.9% (2,679)
	Unknown	0.3% (3)	0.2% (2)	-	0.4% (5)	-	-	0.1% (10)
Respondent Age, mean (SD)		33.1 (9.5)	33.1 (9.7)	30.7 (8.7)	45.5 (15.1)	30.5 (8.0)	31.7 (9.9)	34.0 (11.6)
Respondent Age Group	18-34	65.9% (718)	62.9% (726)	75.0% (991)	30.2% (394)	72.6% (1,135)	71.1% (881)	63.2% (4,845)
	35-54	29.4% (320)	32.3% (373)	22.3% (294)	38.9% (507)	26.2% (409)	24.9% (309)	28.8% (2,212)
	55+	4.8% (52)	4.8% (56)	2.7% (36)	30.9% (403)	1.2% (19)	4.0% (49)	8.0% (615)
Youngest child gender	Female	49.5% (539)	51.7% (595)	50.6% (666)	49.7% (646)	52.1% (815)	53.2% (657)	51.2% (3,918)
	Male	50.5% (549)	48.3% (556)	49.4% (651)	50.3% (654)	47.9% (748)	46.8% (579)	48.8% (3,737)
Education Level Mother	None	0.2% (1)	4.8% (38)	1.5% (15)	6.2% (37)	2.1% (17)	4.1% (34)	3.2% (142)
	Primary School	5.1% (22)	24.0% (190)	15.5% (150)	44.4% (264)	18.7% (148)	14.9% (124)	20.3% (898)
	Secondary School	46.4% (202)	53.6% (424)	37.5% (364)	37.0% (220)	54.6% (432)	27.4% (228)	42.4% (1,870)
	Technical or Vocational Training	6.0% (26)	6.2% (49)	5.4% (52)	4.0% (24)	6.3% (50)	10.9% (91)	6.6% (292)
	Higher Studies [College]	38.4% (167)	11.1% (88)	39.2% (380)	7.4% (44)	18.2% (144)	42.7% (356)	26.7% (1,179)
	Others	3.9% (17)	0.3% (2)	0.9% (9)	1.0% (6)	0.0% (0)	0.0% (0)	0.8% (34)
HH head gender	Female	43.1% (470)	38.8% (448)	12.3% (163)	31.7% (414)	14.3% (224)	26.6% (329)	26.7% (2,048)
	Male	56.9% (620)	61.2% (707)	87.7% (1,158)	68.3% (890)	85.7% (1,339)	73.4% (910)	73.3% (5,624)
HH size, mean (SD)			5.6 (2.9)	6.8 (3.3)	5.4 (2.6)	6.2 (2.5)	4.9 (1.7)	5.8 (2.8)	5.7 (2.7)

Data are presented as mean (SD) for continuous measures, and % (n) for categorical measures.

Table 9: **Education level of caregiver respondents in CATI 2021 sample compared to baseline**

	Eswatini		Kenya		Lesotho		Malawi		Uganda	
	2007	**CATI**	**2014**	**CATI**	**2014**	**CATI**	**2016**	**CATI**	**2016**	**CATI**
None	14.1	4.8	10.9	1.5	2.2	6.2	20	2.1	18.8	4.1
Primary	32.8	24	51	15.5	47.4	44.4	60.1	18.7	55.7	14.9
Secondary	42.5	53.6	26.5	37.5	39.8	37	16.4	54.6	18.2	27.4
More than secondary	9.6	17.3	11.4	44.6	9.6	11.4	3.4	24.5	8.1	53.6

Baseline data taken from the most recent Demographic Health Survey (DHS). No recent DHS data was available for Botswana so not included.

Caregivers of children and adolescents aged 2 to 18 years

Caregivers of children aged 2 to 18 years responded through CATI (n=1,466) and U-report (n=16,990). Tables 10 and 11 detail the characteristics of respondents. The average age of caregivers was 37 years for CATI and 29 years for U-Report. There were large differences in the gender of respondents between countries and the two

survey methods. Overall, CATI caregiver respondents had a higher proportion of female respondents compared to U-report (68% vs 31%).

Table 10: **Characteristics of caregivers of children aged 2-18 years (CATI CU19)**

		Botswana N=214	Eswatini N=265	Kenya N=332	Lesotho N=241	Malawi N=193	Uganda N=221	Total N=1,466
Respondent gender	Female	67.8% (145)	83.8% (222)	33.4% (111)	97.1% (234)	90.7% (175)	49.8% (110)	68.0% (997)
	Male	32.2% (69)	16.2% (43)	66.6% (221)	2.9% (7)	9.3% (18)	50.2% (111)	32.0% (469)
Respondent Age, mean (SD)		37.6 (10.7)	42.3 (11.0)	33.2 (7.7)	45.2 (14.9)	30.6 (8.2)	35.0 (10.1)	37.4 (11.7)
Respondent Age Group	18-34	44.4% (95)	24.9% (66)	66.6% (221)	28.6% (69)	68.9% (133)	59.7% (132)	48.8% (716)
	35-54	48.6% (104)	58.5% (155)	31.9% (106)	42.3% (102)	30.6% (59)	34.4% (76)	41.1% (602)
	55+	7.0% (15)	16.6% (44)	1.5% (5)	29.0% (70)	0.5% (1)	5.9% (13)	10.1% (148)
HH head gender	Female	46.7% (100)	40.8% (108)	9.0% (30)	40.2% (97)	26.4% (51)	22.2% (49)	29.7% (435)
	Male	53.3% (114)	59.2% (157)	91.0% (302)	59.8% (144)	73.6% (142)	77.8% (172)	70.3% (1,031)
HH size, mean (SD)		5.3 (3.1)	6.9 (3.1)	5.5 (2.3)	5.3 (2.2)	5.0 (1.7)	5.9 (2.5)	5.7 (2.6)
Eldest Child Gender	Female	45.5% (97)	54.5% (144)	48.2% (160)	52.5% (126)	46.1% (88)	55.1% (119)	50.4% (734)
	Male	54.5% (116)	45.5% (120)	51.8% (172)	47.5% (114)	53.9% (103)	44.9% (97)	49.6% (722)
Eldest Child Age	< 5 years	16.5% (32)	5.8% (14)	32.0% (102)	12.0% (26)	13.5% (25)	19.7% (41)	17.6% (240)
	5 to <10 years	31.4% (61)	16.6% (40)	32.3% (103)	27.3% (59)	24.9% (46)	31.3% (65)	27.4% (374)
	10 to <15 years	23.7% (46)	19.1% (46)	17.6% (56)	30.1% (65)	26.5% (49)	21.6% (45)	22.5% (307)
	15 to <19 years	28.4% (55)	58.5% (141)	18.2% (58)	30.6% (66)	35.1% (65)	27.4% (57)	32.4% (442)

Data are presented as mean (SD) for continuous measures, and % (n) for categorical measures.

Table 11: **Characteristics of caregivers of children (U-Report caregivers)**

		Botswana N=1,079	Eswatini N=246	Lesotho N=52	Malawi N=11,501	Uganda N=4,112	Total N=16,990
Gender	Female	72.3% (684)	50.8% (125)	73.1% (38)	29.2% (3,224)	26.3% (1,081)	31.4% (5,152)
	Male	27.7% (262)	49.2% (121)	15.4% (8)	70.8% (7,810)	59.6% (2,452)	65.0% (10,653)
	Unknown	0.0% (0)	0.0% (0)	11.5% (6)	0.0% (0)	14.1% (579)	3.6% (585)
Caregiver's age, mean (SD)		31.4 (8.3)		32.2 (7.8)	26.9 (7.4)	32.6 (8.1)	28.6 (8.0)
Caregiver's age (categories)	15-19	1.1% (11)		0.0% (0)	9.7% (912)	0.9% (31)	6.9% (954)
	20-29	45.4% (443)		41.2% (21)	62.0% (5,840)	39.2% (1,300)	55.3% (7,604)
	30-89	53.4% (521)		58.8% (30)	28.3% (2,665)	59.9% (1,986)	37.8% (5,202)

Data are presented as mean (SD) for continuous measures, and % (n) for categorical measures.

Adolescents aged 10-18 years

Adolescents responded directly through CATI (n=1,386) (adolescents aged 15 to 18 years) and U-report (n=23,104) (adolescents aged 10 to 18 years). Tables 12 and 13 detail the characteristics of respondents in each type of survey. Most respondents to CATI surveys indicated secondary school as their highest educational achievement (72%), followed by primary school (18%). The distribution between males and females was similar,

with females forming the majority of respondents in CATI (56% vs 44%) and males in U-report (58% vs 41%). The average age of respondents to CATI was 17 years, compared to 18.6 in U-report.

Table 12: **Adolescents aged 15-18 years (CATI CU19)**

		Botswana N=201	Eswatini N=209	Kenya N=201	Lesotho N=248	Malawi N=328	Uganda N=199	Total N=1,386
Adolescent Gender	Female	54.2% (109)	78.5% (164)	44.3% (89)	55.6% (138)	51.2% (168)	52.8% (105)	55.8% (773)
	Male	45.8% (92)	20.6% (43)	55.7% (112)	44.4% (110)	48.8% (160)	46.7% (93)	44.0% (610)
Age, mean (SD)		16.7 (1.2)	16.9 (1.1)	17.5 (0.9)	16.4 (1.2)	17.2 (1.0)	17.5 (0.8)	17.0 (1.1)
HH head gender	Female	47.8% (96)	46.4% (97)	28.4% (57)	38.9% (96)	20.4% (67)	34.2% (68)	34.7% (481)
	Male	52.2% (105)	53.6% (112)	71.6% (144)	61.1% (151)	79.6% (261)	65.8% (131)	65.3% (904)
HH size		5.9 (3.7)	7.2 (3.4)	5.9 (3.3)	5.9 (2.2)	5.0 (1.8)	6.5 (3.3)	6.0 (3.0)
	Unknown	0.0% (0)	1.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	0.5% (1)	0.2% (3)
Adolescent Age	15 years old	22.4% (45)	16.3% (34)	7.0% (14)	32.0% (79)	7.3% (24)	4.5% (9)	14.8% (205)
	16 years old	20.9% (42)	16.7% (35)	9.0% (18)	19.4% (48)	14.4% (47)	7.0% (14)	14.7% (204)
	17 years old	23.9% (48)	23.4% (49)	14.9% (30)	23.1% (57)	25.7% (84)	21.1% (42)	22.4% (310)
	18 years old	32.8% (66)	43.5% (91)	69.2% (139)	25.5% (63)	52.6% (172)	67.3% (134)	48.0% (665)
Education Level	None	0.0% (0)	0.0% (0)	0.0% (0)	0.4% (1)	0.9% (3)	1.5% (3)	0.5% (7)
	Primary School	3.5% (7)	18.7% (39)	22.9% (46)	28.2% (70)	22.6% (74)	9.6% (19)	18.4% (255)
	Secondary School	84.1% (169)	80.4% (168)	71.1% (143)	68.5% (170)	65.2% (214)	68.7% (136)	72.2% (1,000)
	Technical or Vocational Training	5.5% (11)	1.0% (2)	1.0% (2)	2.0% (5)	1.8% (6)	18.2% (36)	4.5% (62)
	Higher Studies [College]	6.0% (12)	0.0% (0)	5.0% (10)	0.0% (0)	8.8% (29)	2.0% (4)	4.0% (55)
	Others	1.0% (2)	0.0% (0)	0.0% (0)	0.8% (2)	0.6% (2)	0.0% (0)	0.4% (6)

Data are presented as mean (SD) for continuous measures, and % (n) for categorical measures.

Table 13: **Adolescents aged 10-18 years (U-report)**

		Botswana N=490	Eswatini N=184	Lesotho N=1,789	Malawi N=12,403	Uganda N=8,238	Total N=23,104
Gender	Female	70.3% (317)	61.1% (110)	62.7% (1,120)	38.6% (4,575)	37.8% (3,111)	41.0% (9,233)
	Male	29.7% (134)	38.9% (70)	34.0% (608)	61.4% (7,282)	60.1% (4,954)	58.0% (13,048)
	Unknown	0.0% (0)	0.0% (0)	3.2% (58)	0.0% (0)	2.1% (173)	1.0% (231)
Age, mean (SD)		20.5 (5.6)	22.5 (1.9)	21.6 (7.4)	18.6 (3.8)	17.7 (1.6)	18.6 (3.8)
Age (categories)	10-14	0.4% (2)	0.0% (0)	6.7% (114)	3.5% (402)	5.0% (410)	4.2% (928)
	15-19	49.8% (232)	5.7% (10)	38.7% (655)	77.5% (8,923)	95.0% (7,826)	79.9% (17,646)
	20-29	42.9% (200)	94.3% (166)	45.8% (774)	17.2% (1,978)	0.0% (1)	14.1% (3,119)
	30-89	6.9% (32)	0.0% (0)	8.8% (148)	1.8% (206)	0.0% (1)	1.8% (387)
Poll number	1	69.8% (342)	72.3% (133)	52.2% (934)	72.0% (8,925)	43.9% (3,614)	60.4% (13,948)
	2	18.0% (88)	17.9% (33)	30.7% (550)	17.5% (2,174)	27.1% (2,234)	22.0% (5,079)
	3	9.6% (47)	8.2% (15)	16.9% (302)	7.8% (967)	18.6% (1,534)	12.4% (2,865)
	4	2.7% (13)	1.6% (3)	0.2% (3)	2.7% (337)	10.4% (856)	5.2% (1,212)

Data are presented as mean (SD) for continuous measures, and % (n) for categorical measures.

Pregnant and lactating women and recent mothers

Data were collected through the CATI Mothers' questionnaire from a total of 2,451 pregnant and lactating women (PLWs) and women who recently gave birth. Table 14 details the characteristics of the respondents. The mean age of respondents was 29, and the highest attained educational level was secondary school (44%), higher studies (25%) or primary school (19%). 41.3% of respondents were pregnant at the time of data collection.

Health workers

Health workers responded through CATI (n=1,682) and U-report (n=2,626). Tables 15 and 16 detail the characteristics of respondents to each type of survey. The proportion of health workers working at community and facility level is important, as an imbalance may affect the quality of results. The differences are greater at country level but even out when all country data are combined. The proportion of males and females was similar in CATI, but more males responded to the U-report survey (58%) than females (36%). As geographical location is not reported, it is not known how representative this sample is geographically.

Table 14: **Characteristics of pregnant and lactating women (CATI MQ)**

		Botswana N=385	Eswatini N=431	Kenya N=395	Lesotho N=413	Malawi N=421	Uganda N=406	Total N=2,451
Age (SD)		29.9 (6.4)	30.1 (7.2)	28.3 (5.3)	30.2 (10.1)	27.1 (5.7)	28.7 (5.8)	29.0 (7.1)
Age Group	18-34	77.7% (299)	69.1% (298)	84.8% (335)	76.5% (316)	87.6% (369)	82.8% (336)	79.7% (1,953)
	35-54	21.8% (84)	30.6% (132)	15.2% (60)	19.6% (81)	12.4% (52)	17.2% (70)	19.5% (479)
	55+	0.5% (2)	0.2% (1)	0.0% (0)	3.9% (16)	0.0% (0)	0.0% (0)	0.8% (19)
HH size, mean (SD)		5.0 (2.9)	6.5 (3.8)	4.9 (2.0)	5.3 (2.3)	4.6 (1.6)	5.4 (3.0)	5.3 (2.8)
HH head gender	Female	36.9% (103)	28.4% (97)	6.3% (18)	16.9% (53)	3.3% (11)	7.9% (22)	16.5% (304)
	Male	63.1% (176)	71.6% (244)	93.7% (269)	83.1% (261)	96.7% (327)	92.1% (257)	83.5% (1,534)
Education Level Mother	None	0.0% (0)	5.6% (24)	1.8% (7)	2.2% (9)	2.4% (10)	4.5% (18)	2.8% (68)
	Primary School	3.6% (14)	20.9% (90)	19.2% (75)	35.9% (147)	14.0% (59)	19.3% (78)	19.0% (463)
	Secondary School	37.1% (143)	52.4% (226)	35.3% (138)	46.9% (192)	61.5% (259)	30.7% (124)	44.3% (1,082)
	Technical or Vocational Training	9.1% (35)	6.3% (27)	7.7% (30)	7.6% (31)	6.4% (27)	11.1% (45)	8.0% (195)
	Higher Studies [College]	46.5% (179)	14.6% (63)	35.5% (139)	6.1% (25)	15.4% (65)	34.4% (139)	25.0% (610)
	Others	3.6% (14)	0.2% (1)	0.5% (2)	1.2% (5)	0.2% (1)	0.0% (0)	0.9% (23)
Pregnant	Yes	42.3% (163)	39.4% (170)	22.3% (88)	42.6% (176)	60.1% (253)	39.9% (162)	41.3% (1,012)
	No	57.7% (222)	60.6% (261)	77.7% (307)	57.4% (237)	39.9% (168)	60.1% (244)	58.7% (1,439)

Data are presented as mean (SD) for continuous measures, and % (n) for categorical measures.

Table 15: **Characteristics of health workers (CATI HW)**

		Eswatini N=437	Kenya N=388	Lesotho N=74	Malawi N=392	Uganda N=391	Total N=1,682
Respondent gender	Female	86.0% (376)	37.4% (145)	82.4% (61)	36.7% (144)	42.2% (165)	53.0% (891)
	Male	14.0% (61)	62.6% (243)	17.6% (13)	63.3% (248)	57.8% (226)	47.0% (791)
Age, mean (SD)		42.9 (12.5)	30.4 (7.3)	41.0 (7.5)	38.0 (9.1)	43.8 (11.0)	39.0 (11.4)
Age Group	18-34	31.6% (138)	79.4% (308)	17.6% (13)	34.2% (134)	20.2% (79)	40.0% (672)
	35-54	46.7% (204)	19.1% (74)	78.4% (58)	61.7% (242)	63.7% (249)	49.2% (827)
	55+	21.7% (95)	1.5% (6)	4.1% (3)	4.1% (16)	16.1% (63)	10.9% (183)
Work At	A health facility level	28.4% (124)	58.2% (226)	35.1% (26)	52.0% (204)	18.7% (73)	38.8% (653)
	A community level	57.7% (252)	35.6% (138)	35.1% (26)	21.9% (86)	52.2% (204)	42.0% (706)
	Both	14.0% (61)	6.2% (24)	29.7% (22)	26.0% (102)	29.2% (114)	19.2% (323)
Based In	Rural areas	76.0% (332)	36.6% (142)	12.2% (9)	77.3% (303)	36.1% (141)	55.1% (927)
	Small village	8.2% (36)	14.4% (56)	20.3% (15)	13.8% (54)	55.2% (216)	22.4% (377)
	Large town/city	15.6% (68)	49.0% (190)	67.6% (50)	8.9% (35)	8.7% (34)	22.4% (377)

Table 16: **Characteristics of health workers (U-report HW)**

		Botswana N=114	Eswatini N=285	Lesotho* N=6	Malawi N=1,536	Uganda N=685	Total N=2,626
Gender	Female	43.3% (42)	62.5% (178)	100.0% (6)	36.5% (540)	23.5% (161)	36.3% (927)
	Male	56.7% (55)	34.7% (99)	0.0% (0)	63.5% (939)	56.6% (388)	58.0% (1,481)
	Unknown	0.0% (0)	2.8% (8)	0.0% (0)	0.0% (0)	19.9% (136)	5.6% (144)
Age		29.8 (7.5)	34.1 (7.8)	36.7 (7.3)	25.0 (6.4)	29.9 (8.8)	27.6 (8.0)
Age (categories)	15-19	1.0% (1)	0.0% (0)	0.0% (0)	13.9% (176)	4.1% (22)	9.1% (199)
	20-29	55.9% (57)	34.7% (99)	16.7% (1)	66.7% (847)	53.1% (283)	58.6% (1,287)
	30-89	43.1% (44)	65.3% (186)	83.3% (5)	19.4% (247)	42.8% (228)	32.3% (710)
Health care setting	Both	34.3% (36)	25.9% (49)		26.7% (350)	22.5% (133)	25.9% (568)
	Community	31.4% (33)	8.5% (16)		28.2% (370)	60.8% (359)	35.5% (778)
	Health facility	33.3% (35)	65.6% (124)		44.7% (585)	16.1% (95)	38.2% (839)
	Other	1.0% (1)	0.0% (0)		0.4% (5)	0.5% (3)	0.4% (9)

Data are presented as mean (SD) for continuous measures, and % (n) for categorical measures.

* Discarded in the analysis due to low number of respondents.

Figures 1 and 2 depict the health workers' area of activity by CATI and U-report respectively. Multiple answers were accepted in CATI but not in U-Report. According to both survey types, nutrition counselling was the most common activity that health workers engaged in (85% CATI, 42% U-report), followed by the prevention and treatment of malnutrition (72% CATI, 38% U-report) with representation across different programme types for all countries.

Figure 1: **Health workers' area of activity (CATI HW)**

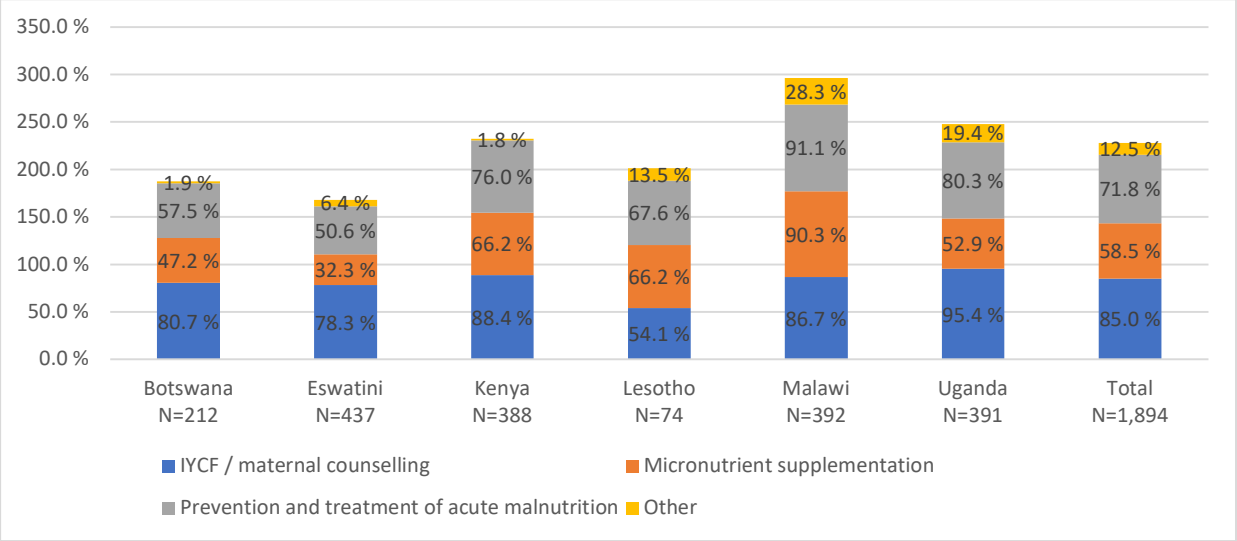
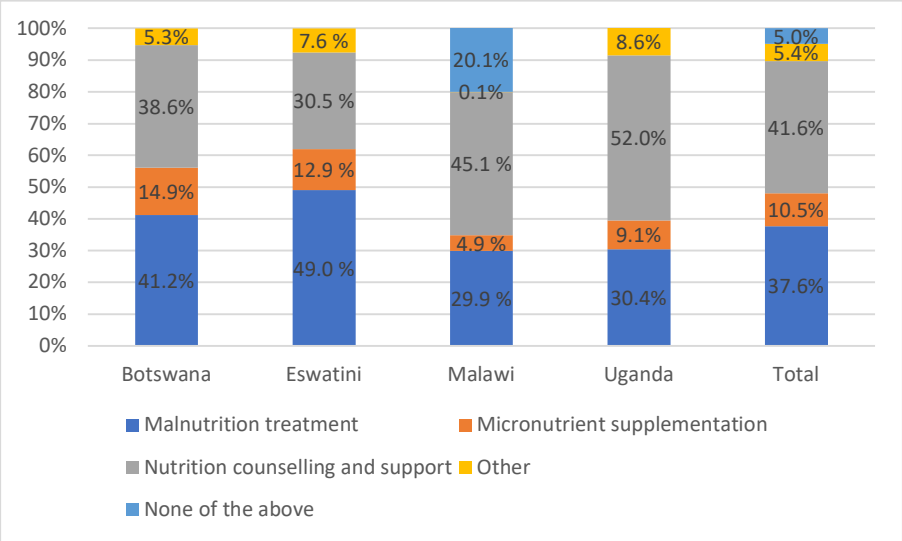


Figure 2: **Health workers' area of activity (U-Report HW)**



5. Nutrition practices and behaviours

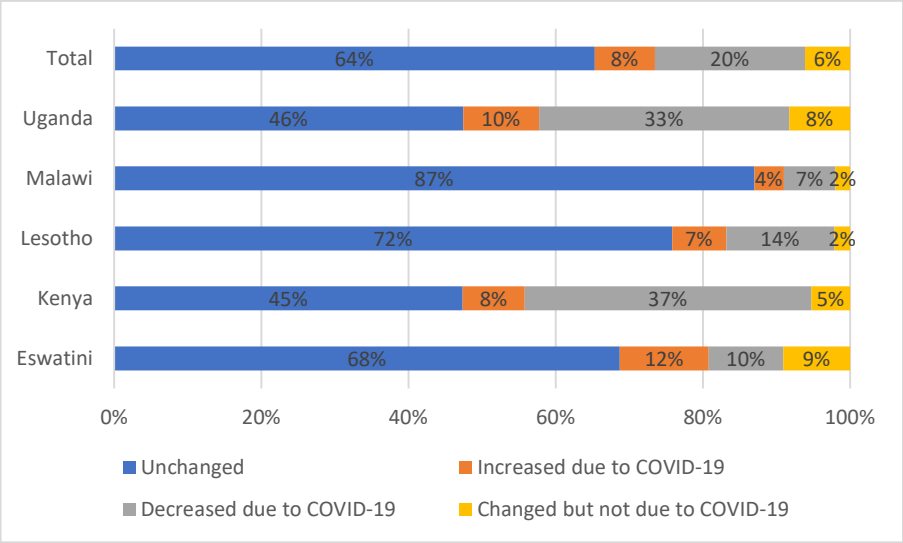
Children under two years of age

Breastfeeding

Twenty percent of caregivers of children under two years who responded via the CATI survey (total sample =7,672) reported a reduction in the frequency of breastfeeding due to COVID-19 (up to 37% in Kenya and 33% in Uganda) while 8% reported increasing breastfeeding due to COVID-19 (Figure 3). Out of those mothers that had stopped breastfeeding, 6% did so because a doctor or nurse had advised them to stop or not start breastfeeding, 5% did so because a family member or friend told them to and 1% heard from formula companies that formula feeding is better during COVID-19.

Figure 3: **Reported change in the frequency of breastfeeding of infants**

N=4,201 (CATI CU2)



Indicators related to breastfeeding are presented in Table 17. While most caregivers reported that their child under two years was breastfed at some point (91%), only 63% of caregivers reported that their child was breastfed within one hour of birth and only 23% reported that their child was exclusively breastfed up to six months of age (this dropped to 10% in Kenya). Reported breastfeeding rates are much lower in all countries than expected. Due to potential sample and respondent bias, these data may not be representative and cannot be compared to baseline household survey data. This is discussed in Annex 1.

Table 17: **Core breastfeeding indicators (CATI CU2)**

Indicator	Botswana	Eswatini	Kenya	Lesotho	Malawi	Uganda	Total
	N=1,090	N=1,155	N=1,321	N=1,304	N=1,563	N=1,239	N=7,672
Ever breastfed	85.1% (916)	89.0% (1,018)	96.6% (1,267)	84.8% (1,084)	95.0% (1,476)	95.7% (1,170)	91.3% (6,931)
Breastfed less than 60 minutes after birth	60.8% (562)	60.0% (615)	54.3% (690)	65.4% (721)	73.3% (1,085)	59.8% (709)	62.7% (4,382)

Breastfed more than 1 hour but less than 24 hours after birth	14.3% (132)	27.7% (284)	21.9% (278)	10.3% (114)	15.9% (236)	21.5% (255)	18.6% (1,299)
Breastfed more than 24 hours after birth	5.6% (52)	9.2% (94)	9.7% (123)	7.6% (84)	3.2% (48)	7.3% (87)	7.0% (488)
Exclusive breastfeeding under 6 months (for < 6 month group only)	28.8% (109)	36.9% (160)	10.8% (51)	16.6% (75)	21.8% (82)	23.4% (84)	22.7% (561)
Mixed feeding with breastmilk plus formula and/or animal milk under 6 months (for <6 month group only)	11.1% (42)	11.5% (50)	21.6% (102)	11.9% (54)	24.5% (92)	11.1% (40)	15.4% (380)
Continued breastfeeding 12-23 months (for 12-23 month group only)	16.3% (84)	17.8% (97)	39.1% (252)	12.2% (79)	32.2% (277)	31.0% (200)	25.6% (989)

Diets of children aged 6 to 23 months

Fifty nine percent of caregivers of children under two years who responded via the CATI survey (total sample =7,672) reported that their child aged 6-23 months reduced consumption of one or more food groups due to COVID-19. On average, caregivers reported reduced consumption for 3 out of 11 food groups.

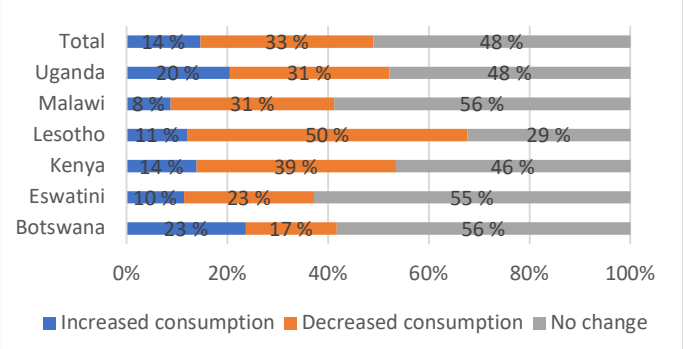
Figure 4 describes reported changes by food group. For all food groups, respondents were most likely to report no change in consumption due to COVID-19, followed by decreased consumption due to COVID-19. Increased consumption was reported least frequently. Healthy food groups most frequently reported to be consumed less by children aged 6-23 months were meat and chicken (36%), dairy products (35%), cereals, roots and tubers (33%), fortified commercial baby foods (31%), fish (30%), oils and fats (30%) eggs (28%), and pulses, beans, nuts and lentils (27%). Unhealthy food groups reported to be consumed less were savoury and fried snacks (32%) and sugary foods (32%). For all food groups, respondents in Lesotho were most likely to report reduced consumption and in Botswana least likely. The foods most frequently reported to be consumed more by children aged 6-23 months due to COVID-19 were vitamin A rich fruits and vegetables (16%) and other fruits and vegetables (15%).

Results suggest that the COVID-19 pandemic precipitated a shift in dietary patterns for the 6-23 month age group away from animal source products (particularly meat, chicken and dairy products), and unhealthy foods (savoury and fried snacks sugary foods and commercial baby foods), towards fruits and vegetables.

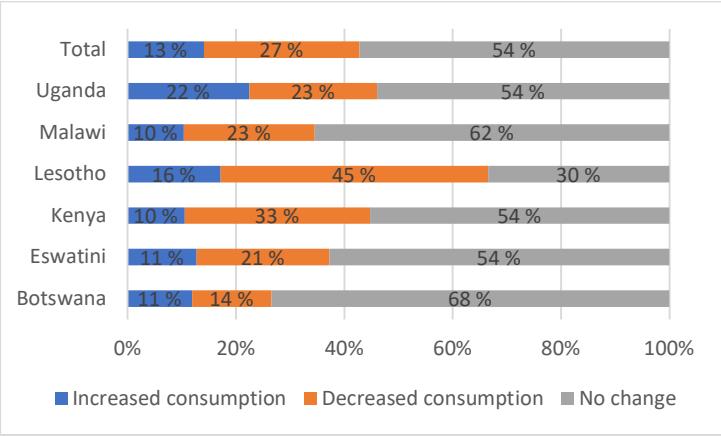
Figure 4**: Change in children aged 6-23 month's consumption by food group** N=7,667 (CATI CU2)

Healthy foods

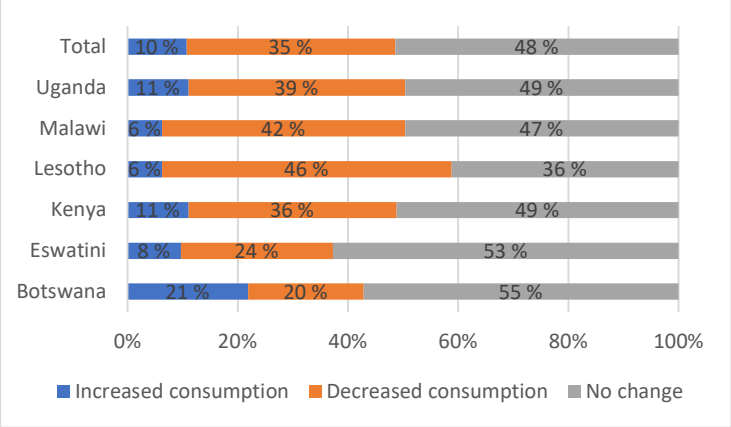
Cereals, roots and tubers



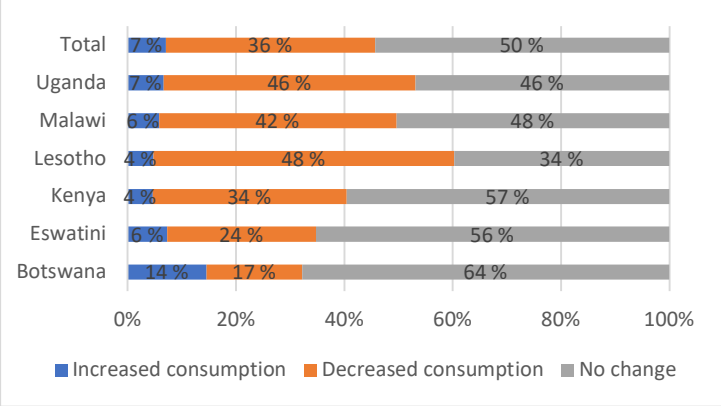
Pulses, beans, peas, nuts, lentils



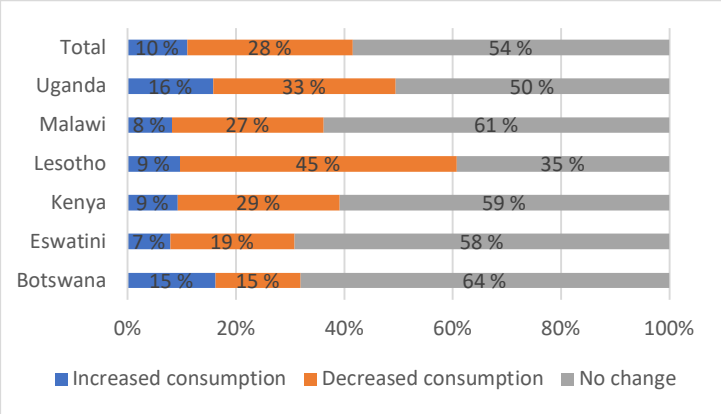
Dairy products



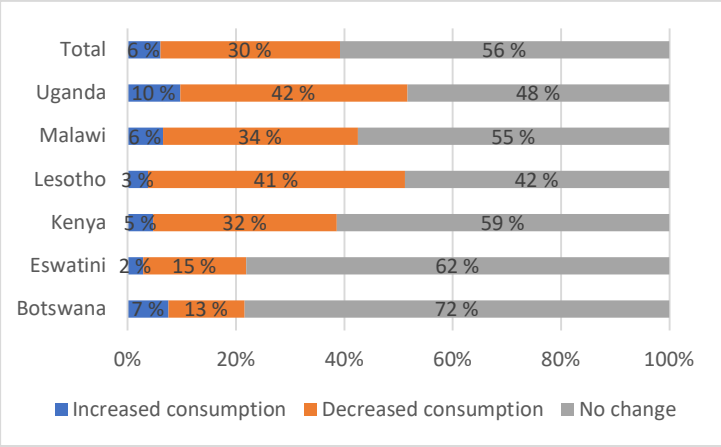
Meat and poultry



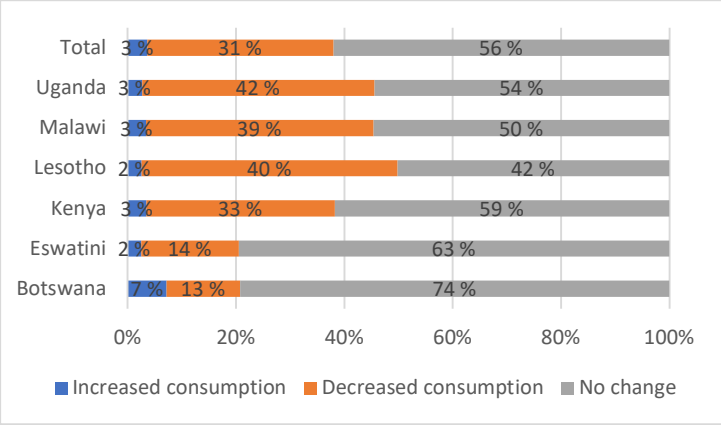
Eggs



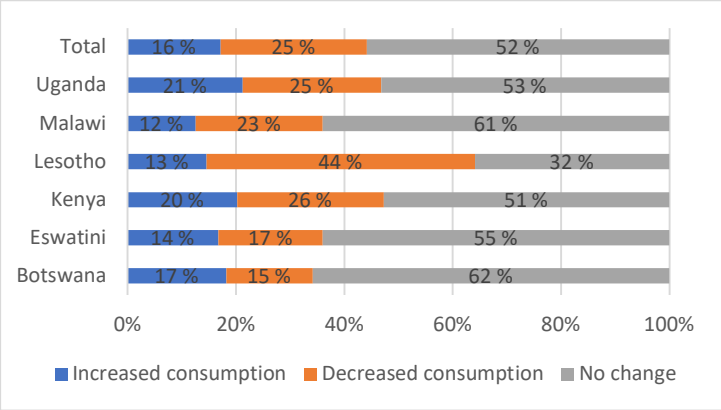
Fish and seafood



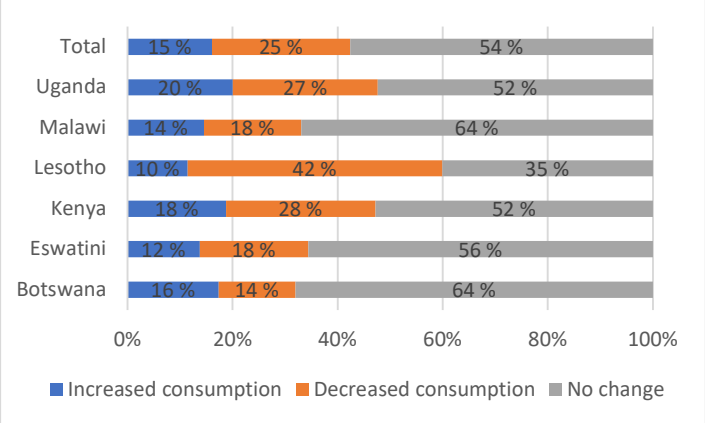
Organ meat



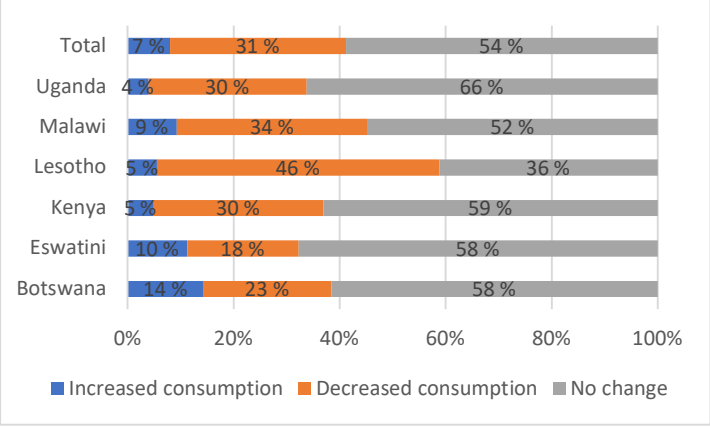
Vitamin A rich fruits and vegetables



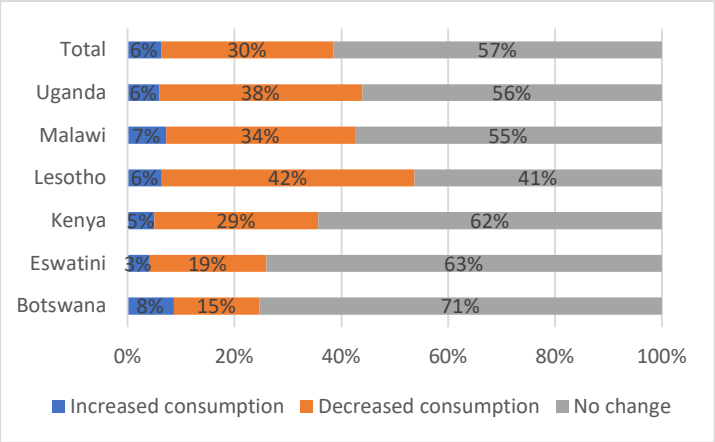
Other vegetables and fruits



Fortified commercial baby foods

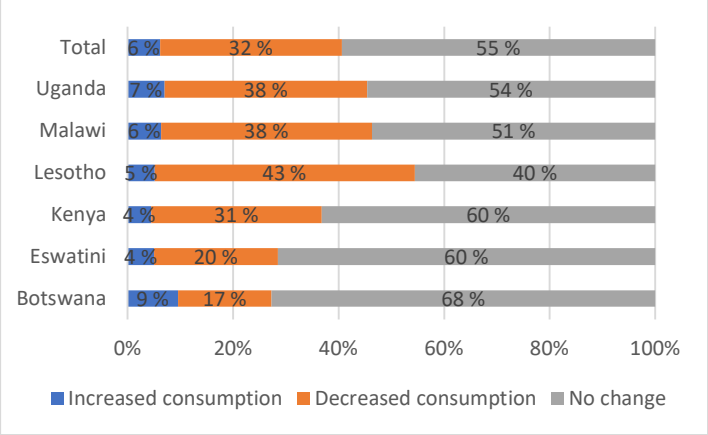


Oils and fats



Unhealthy foods

Sugary foods (sweets and chocolate)



Savoury and fried snacks

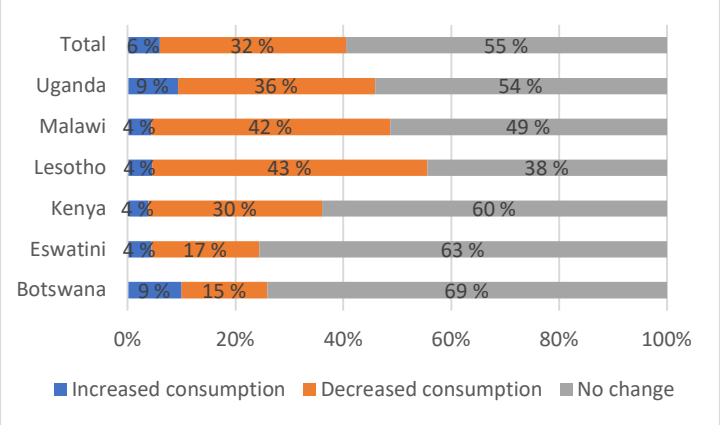


Table 18 describes data related to the diets of young children aged 6-23 months as reported by caregivers in the CATI sample. Overall, 47% of children achieved minimum dietary diversity (MDD) (ranging from 6% in Lesotho to 60.6% in Malawi), 46% minimum meal frequency (MMF) and 20% a minimum acceptable diet (MAD). The average individual dietary diversity score (IDDS) was 3.4 (SD 2.3) out of 8 food groups (ranging from 2.8 in Lesotho and Eswatini to 4.2 in Malawi). In this sample, during the previous 24 hours, one quarter of children age 6-23 months did not consume vegetables or fruit, 51% of children consumed unhealthy foods and 48% of children consumed sweetened beverages. These data cannot be compared to baseline data due to possible respondent and sample bias (see Annex 1).

In this sample, eating zero fruits and vegetables and MDD were more likely among younger infants (6-11 months) than older infants and young children (12 to 23 months). Older child age was also associated with increased odds of a child reaching MDD. This may be due to the timing of the introduction of complementary foods. Having an educated mother reduced the likelihood of nil consumption of fruit and vegetables and was significantly associated with achieving MDD (to secondary level aOR=1.39, 95%CI 1.13, 1.72, p=0.002; to tertiary level aOR=1.98, 95%CI 1.56, 2.52, p<0.001). In Botswana, living in a household that received social protection benefits (a proxy for financial distress) reduced the likelihood of the child achieving MDD by 45% (aOR=0.55, 0.31, 0.98, p=0.044).

Table 18: **Data related to diets of children aged 6-23 months (CATI CU2)**

6-23 month sample	Botswana N=699	Eswatini N=710	Kenya N=838	Lesotho N=827	Malawi N=1,178	Uganda N=864	Total N=5116
Individual Dietary Diversity Score (/8)	3.5 (2.3)	2.8 (2.2)	3.5 (2.1)	2.8 (2.2)	4.2 (2.2)	3.6 (2.1)	3.4 (2.3)
Minimum dietary diversity 6-23 months	55.1% (385)	39.2% (278)	47.0% (394)	29.1% (241)	60.6% (714)	46.9% (405)	47.2% (2,417)
Minimum meal frequency 6-23 months	68.2% (477)	45.4% (322)	51.3% (430)	38.3% (317)	35.8% (422)	45.5% (393)	46.1% (2,361)
Minimum acceptable diet 6-23 months	35.6% (249)	17.3% (123)	25.8% (216)	5.7% (47)	16.2% (191)	23.8% (206)	20.2% (1,032)
Egg and/or flesh food consumption 6-23 months	71.4% (499)	57.9% (411)	46.3% (388)	41.1% (340)	76.2% (898)	59.7% (516)	59.7% (3,052)
Unhealthy food consumption	45.1% (2,306)	51.2% (358)	36.2% (257)	29.8% (250)	34.5% (285)	60.5% (713)	51.3% (443)
Sweet beverage consumption 6-23 months	63.2% (442)	34.8% (247)	32.0% (268)	38.9% (322)	68.0% (801)	44.4% (384)	48.2% (2,464)
Zero vegetable or fruit consumption 6-23 months	25.5% (178)	32.8% (233)	18.5% (155)	34.5% (285)	16.9% (199)	30.7% (265)	25.7% (1,315)

Data are presented as mean (SD) for continuous measures, and % (n) for categorical measures.

Children and adolescents aged 2 to 18 years

Eighty two percent of caregivers of children over two years of age (total sample=1,466) and adolescents aged 15-18 years (total sample=1,386) reported via the CATI survey reduced child consumption of one or more food groups due to COVID-19. The average number of healthy food groups with reduced consumption for this age group was 5.7 out of 13 food groups.

Figure 5 describes reported changes in consumption by food group. For all food groups, respondents were most likely to report no change in consumption due to COVID-19, followed by decreased consumption. Increased consumption was reported least frequently. Healthy food groups most frequently reported to be consumed less in this age group were meat and poultry (56%), rice, bread, potatoes and tubers (54%), dairy products (52%), fish (51%), oils and fats (49%). Unhealthy foods consumed less were savoury and friend snacks (48%) and sugary foods (46%). Sugary drinks were consumed less by 49% of the sample. The foods most frequently reported to be consumed more by children and adolescents due to COVID-19 were green leafy vegetables (25%), vitamin A rich fruit and vegetables (16%), and other vegetables (15%). Across all food groups (healthy and unhealthy), respondents from the Kenya sample were most likely to report reduced consumption and respondents from the Botswana and Malawi samples were least likely to reported reduced consumption.

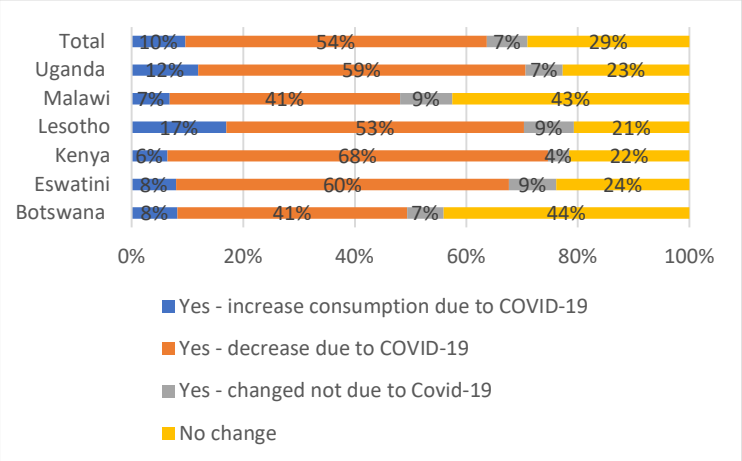
These results suggest that the COVID-19 pandemic precipitated a shift in dietary patterns for children and adolescents away from animal source foods (including meat, dairy products and fish), and unhealthy processed foods (such as sugary drinks, foods and snacks). For some there was a shift towards increased consumption of vegetables. These results show a similar pattern to the 6-23 month age group, however, the level of reported decreased consumption in all food groups was much higher in this age group than in the 6-23 month age group suggesting a greater impact of COVID-19 on diets in this age group.

Figure 5: **Change in child consumption by food group**

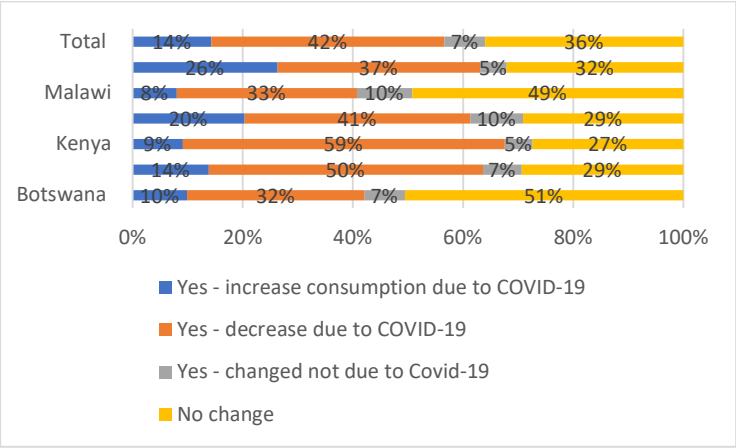
N=1,466 caregivers children 2-18 and 1,386 adolescents 15-18 years (CATI 2-18)

Healthy foods

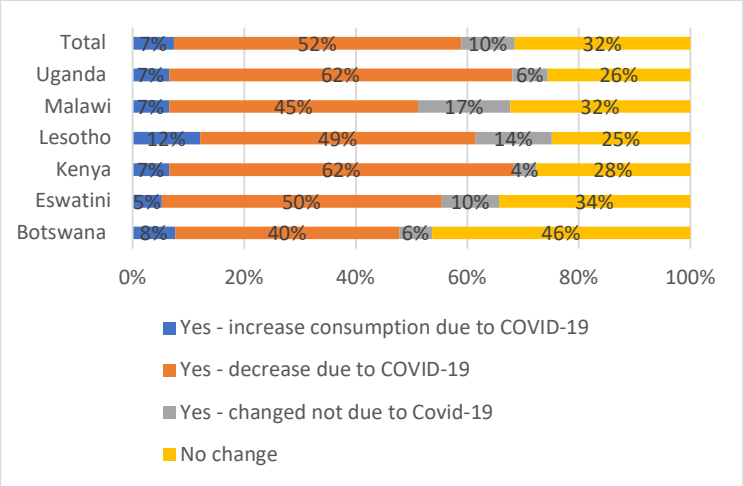
Cereals, roots and tubers



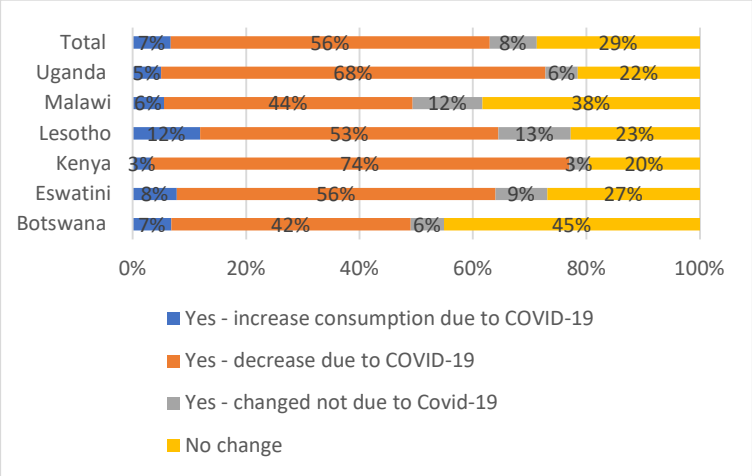
Pulses, beans, peas, nuts, lentils



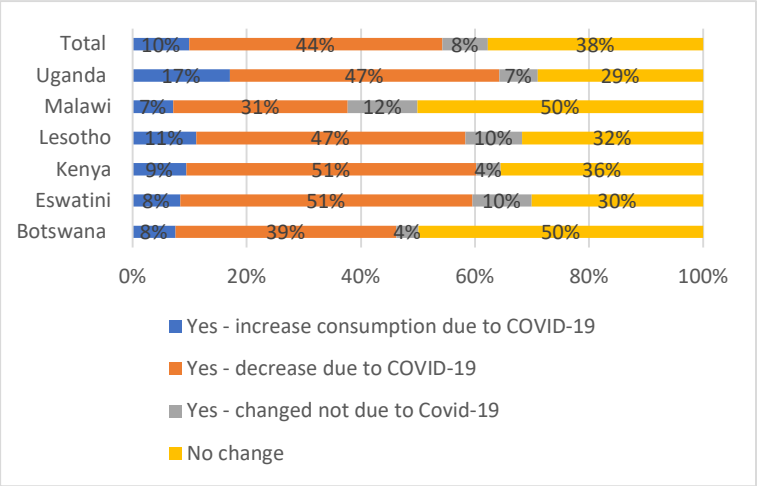
Dairy products



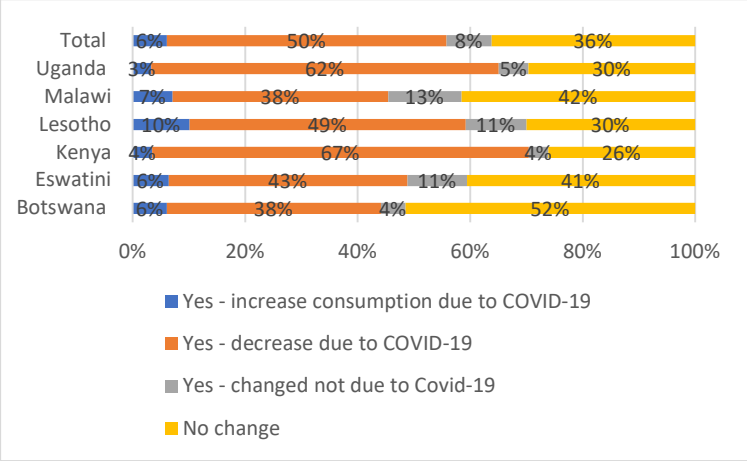
Meat and poultry



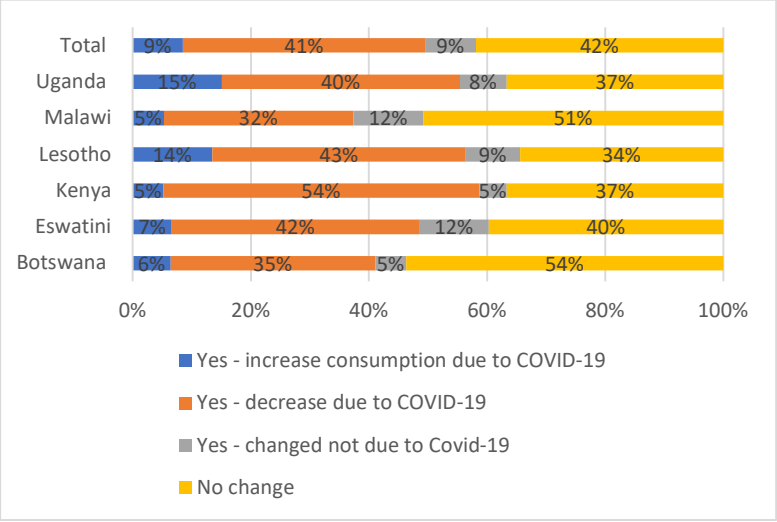
Eggs



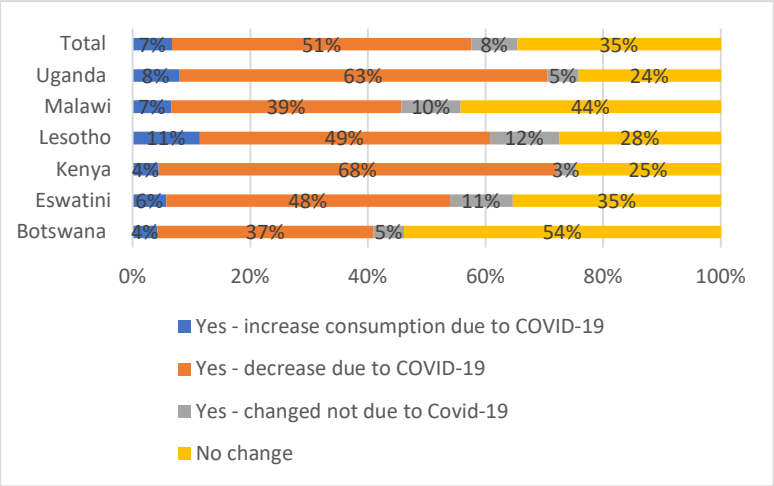
Organ meat



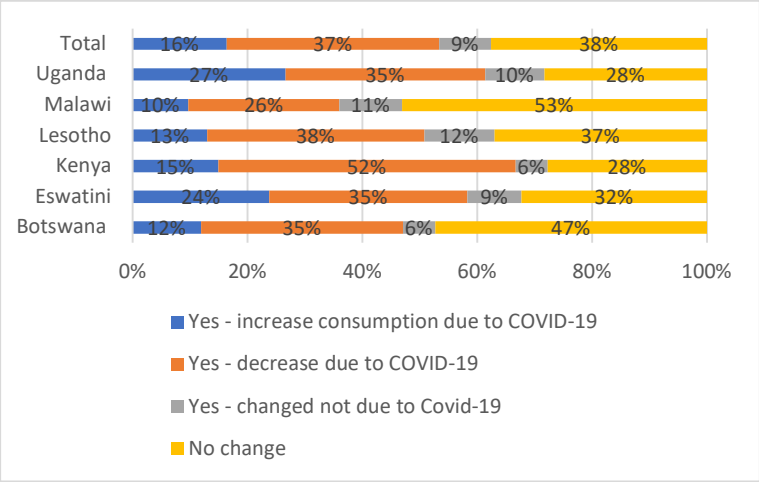
Nuts and seeds



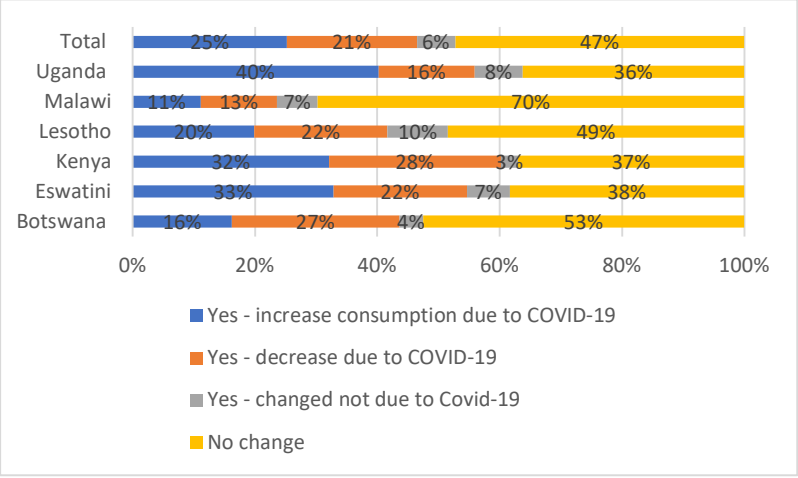
Fish and seafood



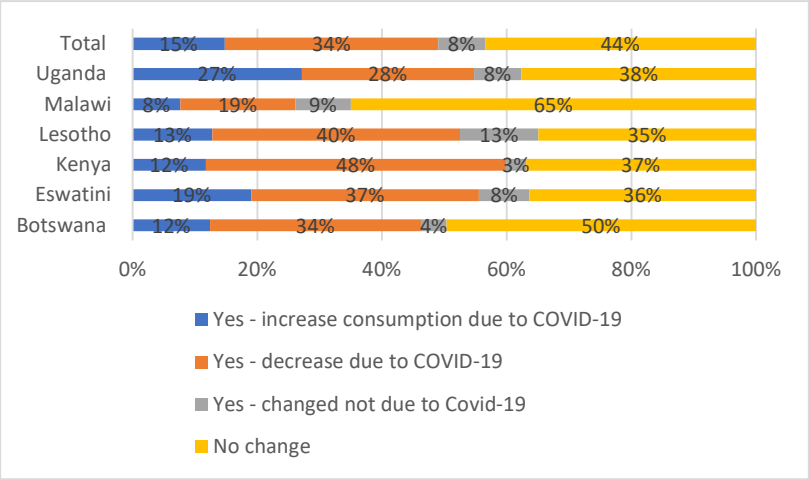
Vitamin A rich fruits and vegetables



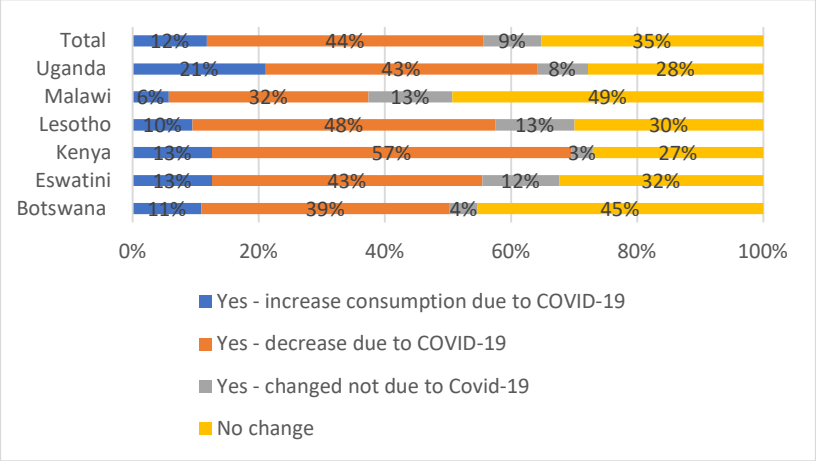
Dark green leafy vegetables



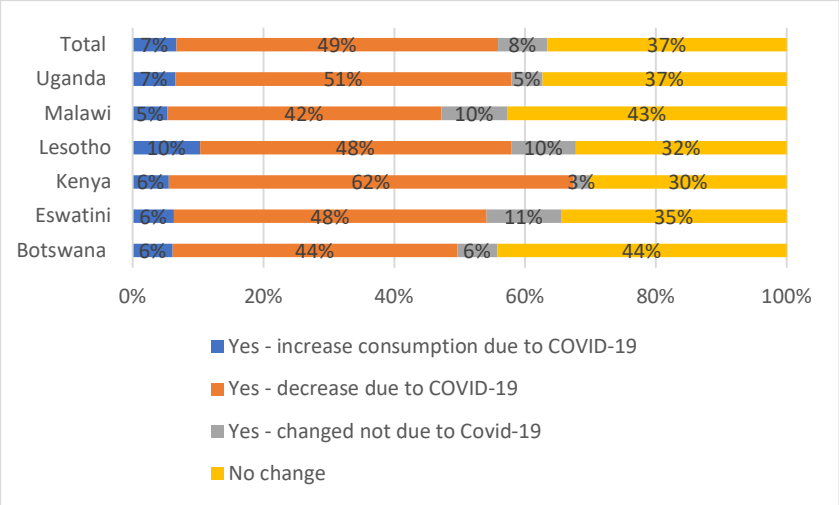
Other vegetables



Other fruits

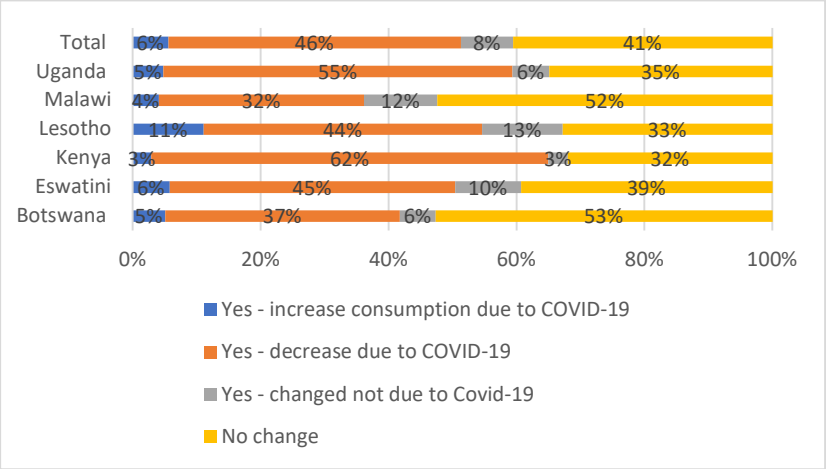


Oils and fats

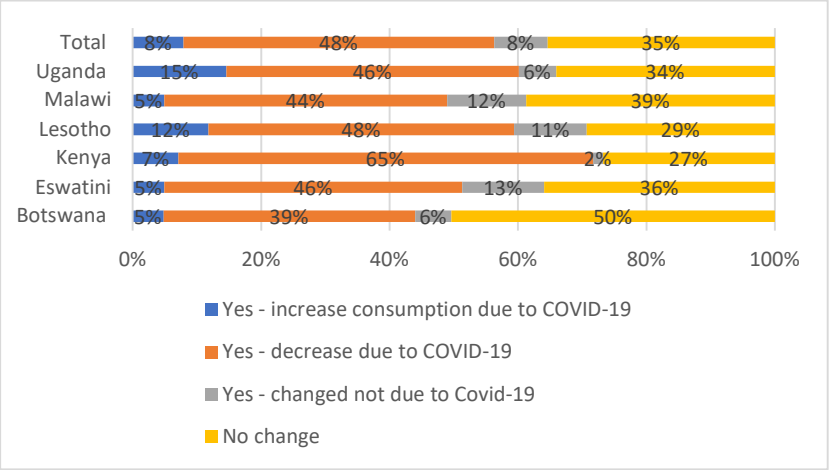


Unhealthy foods

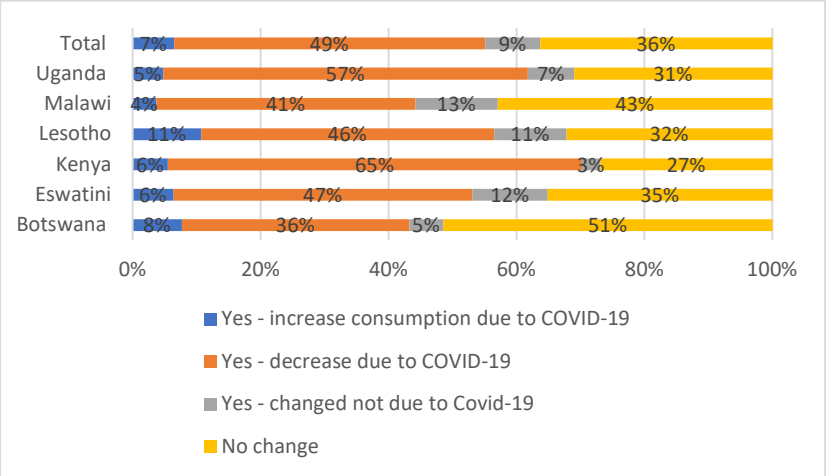
Sugary foods (sweets and chocolate)



Savoury and fried snacks



Sugary drinks



Seventy three percent of caregivers of children who responded via U-Report (total sample=16,990) reported that their child consumed less variety of foods since COVID-19 (Figure 6). Results were similar across all countries ranging between 69% in Botswana and 75% in Uganda. Across all countries, 65% of respondents reported that their child consumed less meals, 45% reported that their child consumed smaller portions, 23% reported that their child skipped meals, and 20% reported that their child snacked less because of COVID-19.

Figure 6: **Changes in variety of foods consumed by children 2-18 years (U-Report caregiver)**

N=15,990 (U-Report caregivers)

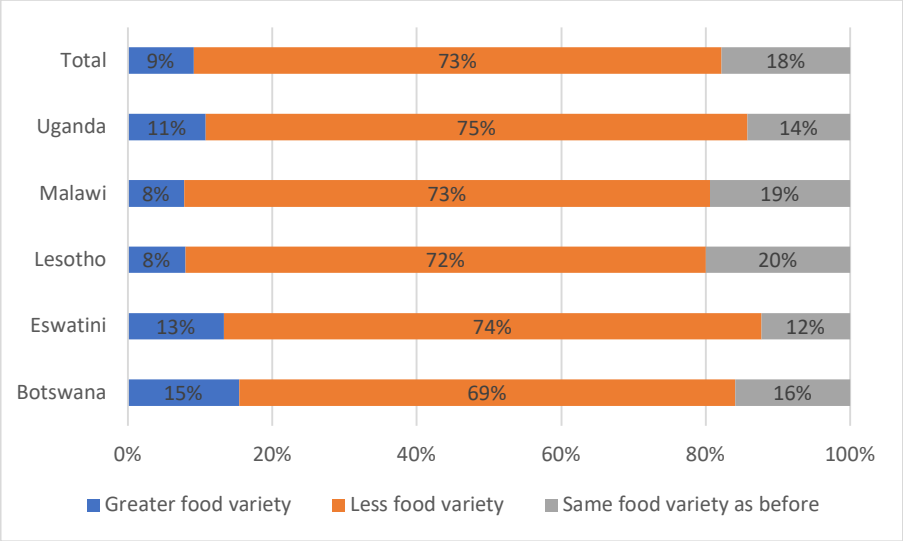


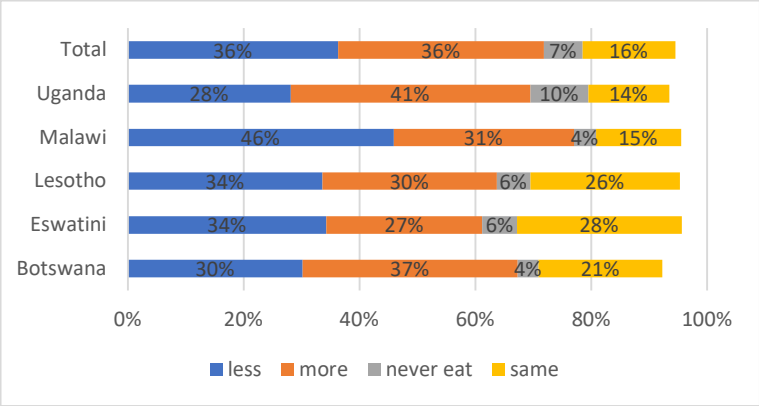
Figure 7 details the self-reported change in adolescents' food consumption by food group according to the U-Report adolescent sample (total sample=25,104). Adolescents reported reduced consumption of healthy food groups including meat (43%), dairy products (37%), eggs (35%), and staple foods (34%). In addition, consumption of unhealthy sugary drinks and sweet and savoury snacks decreased by 41% and 37% respectively. The most common food group to be reported as consumed more in this sample was vegetables (40%) followed by staple foods (33%). These results support the findings from the CATI survey around decreased consumption of animal source foods, and unhealthy, processed foods, and, for some, increased consumption of vegetables.

Figure 6: **Change in adolescents' food consumption by food group (U report adolescents)**

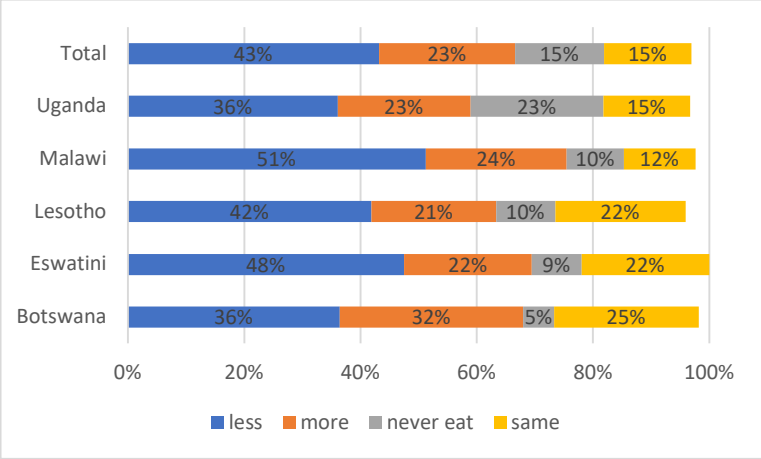
N=25,104 (U-Report adolescents)

Healthy foods

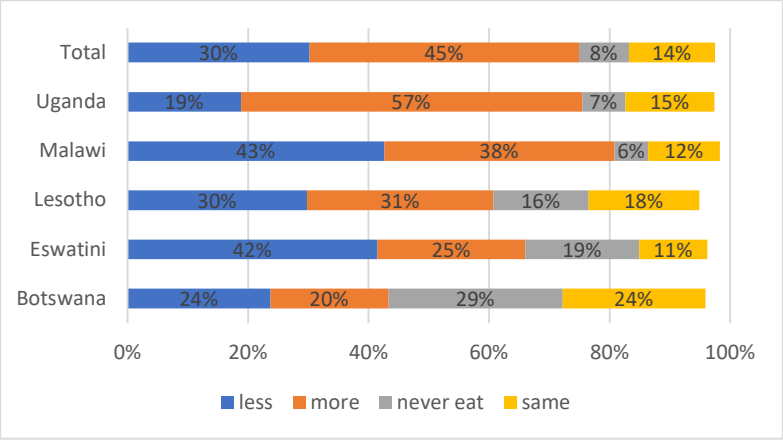
Staples



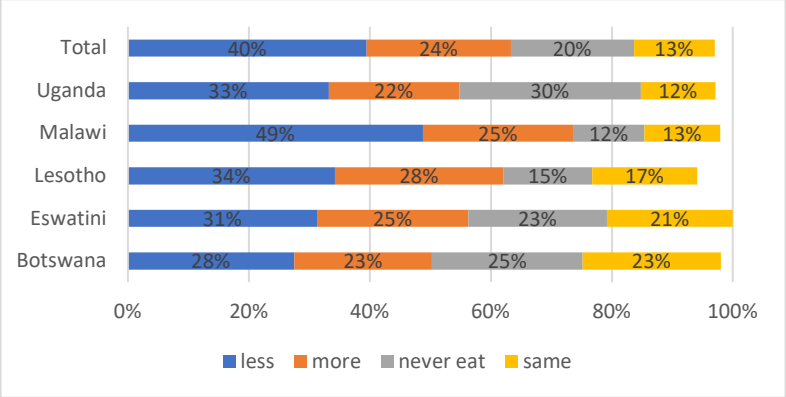
Meat



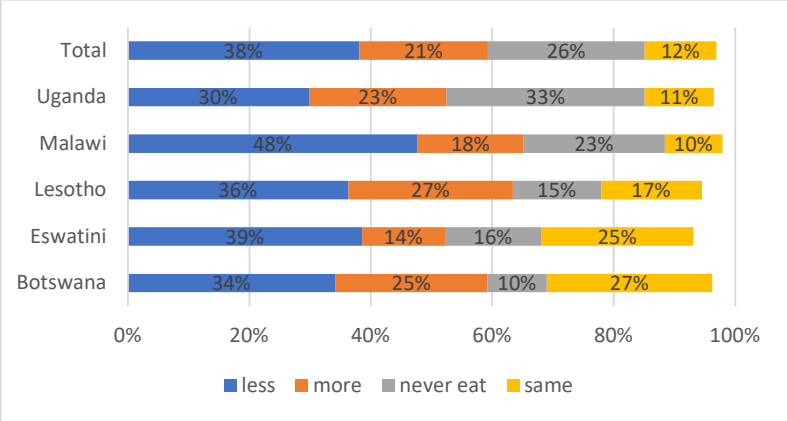
Beans and pulses



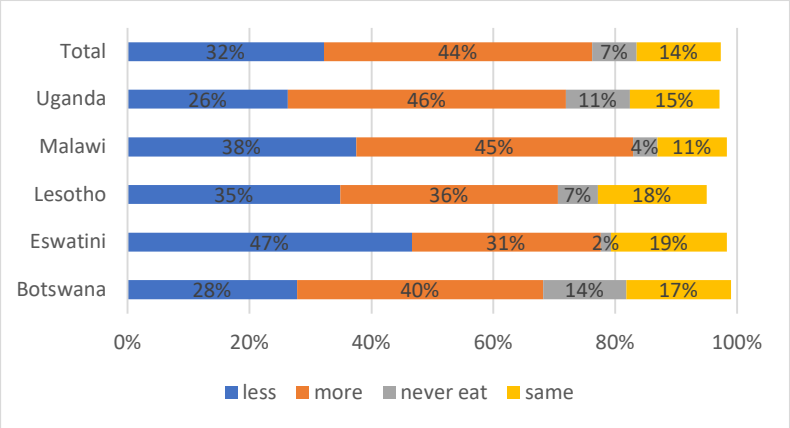
Eggs



Dairy products

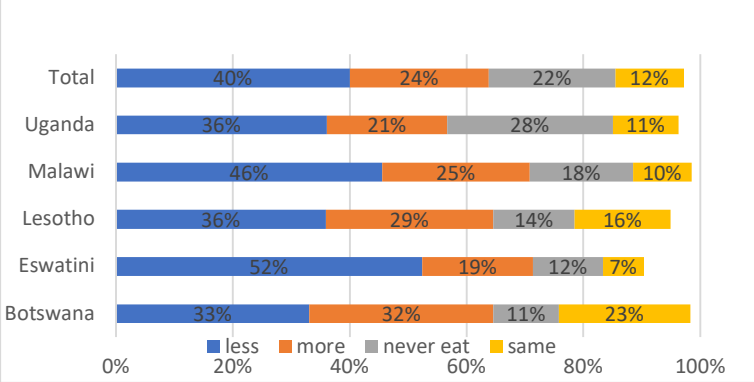


Vegetables

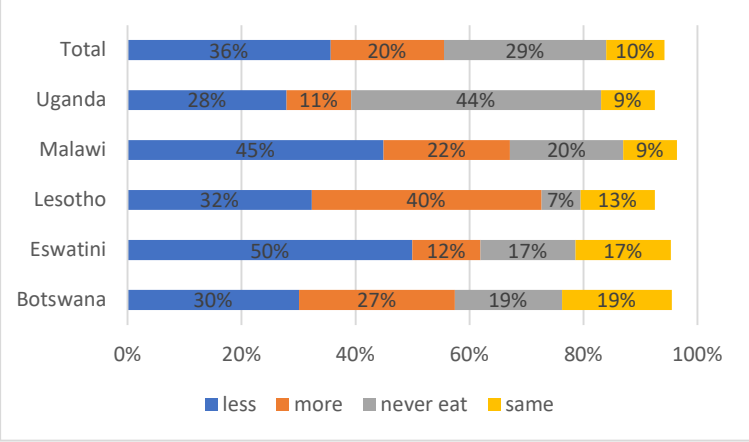


Unhealthy foods

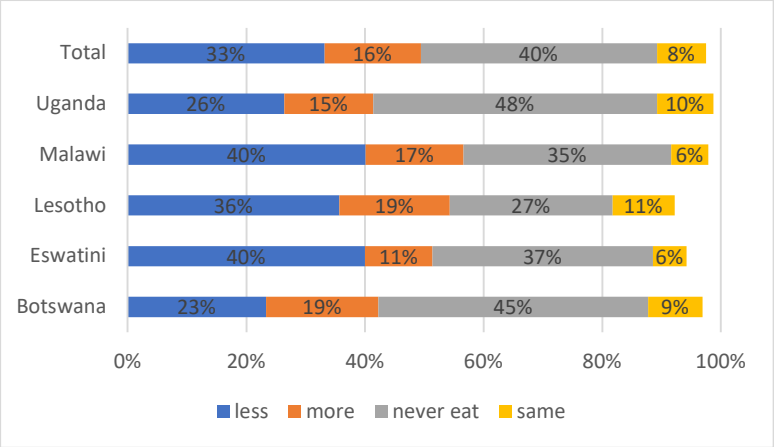
Sugary drinks



Sweet and savoury snacks



Street foods



Pregnant and lactating women and women who recently gave birth

Eighty four percent of PLW and women who recently gave birth who reported via CATI (total sample=2,451) reported reduced consumption of one or more food groups due to COVID-19. The average number of food groups with reduced consumption due to COVID-19 in this group was 5.5 (out of 13 food groups).

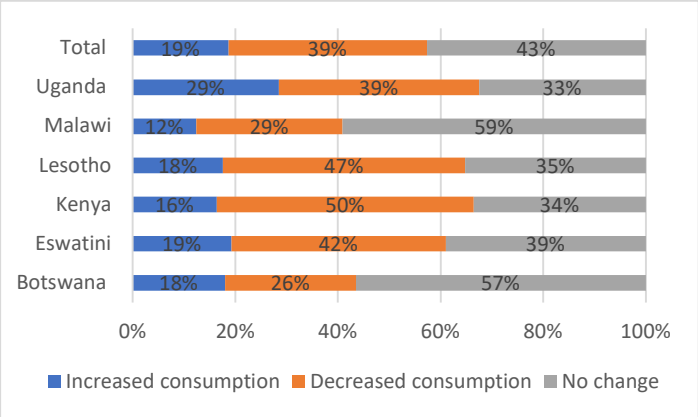
Figure 8 describes reported changes in consumption by food group. For all food groups, respondents were most likely to report no change in consumption due to COVID-19, followed by decreased consumption; increased consumption due to COVID-19 was least likely. Healthy food groups most frequently reported to be consumed less by PLW and recent mothers were organ meat (54%), meat and chicken (53%), dairy foods (50%), fish (50%), eggs (46%), other fruits (45%), oils and fats (44%), nuts (41%) and vitamin A rich foods (40%). Unhealthy food groups reported to be consumed less were sugary foods (51%) and savoury and fried snacks (49%). Sugary drinks were reported to be consumed less by 46% of the sample. The foods most frequently reported to be consumed more by pregnant and lactating mothers due to COVID-19 were green leafy vegetables (28%), beans and pulses (23%), and other vegetables (20%).

Results suggest that the COVID-19 pandemic shifted dietary patterns for mothers away from animal source products (particularly organ meat, meat and chicken, fish and dairy products), and unhealthy, processed foods (sugary foods, savoury snacks and sugary foods) towards vegetables, beans and pulses. These findings follow a similar pattern to the 6-23 month and child and adolescent groups.

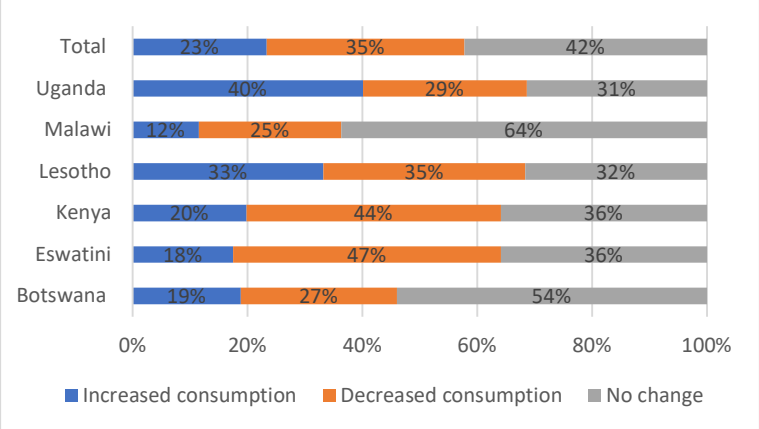
Figure 7: **Changes in mothers consumption of food groups since COVID-19 (CATI MQ)**

Unhealthy foods

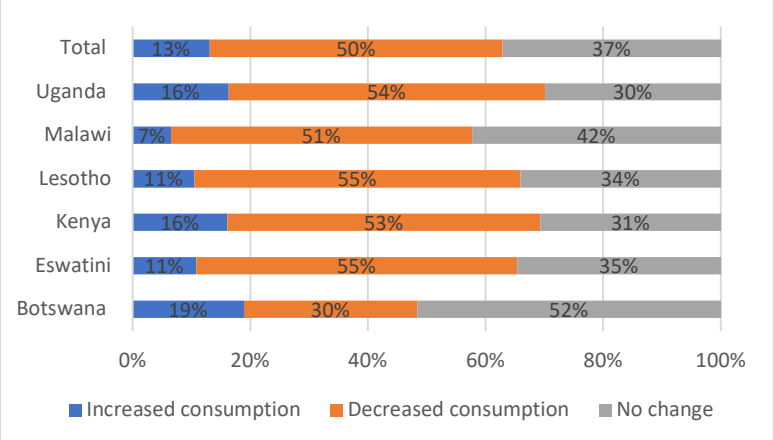
Cereals, roots and tubers



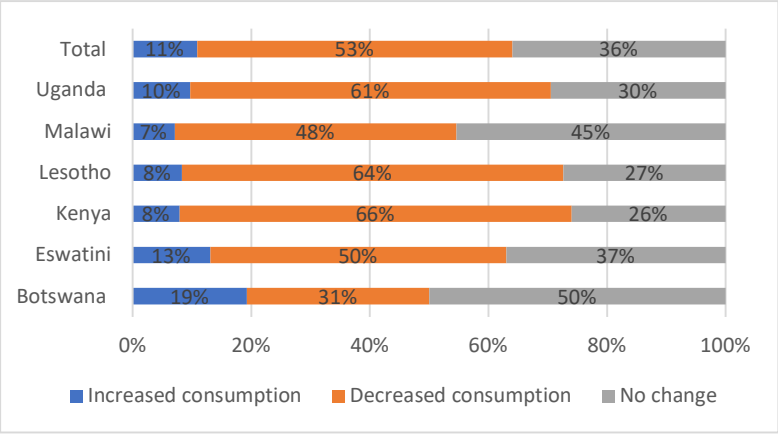
Pulses, beans, peas, nuts, lentils



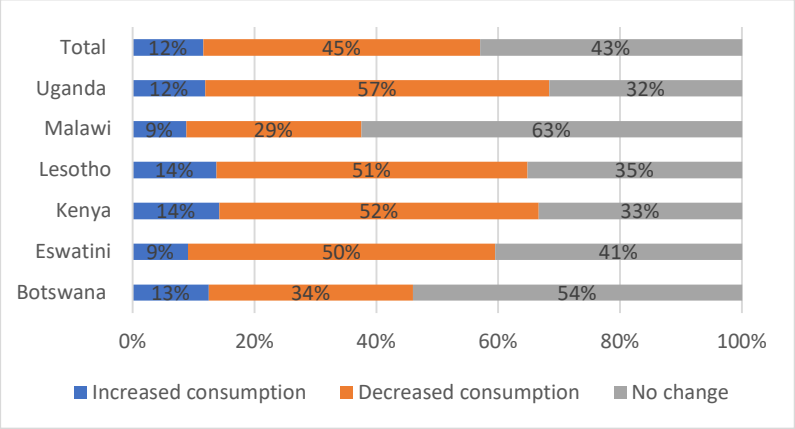
Dairy products



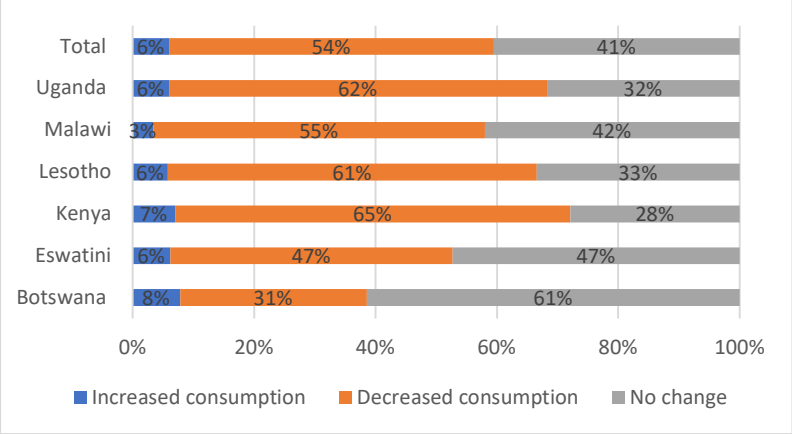
Meat and poultry



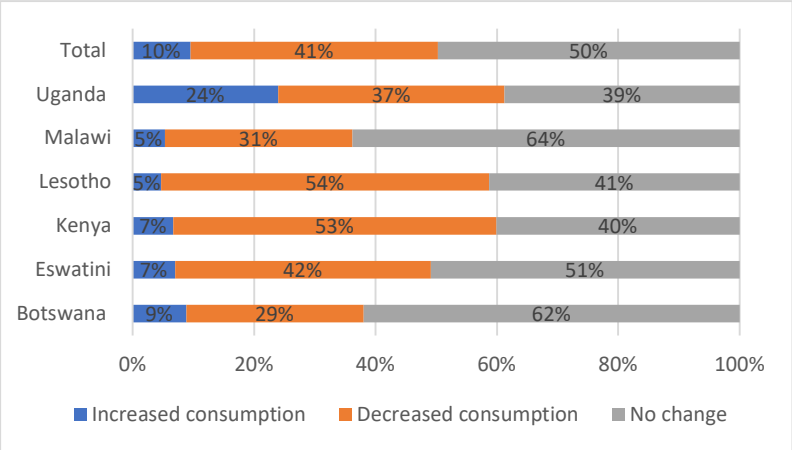
Eggs



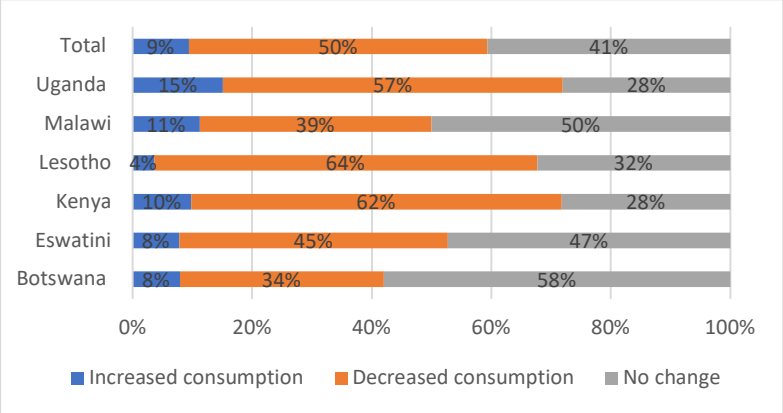
Organ meat



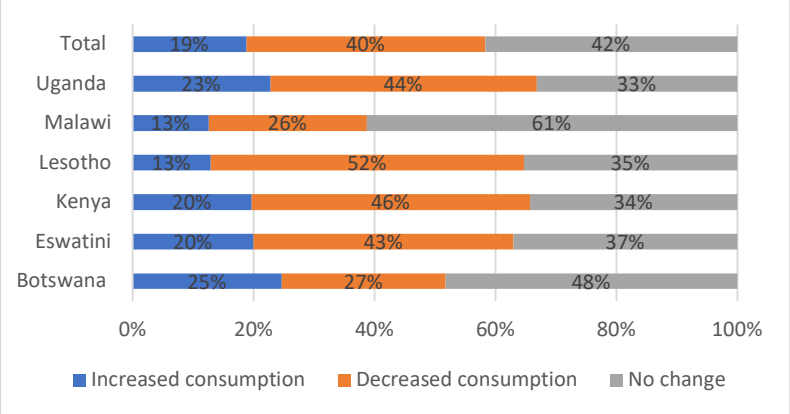
Nuts and seeds



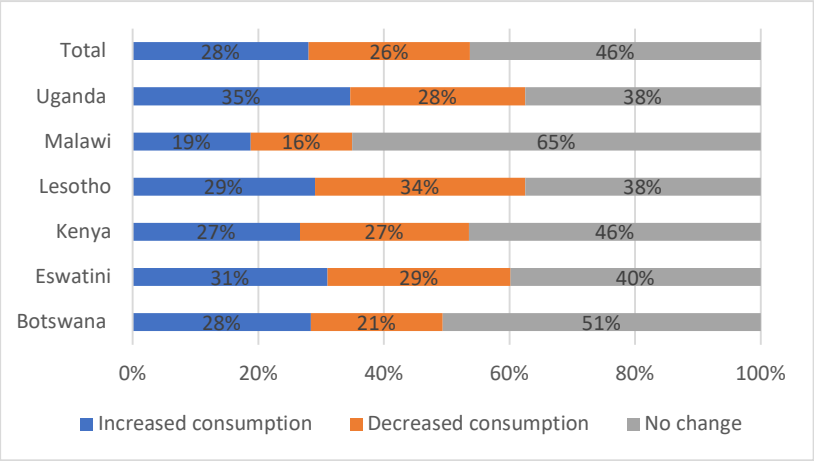
Fish and seafood



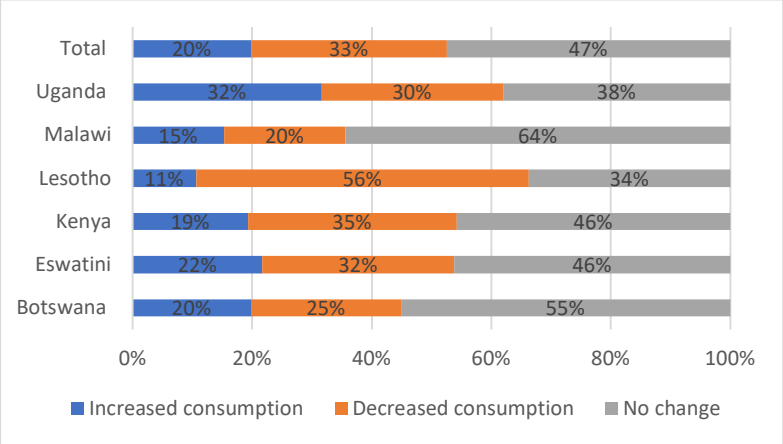
Vitamin A rich fruits and vegetables



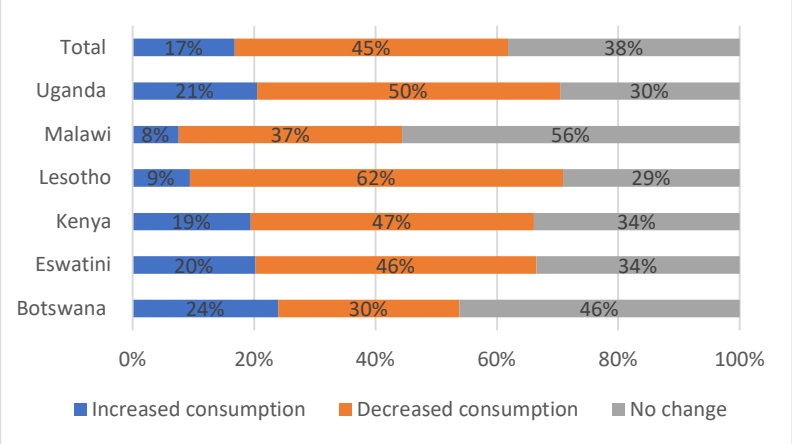
Dark green leafy vegetables



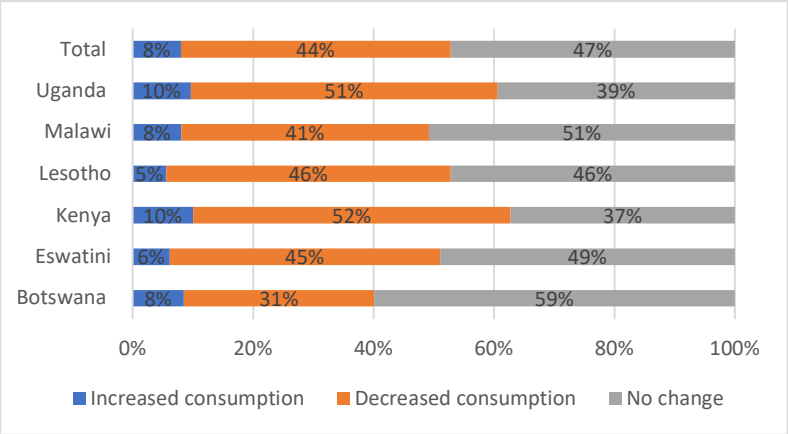
Other vegetables



Other fruits

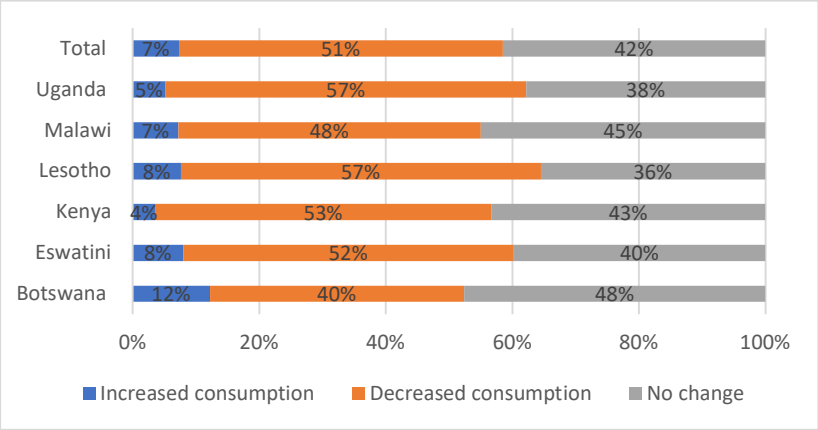


Oils and fats

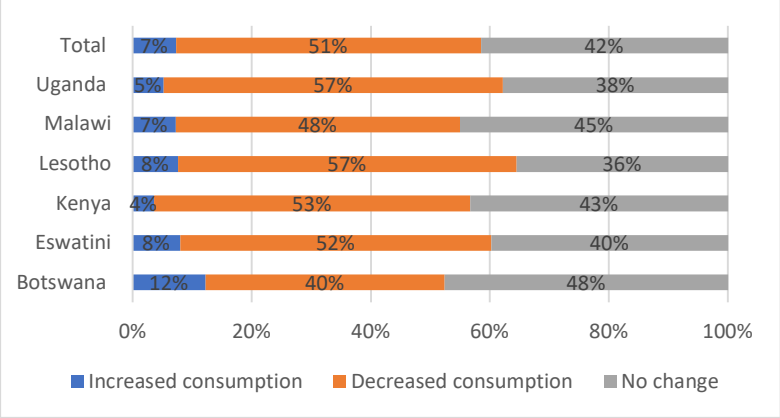


Unhealthy foods

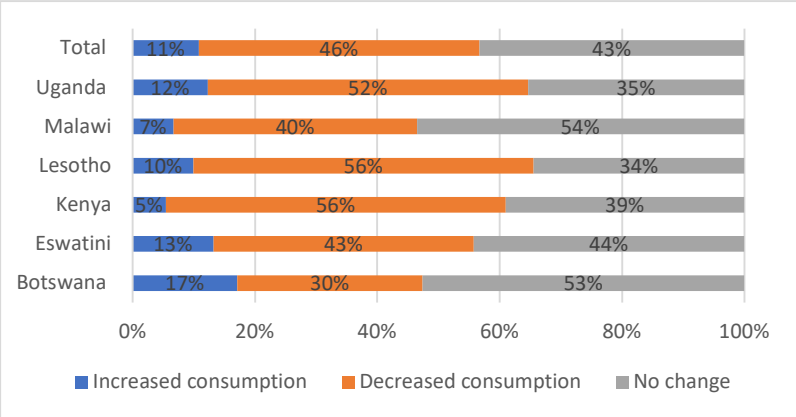
Sugary foods (sweets and chocolate)



Savoury and fried snacks



Sugary drinks



The Individual Dietary Diversity Score (IDDS) for PLW and recent mothers using 10 food groups averaged 4.8 (SD 2.5), ranging from 3.1 in Lesotho to 6 in Kenya. Minimum dietary diversity (MDD) was reached by 46% of women in this sample, ranging from 18% in Lesotho to 71% in Kenya. Differences between countries were less marked in the consumption of unhealthy foods, sweet beverages and zero fruits and vegetables.

Table 19: **Core women's nutrition indicators (CATI MQ)**

	Botswana	Eswatini	Kenya	Lesotho	Malawi	Uganda	Total
	385	**431**	**395**	**413**	**421**	**406**	**2,451**
Individual Dietary Diversity Score (/10)	4.4 (2.5)	4.1 (2.2)	6.0 (2.2)	3.1 (2.0)	5.5 (2.4)	5.6 (2.2)	4.8 (2.5)
Minimum dietary diversity-women *	45.7% (176)	33.1% (143)	70.7% (279)	18.3% (76)	58.9% (248)	62.7% (255)	48.8% (1196)
Unhealthy food consumption	36.1% (139)	23.9% (103)	25.8% (102)	18.4% (76)	42.0% (177)	48.8% (198)	32.4% (794)
Sweet beverage consumption	51.2% (197)	40.8% (176)	35.4% (140)	26.6% (110)	51.5% (217)	33.5% ((136)	39.8% (975)
Zero vegetable or fruit consumption	24.2% (93)	20.2% (87)	3.0% (12)	26.6% (110)	14.7% (62)	8.9% (36)	16.3% (400)

*MMD-W is only calculated for non-pregnant women

Disaggregated data show that pregnant women in the sample consumed unhealthy foods more commonly than non-pregnant women (37% and 29% respectively), but consumption of sweet beverages and zero consumption of fruits and vegetables was similar. In some countries, however, pregnancy was protective of dietary quality – In Malawi and Uganda women were 55% less likely to eat no fruit and vegetables if pregnant. Across all countries, women in households with increased income during the pandemic were 69% less likely to consume no fruits or vegetables (aOR=0.31, 95%CI 0.15, 0.63, p=0.001) compared with if household income remained stable. The odds of a woman meeting MDD-W was twice as likely if she was educated to a higher level (aOR=1.87, 95%CI 1.24, 2.28, p=0.003).

Table 20: **Unhealthy food consumption among pregnant and non-pregnant women (CATI MQ)**

		Botswana	Eswatini	Kenya	Lesotho	Malawi	Uganda	Total
	non-pregnant	N=222	N=261	N=307	N=237	N=168	N=244	N=1,439
	Pregnant	N=163	N=170	N=88	N=176	N=253	N=162	N=1,012
Unhealthy food consumption	non pregnant	32.4% (72)	23.0% (60)	22.1% (68)	16.5% (39)	39.9% (67)	46.7% (114)	29.2% (420)
	Pregnant	41.1% (67)	25.3% (43)	38.6% (34)	21.0% (37)	43.5% (110)	51.9% (84)	37.1% (375)
Sweet beverage consumption	non pregnant	52.3% (116)	39.8% (104)	36.5% (112)	30.8% (73)	51.8% (87)	32.4% (79)	39.7% (571)
	Pregnant	49.7% (81)	42.4% (72)	31.8% (28)	21.0% (37)	51.4% (130)	35.2% (57)	40.0% (405)
Zero vegetable or fruit consumption	non pregnant	25.2% (56)	21.8% (57)	2.9% (9)	22.8% (54)	20.2% (34)	11.5% (28)	16.5% (238)
	Pregnant	22.7% (37)	17.6% (30)	3.4% (3)	31.8% (56)	11.1% (28)	4.9% (8)	16.0% (162)

Discussion

Results indicate a shift away from optimal nutrition practices in some sections of the population during the COVID-19 pandemic in six countries in the ESA region. Twenty percent of caregivers in this sample reported that their infants were breastfed less frequently due to COVID-19. A very high proportion of respondents reported reduced consumption of one or more food groups due to COVID-19 (59% of children <2 years; 82% of children aged >2-18 years; and 84% of pregnant women and recent mothers) and 73% of caregivers of children reported reduced variety in the foods consumed by their child or adolescent during the COVID-19 pandemic. Across all food groups, reduced consumption was reported least frequently by caregivers of children aged 6 to 23 months, and most frequently among caregivers of children aged 2-18 years, adolescents, and PLW and recent mothers. This may suggest that impacts on young child diets were buffered to some extent. Across all age groups, the food groups most frequently reported to be consumed less during the COVID-19 pandemic were animal source foods, followed by unhealthy foods high in sugar, salt and fat. Across all age groups, the food groups most frequently reported to be consumed more during the COVID-19 pandemic were vegetable groups. This suggests a possible mixed impact on diets: a negative impact in terms of reduced diet diversity and reduced consumption of animal source foods rich in protein and micronutrients, and a positive impact in terms of reduced consumption of unhealthy foods high in sugar, salt and fat, and increased consumption of micronutrient-rich vegetables. This is contrary to results reported in phase one of this study, which suggested that consumption of unhealthy foods high in sugar, salt and fat increased in the region during the COVID-19 pandemic.

Respondents in Lesotho were far more likely than other countries to report negative changes in nutrition practices in the caregivers of children under two years group, which may suggest a more marked negative impact of the COVID-19 pandemic in that country. However, this also be due to sample bias, given that the characteristics of respondents in Lesotho differed from all other countries (older age and lower level of education). This needs more exploration. Respondents in Kenya were most likely to report negative changes in the diets of children aged 2-18 years. Results indicate the urgent need to expand efforts to protect breastfeeding and child, adolescent and female dietary diversity in countries affected by the COVID-19 pandemic to help prevent stunting and micronutrient deficiencies and mitigate the long-term effects of chronic undernutrition. There is a need to develop risk communication and community engagement (RCCE) strategies in the emergency preparedness stage that include clear, context-specific messages around optimal infant and young child feeding (IYCF) practices. Messages should be rapidly disseminated at the onset of emergencies using multiple media channels and IIYCF counselling services scaled up. Wider multi-sectoral efforts are also needed to mitigate the impacts on incomes and the food chain to ensure continued access to a healthy diet, including shock-responsive social protection programmes and livelihoods strategies.

Infant and young child feeding and dietary data using standardized indicators were collected in the surveys and are reported. When compared to baseline (pre-COVID) household survey data, there are substantial differences in several indicators in different directions including exclusive breastfeeding (-59%) and minimum dietary diversity (+23%). This is likely due to sample and respondent bias in this dataset. This is discussed in detail in Annex 1. Some bias could be avoided in future remote surveys, while other sources of bias may not be so easily overcome, such as possible inherent bias towards wealthier, more educated participants (based on the need for phone ownership and/or time to answer a survey); difficulties accessing the household caregiver by phone; and difficulties asking longer, more complex nutrition questions over the phone or internet. Remote survey methods may therefore in general not be suitable for collecting data on standardized nutrition indicators and may need to focus on collection of additional data in complement to standardized indicators (as is the case for much of the data presented here), and/or indicators where frequent change is anticipated. The utility of their continued use, and ways to overcome methodological limitations, should be explored and results of future remote surveys documented for cross-country learning.

Finally, this survey is the first time that data had been collected on unhealthy food and drink consumption in several of the countries included. This is in response to a 2021 recommendation by WHO and UNICEF to include indicators related the consumption of unhealthy foods in surveys related to diet quality to increase understanding of trends and inform strategies to address overweight and obesity. In this sample, the consumption of unhealthy foods reduced during the COVID-19 pandemic, however, a high proportion of young children (aged 6-23 months) were reported to have consumed unhealthy foods (51%) and sugar sweetened beverages (48%) during the previous 24 hours. The high consumption of sugar sweetened beverages raises concerns about diet quality. The inclusion of standardized indicators related to the consumption of unhealthy foods and sweetened beverages in all national and sub-national surveys going forward is critical to informing our understanding of trends and future strategies. Despite likely skewing of the data due to the influence of the pandemic and potential data bias, this data provides a helpful baseline estimate.

Recommendations for action

- Expand efforts to protect breastfeeding during shocks through RCCE strategies that result in clear, targeted messaging, and through the continuation and expansion of breastfeeding counselling services.
- Expand multi-sectoral efforts to ensure access to a diverse diet for vulnerable households during shocks, including social protection and livelihoods programmes, with an emphasis on protecting access to animal source foods including flesh foods, dairy products and eggs.
- Routinely include standardized indicators on the consumption of unhealthy foods in all national and sub-national diet-related surveys to build a repository of trend data.
- Explore possible sample and respondent bias in this and other remote survey results to understand the reasons for differences between the results of remote versus household surveys and identify best practice interpretation of results.
- Develop guidance for remote surveys that gives specific guidance on sample selection and survey design to mitigate potential biases.
- Collect data on socioeconomic indicators and geographical location in all remote surveys to build an understanding of sample bias.
- Explore the utility of routine use of remote national and sub-national surveys to complement less frequent national household survey data.

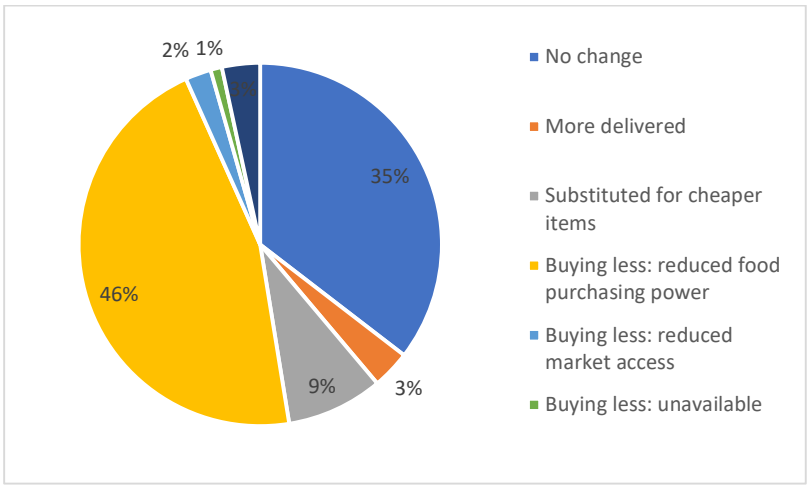
6. Food insecurity

Food access

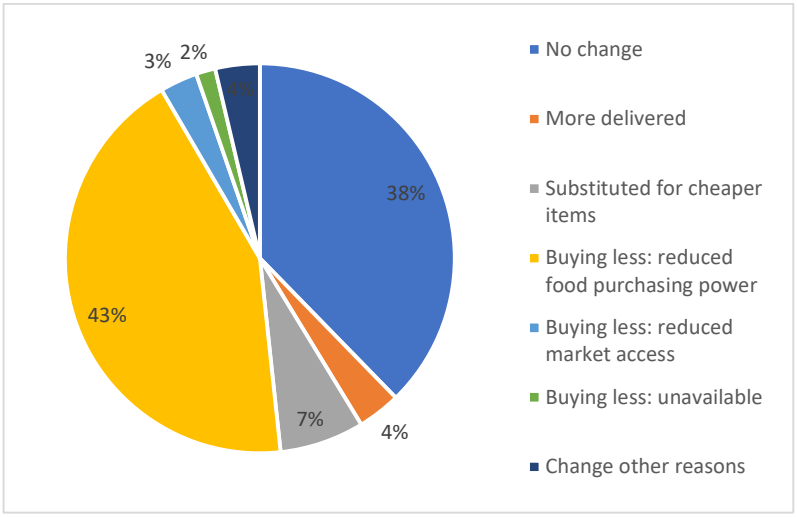
Pregnant and lactating women and women who recently gave birth (n=2451) were asked via CATI about access to individual foods on local markets. Foods most frequently reported to have reduced access were meat (49%), dairy (48%), eggs (45%) and fruits (41%) (Figure 9). The food group most frequently reported to have remained accessible was vegetables (51% reported that access was unchanged and 10% reported buying more vegetables during the pandemic). This is consistent with findings from the surveys around reduced consumption of animal source foods and increased consumption of vegetables during COVID-19.

Figure 8: **Changes in market access to foods by food group (CATI MQ)**

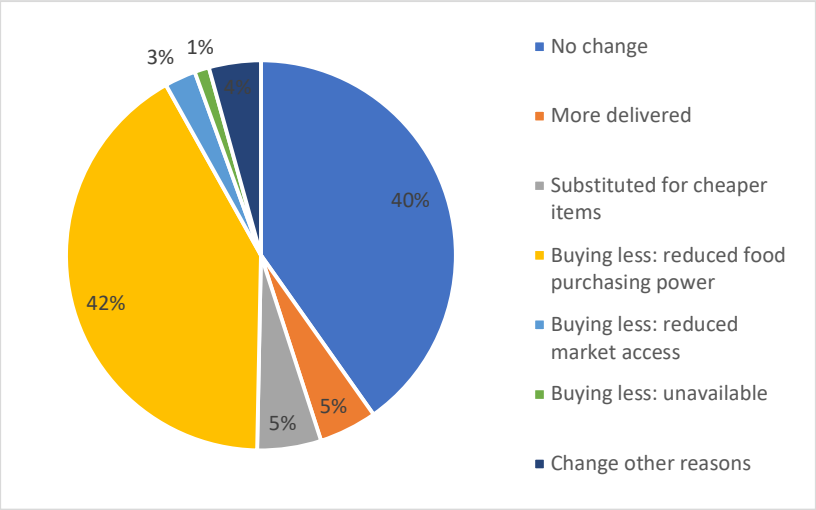
Meat



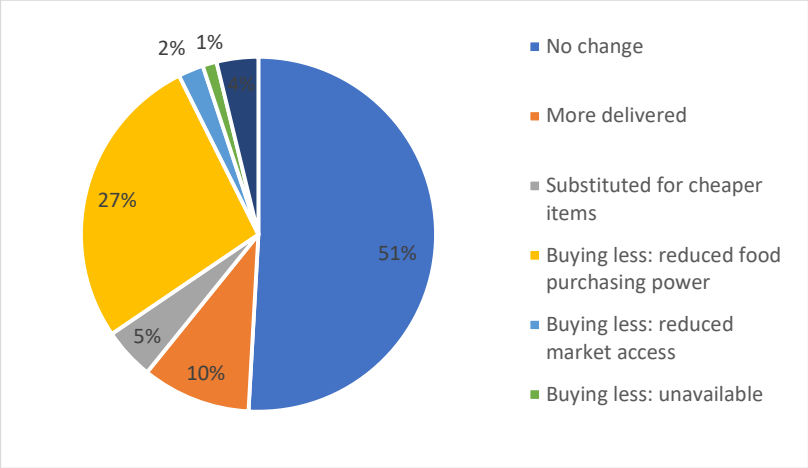
Dairy products



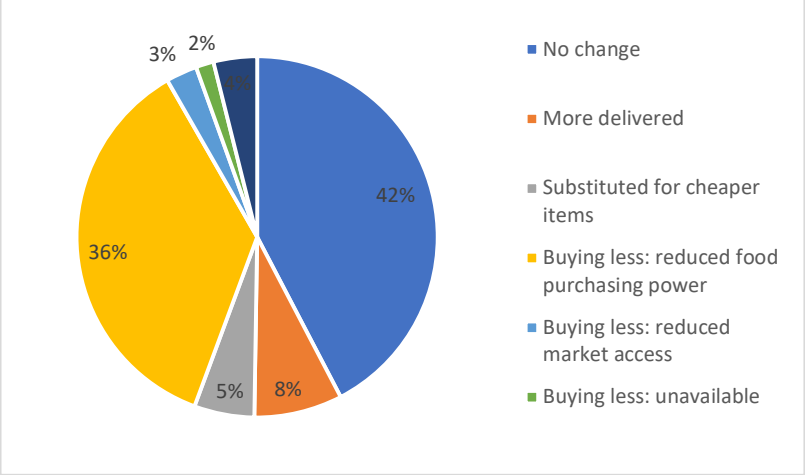
Eggs



Vegetables



Fruits



The most frequently reported reason for reduced access to any foods by PLW and mothers who recently gave birth was diminished purchasing power. Out of the 49% of PLW who had reduced access to meat, 46% reported this was due to reduced purchasing power. Substituting expensive items (such as meat) for cheaper items was commonly reported. Very few respondents reported reduced access to foods due to the unavailability of items on the market. These findings correlate with PLW's self-reported assessment of the change in HH income since before the pandemic: 65% reported their HH income had decreased, while 27% had experienced no change (Table 21).

Table 21: Change in HH income since the start of the pandemic (CATI MQ)

	Botswana N=385	Eswatini N=431	Kenya N=395	Lesotho N=413	Malawi N=421	Uganda N=406	Total N=2,451
No change	27.1% (104)	40.1% (169)	13.0% (50)	40.1% (157)	26.7% (112)	11.2% (45)	26.5% (637)
Increased income	12.8% (49)	2.6% (11)	7.8% (30)	1.3% (5)	17.6% (74)	6.9% (28)	8.2% (197)
Decreased income	60.2% (231)	57.2% (241)	79.2% (304)	58.7% (230)	55.7% (234)	81.9% (330)	65.3% (1,570)

Caregivers reported via U-Report (n=16,990) that the most common reason for changes in food consumption during COVID-19 were financial, either due to the family having less money (61% overall – up to 74% in Uganda) or due to the high cost of food (33% overall – up to 40% in Lesotho) (Figure 10). Other reasons included being unavailable in markets, being unable to access markets, and the child being less hungry. Most caregivers (64%) reported that they ate less during the pandemic to enable their children to eat, which rose to 76% in both Eswatini and Lesotho (Figure 11).

Figure 9: **Main reasons for change in children's consumption (U-Report)**

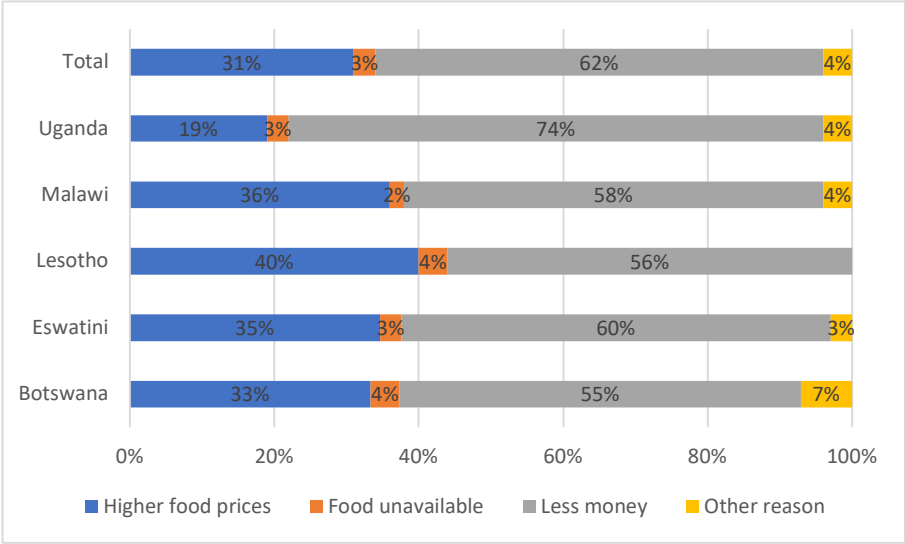
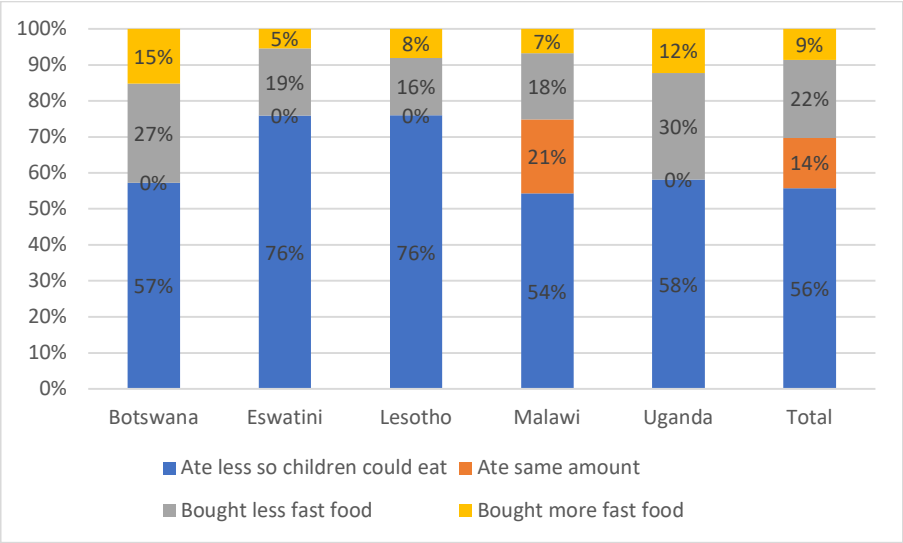


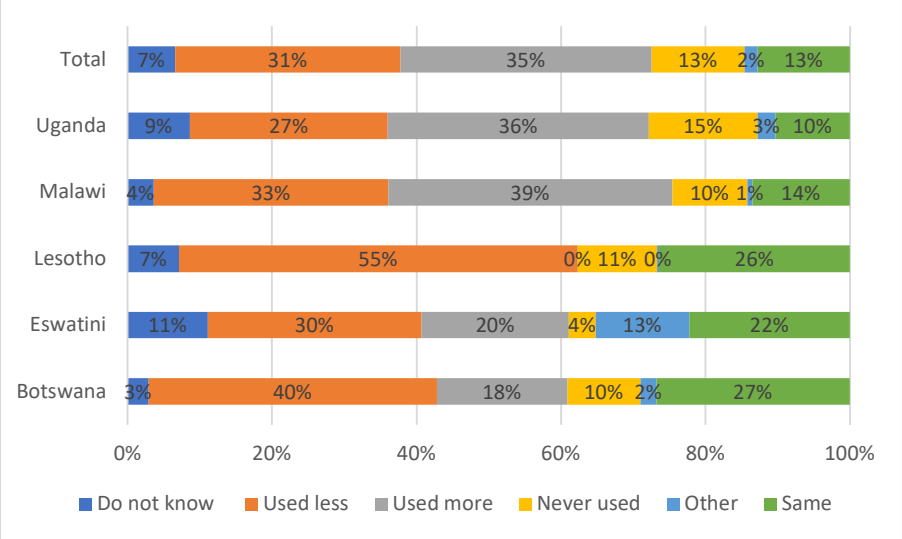
Figure 10: **Effect of COVID-19 on caregiver's diets (U-Report)**



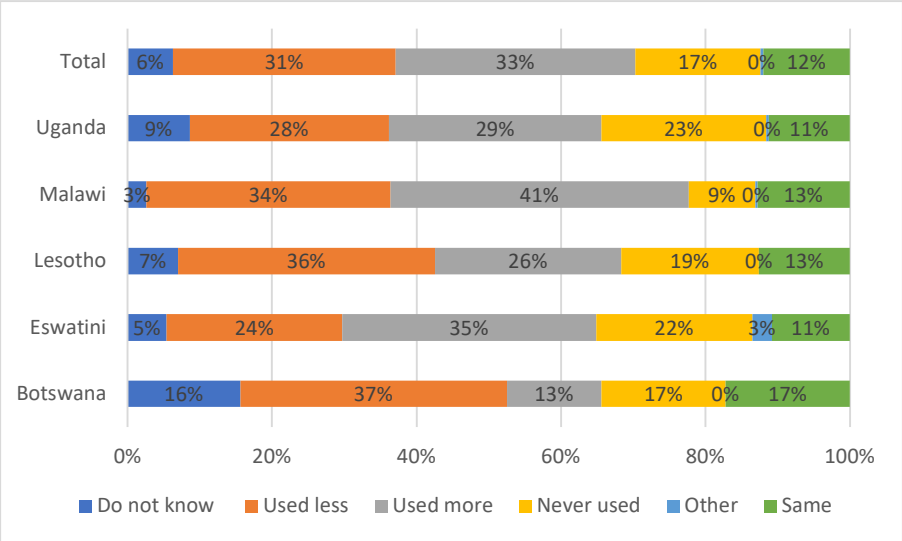
Adolescents were asked about changes in purchasing behaviour from different outlets during the pandemic for them and/or their households (U-Report). Results revealed that shopping on the street, open air markets and convenience stores decreased for some (but increased for others) with the biggest drop reported for convenience stores (37% - up to 55% in Lesotho) and the biggest increase reported for supermarkets (32% - up to 48% in Lesotho).

Figure 11: **Change in purchasing behaviour reported by adolescents (U-Report)**

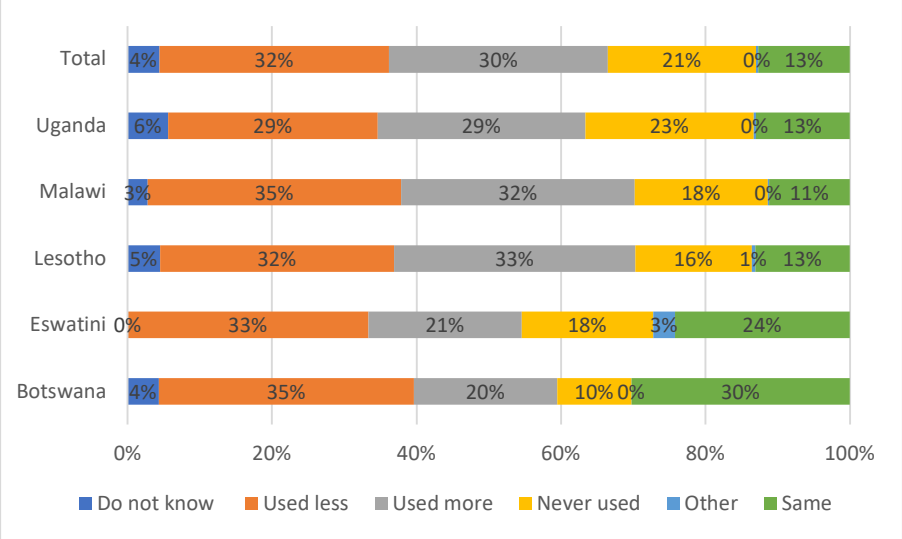
Convenience stores



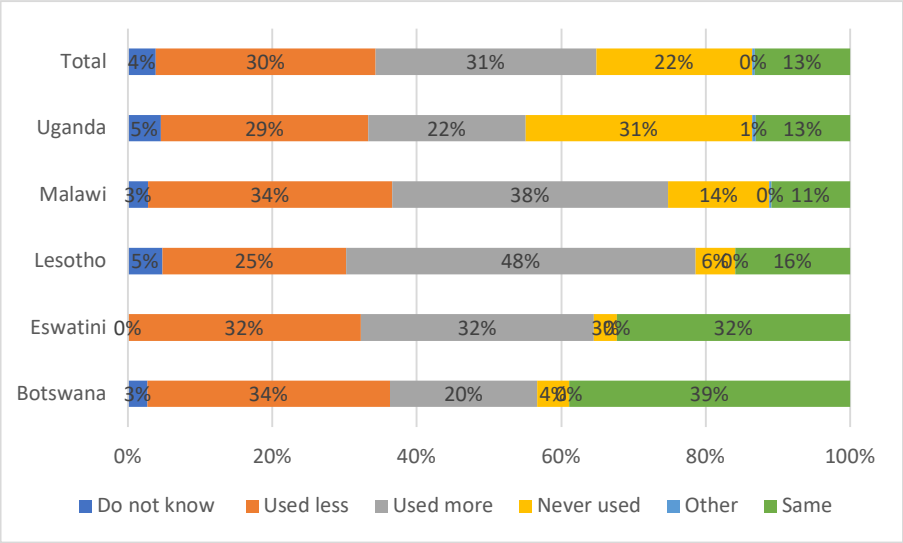
Open air market



Street vendours



Supermarkets



Food insecurity experience scale (FIES)

Caregivers of children under two years (n=7,672), caregivers of children aged 2-18 years (n=1,466), and PLW and women who recently gave birth (n=2,451) were asked the standard set of questions related to the Food Insecurity Experience Scale (FIES) via the CATI surveys. Results showed that severe household food insecurity was experienced by 39% of caregivers of children under two years, 33% of caregivers of children aged 2-18 years, and 34% of PLW and mothers who recently gave birth. Severe or moderate household food insecurity was experienced by 76% of caregivers of children under two years, 74% of caregivers of children aged 2-18 years, and 72% of PLW and mothers who recently gave birth. The countries with respondents reporting the highest levels of food insecurity were Lesotho (84.8% of caregivers of children under two years) and Kenya (81.4% of adolescents).

Table 22: **Proportion of HHs with children under 2, adolescents and PLWs experiencing food insecurity according to FIES (CATI)**

FIES reported by	FIES level	Botswana	Eswatini	Kenya	Lesotho	Malawi	Uganda	Total
Caregivers of children < 2 years (n=7,672)	Moderate or severe	58.3%	81.7%	81.2%	84.8%	73.8%	76.8%	76.4%
	Severe	27.7%	42.2%	43.5%	43.3%	42.0%	31.9%	38.8%
Caregivers of children 2-18 years (n=1,466)	Moderate or severe	55.6%	79.3%	81.4%	81.4%	65.0%	73.0%	73.8%
	Severe	25.0%	32.0%	39.5%	33.9%	37.2%	28.6%	33.2%
PLW and mothers who recently gave birth (n=2,451)	Moderate or severe	49.6%	72.9%	80.2%	83.4%	66.7%	77.4%	71.8%
	Severe	19.7%	30.7%	42.1%	45.6%	35.6%	30.6%	34.1%

Adolescents aged 15-18 years (n=1,386) reported on their food security experiences via standard child FIES (Frongilo et al, 2022) questions. Findings showed that 60% had many food insecurity experiences (according to the 3-point scale). Using the 4-point scale, 19% of respondents had many food insecurity experiences and 42%

had very many. Adolescents aged 10-18 years (n=23,104) were asked a simplified set of questions related to the child-FIES via U-Report. Among this group, 76% reported many food insecurity experiences (according to the 3-point scale).

Figure 12: **CFIES of adolescents aged 15-18 years**

FIES reported by	Child FIES experiences	Botswana	Eswatini	Kenya	Lesotho	Malawi	Uganda	Total
Adolescents age 15-18 (via CATI n=1,386)	Many food insecurity experiences out of 20 (using 4 point scale: none, some, many, very many)	12.4%	18.0%	16.2%	19.6%	24.5%	19.8%	19.0%
	Very many food insecurity experiences out of 20 (using 4 point scale: none, some, many, very many)	28.9%	48.1%	52.5%	48.3%	33.6%	38.1%	41.2%
	Many food insecurity experience out of 20 (using 3 point scale: none, some, many)	41.2%	66.0%	68.7%	67.9%	58.2%	57.9%	60.2%
Adolescents age 10-18 (via U Report n=25,104)	Many food insecurity experiences out of 10 (using 3 point scale: none, some, many)	63.30%	88.20%	n/a	76.90%	82.20%	34.20%	75.80%

Social protection

School meals are an important form of social protection that serve to protect child diets. Across all six countries 23% of adolescents aged 15-18 years reported receiving free school meals during the COVID-19 pandemic, while 34% attended school but did not receive free school meals and 42% did not attend school (Figure 14). It is not clear how many of this last subset of children would have received free school meals had schools remained open, but as some of the included countries have comprehensive school meal programmes, this is likely to have affected a significant proportion of children. The greatest proportion of school closure was reported in Uganda (71%).

Figure 13: **Proportion of adolescents aged 15-18 that received free school meals (CATI adolescents)**

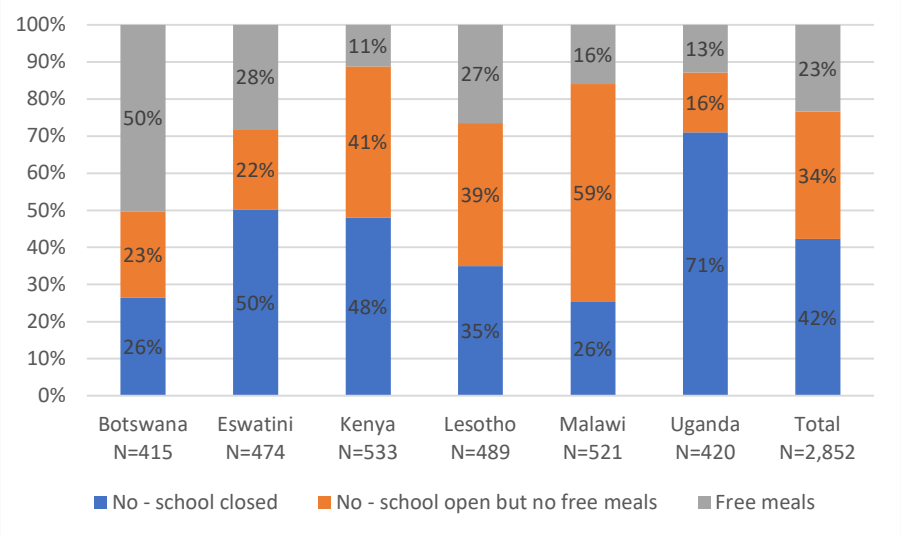


Table 23 shows that 82% of responding PLWs did not receive any social protection support from the government or private organizations during the pandemic, while 11% received food subsidies, 6% received cash assistance and 1% received other kinds of support. The largest number of PLWs who reported receiving support were from Botswana, where 37% received food subsidies, and the least (4%) were from Kenya.

Table 23: **Social protection support received by PLWs during COVID-19**

	Botswana N=385	Eswatini N=431	Kenya N=395	Lesotho N=413	Malawi N=421	Uganda N=406	Total N=2,451
None	60.0% (231)	77.3% (333)	96.4% (375)	82.1% (335)	92.2% (388)	81.8% (332)	81.7% (1,994)
Cash assistance	2.9% (11)	15.5% (67)	1.0% (4)	7.1% (29)	5.2% (22)	2.7% (11)	5.9% (144)
Food subsidies	36.9% (142)	7.0% (30)	1.5% (6)	10.8% (44)	0.2% (1)	11.1% (45)	11.0% (268)
Others	0.3% (1)	0.2% (1)	1.0% (4)	0.0% (0)	2.4% (10)	4.4% (18)	1.4% (34)

Discussion

Results indicate a high level of food insecurity in the sample population during the COVID-19 pandemic. Across all six countries, over 70% of respondents reported experiencing moderate or severe food insecurity and 30% reported experiencing severe food insecurity, with a high level of agreement between survey groups. These data are not directly comparable to pre-COVID food insecurity data due to the non-representative sample and different survey method used. However, when FAO FIES 2020 data are used as a reference (65.3% and 49.7% severe and moderate food insecurity in Eastern Africa and Southern Africa respectively) food insecurity levels within the present sample are revealed to be very high. While there may be some sample bias in this dataset which may have affected the results (see Annex 1), this suggests that for some sections of the population at least, food insecurity may have increased during the COVID-19 pandemic.

While food continued to be available on markets, access to food in this sample fell due to reduced purchasing power, either because of lack of money (61% of respondents) or higher food prices (33% of respondents). This appears to have resulted in more expensive, animal source foods being substituted for cheaper foods such as vegetables among some respondents. This agrees with data presented in the previous section that shows reduced consumption of animal source foods among all survey groups. Another strategy commonly reported in this sample was caregivers foregoing consumption of healthy foods for the sake of their children – a common strategy of female caregivers in the face of crises. This may help to explain the lower level of dietary changes reported in the 6-23 month age group.

Findings demonstrate the need for strategies to protect incomes and food prices during emergencies such as the COVID-19 pandemic. When normal livelihood activities are disrupted, as was the case in many countries during COVID-19, households will require social protection. National social protection systems must be designed to scale up in response to crises and must have in-built linkages with nutrition and livelihoods interventions to ensure that income support translates into the protection of child diets.

Recommendations for action

- Build preparedness plans for future crises like the COVID-19 pandemic to protect livelihoods and incomes when movement is restricted.
- Build the shock-responsiveness of social protection systems to enable scale up during crises that impact food security, livelihoods and incomes.
- Build linkages between social protection, livelihoods and nutrition interventions to protect incomes, support household food security and sustain and improve child diets.

7. Health and nutrition services

This section examines the demand for and access to health and nutrition services during COVID-19 as reported by caregivers and adolescents, and the continuity of maternal and child nutrition and health services as reported by health workers.

User experiences

Uptake of children's health and nutrition services

Four percent (n=192) of caregivers of children under two years of age reported having a sick child during the past year and not seeking treatment. Of these respondents, 15% reported that this was due to risk of COVID-19 and 7% reported that this was due to COVID-19 related movement restrictions (7%) (Figure 15). The most common reason for not seeking treatment was lack of money (36%). Nine percent (n=268) of caregivers of children aged 2-18 years (and adolescents age 15-18 years) did not seek treatment when sick during the past year. Of these respondents, 21% reported that they did not seek treatment due to risk of COVID-19 and 7% due to COVID-19 related movement restrictions (Figure 16). In both groups lack of money was the most frequently reported reason for not seeking treatment.

Figure 14: **Reasons caregivers did not seek treatment for sick child (CATI CU2)**

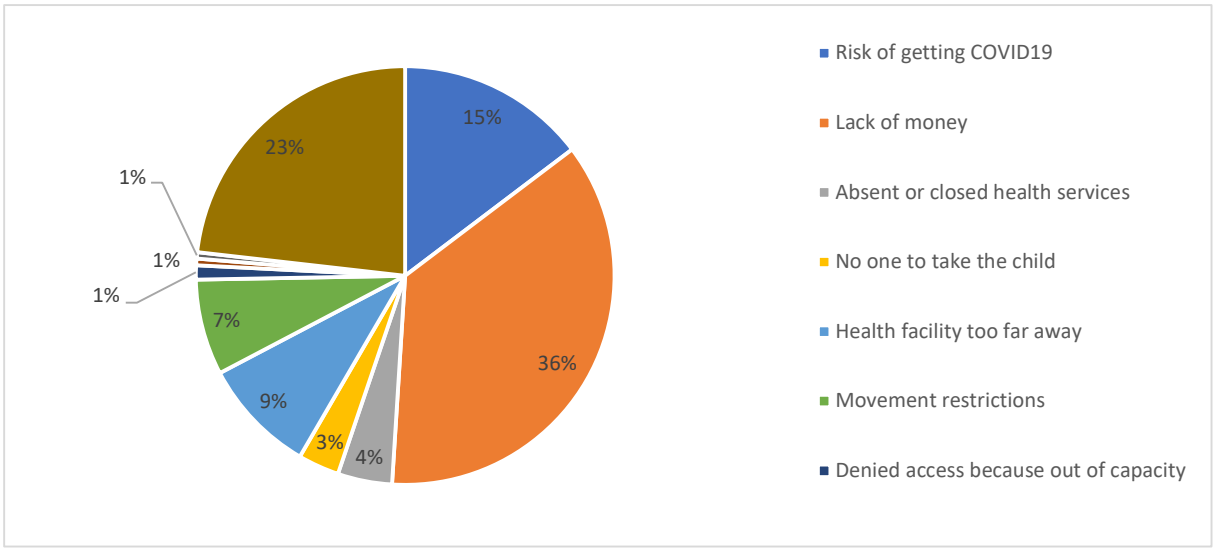
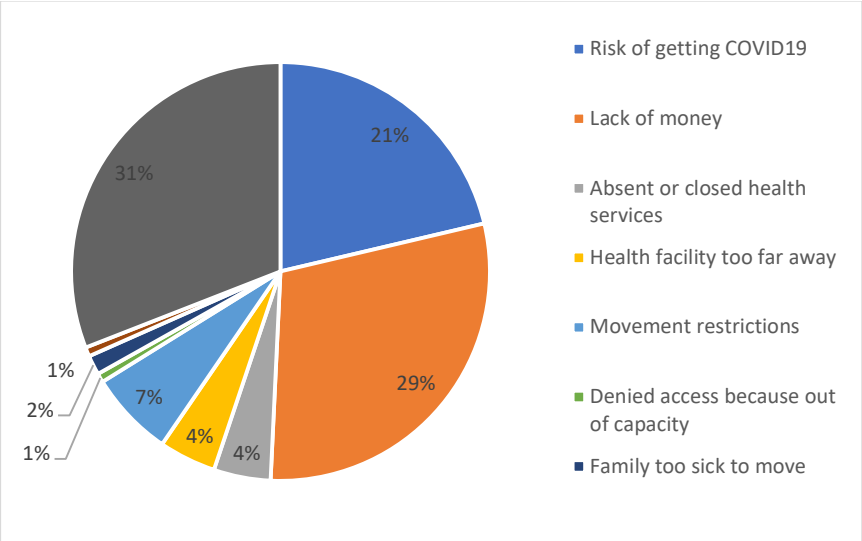


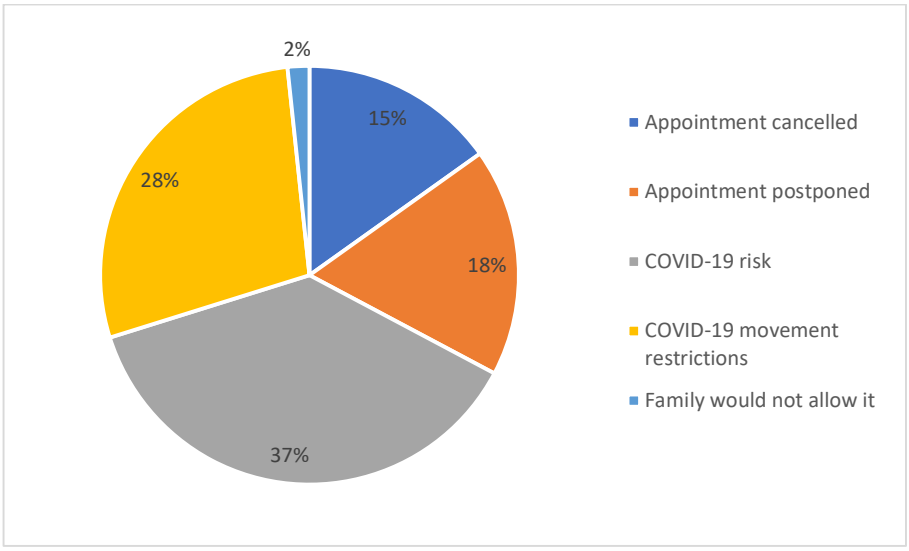
Figure 15: **Reasons for not seeking treatment for child aged 2-18 (CATI adolescents)**



Access to maternal nutrition services

A high proportion of pregnant women (76%) reported that they attended all antenatal care (ANC) appointments during the COVID-19 pandemic (ranging from 64% in Uganda to 83% in Lesotho) (Figure 17). Of the 24% that did not attend one or more appointment, 37% reported that this was due to risk of COVID-19 and 28% COVID-19 related movement restrictions (Figure 17).

Figure 16: **Reasons for non-attendance at antenatal care by pregnant women during COVID-19 (CATI MQ)**



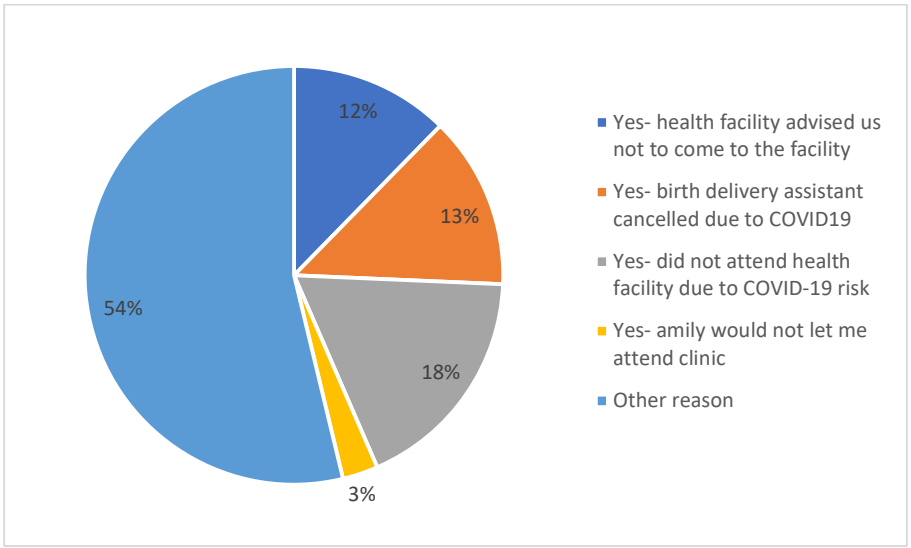
Across all countries, 69% of pregnant women reported taking an iron and folic acid (IFA) supplement daily, although a much lower number of women reported daily supplementation in Kenya, Eswatini and Uganda (55%, 56% and 57% respectively) (Table 24). Across all countries, 18% of women reported that their frequency of IFA supplementation decreased during COVID-19; 14% reported of these women reported that this was due to inability to access supplements during the pandemic (29% in Eswatini, 27% in Kenya and 19% in Uganda).

Table 24: **Pregnant women reporting daily iron and folic acid/multiple micronutrient supplementation (CATI MQ)**

		Botswana N=163	Eswatini N=170	Kenya N=88	Lesotho N=176	Malawi N=253	Uganda N=162	Total N=1,012
Intake of IFA supplement	Daily	65.0% (104)	56.4% (93)	55.3% (47)	75.9% (123)	86.1% (216)	57.1% (89)	68.6% (672)
	From time to time weekly	7.5% (12)	9.1% (15)	12.9% (11)	4.3% (7)	4.8% (12)	11.5% (18)	7.7% (75)
	From time to time monthly	8.1% (13)	19.4% (32)	11.8% (10)	6.2% (10)	0.8% (2)	7.7% (12)	8.1% (79)
	Rarely	6.9% (11)	5.5% (9)	9.4% (8)	1.2% (2)	2.8% (7)	7.7% (12)	5.0% (49)
	Never	12.5% (20)	9.7% (16)	10.6% (9)	12.3% (20)	5.6% (14)	16.0% (25)	10.6% (104)
Change in IFA supplementation since COVID19	No change	83.9% (115)	63.9% (94)	66.7% (50)	82.0% (114)	95.4% (226)	69.8% (90)	79.7% (689)
	Decreased due to inability to get the supplements	12.4% (17)	28.6% (42)	26.7% (20)	9.4% (13)	3.4% (8)	18.6% (24)	14.4% (124)
	Decreased for other reasons	1.5% (2)	5.4% (8)	4.0% (3)	5.0% (7)	0.4% (1)	7.8% (10)	3.6% (31)
	Increased	1.5% (2)	0.0% (0)	1.3% (1)	1.4% (2)	0.0% (0)	1.6% (2)	0.8% (7)
	Other	0.7% (1)	2.0% (3)	1.3% (1)	2.2% (3)	0.8% (2)	2.3% (3)	1.5% (13)

Across all countries, 29% of mothers changed their birth plans due to COVID-19. Overall, 16% of women's birth plans changed due to unspecified reasons related to COVID-19, 5% refused to attend a health facility due to fear of COVID-19, in 4% of cases the planned birth attendant refused to attend due to COVID-19 and in 4% of cases the health facility advised the woman not to attend (Figure 18). The biggest disruptions to birthing services were reported in Kenya and Uganda.

Figure 17: **Change in birth plans due to COVID-19 (CATI MQ)**



Health Worker Perceptions

In total, 1,894 health workers were asked about the disruption of nutrition services during the pandemic. IFA supplementation, multiple micronutrient supplementation and nutrition counselling (which includes maternal nutrition and IYCF counselling) were most frequently reported to be disrupted. Acute malnutrition treatment and screening and vitamin A supplementation were reported to be disrupted least frequently. Health workers in Malawi reported the least level of disruption of almost all nutrition services compared to other countries. There was little difference in discontinuation of services at the level of health facilities and in communities, suggesting that restrictions had affected both in a similar way.

Table 25: **Proportion of health workers reporting discontinuation of health services during COVID-19 (CATI HW)**

		Botswana N=212	Eswatini N=437	Kenya N=388	Lesotho N=74	Malawi N=392	Uganda N=391	Total N=1,682
Discontinuation of maternal nutrition and IYCF counselling activities	No discontinuation	84.9 %	74.8%	71.6%	63.5%	89.8%	66.5%	76.2%
	Discontinuation at health facilities	7.5 %	9.8 %	15.7 %	17.6 %	5.6 %	6.6 %	9.6 %
	Discontinuation in the communities	2.8 %	13.7 %	11.9 %	6.8 %	4.1 %	25.8 %	12.4 %
	Don't know	4.7 %	1.6 %	0.8 %	12.2 %	0.5 %	1.0 %	1.8 %
Discontinuation of vitamin A supplementation	No discontinuation	81.1 %	78.3 %	86.3 %	63.5 %	99.5 %	80.1 %	84.4 %
	Discontinuation - campaigns	6.1 %	10.5 %	4.1 %	13.5 %	0.0 %	7.4 %	6.0 %
	Discontinuation – routine	2.4 %	7.8 %	8.5 %	5.4 %	0.5 %	10.5 %	6.3 %
	Don't know	10.4 %	3.4 %	1.0 %	17.6 %	0.0 %	2.0 %	3.2 %
Discontinuation of MNP supplementation	No discontinuation	81.6 %	63.2 %	78.9 %	64.9 %	96.4 %	70.1 %	76.8 %
	Discontinuation at health facilities	4.2 %	13.0 %	9.0 %	9.5 %	1.0 %	8.7 %	7.7 %
	Discontinuation in the communities	0.5 %	8.2 %	8.8 %	10.8 %	0.5 %	11.3 %	6.6 %
	Don't know	13.7 %	15.6 %	3.3 %	14.8 %	2.1 %	9.9 %	8.9 %
Discontinuation of IFA supplementation	Discontinuation	9.4 %	30.2 %	25.0 %	29.7 %	10.7 %	45.0 %	25.8 %
	No discontinuation	63.2 %	50.6 %	63.9 %	25.7 %	84.7 %	48.1 %	60.3 %
	Don't know/refused to answer	27.4 %	19.2 %	11.1 %	44.6 %	4.6 %	6.9 %	14.0 %
Discontinuation of MMS supplementation	No discontinuation	59.0 %	63.2 %	87.4 %	18.9 %	69.6 %	81.6 %	71.1 %
	Discontinuation at health facilities	30.2 %	17.8 %	4.6 %	55.4 %	16.8 %	4.6 %	15.0 %
	Discontinuation in the communities	1.9 %	6.9 %	4.6 %	6.8 %	12.0 %	7.4 %	7.0 %
	Don't know	8.9 %	12.1 %	3.4 %	18.9 %	1.6 %	6.4 %	6.7 %
Discontinuation of children screening for acute malnutrition	No discontinuation	93.9 %	85.6 %	82.5 %	74.3 %	99.2 %	79.0 %	86.9 %
	Discontinuation at health facilities	2.4 %	6.2 %	9.5 %	8.1 %	0.5 %	3.3 %	4.8 %
	Discontinuation in the communities	0.0 %	5.5 %	7.0 %	9.5 %	0.3 %	15.9 %	6.4 %
	Don't know	3.8 %	2.5 %	1.0 %	8.1 %	0.0 %	1.8 %	1.9 %

Discontinuation of treatment of acute malnutrition	No discontinuation	94.8 %	83.1 %	91.8 %	83.8 %	99.7 %	77.5 %	88.5 %
	Discontinuation at health facilities	1.9 %	9.8 %	4.1 %	5.4 %	0.0 %	4.1 %	4.4 %
	Discontinuation in the communities	0.0 %	2.5 %	2.8 %	5.4 %	0.3 %	14.6 %	4.4 %
	Don't know	3.3 %	4.6 %	1.3 %	5.4 %	0.0 %	3.8 %	2.7 %
Total	Average rate of continuation of activities	80 %	71 %	82 %	55 %	92 %	73 %	78 %

The below sections examine the discontinuation of health services in greater detail, including the level of disruption reported by health workers, reasons for disruption and programmatic adaptations made to ensure continued service delivery.

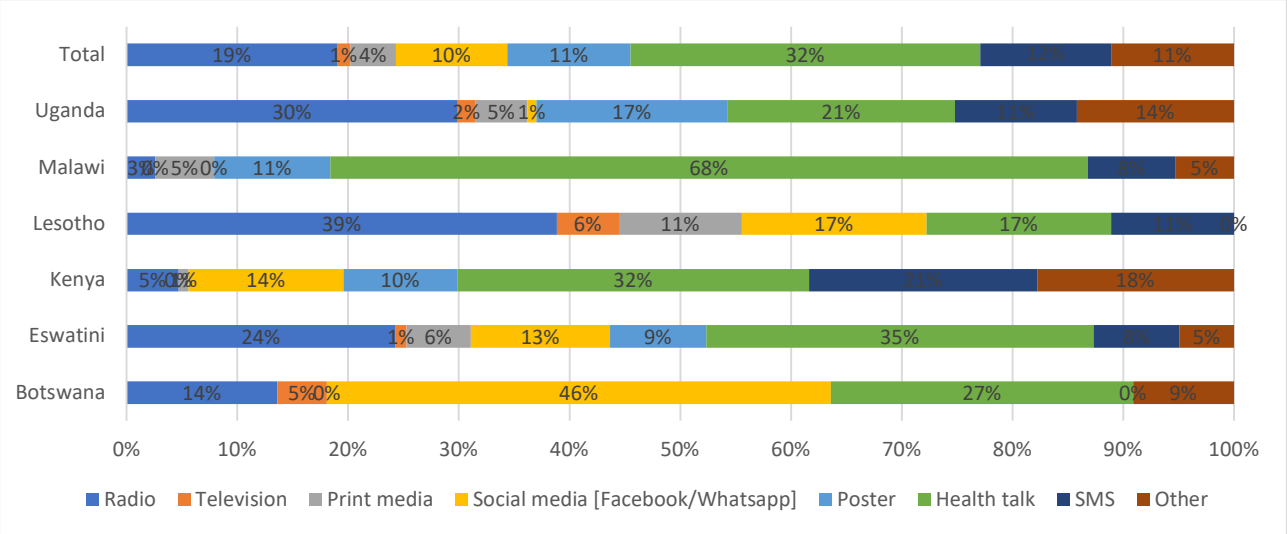
Nutrition counselling services

Across all countries, 22% of health workers reported disruptions in nutrition counselling services, with this rising to 30% in Uganda. The main reasons reported for counselling disruption were lockdown measures (63%), either due to reduced mobility of service users (41%) or of service providers (22%). Other reasons included an interruption to activities that engaged the community (19%) and the closure of services (10%) (rising to 23% in Botswana).

Health workers were asked about adaptations made to counselling services to allow them to continue in the COVID-19 context. Those most frequently reported were physical distancing at clinics (55%), provision of services through community platforms (54%), and provision of services through alternative media (43%). The most frequently reported types of alternative media used for counselling services were a talk by a health professional in a health facility (32%), radio (19%), SMS (12%), posters (11%) and social media (10%). - Figure 19). Countries appear to have used different strategies, with a large proportion of health workers in Botswana reporting the use of social media to support counselling (46%) and a large proportion of health workers in Lesotho reporting use of radio (39%).

Figure 19: **Alternative media employed to convey counselling messages (CATI HW)**

N=412



Vitamin A and MNP supplementation

Across all countries, 13% and 16% of health workers reported the discontinuation of vitamin A and micronutrient powder (MNP) supplementation respectively. Health workers in Eswatini, Lesotho and Uganda reported disruptions most frequently and Malawi and Botswana least frequently.

Lockdown measures were the most cited reason for vitamin A service disruption (55%) either due to reduced mobility of users (28%) or providers (27%), and 15% of health workers reported the postponement of services during COVID-19 (up to 33% in Botswana and 20% in Lesotho). The most frequently reported adaptations to enable continued Vitamin A supplementation were physical distancing at clinics (43%), use of community platforms (40%) and combining supplementation with vaccines (23%).

Lockdown measures were the most cited reason for MNP delivery (44%) either due to reduced mobility of users (20%) or providers (24%), and 19% of health workers reported the postponement of services during COVID-19. The most frequently reported adaptations to enable continued MNP delivery were physical distancing at clinics (29%), use of community platforms (24%) and preposition supplies (22%) with 40% of health workers reporting that MNP delivery had not yet re-started at the time of the survey.

IFA supplementation

Discontinuation in IFA supplementation was reported by 26% of health workers across all countries (ranging from 9% in Botswana to 45% in Uganda). The inability to reach girls through schools due to school closures was widely reported (54% rising to 81% in Uganda and 63% in Kenya). Other reasons for disruption were reduced mobility of users (14%) (rising to 29% in Lesotho and 27% in Estwatini) and providers (8%). Nearly half (45%) of health workers reported the IFA supplementation had not yet re-started.

Child screening for acute malnutrition

Few health workers (11%) reported the disruption screening for child wasting. Those that did so reported that this was because of lockdown measures limiting mobility of service users (38%) or service providers (17%), reduced community engagement activities (14%) or service postponement (13%). Most frequently reported adaptations to support the continuation of screening in the COVID-19 context were physical distancing (66%), use of community platforms (41%), remote data collection (36%) (highest in Kenya and Uganda at 47% and 43% respectively), and use of Family MUAC (32%). Use of Family MUAC was most frequently reported in Kenya (42%) and Uganda (36%).

Treatment of child wasting

Very few health workers (8%) reported the disruption of child wasting treatment services. Those that did so reported that disruption was due to lockdown measures limiting mobility of service users (35%) or service providers (20%), or lack of supplies (16%). Reported adaptations to child wasting services were physical distancing at clinics (53%), providing treatment through community platforms (38%), increased stocks of ready-to-use therapeutic food (RUTF) (26%), reduced frequency of visits with increased RUTF supplies (25%), remote monitoring of patient data (25%) and remote monitoring of supplies (19%).

Discussion

Findings reveal that nutrition services faced disruption during the COVID-19 pandemic across the six countries studied in ESA as reported by both service users and service providers. Almost all caregivers in this sample reported that they continued to seek treatment for their child when sick during the COVID-19 pandemic and for those that did not, lack of money was cited as the main reason. A higher level of COVID-related disruption to maternity services was reported by pregnant and recent mothers. Of the 24% that did not attend one or more

appointment, 37% reported that this was due to risk of COVID-19 and 28% COVID-19 related movement restrictions; 20% reduced the frequency of their IFA supplement consumption; and 29% had disrupted birth plans. Disruptions to maternal health and nutrition services were most frequently reported by users in Eswatini, Kenya and Uganda. More understanding of the barriers to antenatal and birthing services during the COVID-19 pandemic is needed, particularly in these countries, to inform the building of greater system resilience.

From a health worker perspective, the largest disruptions in the provision of services were experienced in the delivery of IFA, MMS and nutrition counselling. Acute malnutrition screening and treatment were the least disrupted services. Health workers in Malawi were least likely to report disruption to almost all nutrition-related services, which may suggest a high level of system resilience in this country where many nutrition services have been integrated into the routine health system. This should be explored further so that lessons can be learned for other countries.

The most frequently reported reason for service disruption was lockdown restrictions, which appears to have affected the demand and/or supply of most nutrition services to some degree. Other common reasons given for disruptions were reduced community engagement and the closure or postponement of services. Health workers reported the closure of IFA supplementation for adolescent girls most commonly (54% of health workers – up to 81% in Uganda) related to the closure of schools – the normal delivery platform for IFA supplementation. At the time of this survey, 45% of health workers reported that IFA delivery had not yet re-started, which suggests the disruption in IFA delivery was sustained over time. Alternative platforms for IFA delivery for adolescent girls should be integrated into emergency preparedness plans for emergencies affecting schools, as well as to reach out-of-school girls during normal times.

Many health workers reported adaptations to normal modes of service delivery to allow their continuation in the COVID-19 context. The most reported adaptations across all services were physical distancing and use of alternative community platforms. Other service-specific adaptations included the integration of vitamin A supplementation into campaigns, prepositioning of supplies, reduced frequency of visits and Family MUAC. This is in line with other research and documented experiences of programming in the COVID-19 context and demonstrates the outworking of policy-level decisions at programme level.

A limitation of this research is that the sample of health workers was not nationally representative. As geographic data was not collected, the extent of geographic coverage is not known and therefore sample bias is possible. Results therefore do not give categorical information about how nutrition services were impacted by COVID-19 in each country, nor adaptations that were made, but perspectives of a group of health workers. This information contributes to the broader UNICEF ESARO research agenda on the impact of COVID-19 on nutrition services and the quality of the nutrition response to COVID-19. Lessons learned will inform future actions to build the resilience of systems to future crises.

a. Recommendations for action

- Explore further examples of system resilience during COVID-19 to identify characteristics and lessons that can be learned and applied to other contexts, for example the integration of nutrition services into the health system in Malawi.
- Research barriers to access of ANC, IFA and birthing services in countries most negatively impacted by COVID-19 (Eswatini, Kenya and Uganda) to identify possible entry points for building system resilience in these countries.
- Explore the impact and acceptability of programme adaptations reported here in different country contexts to identify the potential for their long-term integration into national protocols and emergency preparedness plans.
- Explore alternative platforms for the delivery of IFA to adolescent girls in the context of school closures and to target out-of-school girls.

8. Conclusions

Results of telephone and internet-based surveys of caregivers, adolescents, PLW and recent mothers and health workers in six countries in Eastern and Southern Africa reveal that the COVID-19 pandemic had a detrimental effect on diets, nutrition practices and delivery of nutrition services. Findings reveal that the pandemic had a negative impact on infant and young child feeding practices in terms of reduced breastfeeding frequency, and on the diets of children, adolescents and women in terms of reduced variety of foods consumed and reduced consumption of animal source foods. The pandemic may also have led to improvements in diets for some in terms of reduced consumption of sugary drinks and snacks high in sugar, salt and fat, and increased consumption of cheaper micronutrient-rich vegetables. Changes in diets appear to have been driven by cost-related changes in foods purchased, with more expensive items being substituted for cheaper items. This appears to have been caused by reduced incomes as well as to some extent increased food prices.

A high level of food insecurity was reported in this sample across all age groups which is very concerning. Access to and uptake of some nutrition services were negatively affected by the pandemic, especially maternal health and nutrition services, IFA for adolescent girls due to school closures and nutrition counselling. Other services, such as wasting screening and treatment, appear to have been more resilient. Health workers reported adaptations to normal modes of service delivery to allow their continuation in the COVID-19 context.

The negative impact of COVID-19 on diets, services and practices in likely to affect progress against targets for the improvement of child nutrition status in ESA for many years to come. Resources are urgently needed to re-expand and prioritise efforts to prevent stunting and micronutrient deficiencies by protecting breastfeeding, delivering micronutrient supplementation at scale, and increasing access to diverse, healthy diets for children and young people. Routine health systems must be strengthened to ensure access to nutrition services for all, national social safety nets expanded to support nutritionally vulnerable households, and comprehensive strategies developed to build sustainable livelihoods. To protect against the impact of future health emergencies, social safety nets must be shock responsive, nutrition and health services must be delivered via platforms able to flex during crises, and nutrition risk communication and community engagement (RCCE) strategies must be developed during the emergency preparedness stage to enable rapid rollout at the onset of new emergencies.

This study provided important learning for UNICEF on the use of remote survey methods to collect nutrition data in the ESA region. Remote methods are an innovative approach that enabled the collection of data on caregiver, adolescent and health worker perceptions and experiences at a time when COVID-19 related movement restrictions prevented household surveys. However, there are important limitations that limit the generalizability of the results on standardized indicators. More research is needed to understand inherent bias in remote survey methods and how and when remote surveys can be used to inform future nutrition programming.

9. References

Frongilo et al (2022). Development, Validity, and Cross-Context Equivalence of the Child Food Insecurity Experiences Scale for Assessing Food Insecurity of School-Age Children and Adolescents. https://academic.oup.com/jn/advance-article/doi/10.1093/jn/nxac127/6598865

UNICEF, GNC and GTAM 2020. Nutrition Information Management Surveillance and Monitoring in the Context of COVID-19. Accessed [https://www.nutritioncluster.net/resources/briefs-12-nutrition-information-management-surveillance-and-monitoring-context-covid-19]

UNICEF et al. 2020. COVID-19 and the Risks to the Nutritional outcomes of Children and Women in Eastern and Southern Africa. Accessed [https://reliefweb.int/report/world/covid-19-and-risks-nutritional-outcomes-children-and-women-eastern-and-southern-africa]

10. Annexes

Annex 1: Exploration of potential bias

One of the original objectives of this study was to analyze change in nutrition indicators by comparing data collected here to pre-COVID baseline data (from national household surveys from the same countries 2017-2019). Standardized indicators were adapted for remote use and integrated into the questionnaires. However, when results from this survey were analyzed and compared, very large, unexpected differences were found in key indicators in different directions, including a 59 percentage point (pp) drop in exclusive breastfeeding compared to baseline, and a 22pp increase in minimum dietary diversity. Both are inconsistent with other results from this study, for example that 20% of caregivers reduced breastfeeding, and that caregivers of children aged 2 to 14 years reported reduced variety in the foods they consumed. There are several possible sources of bias within the results of this study that could account for this bias and that warrant closer examination.

1. **Respondent bias – were standardized indicator modules sufficiently adapted?**

Standardized indicator modules designed for in-person household surveys were adapted for use for phone interviews and online polls. The recommended time limit for phone interviews and online polls is much shorter than in-person interviews and therefore standardized indicator modules needed to be adapted to suit this context. This may have made it difficult for respondents to fully understand the questions being asked, which may have introduced respondent bias. Further testing of adapted questions is needed to understand this, and perhaps the development of a unique set of standardized indicator modules for use in both telephone interviews and online polls to overcome respondent bias.

2. **Respondent bias – were enumerators adequately trained to ask nutrition questions?**

As telephone interviews have not to our knowledge been used before to collect data on many standardized nutrition indicators in the region, enumerators had little or no previous experience in their use. While enumerators were trained, it is possible that the training was not detailed or lengthy enough to equip enumerators to understand the questions fully themselves and ask them in the correct way. This may have also led to respondent bias. To overcome this, the careful and thorough training of enumerators is required.

3. **Sample bias – were contact lists biased towards less vulnerable households?**

For the Kenya and Botswana samples, where UNICEF did not already have contact lists, respondents were reached via lists provided by GeoPoll or recruitment through Facebook. Unlike the UNICEF contact lists in other countries, these lists did not necessarily select vulnerable households, and may have been biased towards wealthier respondents with access to technology. This may have introduced sample bias in Kenya and Botswana.

4. **Sample bias – were target household members reached during phone interviews?**

Analysis of respondent characteristics shows that 35% of respondents on the caregiver survey were male, even though mothers were the target audience for the caregiver surveys. This may have affected accuracy of the results, particularly around breastfeeding practices. The lowest rate of excusive breastfeeding (11%) was reported in Kenya where the highest proportion of males were included in the caregivers survey (66%). It may be that enumerators interviewed the phone holder, or first person who answered the phone, rather than requesting to speak to the target person in the household. This needs to be explored further. If found to be the case, it suggests that more detailed training and guidance is required when administering CATI surveys to collect nutrition data, to ensure that the target respondents for each household are reached.

5. **Sample bias – are remote surveys inherently bias towards more wealthy, educated, urban respondents?**

By their nature, telephone interviews and online polls exclude individuals that do not have access to a phone or internet-based technology and may therefore be biased towards individuals who are wealthier, better educated and/or live in urban areas. The level of education of caregivers in this sample was compared to baseline data from the most recent Demographic and Health Survey (DHS) data for Eswatini, Kenya, Lesotho, Malawi and Uganda (recent baseline data was not available for Botswana). This showed that the Kenya, Malawi and Uganda samples were highly skewed towards well educated mothers, and in Eswatini there was a slight skewing of the data. When data on exclusive breastfeeding and MDD in the baseline samples was analysed, this revealed that the bias in the samples towards educated mothers may partly explain the low EBF rates in Eswatini and Uganda, and higher MDD rates in Kenya, Malawi and Uganda. Data on socio-economic status and urban/ rural dwelling was not collected in the current sample, which makes further exploration difficult.

It may be that inherent sample bias exists in remote surveys due to the requirement of ownership or use of telephone and/or digital technology. This needs further exploration and, if this is the case, guidance is needed on the weighting of results to account for this.

Table 26 **Interpretation of the effect of Mothers Education (ME) on breastfeeding and diet diversity results**

Country	Eswatini	Kenya	Lesotho	Malawi	Uganda
CATI sample bias	CATI Sample is slightly skewed towards more educated mothers	CATI Sample is very skewed towards well educated mothers	CATI Sample is representative	CATI Sample is very skewed towards well educated mothers	CATI Sample is very skewed towards well educated mothers
Baseline association	2007 data show that maternal education has a slight negative association with EBF and strong positive association with MDD	2014 data do not show an association between ME and EBF but do show a positive association between ME and MDD	2014 data on EBF/ MDD and education incomplete	2016 data ME is not associated with EBF but is strongly positively associated with MDD	2016 data ME is negatively associated with EBF and positively associated with MDD
Interpretation	ME bias may contribute to low EBF rate in sample (36.9%) but not the very low MDD (39.2%)	ME bias does not explain extremely low EBF in CATI sample (10.8%); likely to explain higher MDD (47%)	No ME bias - therefore ME doesn't explain very low EBF rate or fairly high MDD rate in CATI sample	ME bias does not explain very low EBF rate (21.8%) in CATI sample, but may explain high MDD rate (60.6%)	ME bias may help to explain very low EBF in CATI sample (23.4%) and very high MDD rate (46.9%)

Annex 2: CATI questionnaires

Impacts of COVID19 on the diets of young children, adolescents, and pregnant and lactating mothers in Eastern and Southern Africa region

UNDER 2 CHILDREN SURVEY QUESTIONNAIRE (CU2)

(THE QUESTIONNAIRE WILL BE ADMINISTRATED BY PHONE- CATI)

INFORMED CONSENT	**PAGE 1**
SECTION 1 – HOUSEHOLD PROFILE (5Q)	**PAGE 1**
SECTION 2 – FOOD INSECURITY EXPERIENCE SCALE (8Q)	**PAGE 2**
SECTION 3 – MOTHER AND YOUNGEST CHILD PROFILE (4Q)	**PAGE 2**
SECTION 4 - INFANT AND YOUNG CHILD FEEDING PRACTICES (13Q)	**PAGE 4**
SECTION 5 - CHILD ILLNESS AND CARE (3Q)	**PAGE 6**

IN BLUE=C19 QUESTIONS

Date|___||___|/|___||___|/|_2_||_1_| **(DD/MM/YY)** **TIME STARTED: |__||__|:|__||__|** **TIME ENDED: |__||__|:|__||__|**

INTRODUCTION

Hello, can I speak with <name of respondent>? Hi <name of respondent>, I am <name of enumerator> a researcher commissioned by UNICEF. Currently, we are conducting a survey to understand food security, nutrition, health and WASH situation in your household.

The interview will take approximately 15 to 20 minutes. Can I proceed with the interview now? <wait for answer> If yes, thank you very much! <if no, ask for a better time to do the interview>. All information that you are going to share will be treated with utmost confidentiality and will only be used for the purpose of the study. As a token of appreciation, we will send you [AMOUNT HERE] phone credit to this phone number after the interview. Can we start with the interview?

INFORMED CONSENT (2 QUESTIONS)			
A	Are you a mother of a child whose age is less than 2 years old?	0=No 1=Yes => C	|___|
B	Are you a caretaker of a child whose age is less than 2 years old?	0=No => **End the survey** 1=Yes	|___|

C	Do you agree to participate in our study?	0=No => **End the survey** 1=Yes	|___|

SECTION 1 – HOUSEHOLD PROFILE (5 QUESTIONS)			
1.1	How many people are living in your household? A household is defined as a group of people **currently** eating from the same pot "under the same roof" (or in same compound if the HH has 2 structures).		|___||___|
1.2	How many children under 5 are living in your household?		|___||___|
1.3	What is the gender of the household head?	1=Male 2=Female	|___|
1.4	How would you compare your household income now to your income at the start of the year (January 2020)?	0= No change 1= Increased income 2= Reduced income 98=Do not know	|___||___|
1.5	What kind of social protection program or support have you received from the government or private organizations during Covid-19 pandemic?	0 = None 1 = Cash assistance 2 = Food subsidies 9 = Other	|___|

SECTION 2. FOOD INSECURITY EXPERIENCE SCALE (FIES) (8 QUESTIONS)		
2.0 –Food Insecurity Experience Scale (FIES) (12 months recall) Now I would like to ask questions about food. During the last 12 months, was there a time when: [READ EACH ITEM AND LET THE RESPONDENT ANSWER]		1=Yes 2=No 98=Do not know 97=Do not want to answer
2.1	You or other members in your household were worried about not having enough food to eat because of lack of money or other resources?	|___|
2.2	Was there a time that you or other members in your household were unable to eat healthy and nutritious foods because of lack of money or other resources?	|___|
2.3	Was there a time when you or other members in your household ate only few kinds of food because of lack of money or other resources?	|___|
2.4	Was there a time when you or other members in your household skip a meal because of lack of money or other resources?	|___|
2.5	Was there a time that you or other members in your household ate less than you thought you should because of lack of money or other resources?	|___|

2.6	Was there a time when you or other members in your household ran out of food because of lack of money or other resources?	|___|
2.7	Was there a time when you or other members in your household were hungry but did not eat food because of lack of money or other resources?	|___|
2.8	Was there a time when you or other members in your household went without eating for a whole day because of lack of money or other resources?	|___|

SECTION 3 – MOTHER AND YOUNGEST CHILD PROFILE (4 QUESTIONS)			
3.1	For mother only: How old are you?	1= less than 18 years old 2= 18 to 35 years competed 3= 36 to 55 years completed 4= 56+	|___|
3.2	For mother only: What is your highest educational attainment?	0=None 1=Elementary (Grade 1-6) 2=Highschool (Grade 7-10) 3=Senior Highschool (Grade 11-12) 4=Higher Studies (College) 5=Others,	|___|
3.5	What is the age in months of your youngest child?	1= Less than 6 months 2= 6 months to 11 months completed 3= 12 to 17 months completed 4= 18 to 23 months completed	|___|
3.6	What is the gender of your youngest child?	1=Male 2=Female	|___|

SECTION 4 – INFANT AND YOUNG CHILDREN FEEDING PRACTICES (13 QUESTIONS)			
4.1	Has (NAME) ever been breastfed?	0 = No => **Proceed to 4.7** 1 = Yes 98=Do not know => **Proceed go to 4.7**	|___||___|
4.2	How long after birth was (NAME) first put to the breast?	0 = Immediately or <60 minutes 1=no of hours= >1 hour but <24 hours 2=no of days >24 hours 98 = Do not know	|___||___|
4.3	Is (name) still being breastfed?	0=No 1=Yes => **Proceed to 4.5**	|___||___|

		98=Do not know => **Proceed to 4.5**	
4.4	Why did you stop breastfeeding?	0 = No, I didn't stop breastfeeding because of Covid19 reasons 1=Doctor/nurse told me to stop breastfeeding or not to start breastfeeding 2=A family member/friend told me to stop/not to BF 3=I heard on the radio/TV/read online that Covid is in breastmilk and not to breastfeed 4=I heard on social media that Covid is in breastmilk and not to breastfeed 5=I heard marketing messages from formula companies that it is better to formula feed in the context of Covid 9=Other reasons 98=Do not know	|___| |___| |___| |___| |___| |___| |___| |___| |___|
4.5	How many times was (name) breastfed yesterday in the day and in the night?	|___||___| times	
4.6	Has this frequency change in the last month because of Covid-19 pandemic?	0=No 1=Yes, increase 2=Yes, decrease 3=Yes, changed, not due to Covid19 98=Do not know	|___||___|
4.7	Now I want to ask you what **liquids** (name) received yesterday during the day and night – even if combined with other foods, include liquids consume outside of your home		
	Did (Name) drink:		**0**= No **1**= Yes **98**= Don't know
	a. Plain water?		|__||__|
	b. Juice or juice drinks?		|__||__|
	c. Clear soup / broth?		|__||__|
	d. Artificial milk for babies (infant/baby formula or follow on/growing up formula serving as breast milk substitutes, ex Dumex, Guigoz, Lactogen, etc)		|__||__|
	dd. number of times drunk artificial milk? (if unknown, record '99')		|__||__|
	e. Any other type of milk (any type of animal milk powdered, fresh, UHT but not sweetened condensed milk or baby formula)?		|__||__|

	ee. number of times drunk other type of milk? (if 7 or more times, record '7', if unknown, record '8')		|__||__|
	g. Tea or coffee?		|__||__|
	h. Rice water?		|__||__|
	i. Sugar sweetened beverages (soft drinks, sweetened tea)?		|__||__|
4.8	Has the type of liquid given changed in the last month because of Covid 19 pandemic and/or it's effects?	0=No 1=Yes, more of certain types 2=Yes, less of certain types 3=Yes, but not due to Covid19 98=Do not know	|__||__|

4.9	Now I would like to ask you about everything that (name) ate yesterday during the day or the night. Please include foods consumed outside of your home.		
	Did (Name) eat:	**0**= No **1**= Yes **98**= Don't know	has (name) consumption change because of Covid19 pandemic? 1=Yes, increase consumption 2=Yes, decrease consumption 3=No change
	a. Any commercially fortified baby food (Cerelac, Gerber, NutriLove, Happy Baby Cereal, Milna, Health Times, Baby Natura)?	|__||__|	|__||__|
	b. Cereals, roots and tubers: sorghum, millet, corn, wheat, rice, pasta (spaghetti) and bread/pancake, sweet potato, potato, other tubers	|__||__|	|__||__|
	c. Pulses: beans/peas, peanuts, lentils, almond, and/or other pulses	|__||__|	|__||__|
	d. Dairy products: yogurt, cheese, other dairy (exclude margarine/butter or small amounts of milk for tea/coffee)	|__||__|	|__||__|
	e. Meat: goats, beef, chicken	|__||__|	|__||__|
	f. Fish or seafood	|__||__|	|__||__|
	g. Organ meat	|__||__|	|__||__|
	h. Eggs	|__||__|	|__||__|
	i. Vitamin A rich fruits and vegetables (including dark leafy vegetables)	|__||__|	|__||__|
	j. Other vegetables and fruits	|__||__|	|__||__|
	k. Savory and fried snacks	|__||__|	|__||__|
	l. Sugary foods: chocolate bars, candy bars, candies, sugar-coated food, ice cream, honey, jam, candy, biscuits, pastries, cakes and other sweet products	|__||__|	|__||__|
	m. Oils or fats	|__||__|	|__||__|
4.10		**0** = None **1** = 1 time **2** = 2 times	|__||__|

	Yesterday, during the day and night, how many times did (name) eat any solid, semisolid or soft foods?	**3** = 3 times **4** = 4 times **5** = 5 times **6** = 6 times **7** = 7 or more times **98** = Do not know	
4.11	Has this frequency of food consumption changed because of Covid 19 pandemic?	0=No 1=Yes, more frequent 2=Yes, less frequent 3=Yes, but not because of Covid19 98=Do not know	|__||__|
4.12	Did you hear or receive any message on breastfeeding of infants in the context of COVID19? [Examples of messages might be on breastfeeding, what foods to feed a young child, or how to feed during and after illness. Examples of sources of messages might include: social media (give examples), on a website, radio, television, **facebook**, health talk at a health facility or by a community health worker or mother support group, religious institution, poster or leaflet etc]	0=No 1=Yes 98=Do not know	|__||__|
4.13	Did you hear or receive any message on feeding a child aged 6 months to 2 years of age in the context of COVID19?	0=No 1=Yes 98=Do not know	|__||__|
SECTION 5: ILLNESS AND CARE CHILDREN (3 QUESTIONS)			
5.1	Has your child been sick during the pandemic in the last 12 months?	0=No => **Proceed to end of questionnaire** 1=Yes 98=Do not know	|__||__|
5.2	Did you seek advice or treatment for the illness outside the home?	**0**= No => **Proceed to end of questionnaire** **1**= Yes, Public Health facility **2**= Yes, Private clinic **3**= Yes, Traditional healers **4**= Yes, Herbal stores/ Herbalists **5**= Yes, Drugs store/pharmacy **6**= Yes, Friends/relatives **7**= Yes, Others **98** = Don't know	|__||__|

5.3	What was the main reason for not seeking health care?	0=risk of getting C19 1=lack of money 2=absence of health services / hospitals, health centres are closed 3=no caretaker to take the child to the health facility 4=health facility too far away 5=movement restrictions 6=denied access because it's out of capacity 7=all members of the family too sick to move 8= I cannot take my child to the health facility because my family doesn't agree. 8=others	|__|

READ TO THE RESPONDENT:

Thank you very much for the interview. As a token of appreciation, we will now transfer [amount] to this phone number. Have a great day.

Impacts of COVID19 on the diets of young children, adolescents, and pregnant and lactating mothers in Eastern and Southern Africa region

PLW AND WOMEN WHO JUST GAVE BIRTH SURVEY QUESTIONNAIRE (MQ)

(THE QUESTIONNAIRE WILL BE ADMINISTRATED BY PHONE- CATI)

INFORMED CONSENT **PAGE 1**

SECTION 1 – HOUSEHOLD PROFILE (5Q) **PAGE 1**

SECTION 2 – FOOD INSECURITY EXPERIENCE SCALE (8Q) **PAGE 2**

SECTION 3 – MOTHER'S PROFILE (2Q) **PAGE 2**

SECTION 4A –WOMEN DIET DIVERSITY (16 Q) **PAGE 2**

SECTION 4B- MARKET ACCESS (6 Q) **PAGE 3**

[PREGNANT -> SECTION 5A – ANC (3 Q) **PAGE 3**

GAVE BIRTH SINCE JAN 2020 -> SECTION 5B –BIRTH INFORMATION AND IFA (4 Q)] **PAGE 4**

IN BLUE=C19 QUESTIONS

Date|___||___|/|___||___|/|_2_||_1_| **(DD/MM/YY)**	**TIME STARTED: |__||__|:|__||__|**	**TIME ENDED: |__||__|:|__||__|**

INTRODUCTION

Hello, can I speak with <name of respondent>? Hi <name of respondent>, I am <name of enumerator> a researcher commissioned by UNICEF. Currently, we are conducting a survey to understand food security, nutrition, and health situation for pregnant and breastfeeding mothers or mothers who recently gave birth.

The interview will take approximately 15 to 20 minutes. Can I proceed with the interview now? <wait for answer> If yes, thank you very much! <if no, ask for a better time to do the interview>. All information that you are going to share will be treated with utmost confidentiality and will only be used for the purpose of the study. As a token of appreciation, we will send you [AMOUNT HERE] phone credit to this phone number after the interview. Can we start with the interview?

INFORMED CONSENT (3 QUESTIONS)			
A	Are you currently pregnant?	0=No 1=Yes => C	|___|
B	Have you given birth since January 2020?	0=No => **End the survey** 1=Yes	
C	Do you agree to participate in our study?	0=No => **End the survey** 1=Yes	|___|

SECTION 1 – HOUSEHOLD PROFILE (5 QUESTIONS)			
1.1	How many people are living in your household? A household is defined as a group of people **currently** eating from the same pot "under the same roof" (or in same compound if the HH has 2 structures).		|___||___|
1.2	How many children under 5 are living in your household?		|___||___|
1.3	What is the gender of the household head?	1=Male 2=Female	|___|
1.4	How would you compare your household income now to your income at the start of the year (January 2020)?	0= No change 1= Increased income 2= Reduced income 98=Do not know	|___||___|
1.5	What kind of social protection program or support have you received from the government or private organizations during Covid-19 pandemic?	0 = None 1 = Cash assistance 2 = Food subsidies	|___|

		3 = Others	

SECTION 2. FOOD INSECURITY EXPERIENCE SCALE (FIES) (8 QUESTIONS)

	2.0 –Food Insecurity Experience Scale (FIES) (12 months recall) Now I would like to ask questions about food. During the last 12 months, was there a time when: [READ EACH ITEM AND LET THE RESPONDENT ANSWER]	1=Yes 2=No 98=Do not know 97=Do not want to answer
2.1	You or other members in your household were worried about not having enough food to eat because of lack of money or other resources?	|___|
2.2	Was there a time that you or other members in your household were unable to eat healthy and nutritious foods because of lack of money or other resources?	|___|
2.3	Was there a time when you or other members in your household ate only few kinds of food because of lack of money or other resources?	|___|
2.4	Was there a time when you or other members in your household skip a meal because of lack of money or other resources?	|___|
2.5	Was there a time that you or other members in your household ate less than you thought you should because of lack of money or other resources?	|___|
2.6	Was there a time when you or other members in your household ran out of food because of lack of money or other resources?	|___|
2.7	Was there a time when you or other members in your household were hungry but did not eat food because of lack of money or other resources?	|___|
2.8	Was there a time when you or other members in your household went without eating for a whole day because of lack of money or other resources?	|___|

SECTION 3 – MOTHER AND YOUNGEST CHILD PROFILE (2 QUESTIONS)

3.1	How old are you?	1= less than 18 years old 2= 18 to 35 years competed 3= 36 to 55 years completed 4= 56+	|___|
3.2	What is your highest educational attainment?	0=None 1=Elementary (Grade 1-6) 2=Highschool (Grade 7-10) 3=Senior Highschool (Grade 11-12) 4=Higher Studies (College)	|___|

		5=Others,	
SECTION 4A – WOMEN DIET DIVERSITY (CHECK THAT THE RESPONDENT IS AGED 15 TO 49 YEARS OLD) (1 QUESTION – 16 ITEMS)			
Has your consumption change in the last 6 months because of Covid 19 pandemic and/or any effects of Covid 19?		1=Yes, increase consumption because of Covid-19 reasons 2=Yes, decrease consumption because of Covid-19 reasons 3=No change	
4.1	Rice, bread, potatoes, sweet potatoes, tuber, maize	|___|	
4.2	Beans, pulse, lentils, chickpeas, tofu	|___|	
4.3	Nuts and seeds	|___|	
4.4	Dairy, milk, yogurt	|___|	
4.5	Meat or poultry	|___|	
4.6	Fish or seafood	|___|	
4.7	Organ meat	|___|	
4.8	Eggs	|___|	
4.9	Dark green leafy vegetables	|___|	
4.10	Other vitamin A rich fruits and vegetables (carrot, pumpkin, orange sweet potato, mango, papaya, dark green leafy vegetables, long beans)	|___|	
4.11	Other vegetables (eggplant, onion, cucumbers, tomatoes)	|___|	
4.12	Other fruits (banana, apples, pineapple, watermelon)	|___|	
4.13	Sugar food consumption (chocolate bars, candy bars, candies, sugar-coated food, ice cream, honey, jam, candy, biscuits, pastries, cakes and other sweet products)	|___|	
4.14	Sugary drinks (carbonated soft drink, sweetened tea, sweetened coffee	|___|	
4.15	Savory and fried snacks	|___|	
4.16	Oils or fats	|___|	
SECTION 4B – CHANGE IN MARKET ACCESS IN C19 CONTEXT (6 QUESTIONS)			
4B.1	Did you change the way you buy the following food items (5.1-5.11) during the Covid19 pandemic?	0=No 1=Having more of this food delivered 2= Substitute the usual food items with other cheaper food items 3=Buying less of this food because reduced purchasing power 4= Buying less of this food because reduced access to functioning/open market facilities (physical access problem) 5=Stopped buying because not available in the market 6=Other reasons	
4B.2	Dairy, milk, yogurt	|__|	
4B.3	Breastmilk substitutes / infant formula	|__|	

4B.4	Meat, poultry, fish, shrimp	|__|	
4B.5	Eggs	|__|	
4B.6	Vegetables	|__|	
4B.7	Fruits	|__|	
SECTION 5 – ANC AND BIRTH INFORMATION (7 QUESTIONS) – ONLY IF BIRTH SINCE JANUARY 2020 OR PREGNANT			
[SECTION 5A - IF REPORTED PREGNANT FILL IN THIS SECTION]			
5A.1	Were there any occasions in which you did not attend a scheduled ANC visit due to COVID19? [one single options]	1=No 2=Yes, appointment cancelled 3=Yes, appointment postponed 4=Yes, refused to attend due to C19 risk 5=Yes, impossible to move and attend ANC 6=Yes, my family would not let me free to go to the clinic 96=Not applicable	|___|
[SECTION 5B - IF REPORTED BIRTH SINCE JANUARY 2020, FILL IN THIS SECTION]			
5B.1	Did your birth delivery plans change because of C19 in any way?	1= No 2= Yes, health facility advised us not to come to the facility 3 =Yes, identified birth delivery assistant cancelled due to C19 4= Yes, we decided not to go to health facility due to C19 risk 6=Yes, my family would not let me go to the clinic 99= Other 96= Not applicable	|___|
2B.2	How often did you take IFA supplements in your last pregnancy?	1=Daily 2=From time to time weekly 3=From time to time monthly 4=Rarely 5=Never	|___|
5B.3	Did your IFA supplements consumption in your last pregnancy change because of C19 in any way?	0=No change 1=Yes, decreased because I could not get the supplements 2=Yes, decreased for other reasons 3=Yes, increased 99=Other	|___|

		96=Not applicable	

READ TO THE RESPONDENT:

Thank you very much for the interview. As a token of appreciation, we will now transfer [amount] to this phone number. Have a great day.

Impacts of COVID19 on the diets of young children, adolescents, and pregnant and lactating mothers in Eastern and Southern Africa region

Children and adolescents under 19 years old QUESTIONNAIRE (CU19)

(THE QUESTIONNAIRE WILL BE ADMINISTRATED BY PHONE- CATI)

INFORMED CONSENT (2 Q)	**PAGE 1**
SECTION 1 – HOUSEHOLD PROFILE (5Q)	**PAGE 1**
SECTION 2 – MOTHER'S AND CHILD PROFILE (4Q)	**PAGE 2**
[MOTHERS => SECTION 3A – FOOD INSECURITY EXPERIENCE SCALE (8Q)	**PAGE 2**
OR ADOLESCENTS=>SECTION 3B – CHILD FOOD INSECURITY EXPERIENCE SCALE (10Q)]	**PAGE 3**
SECTION 4 - CHILD DIET 24 MONTHS+: FOR ELDEST CHILD (16 Q)	**PAGE 3**
SECTION 5 - CHILD ILLNESS AND CARE (3Q)	**PAGE 4**
SECTION 6 - SCHOOL FEEDING (2Q)	**PAGE 4**

IN BLUE=C19 QUESTIONS

Date|___||___|/|___||___|/|_2_||_1_| **(DD/MM/YY)** **TIME STARTED: |__||__|:|__||__|** **TIME ENDED: |__||__|:|__||__|**

INTRODUCTION

Hello, can I speak with <name of respondent>? Hi <name of respondent>, I am <name of enumerator> a researcher commissioned by UNICEF. Currently, we are conducting a survey to understand the food security, nutrition, health situation for children under 19 years old.

The interview will take approximately 15 to 20 minutes. Can I proceed with the interview now? <wait for answer> If yes, thank you very much! <if no, ask for a better time to do the interview>. All information that you are going to share will be treated with utmost

confidentiality and will only be used for the purpose of the study. As a token of appreciation, we will send you [AMOUNT HERE] phone credit to this phone number after the interview. Can we start with the interview?

INFORMED CONSENT (2 QUESTIONS)			
A	Are you a mother of a child whose age is more than 2 years old?	0=No 1=Yes=> **C**	|___|
B	Are you an adolescent aged 15-18 years old?	0=No => **End the survey** 1=Yes	|___|
C	Do you agree to participate in our study?	0=No => **End the survey** 1=Yes	|___|

SECTION 1 – HOUSEHOLD PROFILE (5 QUESTIONS)			
1.1	How many people are living in your household? A household is defined as a group of people **currently** eating from the same pot "under the same roof" (or in same compound if the HH has 2 structures).		|___||___|
1.2	How many children under 5 are living in your household?		|___||___|
1.3	What is the gender of the household head?	1=Male 2=Female	|___|
1.4	How would you compare your household income now to your income at the start of last year (January 2020)?	0= No change 1= Increased income 2= Reduced income 98=Do not know	|___||___|
1.5	What kind of social protection program or support have you received from the government or private organizations during Covid-19 pandemic?	0 = None 1 = Targeting cash assistance 2 = Food subsidies 9 = Other	|___|
SECTION 2 –INDVIDUAL'S PROFILE (4 QUESTIONS)			
2.1	For mother only: How old are you?	1= less than 18 years old 2= 18 to 35 years competed 3= 36 to 55 years completed 4= 56+	|___|
2.2	For adolescent only: How old are you?	1= 15 years old 2= 16 years old 3= 17 years old 4= 18 years old	|___|

2.3	What is your highest educational attainment?	0=None 1=Elementary (Grade 1-6) 2=Highschool (Grade 7-10) 3=Senior Highschool (Grade 11-12) 4=Higher Studies (College) 5=Other	|___|
2.4	For mother only: What is the age in years of your eldest child?	1= less than 5 years 2= 5 years to less than 10 years 3= 10 years to less than 15 years 4= 15 to less than 19 years	|___|
2.5	For mother only: What is the gender of your eldest child?	1=Male 2=Female 9=Other	|___|
2.6	For adolescent only: What is your gender?	1=Male 2=Female 9=Other	|___|

MOTHER/CARETAKER=> SECTION 2A. FOOD INSECURITY EXPERIENCE SCALE FOR HH (FIES) (8 QUESTIONS)

3A.0 –Food Insecurity Experience Scale (FIES) (12 months recall) Now I would like to ask questions about food. During the last 12 months was there a time when: [READ EACH ITEM AND LET THE RESPONDENT ANSWER]		1=Yes 2=No 98=Do not know 97=Do not want to answer
3A.1	You or other members in your household were worried about not having enough food to eat because of lack of money or other resources?	|___|
3A.2	Was there a time that you or other members in your household were unable to eat healthy and nutritious foods because of lack of money or other resources?	|___|
3A.3	Was there a time when you or other members in your household ate only few kinds of food because of lack of money or other resources?	|___|
3A.4	Was there a time when you or other members in your household skip a meal because of lack of money or other resources?	|___|
3A.5	Was there a time that you or other members in your household ate less than you thought you should because of lack of money or other resources?	|___|
3A.6	Was there a time when you or other members in your household ran out of food because of lack of money or other resources?	|___|

3A.7	Was there a time when you or other members in your household were hungry but did not eat food because of lack of money or other resources?	|___|
3A.8	Was there a time when you or other members in your household went without eating for a whole day because of lack of money or other resources?	|___|
ADOLESCENT=> SECTION 3B. Child FOOD INSECURITY EXPERIENCE SCALE FOR HH (10 QUESTIONS)		
2B.0 – Child Food Insecurity Experience Scale (CFIES) (12 months recall) Now I would like to ask questions about food. During the last 12 months, was there a time when: [READ EACH ITEM AND LET THE ADOLESCENT ANSWER]		1=Many times 2=1 or 2 times 3=Never 98=Do not know 97=Do not want to answer
3B.1	Did you worry that food at home would run out before your family was able to get more?	|___|
3B.2	Did you worry about how hard it is for your parents/guardians to get enough food for your family?	|___|
3B.3	Were you not able to get the food you wanted because there wasn't enough money?	|___|
3B.4	Did you skip a meal because your family didn't have enough food?	|___|
3B.5	Has the size of your meal been cut because your family didn't have enough food?	|___|
3B.6	Were you hungry but didn't eat because your family didn't have enough food?	|___|
3B.7	Did you feel tired or weak because your family didn't have enough food to eat?	|___|
3B.8	Did you feel embarrassed or ashamed because your family didn't have enough food?	|___|
3B.9	Did you feel sad or mad because your family didn't have enough food?	|___|
3B.10	Did you feel embarrassed or ashamed about any of the things you or your family had to do to get enough food?	|___|

SECTION 4 – CHILD DIET 24 MONTHS+: FOR ELDEST CHILD (16 QUESTIONS)

ONLY FOR CHILDREN AGED 24 MONTHS AND ABOVE

4.1	Has your/your child's consumption changed in the last 6 months because of Covid 19 pandemic?	1=Yes, increase consumption because of Covid-19 reasons 2=Yes, decrease consumption because of Covid-19 reasons 3=Yes, changed but not due to Covid-19

		3=No change	
	1. Rice, bread, potatoes, sweet potatoes, tuber, maize	|__||__|	
	2. Beans, pulse, lentils, chickpeas, *tofu*	|__||__|	
	3. Nuts and seeds	|__||__|	
	4. Dairy, milk, yogurt	|__||__|	
	5. Meat, poultry	|__||__|	
	6. Fish, Shrimp	|__||__|	
	7. Organ meats	|__||__|	
	8. Eggs	|__||__|	
	9. Dark green leafy vegetables	|__||__|	
	10. Other vitamin A rich fruits and vegetables (carrot, pumpkin, orange sweet potato, mango, papaya, dark green leafy vegetables, long beans)	|__||__|	
	11. Other vegetables (eggplant, onion, cucumbers, tomatoes)	|__||__|	
	12. Other fruits (banana, apples, pineapple, watermelon)	|__||__|	
	13. Sugar food consumption (sweets)	|__||__|	
	14. Sugary drinks (carbonated soft drink, sweetened tea, sweetened coffee	|__||__|	
	15. Savory and fried snacks	|__||__|	
	16. Oils or fats	|__||__|	
SECTION 5: ILLNESS AND CARE CHILDREN (3 QUESTIONS)			
5.1	Were you or your eldest child sick during Covid-19 pandemic?	0=No => **Proceed to section 6** 1=Yes 98=Do not know	|__||__|
5.2	Did you seek advice or treatment for the illness outside the home for you or your eldest child?	**0**= No **1**= Yes, Public Health facility => Section 6 **2**= Yes, Private clinic => Section 6 **3**= Yes, Traditional healers => Section 6 **4**= Yes, Herbal stores/ Herbalists => Section 6 **5**= Yes, Drugs store/pharmacy => Section 6 **6**= Yes, Friends/relatives => Section 6 **7**= Yes, Others => Section 6 **98** = Don't know => Section 6	|__||__|
5.3	What was the main reason for not seeking health care?	0=risk of getting C19 1=lack of money 2=absence of health services / hospitals, health centres are closed	|__|

	[DO NOT READ OUT THE RESPONSE OPTION. SELECT THE RESPONSE OPTION THAT BEST FITS THE INFORMATION PROVIDED BY THE RESPONDENT]	3=no caretaker to take the child to the health facility 4=health facility too far away 5=movement restrictions 6=denied access because it's not functioning 7=all members of the family too sick to move 8= I cannot take my child, or I cannot go to the health facility because my family doesn't agree. 8=others	
SECTION 6: SCHOOL FEEDING (1 QUESTIONS)			
6.1	Were you/your child able to get free school meals during the pandemic?	0=No, school closed 1=No, school open but no free meals 3=Yes => **Proceed to end of questionnaire** 98=Do not know	|__||__|

READ TO THE RESPONDENT:

Thank you very much for the interview. As a token of appreciation, we will now transfer [amount] to this phone number. Have a great day.

Impacts of COVID19 on the diets of young children, adolescents, and pregnant and lactating mothers in Eastern and Southern Africa region

FRONTLINE HEALTH WORKERS QUESTIONNAIRE (HWQ)

(THE QUESTIONNAIRE WILL BE ADMINISTRATED BY PHONE- CATI)

INFORMED CONSENT **PAGE 1**

SECTION 1 – RESPONDENT PROFILE (5Q) **PAGE 1**

SECTION 2 – NUTRITION PROMOTION AND IYCF SUPPORT (4Q) **PAGE 2**

SECTION 3 – VITAMIN A SUPPLEMENTATION (3Q) **PAGE 2**

SECTION 4 – MNPS SUPPLEMENTATION (3Q) **PAGE 2**

SECTION 5 –IFA SUPPLEMENTATION ADOLESCENT GIRLS (16 Q) **PAGE 3**

SECTION 6 –IFA SUPPLEMENTATION AND MATERNAL NUTRITION COUNSELLING PLW (16 Q) **PAGE 3**

SECTION 7 – PREVENTION AND TREATMENT OF ACUTE MALNUTRITION (6 Q) **PAGE 3**

IN BLUE=C19 QUESTIONS

Date|___||___|/|___||___|/|_2_||_1_| **(DD/MM/YY)** **TIME STARTED: |__||__|:|__||__|** **TIME ENDED: |__||__|:|__||__|**

INTRODUCTION

Hello, can I speak with <name of respondent>? Hi <name of respondent>, I am <name of enumerator> a researcher commissioned by UNICEF. Currently, we are conducting a survey to understand how Covid-19 has been impacting the delivery of nutrition services and collect information on how programmes adapted.

The interview will take approximately 15 to 20 minutes. Can I proceed with the interview now? <wait for answer> If yes, thank you very much! <if no, ask for a better time to do the interview>. All information that you are going to share will be treated with utmost confidentiality and will only be used for the purpose of the study. As a token of appreciation, we will send you [AMOUNT HERE] phone credit to this phone number after the interview. Can we start with the interview?

INFORMED CONSENT (3 QUESTIONS)			
A	Are you working as a frontline health worker?	0=No => **End the survey** 1=Yes	|___|
B	Have you been working for more than 1 year?	0=No => **End the survey** 1=Yes	|___|
C	Do you agree to participate in our study?	0=No => **End the survey** 1=Yes	|___|

SECTION 1 – RESPONDENT'S PROFILE (3 QUESTIONS)			
1.1	Are you working AT?	1=Health facility level 2=Community level 3=Both	|___|
1.2	Are you based in?	1= rural areas 2= small village 3= large town/city	|___||___|
1.3	What nutrition services are you mainly providing? [Multiple answers]	1=Nutrition / IYCF / maternal counselling and support including PMTC 2=Micronutrient supplementation 3= Prevention and treatment of acute malnutrition	|___|

		4= other =>end of questionnaire	
SECTION 2 - NUTRITION PROMOTION AND IYCF SUPPORT IF Q1.3=1 (4 QUESTIONS)			
2.1	Were counselling activities on maternal nutrition, breastfeeding and optimum complementary feeding discontinued during the pandemic?	0=No => next section 1=Yes, at health facilities 2=Yes, in the communities	|___|
2.2	What was the main reason for discontinuity?	1=Reduction in demand 2=Lockdown measures limited users' mobility 3=Lockdown measures limited providers mobility 4=Interruption of community engagement activities 5=Closure of services/facilities/postponement of services	|___|
2.3	What adaptations were used to provide counselling for women on maternal nutrition, breastfeeding and optimum complementary feeding in order to maintain or restart services? [Multiple answers]	1=Physical distancing at the clinic 2=Providing services through community platforms where feasible 3=Providing messages through radio, TV, print and social media 9=Other	|___|
2.4	What was the main alternative media used?	1=Radio, 2=Television, 3=Print media 4=Social media (Facebook, Whatsapp) 5=Poster 6=Health talk 7=SMS 9=Other	|___|

SECTION 3 – VITAMIN A SUPPLEMENTATION IF Q 1.3=2 (3 QUESTIONS)			
3.1	Were vitamin A supplementation (campaign and routine) for children suspended during the pandemic?	0=No => next section 1=Yes, campaign 2=Yes, routine	|___|
3.2	What was the main reason for discontinuity?	2=Lockdown measures limited users' mobility 3=Lockdown measures limited providers mobility 4=Interruption of community engagement activities 5=Closure of services/facilities/postponement of services 9=Other	|___|

3.3	What were the adaptations provided to maintain or restart supplementation (campaign and routine)?	0=Not yet re-started 1=Physical distancing at the clinic 2=Providing services through community platforms where feasible 3=Combining with vaccination campaign 9=Other	|___|
SECTION 4 – MNPS SUPPLEMENTATION IF Q 1.3=2 (3 QUESTIONS)			
4.1	Was MNPs supplementation for children suspended during the pandemic?	0=No=> next section 1=Yes, at health facilities 2=Yes, in the communities	|___|
4.2	What was the main reason for discontinuity?	1=Reduction in demand 2=Lockdown measures limited users' mobility 3=Lockdown measures limited providers mobility 4=Interruption of community engagement activities 5=Closure of services/facilities/postponement of services 9=Other	|___|
4.3	What were the adaptations provided to maintain or restart supplementation?	0= Not yet re-started 1=Physical distancing at the clinic 2=Providing services through community platforms where feasible 3=Providing larger supply 4=Prepositioning supplies closer to communities or facilities 9=Other	|___|
SECTION 5 – IFA SUPPLEMENTATION FOR ADOLESCENT GIRLS IF Q 1.3=2 (3 QUESTIONS)			
5.1	Was IFA supplementation for adolescent girls at school suspended during the pandemic?	0=No=> next section 1=Yes	|___|
5.2	What was the main reason for discontinuity?	1=Reduction in demand 2=Lockdown measures limited users' mobility 3=Lockdown measures limited providers mobility 4=School closure 5=Interruption of school outreach activities 9=Other	|___|
5.3	What were the adaptations provided to maintain or restart supplementation?	0=Not yet re-started 1=Physical distancing at school distribution site 2=Providing services through community platforms where feasible	|___|

		3=Providing larger supply to adolescents 4=Prepositioning supplies closer to communities or facilities 9=Other	
SECTION 6 –IFA/MMS SUPPLEMENTATION AND MATERNAL NUTRITION COUNSELLING PW IF Q 1.3=2 (3 QUESTIONS)			
6.1	Were IFA/MMS supplementation during the pandemic?	0=No=> next section 1=Yes, at health facilities 2=Yes, in the communities	|___|
6.2	What was the main reason for discontinuity?	1=Reduction in demand 2=Lockdown measures limited users' mobility 3=Lockdown measures limited providers mobility 4=Interruption of community engagement activities 5=Closure of services/facilities/postponement of services 9=Other	|___|
6.3	What were the adaptations provided to maintain or restart supplementation?	0=Not yet re-started 1=Physical distancing at the clinic 2=Providing services through community platforms where feasible 3=Providing messages through radio, TV, print and social media 4=Providing larger supply 5=Prepositioning supplies closer to communities or facilities 9=Other	|___|
SECTION 7 – PREVENTION AND TREATMENT OF ACUTE MALNUTRITION IF Q 1.3=3 (6 QUESTIONS)			
7.1	Was screening of children suspended during the pandemic?	0=No=> next section 1=Yes, at health facilities 2=Yes, in the communities	|___|
7.2	What was the main reason for discontinuity?	1=Reduction in demand 2=Lockdown measures limited users' mobility 3=Lockdown measures limited providers mobility 4=Interruption of community engagement activities 5=Closure of services/facilities/postponement of services 9=Other	|___|
7.3	What were the adaptations provided to maintain or restart prevention?	1=Physical distancing at the clinic 2=Providing services through community platforms where feasible 3=Use of Mother or family led MUAC	|___|

		4=Use of remote data collection to monitor screening done 9=Other	
7.4	Was treatment of acute malnutrition among children suspended during the pandemic?	0=No=> next section 1=Yes, at health facilities 2=Yes, in the communities	|___|
7.5	What was the main reason for discontinuity?	1=Reduction in demand 2=Lockdown measures limited users' mobility 3=Lockdown measures limited providers mobility 4=Interruption of community engagement activities 5=Closure of services/facilities/postponement of services 6=Stock-out of supplies 9=Other	|___|
7.6	What were adaptations provided to maintain or restart treatment?	1=Physical distancing at the clinic 2=Providing services through community platforms where feasible 4=Providing larger supply of RUTF/RUSF to beneficiary 5=Increasing stocks at district/facility level 6=Remote monitoring of inpatient data 7=Remote monitoring of supply management 9=Other	|___|

READ TO THE RESPONDENT:

Thank you very much for the interview. As a token of appreciation, we will now transfer [amount] to this phone number. Have a great day.

Annex 3: U Report polls

Study of Impact of COVID-19 on Diets

Hello, today I want to ask you about your diet since Covid-19. Please describe if you are:

- A. An adolescent 10-19
- B. A caregiver/parent of one or more children
- C. A health frontline worker
- D. None

For A: Poll 1 to 4

For B: Poll 5

For C: Poll 6

For D – thanks message and end of poll

POLL 1: Food insecurity experience scale

Intro message: Dear U-Reporter: Today UNICEF would like to ask you a few questions about your diet since the outbreak of COVID-19. Will you be happy to answer?

A=Yes
B=No

1.Are you currently attending schools, college or university?

A=Yes
B=No

2. How many times did you worry that food at home would run out before your family would get more?

A=Many times
B=Few times
C=Never
D=Don't know
E=Don't want to answer

3. How many times did you skip a meal because your family didn't have enough food?

A=Many times
B=Few times
C=Never
D=Don't know
E=Don't want to answer

4. Has the size of your meal been reduced because your family didn't have enough food?

A=Many times
B=Few times
C=Never
D=Don't know
E=Don't want to answer

5. How many times were you hungry but didn't eat because your family didn't have enough food?

A=Many times
B=Few times
C=Never
D=Don't know
E=Don't want to answer

6. How many times did you feel tired or weak because your family didn't have enough food to eat?

A=Many times
B=Few times
C=Never
D=Don't know
E=Don't want to answer

7. Were you able to get free school meals during the pandemic?

A. Yes, as usual
B. Yes, less than usual
C. No, not able to
D. Never get
E. Other

8. What were your concerns during the pandemic?
A. No concerns
B. Shortage of food
C. Food prices
D. Disruption of schools
F. Lack of work
G. Don't know

End message: Thank you so much for your answers. These questions were asked by UNICEF to find out how the diet of young people has changed**.**

POLL 2: Food groups consumption

Intro message: Hello. Today, we want to ask you few questions on how much you have eaten of the following foods since Covid-19. How much have you eaten the following:

1.Staple food (or cereal based food such as maize, sorghum, millet, rice, noodle, bread)

A. More
B. Less

C. Same
D. Never eat,
E. Do not know

2. Meat/fish/chicken or other meats

A. More
B. Less
C. Same
D. Never eat,
E. Do not know

3. Fruits and vegetables

A. More
B. Less
C. Same
D. Never eat,
E. Do not know

4. Legume/bean/nut such as beans and groundnuts

A. More
B. Less
C. Same
D. Never eat,
E. Do not know

5. Eggs

A. More
B. Less
C. Same
D. Never eat,
E. Do not know

6. Dairy products

A. More
B. Less
C. Same
D. Never eat,
E. Do not know

7. Sweetened beverages, sodas, sweet teas

A. More
B. Less
C. Same
D. Never eat,
E. Do not know

8. Sweet and savoury snacks

A. More
B. Less
C. Same
D. Never eat,
E. Do not know

9. Ready-made (processed) packaged foods (e.g. instant noodles)

A. More

B. Less
C. Same
D. Never eat,
E. Do not know

10. Ready-made foods/meals from street food vendors or fast food restaurants

A. More
B. Less
C. Same
D. Never eat,
E. Do not know

End message: Thank you so much for your answers. These questions were asked by UNICEF to find out how the food consumptions of young people have changed**.**

POLL 3: Food provisions

Intro message: Hello, Since COVID-19, I would like to ask you a few questions about where you are buying foods from. Are you or your family buying or getting food from:

1. Nearby small stores

A. More
B. Less
C. Same
D. Never used
E. Do not know

2.Open air markets

A. More
B. Less
C. Same
D. Never used
E. Do not know

3. Mobile or street vendors

A. More
B. Less
C. Same
D. Never used
E. Do not know

4.Supermarkets or grocery stores

A. More
B. Less
C. Same

D. Never used
E. Do not know

5.On-line delivery of groceries

A. More
B. Less
C. Same
D. Never used
E. Do not know

6.On-line delivery of ready-meals/food

A. More
B. Less
C. Same
D. Never used
E. Do not know

7.Welfare programmes/donations/food banks

A. More
B. Less
C. Same
D. Never used
E. Do not know

8.Since COVID-19, are you cooking and/or eating home prepared food?

A. More often
B. Less often
C. Same amount
D. Do not know

End message: Thank you so much for your answers. These questions were asked by UNICEF to find out how the food provision for young people have changed**.**

POLL 4: Exposure to information on diets

Intro message: Hello, Since Covid-19, I would like to ask you a few questions about the information on nutrition you received**.**

1. Has there been any change in the amount of advertising for soft drinks, fast food or snacks that you see?

A. More
B. Less
C. Same amount
D. Do not know

2. Did you hear or see any message on healthy diets/eating?

A. Yes
B. No => end of Q
C. Do not know

3.Are you able to apply these messages for healthy diets/eating?

A. Yes
B. No
C. Do not know

4. Where did you get that information?

A. TV
B. Radio
C. Social media
D. Messenger, Whatsapp, viber, line
E. Website
F. At school
G. At health facility
H. Other

End message: Thank you so much for your answers. These questions were asked by UNICEF to find out how the information received by young people on nutrition has changed**.**

Poll 5: Change in children's consumption (for caregivers/parents of children)

Intro message: Hello.
Time to eat! How has COVID-19 has affected your family's nutrition?

1. Since COVID-19, my children eat

A. More meals
A. Less meals
B. Same amount
C. Don't know

2. Since COVID-19, my children

A. Skipped a meal
B. Snacked less
C. Ate smaller portions

3. Since COVID-19, I

D. Ate less so that children in the household could eat
E. Bought more fast foods
F. Bought less fast foods

4. What were the main reasons?

A. No money
B. Cost of foods too high
C. Foods not available
D. We could not go to the shop
E. Not hungry

5. **Since COVID-19, have you and your children experienced hunger?**

   A. Yes
   B. No

6. **Since COVID-19, my children have eaten:**
   A. A greater variety of foods
   B. Less variety of foods
   C. Same variety as before

7. **Since COVID-19, the quality of food available has:**
   A. Increased
   B. Decreased
   C. Stayed the same
   D. Not sure

8. **Since COVID-19, my children have eaten fast foods or street foods:**

   A. More often
   B. Less often
   C. About the same as before
   D. We do not eat fast foods or street foods

End message: Thank you so much for your answers. These questions were asked by UNICEF to find out how children's diet has changed**.**

Poll 6: Change in nutrition services delivery (for frontline workers)

Tell us about the changes you experienced during Covid-19

1. **Do you usually do any of these activities?**
   A. Nutrition / IYCF counselling and support
   B. Micronutrient supplementation
   C. Prevention, screening and treatment of acute malnutrition

2. **Do you usually work at?**
   A. Health facility
   B. Community
   C. Both

3. **Are you based in?**
   A. Rural areas
   B. Community level
   C. Large town/city

4. **During Covid-19, did you have to stop any aspects of your work?**
   A. Yes
   B. No

5. **What were the activities that were discontinued?**
   A. Counselling
   B. Communities outreach
   C. Supplementation
   D. Screening for acute malnutrition
   E. Treatment of acute malnutrition
   F. All

6. **What were the main reasons?**
   A. Less demand
   B. Lockdown measures
   C. Less or no community engagement or outreach
   D. Closure of services
   E. Stock out of supplies
   F. Other

7. **What were the main adaptations provided?**
   A. Physical distancing
   B. Use community platforms
   C. Use of other platforms
   D. Providing larger supplies
   E. Use of mother led MUAC
   F. Use of PPE

8. **How were Covid-19 related IYCF messages given to caregivers?**

   A. Radio
   B. Television
   C. Via telephone/SMS
   D. On Whatsapp / other social media
   E. Print media / poster
   F. Face to face talk

End message: Thank you so much for your answers. These questions were asked by UNICEF to find out how delivery of nutrition services has changed due to Covid-19.

Annex 4: IOGT polls

Survey Information	
Survey Title	ESAR diets survey
Requesting section / programme	Nutrition
Participating Partners (UN and Non-UN)	UNICEF
Stakeholder Group	Adolescents & youth
Target country(ies)	Burundi, Malawi, Kenya
How will this survey improve the lives of participants?	We will understand better how diets have changed and will be able to provide targeted messages
Anticipated Feedback Loop to Respondents	Information on healthy eating

Important Guidance for Requesting Programmes:
IoGT Targets Parents & Caregivers, Frontline Workers and Service Providers, and Adolescents and Youth. Survey questions for public audiences should not exceed 7 questions composed with a 6th grade reading level. For Frontline workers and service providers, questions should not exceed 10. Promotional text will appear on a banner on the IoGT homepage in participating contries. It should not exceed 50 characters and encourage users to click or select the link.

Number	**Format**	**English** *Original Language*	**Swahili - Kenya** *Translation*	**Kirundi - Birundi** *Translation*	**Chichewa - Malawi** *Translation*
Sample Promo Text		COVID-19 & Food: Share your experience!			
Q1	Radio Buttons	Since COVID-19, were you not able to get the food you wanted because there wasn't enough money?			
Help Text					
		Many times			
		1 or 2 times			
		Never			

		Don’t want to answer			
		Don't know			
Q2	Radio Buttons	Since COVID-19, did you skip a meal because your family didn’t have enough food?			
Help Text					
		Many times			
		1 or 2 times			
		Never			
		Don’t want to answer			
		Don't know			
Q3	Radio Buttons	Since COVID-19, has the size of your meal been cut because your family didn’t have enough food?			
Help Text					
		Many times			
		1 or 2 times			
		Never			
		Don’t want to answer			
		Don't know			
Q4	Radio Buttons	Since COVID-19, were you hungry but didn’t eat because your family didn’t have enough food?			
Help Text					
		Many times			
		1 or 2 times			
		Never			
		Don’t want to answer			
		Don't know			

Q5	Radio Buttons	Since COVID-19, did you feel tired or weak because your family didn't have enough food to eat?			
Help Text					
		Many times			
		1 or 2 times			
		Never			
		Don't want to answer			
		Don't know			
Q6	Radio Buttons	Since COVID-19, how much have you eaten fast foods or street foods?			
Help Text					
		More			
		Less			
		Same			
		Never eat			
Q7	Radio Buttons	Since COVID-19, how much have you eaten processed foods?			
Help Text		Processed foods are food items that had a series of operations performed to change or preserve them. Processed foods are those that typically come in a box or bag and contain more than one item on the list of ingredients.			
		More			
		Less			
		Same			
		Never eat			

Survey Information	
Survey Title	ESAR diets survey
Requesting section / programme	Nutrition
Participating Partners (UN and Non-UN)	UNICEF
Stakeholder Group	Parents & Caregivers
Target country(ies)	Burundi, Malawi, Kenya
How will this survey improve the lives of participants?	We will understand better how diets have changed and will be able to provide targeted messages
Anticipated Feedback Loop to Respondents	Information on healthy eating

Important Guidance for Requesting Programmes: IoGT Targets Parents & Caregivers, Frontline Workers and Service Providers, and Adolescents and Youth. Survey questions for public audiences should not exceed 7 questions composed with a 6th grade reading level. For Frontline workers and service providers, questions should not exceed 10. Promotional text will appear on a banner on the IoGT homepage in participating contries. It should not exceed 50 characters and encourage users to click or select the link.

Number	**Format**	**English** *Original Language*	**Swahili - Kenya** *Translation*	**Kirundi - Birundi** *Translation*	**Chichewa - Malawi** *Translation*
Sample Promo Text		Time to eat! How has COVID-19 has affected your family's nutrition?			
Q1	Radio Buttons	Since COVID-19, me and my children eat			
Help Text		Select the most appropriate answer			
		More meals			
		Less meals			

		Same amount			
		Don't know			
Q2	Check Boxes	Since COVID-19, me and/or my children			
Help Text		Select all that apply			
		Skipped a meal			
		Snacked less			
		Ate smaller portions			
		Ate less so that children in the household could eat			
		Bought more fast foods			
		Bought less fast foods			
Q3	Check Boxes	If you and your children ate less, what were the main reasons?			
Help Text		Select all that apply			
		Not applicable			
		No money or other resources			
		Because the cost of many foods increased			
		Because many foods were not available where we live			
		Because we could not go to the shop due to fear of COVID-19			
		Because we could not go to the shop due to restrictions			
		Because we were not hungry			
Q4	Radio Buttons	Since COVID-19, have you and your children experienced hunger?			
Help Text					
		Yes			

		No			
Q5	Radio Buttons	Since COVID-19, my children and I have eaten:			
Help Text					
		a greater variety of foods			
		Less variety of foods			
		Same variety as before			
Q6	Radio Buttons	Since COVID-19, the quality of food available has:			
Help Text					
		Increased			
		Decreased			
		Stayed the same			
		Not sure			
Q7	Radio Buttons	Since COVID-19, my children and I have eaten fast foods or street foods:			
Help Text					
		More often			
		Less often			
		About the same as before			
		We do not eat fast foods or street foods			

Survey Information	
Survey Title	ESAR diets survey
Requesting section / programme	Nutrition
Participating Partners (UN and Non-UN)	UNICEF

Important Guidance for Requesting Programmes: IoGT Targets Parents & Caregivers, Frontline Workers and Service

Stakeholder Group	Frontline workers & service providers
Target country(ies)	Burundi, Malawi, Kenya
How will this survey improve the lives of participants?	We will understand better challenges faced by health workers and will be able to provide targeted messages
Anticipated Feedback Loop to Respondents	Information on healthy eating

Providers, and Adolescents and Youth. Survey questions for public audiences should not exceed 7 questions composed with a 6th grade reading level. For Frontline workers and service providers, questions should not exceed 10. Promotional text will appear on a banner on the IoGT homepage in participating contries. It should not exceed 50 characters and encourage users to click or select the link.

Number	**Format**	**English** *Original Language*	**Language** *Translation*	**Language** *Translation*	**Language** *Translation*
Sample Promo Text		Share how COVID-19 has impacted your work supporting patient nutrition			
Q1		Please select all services that you provide in your role as a health worker:			
Help Text		Select all that apply			
		Nutrition / IYCF counselling and support			
		Micronutrient supplementation			
		Prevention, screening and treatment of acute malnutrition			

Q2		Where do you work?			
Help Text		Select all that apply			
		Hospital			
		Health facility			
		Community			
Q3		Do you work in a rural, peri-urban or urban community?			
Help Text					
		Rural			
		Peri urban			
		Urban			
Q4		Please select any service below which has been discontinued during COVID-19:			
Help Text		Select all that apply			
		Nutrition counselling			
		Communities outreach			
		Supplementation			
		Screening for acute malnutrition			
		Treatment of acute malnutrition			
		All work stopped / clinic was closed			
Q5		If you discontinued any of the services above, please select the reason(s) why the service was cancelled below.			

Help Text		Select all that apply			
		Reduction in demand			
		Lockdown measures			
		Interruption of community enagagement activities			
		Interruption of schools outreach			
		Closure of services			
		Closure of schools			
		Stock out of supplies			
		Other			
Q6		During COVID-19, how were breasteeding and feeding practices counselling messages given to caregivers?			
Help Text		Select all that apply			
		Not applicable			
		Radio			
		Television			
		Via telephone/SMS messages			
		On Whatsapp / other social media			
		Print media / poster			
		Face to face group talk			
		Face to face individual talk			
		Other			