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Complementary Feeding Practices: Using Trial for Improved Practice (TIPs) to Improve Complementary Feeding in Migori and Kisumu, Kenya

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Abbreviations

BFCI	Baby Friendly Community Initiative
CHV	Community Health Volunteer
DHS	Demographic and Health Survey
EBF	Exclusive Breastfeeding
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
IDI	In-depth Interview
IYCN	Infant and Young Child Nutrition
JSI	John Snow Inc.
KG	Kilogram
KNBS	Kenya National Bureau of Statistics
KSh	Kenyan Shillings
MCSP	Maternal and Child Survival Program
MIYCN	Maternal, Infant, and Young Child Nutrition
OFSP	Orange-Fleshed Sweet Potatoes
SBCC	Social and Behavior Change Communication
TBSP.	Tablespoon
TIPs	Trials of Improved Practices
USAID	United States Agency for International Development
WHO	World Health Organization

List of Kenyan Foods Given to Children in Kisumu and Migori Counties

Food	Description
Omena	<i>Silver cyprinid</i> fish or Lake Victoria sardine
Osuga	African nightshade leaves
Kunde	Cow peas or black eye peas leaves
Sutsa	Spider plant leaves
Apoth	Jute mallow leaves
Githeri or Nyoyo	Mixture of maize and beans cooked together
Ugali	A dough-like porridge cooked made from flour (maize, millet, sorghum, cassava) cooked in boiling water to a firm consistency
Mandazi	Fried dough made with wheat flour
Chapati	Flatbread made from wheat flour
Wimbi	Finger millet
Simsim paste	Paste made from roasted sesame seeds

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The Maternal and Child Survival Program

The Maternal and Child Survival Program (MCSP) is a global USAID cooperative agreement to introduce and support high-impact health interventions in 25 priority countries with the ultimate goal of ending preventable maternal and child deaths within a generation. In Kenya, MCSP promotes a comprehensive, integrated package of sexual and reproductive, maternal, neonatal, and child health that includes nutrition, malaria, immunization, hygiene, water and sanitation, community health, and gender approaches.

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Chapter 1: Background, Methods and Objectives

BACKGROUND

Appropriate nutrition is critical to support rapid growth and development, and high rates of nutritional requirements in early in life (Mitchell, 2008; Lancet, 2014). The period from birth to two years of age is the “critical window” of opportunity for optimal growth, health, and development. Insufficient quantities and inadequate quality of complementary foods fed to young children, cultural beliefs that influence child-feeding practices and high rates of infections have a detrimental impact on health and growth in these important years, which contribute to stunting and other forms of malnutrition. (WHO, 2008, Onyango *et al.*, 1998; Yakoob and Bhutta, 2011).

WHO recommendations emphasize timely introduction of nutritionally adequate, appropriate, and safe foods for all children, and further indicate that a variety of foods should be consumed to ensure children’s nutrient needs are met (WHO, 2008; Dewey, 2003). The recommendations by WHO do not vary widely across countries, but their application is driven by the socioeconomic status of given settings.

In Kenya, trend data indicate that malnutrition is gradually reducing between 2009 and 2014 (Kenya National Bureau of Statistics [KNBS], 2010; 2014). Stunting has also decreased from 35% to 26%, and wasting from 7% to 4% (KNBS, 2014). Despite these improvements, Kenya is still among the 36 countries that carry 90% of the global burden of stunting. (Black *et al.*, 2013). The one of the key contributing factors high rates of malnutrition in Kenya are poor IYCN practices. According to the 2014 KDHS, only 21% of children 6 to 23 months old are consuming the minimum acceptable diet in Kenya (KNBS, 2014). In addition, only 43% of children aged 6 to 35 months consume iron-rich foods (Kothari, 2010). These indicators vary across different regions in Kenya. In western Kenya, only 71% of children aged 6 to 23 months were fed the recommended minimum number of meals and snacks for their age; and nearly half of young children were fed adequately diverse diets (KNBS, 2010). These data underscore the need to address drivers of inadequate infant and young child nutrition (IYCN) practices, including cultural beliefs and misperceptions, related to IYCN.

Jhpiego leads the MCSP Kenya Country Program, currently in Program Year 3 of implementation, in collaboration with PATH, Save the Children and John Snow, Inc. (JSI). In Kenya, MCSP works to strengthen key nutrition interventions at the national, county and sub-county levels, specifically in the two priority counties, Kisumu, and Migori. Nutrition programming, within MCSP, continues to build off activities initiated in Program Year 1 and 2, including the development and finalization of the Baby Friendly Community Initiative (BFCl) implementation guidelines and external assessment protocols. In Program Year 3 – as part of the rollout and expansion of BFCl, as well as integration of nutrition into other sectors – MCSP is supporting the development of community recipe books and materials for complementary feeding for the BFCl community units. To support the implementation of these activities, MCSP conducted a formative assessment to collect information on behaviors and perceptions concerning child nutrition practices, with a focus on complementary feeding practices for children 6-23 months of age in the two counties to inform the process.

AIM AND KEY OBJECTIVES OF THE FORMATIVE ASSESSMENT

The primary aim of this formative assessment was to gain an understanding of key motivating factors and barriers to complementary feeding among mothers of children 6 to 23 months of age in MCSP-supported areas in Migori and Kisumu counties, in western Kenya.

The assessment sought to achieve the following objectives:

1. Identify underlying individual (mothers), network (family influencers), community (cultural norms, beliefs, attitudes) and related health service delivery issues that contribute to the poor complementary feeding practices.
2. Identify and address gaps in complementary feeding practices using culturally tailored recommendations through Trials of Improved Practices (TIPs).
3. Recommend key actions and recipes for improving complementary feeding practices for children 6-23 months of age, which can be used in cooking demonstrations integrated through BFCI.

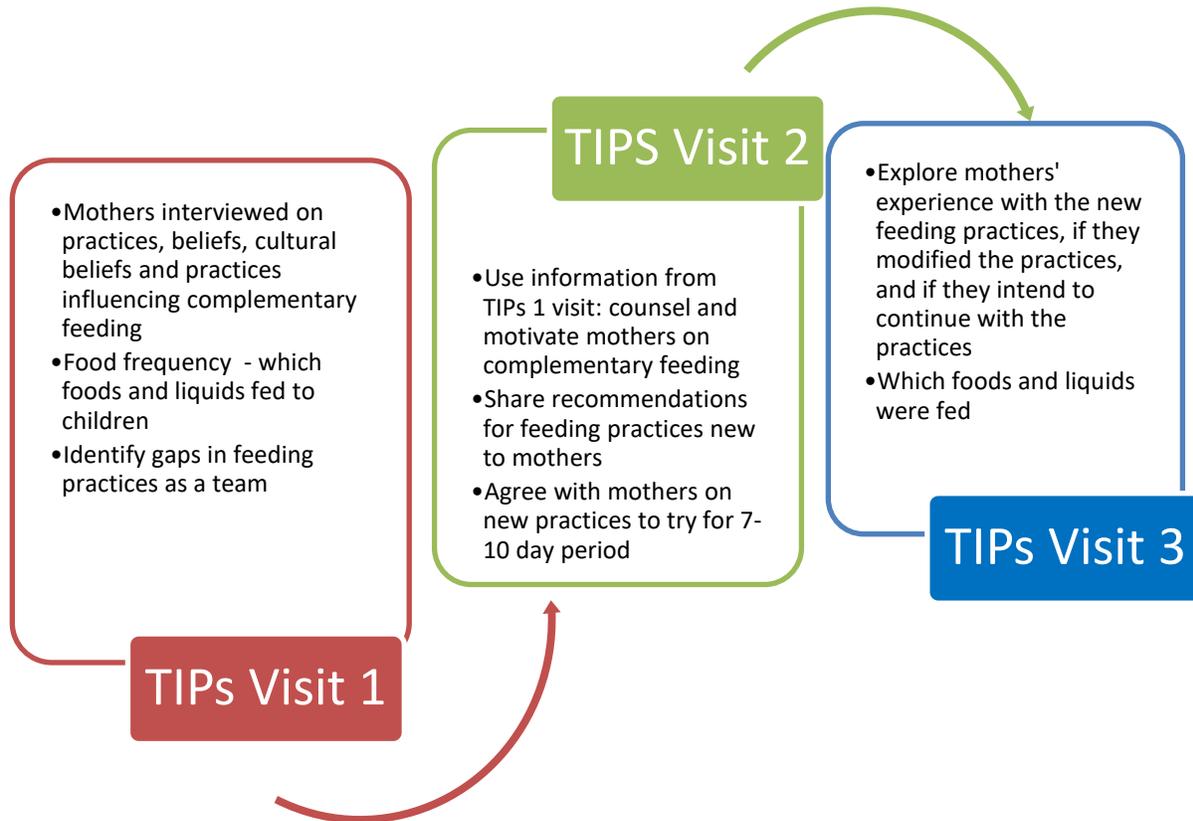
METHODS

Trials of Improved Practices (TIPs)

In this assessment, TIPs – a formative research technique using a participatory approach to test actual practices – was utilized.¹ Using TIPs, program planners test actual practices, which are used to inform on program design and implementation. TIPs consists of a series of three visits in which the interviewer and the formative assessment participant explore and analyze current practices, discuss what could be improved, and together reach an agreement on one or a few solutions to test over a trial period. The interviewer and the participant then assess the experience together at the end of the trial period. The results are used to inform on program design and implementation, and ultimately improve practices and outcomes at the individual level. Figure 1 illustrates how TIPs was adapted for this assessment.

¹ TIPs was developed by the Manoff Group.

Figure 1: TIPs involves discussing with, counseling, and motivating mothers to make feasible modifications to feeding practices.



On TIPs visit 1, mothers were interviewed using the in-depth interview (IDI) tool, to identify cultural beliefs and perceptions in relation to complementary feeding practices, perceptions of healthy growth, hunger and satiety, styles of feeding (including responsive feeding), and assess access to food and shopping patterns.

During this first visit, a food frequency questionnaire was applied, food preparation methods explored, and hygiene practices observed.

The team analyzed the information collected from the IDI and the food frequency interview to identify gaps in complementary feeding practices. The team compiled a list of recommendations – ranging from three to five recommendations – for the mothers to try out within seven to ten days.

During TIPs visit 2, the participants in the formative assessment were informed on the results of the interview, pointing out clearly the gaps in feeding practices. Then assessment team discussed the list of recommendations to try out and agreed with the mother on which recommended, feasible feeding practices they were willing to implement over a period of seven to ten days².

² Seven to ten days was viewed to be sufficient period for the mothers to try out the new feeding practices, and for them to adequately recall their experiences during the trial period.

After seven to ten days, mothers were visited to gain an understanding of their experience with TIPs (Visit 3). During TIPs visit 3, participants were asked to share their experience with the new practices, giving details on whether they successfully implemented the changes or not. Mothers also shared whether they made any modifications to the recommended practices, which modifications, and why these modifications were made. In addition, the participants shared their opinions on the changes, if any, that they observed with the child as a result of the new feeding practices. Lastly, the mothers shared their opinion on whether they would continue with the new practices, and gave their reasons for continuation or cessation of accepted practices.

Thirty mothers of children ages 6-23 months participated in the formative assessment. In Migori, 15 mothers were selected from Awendo, Suna East, Suna West, Nyatike, Kuria East, and Kuria West sub-counties (see Table 1). In Kisumu, 15 mothers were selected from all the sub-counties – Kisumu East, Kisumu West, Seme, Nyando, Nyakach, and Muhoroni.

Four focus group discussions (FGDs) were carried out with grandmothers and fathers of children ages 6-23 months (see Table 1). In Kisumu, there was one FGD with grandmothers in Seme and one FGD with fathers in Kisumu East. In Migori, there was one FGD with grandmothers in Suna East and one FGD with fathers in Uriri. Each FGD had 8-12 participants.

Table 1: Distribution of formative assessment participants in Migori and Kisumu.

Participants	Data Collection Methods	Sites
Mothers with children 6--23 months	30 IDIs: <ul style="list-style-type: none"> • 10 mothers of children 6-8 months • 10 mothers of children 9-11 months • 8 mothers of children 12-17 months • 2 mothers of children 18-23 months 	Kisumu: 1-4 IDIs per age group (15 IDIs total) Migori: 1-4 IDIs per age group (15 IDIs total)
Grandmothers	2 FGDs involving a total 23 participants	Kisumu: 1 FGD (15 participants) Migori: 1 FDG (8 participants)
Fathers of children 6-23 months	2 FGDs involving a total 18 participants	Kisumu: 1 FGD (9 participants) Migori: 1 FDG (9 participants)
Total	71 participants	Kisumu: 39 Migori: 32

The analysis of these data included five steps. First, the audio-recordings were transcribed and translated from the local Dholuo language into English. Then reading and re-reading of the transcripts was

undertaken to allow familiarization with the text, brief notes made to document the major issues emerging. The data from the TIPs methods and FGDs were collated and triangulated, and a thematic analysis applied to tease out emerging themes. This was followed by a line-by-line, microanalysis using open coding. The codes were assembled into potential themes and a thematic chart and codebook developed in MS Word. The codes were based on themes that arose from the qualitative transcripts (FGD and IDI).

Chapter 2: Findings From TIPS I – Cultural Perceptions, Beliefs and Practices Around Complimentary Feeding

PERCEPTIONS OF HEALTHY GROWTH

In both Migori and Kisumu, mothers were asked to describe their ideas about **child health** regarding what they envisioned as a ‘healthy baby’. **Most mothers described a healthy baby based on their physical appearance and hygiene.** The terms used to describe a healthy baby include ‘fat’, ‘plump’, ‘heavy’, ‘good skin’, ‘soft skin’, ‘clean’, ‘good body’, among other descriptions. These two mothers from Kisumu help to illustrate this point:

“A healthy child has a good body... his body is clean and generally good... a good body in that, the child doesn't fall sick often and is physically strong.” (Mother/Kisumu/Nyando/15 months)³

“What comes to my mind is that the baby is plump, has soft skin and is clean.” (Mother/Kisumu/Kisumu West/10 months)

A healthy baby was deemed to be happy, playful, feeding well and sleeping well, as the mothers below express:

“First, every time I go to the clinic, there is always an increase in his weight. Secondly, the baby is playful and cheerful. Thirdly, he sleeps soundly when I put him to bed. He does not cry a lot when I try putting him to sleep. Also, he does not go picking stuff from the ground such as soil and eating them. Additionally, he has no spots or rashes on his skin. Lastly, his feeding is normal.” (Mother/Migori/Awendol/12 months)

“When the baby is feeding well... A baby is feeding well if he/she is fed on a balanced⁴ diet, and does not refuse to eat when being fed.” (Mother/Kisumu/Kisumu West/10 months)

Further, the respondents were asked to describe what they perceived to be an unhealthy child. Most of the respondents generally described **an unhealthy child as one with a ‘bad body’, ‘poor eating habits’, ‘weak’, and ‘sickly’.**

“The baby doesn't look happy; and he has a bad body... A bad body is when the baby is always moody, appears sickly and is not fed well.” (Mother/Kisumu/Kisumu West/10 months)

To ensure that children are healthy, most women suggested that **mothers need to breastfeed their children, give a balanced diet and maintain good hygiene,** as this mother from Kisumu says:

“I can raise the baby in hygienic conditions, feed him well and ensure that he plays in a clean environment. The baby is not supposed to be touching or picking things from the ground. The baby's diet must also be balanced.” (Mother/Kisumu/Kisumu West/10 months)

Healthy Growth:

In describing what they thought healthy growth for their children entailed, most respondents conveyed an **image of a child going through the various motor development stages/milestone at the perceived “right time”/ on schedule.** These stages include sitting, crawling, teething, walking, and talking among others, as illustrated in the quotes below:

³ The identity of the respondents on each quote indicates mother/county/sub-county/age of the child in months.

⁴ Balanced diet generally means diet including foods from the three main blocks of food – carbohydrates, protein and vitamins.

“Just as I had said earlier, ever since I gave birth to him I have not seen him lay down [stay in bed] because of serious sickness. He just goes on with his movement coordination normally, he breastfeeds, he is eating as usual. Like now, he was sitting and has started crawling like a baby should normally....So I can say he has good growth since he is passing through each and every stage so well....Also, when I go to the clinic; he is adding weight, height and therefore I can say he has a good growth.” (Mother/Kisumu/Kisumu West/7 months)

“If the baby doesn’t weigh normally...looks weak generally. If the baby cannot sit properly even when he is of sitting age. The baby’s appetite may also be low.” (Mother/Migori/Awendo/12 months)

Another way the respondents say could gauge how well their children were growing was their weight and height gain at each stage of review at the health facility. All the women said **they were updated on their children’s growth when they attended child wellness clinics, where the children’s weight and height were measured and documented.** The expectation was that the child would have gained a given amount of weight and height at each health clinic visit, and if that was not the case, they were advised on how to improve the child’s health and growth.

“Yes, if the child is gaining both weight and height, it shows that he is growing well.” (Mother/Kisumu/Nyando/15 months)

“Good growth, according to how I understand, is one who...There are times we take the baby to the clinic. They take both weight and height measurement and if they are adding systematically every month, then the baby is growing.” (Mother/Kisumu/Kisumu East/6 months)

“I can tell when baby is systematic with coordinating the movements. That is, from sitting to crawling to walking. Then I can be sure that the baby is growing up well as expected... or should I take the baby for clinic and the weight keeps fluctuating. For instance, there is a time I took her to the hospital and the previously she weighed higher compared to the latest. In that case I was alarmed that the growth was not ok.” (Mother/Migori/Nyatike/12 months)

In Migori, four respondents indicated that **pregnancy when the index child is still young leads to stunting and general poor health. In their experience, their children were weak, developed poorly and fell sick often because mothers became pregnant while still breastfeeding.** In fact, one of the respondents indicated that the child’s poor health prompted her to test for pregnancy, which turned out positive. One mother shows this below:

“I tend to think that my baby’s small size is a problem; a problem caused by the accident... I accidentally conceived.... Yes I am pregnant....I think the pregnancy has prevented the baby from developing. That is why she is still small in size and has not learnt how to walk. The baby is also not feeding well.” (Mother/Migori/Suna West/19 months)

Respondents in both Kisumu and Migori indicated that **there are ways in which mothers can contribute to the healthy growth of their children. These include feeding the child on a balanced diet, maintaining proper hygiene, actively engaging the child in conversation and other activities,** as seen below.

“I will change the way I handle the baby. For instance, if the slow development is being caused by the baby’s refusal to eat, I will start forcing the baby to eat, or start giving him foods that he likes to eat.” (Mother/Kisumu/Kisumu West/10 months)

“I feed the baby regularly to ensure that he adds weight, height and girth. I also talk to the baby when he is doing something that could compromise his health. Talking to the baby also makes him feel like a person,

besides making him active because he has to constantly turn in the direction of the sound.”
(Mother/Kisumu/Nyando/7 months)

PERCEPTIONS AND PRACTICES OF COMPLEMENTARY FEEDING

Introduction of Complementary Feeding

Of the 30 mothers interviewed, 24 indicated that they exclusively breastfed (EBF) their children until the child was six months old, after which **they introduced complementary foods** based on recommendations received at the health facility. Mothers relayed that, according to the advice received, **EBF boosts the child’s immunity and reduces illnesses**, as the respondent below shows:

“When we are expectant, at the clinic we are told the baby should be introduced to other foods when he/she is six months. We were also informed that breast milk is good to improve the baby’s immunity so that was why we needed to breastfeed for the first six months. I never used to believe their advice and I could introduce the baby to other foods as early as a month old, but this time round I decided to follow their advice. I have truly seen the difference because my son is not sickly and when I introduced him to other foods at six months he ate. So, I told myself that this could be working.” (Mother/Kisumu/Kisumu West/7 months)

Another reason for initiating complementary feeding at six months of age, was that **breastmilk was not enough to satisfy the child**. Most mothers indicated that their children’s appetite increased with age, and by six months, most of them could not produce enough milk to satisfy the children.

“[I] started to give her food because of her age. I felt that she was old enough to start eating such foods... Also, breast milk wasn’t enough for her.” (Mother/Kisumu/Nyakach/8 months)

“Why I started giving other foods? I was producing less milk. ... The baby was not getting satisfied after breastfeeding.” (Mother/Migori/Nyatike/6 months)

Most participants indicated that besides receiving advice from the health facility, they also determined the timing to start complementary feeding due to cues from children as children were crying /asking for whatever foods the mother was eating, and when given, mothers perceived their “readiness” due to their ability to “easily grab and eat” offered foods.

“Whenever I was eating and carrying her at the same time, she showed signs that she wanted whatever it was that I was eating.” (Mother/Kisumu/Nyakach/8 months)

A few women (5 of the 30 interviewed) initiated mixed feeding before the age of six months, whereby in addition to breastfeeding, they gave other foods and liquids to the child. All of the mothers who did mixed feeding relayed that they faced difficult circumstances that led to early cessation of EBF. For example, one woman in Migori suffered a blood clot and could not continue to breastfeed.

“I started with cow milk. I also fed him on porridge. One of the results of doing this was that my baby could not even stand properly. But now at one year, the baby is strong, healthy and has started walking. I started receiving lessons on childcare during pregnancy. When I delivered, I started breastfeeding the baby but two weeks later I was diagnosed with blood clot and I had to suspend breastfeeding. Even after I recovered, I did not revert to breastfeeding but instead continued to feed the baby with cow milk. I would buy the milk from a nearby homestead in the evening and boil it. In the morning, I would remove the cream layer and add lots of water to the milk before feeding it to the baby. At three months, I started feeding the baby on fruit juice from oranges, mangoes and pawpaw [papaya]. At five months, I went to the hospital to see a doctor and I was given porridge flour to feed the baby. At six months, Mama SASHA (Project) gave me [orange-fleshed sweet] potato seedlings which I cultivated. The potatoes took three months to mature. I now feed the baby on these [orange-fleshed

sweet] potatoes three times a week. I simply boil the potatoes, mash them into soft paste and add some milk before feeding the baby.” (Mother/Migori/Awendo/12 months)

Typical First Foods and Food Preparation for Children at 6-8 Months of Age

All mothers indicated that they **started complementary feeding with thin and semi solid foods, such as porridge and cow’s milk**. While a few bought ready-made commercial porridge flour from the store, most of the participants indicated that they mixed and ground their own flour according to their own preferences. **Most mothers who fed their children on ready-made, commercial porridge did not seem to know all the ingredients contained in the flour, and acknowledged that they did not carefully read the labels on the package**. In most cases, the mothers stopped giving the store-bought porridge after a while, because it was very expensive and perceived not to be thick enough to “satisfy” the child.

“I stopped Baby Porridge ⁵ and changed to milling my own flour because it was expensive. That box was around one hundred and something Kenyan shillings (KSh)...and could only last him for almost one week. It was expensive for me. When I mill my own flour, it lasts long. It is also thick compared to Baby Porridge”
(Mother/Kisumu/Kisumu East/6 months)

“I used packed flour called Famila... bought in the shops... I used to buy the one written ‘pure millet’. I do not know for sure that it contained only millet. (Giggles) That’s what was written on the packet.”
(Mother/Kisumu/Kisumu West/10 months)

In some cases, mothers also bought already mixed flour from the market to prepare porridge for their children, which was freshly ground and mixed by the small shop vendors. The seller, whose perception of what was nutritious determined the composition of the flours, determined the ingredients of such flour. The flour obtained at the market more often contains many ingredients (e.g. millet, maize, soya, *omena*, sorghum), most of which are sourced locally. Most of the mothers who buy these flours do not feel the need to know which flours are contained in the mixed flour as they trust the traders to have good judgment on issues of nutrition. The women who prefer these market flours cite affordability and flexibility in the proportions of the ingredients sold. For example, women can buy small portions (less than quarter a kilo) for as little as KSh 20, which they can afford at one given time.

Some mothers also purchase ingredients and make their own flour mixture at home. Mothers often use several ingredients, including grains such as sorghum, millet, cassava, maize, peanuts, *omena*, soya, nuts and amaranth seeds. In most cases, mothers used more than two ingredients for the porridge flour. Most women were not able to describe the exact measures of each ingredient in the flour, except with descriptions such as “just enough”, “a little”, “same amount for all other ingredients”. As described by one mother:

“So, I prepared ‘Baby Porridge’ and started giving him....But with time I started milling the flour for him. I would use groundnuts, rice, millet and sorghum. I personally buy the cereals [from the local market], grind them and ...clean the sorghum to remove the stones. I put it out to dry then I take to the miller. The proportions? (giggles) I do use one ‘blueband’ [a small metallic or plastic container used for measuring grains whose content is equivalent to 250 grams), which is KSh 40.00. I also add 1 kilogram (kg) of sorghum, 1kg of millet and a quarter of rice (250g) that is a quarter Gorogoro [2kg container used in the market to sell cereals].”
(Mother/Kisumu/Kisumu East/6 months)

⁵ This is a commercial brand of porridge flour.

The porridge prepared by mothers who make their own flour by mixing the flour in cold water, and pouring the mixture in boiling water and letting it simmer for five to seven minutes. Most mothers indicated that they added milk in the porridge to make it “*nutritious and tasty*”. It is also common to add some (a teaspoon or less) sugar to taste. Most participants did not ferment⁶ the porridge because they believed that it would be too sour for the child’s delicate palate. Some women in Migori believe fermented porridge leads to diarrhea in children.

At ages 6-8 months, soup (broth) from various foods such as fish, omena, traditional vegetables, chicken, sukuma wiki, spinach, cabbage and beef are given as an accompaniment for *ugali* and potatoes. Most respondents indicated that **they preferred to give broth from these foods instead of the actual foods because the children did not have teeth to chew the foods**. At 6-8 months of age, potatoes, *ugali* and green bananas are boiled and mashed into a paste to enable easy swallowing for the children.

Traditional vegetables include *apoth* (jute), *osuga*, and spinach as the preferred vegetable for young children because they are easy for the children to chew and swallow. They also mash beans for the children, even though this is only on a weekly basis. The reason for giving beans infrequently was based on the perception that beans cause ‘gas’ and other stomach/digestive issues for the child, and thus consumption should be regulated.

“I give ugali... ugali and soup dishes... omena soup and meat soup... and vegetable soup too.”(Mother/Kisumu/Nyakach/8 months)

“With ugali, I give soup and fish... No, he has never eaten meat. He can eat the soup.”(Mother/Kisumu/Nyando/15 months)

Fruits, which were in season, are commonly introduced shortly after 6 months, in the form of juice. Most participants indicated that they give children liquids, including fruit juice (freshly squeezed) and water. Most mothers indicated that they give their children freshly squeezed fruit juice from oranges, as well as bananas, avocados, watermelons, and pineapples.

“Everyday, they need to eat ugali, porridge and tea... Also, vegetables and fruits such as avocados and bananas. I also feed her pineapples on a less regular basis because she doesn't like them.”(Mother/Kisumu/Nyakach/8 months)

Orange juice is the main juice given which can and cannot be prepared with sugar, and few mothers mentioned giving mango juice. A few mothers also give tea as a snack in between meals. Tea is typically prepared with milk and sugar. A few mothers indicated that they do not prepare tea with milk because they cannot afford it.

All mothers relayed that they believed children from 6-8 months of age should be given porridge on a daily basis. They indicated that **porridge was necessary because it had many nutrients, it was available, and easy to make and store**. All women indicated that **they continued to breastfeed even as they gave their children other foods at 6-8 months of age**. Most of them indicated that they were still breastfeeding at the time of the interview. However, all of those who had stopped

⁶ Fermentation of porridge is a common practice in many households in Kenya, and it takes various forms and ingredients, depending on the geographical and cultural settings. It is generally known as ‘uji’. Fermented porridge is rich in probiotic bacteria so it adds beneficial bacteria and enzymes to the overall intestinal flora, increasing the health of the gut microbiome and digestive system, and enhances the immune system. Fermentation can also increase the availability of vitamins and minerals for absorption. For example, phytic acid, which is found in legumes and seeds, binds minerals such as iron and zinc, reducing their absorption when eaten. During fermentation, phytic acid can be broken down so the minerals become available. Some natural compounds that interfere with the absorption of nutrients can be removed by fermentation.

breastfeeding (5) explained that they were human immunodeficiency virus (HIV) seropositive and were advised to stop breastfeeding in order to minimize transmission of HIV from mother to child. Most of them (HIV positive mothers) stopped breastfeeding when the child turned 12 months.

“I made him stop at 1 year... the breast milk was infested with the virus, so I had to stop breastfeeding him to prevent any kind of disease transmission.”(Mother/Kisumu/Nyando/15 months)

Most of the women and FGD participants said **they preferred to give foods that the child likes**. In many instances, mothers stopped giving food to the child when they sensed that the child disliked or had some kind of intolerance for a particular food.

“Like I boiled and added milk to Irish potatoes so that it is soft. When I tried feeding him, he threw up. So, I gave him twice and dropped it. There is also a day that I mashed avocado and bananas together. I fed him but after a short while he threw up. Therefore, I have not given him anymore.” (Mother/Kisumu/Kisumu East/6 months)

All the women interviewed **could not readily tell the quantity of food they give their children per meal or per day**. They said they did not specifically measure the food, but had some intuition on the quantities required to satisfy their children. However, upon further probing, they indicated that they could tell if the child was satisfied by “the amount of food remaining”, and also by “the increase in size of the child’s stomach”. This is based on the size of the feeding utensils designated for the child. The TIPs team estimated the quantities by asking the mothers to show the bowls and utensils used, and asked about the amount of food based on the utensils. It emerged that most mothers gave their breastfed 6-8 month old children the required amount of food per day (125 milliliter) at the recommended frequency of two meals a day. However, the food – especially porridge – was not of recommended thickness, as it ran off the spoon/cup easily.

Foods not Given to Children 6-8 Months of age

Most of the mothers indicated that there were no specific foods set aside for children or other family members. There were **foods not given** to children 6-8 months of age for various reasons, such as lemon or lemon juice because they believed that it was too acidic for the child’s ‘delicate’ digestive system to process.

“No foods are set aside for children or men or women, but I have a belief that acidic foods should not be given to a child... like lemon or lime.” (Mother/Kisumu/Nyakach/8 months)

In Migori and Kisumu, mothers and FGD participants indicated that **children’s diet at 6-8 months of age, did not include eggs**. Most mothers declined to include eggs in the children’s diet citing **fear that the child will have developmental challenges** related to teething and speech. So most of the participants interviewed said they only start to give eggs when the child has developed speech skills, usually after 12 months of age. In addition, there was a belief that a child who eats eggs has problems with teeth development. Participants from different ethnic groups – including Luhya, Kuria and Luo – expressed these perceptions about eggs.

“One thing she did not mention is the fact that here, people are not giving eggs because they think it will affect the child’s ability to talk. That is how it is. And that is why she has not given the child eggs.” (Grandmother, Suna East, Migori)

Most children aged 6-8 months were not given meat. The reason for not giving flesh foods was that the children did not have teeth to chew meat. Instead, they give the children broth from such meat as beef and chicken. Liver (from beef and chicken) is also not frequently given at this age.

In both Migori and Kisumu, it was clear from the mothers, fathers, and grandmothers that most children are not given lentils at ages 6-8 months. Green grams were perceived to cause gas, heartburn, and ‘a lot of stomach problems’ for the child.

While milk (separately or mixed with porridge) is seen to be a staple in the child’s diet at 6-8 months of age, **other dairy products such as yoghurt and butter milk (fermented milk) are not commonly given.** Mothers did not give buttermilk because they thought it is “*too complex for the child to digest*”, and that the taste would not be appealing to the child. Mothers who gave yoghurt were few, and all from the urban areas of Kisumu and Migori.

Most respondents in Kisumu and Migori indicated that **they do not cook their children’s food with oil** . For ages 6-8 months, only 25% of the mothers indicated that they use very little oil (a tablespoon [tbsp.]). The reason for this is that they perceived oil to be **unhealthy and would have a negative effect on the children’s digestion.** To ensure that the children’s food was free of oil, the mothers prepare children’s food separately and careful consideration is given in the quantities of oil and salt used. Mothers indicated that they did not introduce the child to family foods, except as a way for the children to supplement their diets.

Soup obtained from the family meal is the only family food, which complements the child’s main meal such as ugali, potatoes and bananas. The few mothers who introduced solid family foods to children 6-8 months of age indicated that they did so because the child was influenced by older siblings to start eating family foods early.

R: As a family we can cook beef, we can cook omena, we can cook fish, Jute mallow. Just most of the food, we can cook githeri, green grams...

I: And he can eat all of them?

R: Yes

I: Even githeri? (mixture of maize and beans)

R: Now when it comes to githeri, when the other sibling are eating they pound for him the beans and feed him. ...He cannot sit back when the others are eating, he will crawl to that place and pour their food so that he can eat. (Mother/Kisumu/Kisumu West/7 months)

Some few mothers who introduced their children to family foods at 6-8 months of age indicated that they did so because **they could not afford a separate diet for the child.** The mother from Migori below exemplifies this sentiment:

“It was nothing really. I give her those foods because those are the ones we also eat. I feed the baby on what we are all eating.... We don’t have the means to buy special foods for her.” (Mother/Migori/Suna West/19 months)

Foods Given at 9-11 Months

The women continue to give foods like porridge and cow’s milk to children 9-11 months old. **Most women continue to state that porridge and cow’s milk is a staple for their children aged 9-11 months.**

In addition to milk, **eight mothers introduced tea with milk (white tea)** to the child's diet. Women who gave white tea did so daily. Other mothers fed cocoa-based drinks, such as *Cocoa* and *Milo*.

For 9-11 month old children, there is an **increased consumption of green leafy vegetables**, such as kale/collard greens and spinach, and traditional vegetables like *osuga* and *apoth*. Additional vegetables such as carrots are consumed two to three times a week. **These vegetables are cooked, with little or no oil**, and eaten as **accompaniment for foods such as ugali, potatoes, rice, and cooked bananas**, which were introduced at 6-8 months of age. Children in this age group are also given tomatoes daily, both cooked and raw.

Mothers with children aged 9-11 months also indicated that they **continued to give their children carbohydrates such as ugali, potatoes and cooked bananas daily**. In addition, children also eat sweet potatoes (not orange fleshed) and rice weekly.

Children in this age group **eat plant and animal proteins, but only on a weekly basis**. These include beans (6 mothers) and green grams (5 mothers). Animal proteins, such as fish, chicken and beef are also given on a weekly basis. **The most commonly given animal protein is fish**. Beef and chicken are less commonly given because they are expensive and children have no teeth to chew.

Most mothers indicate that they **continue to modify the foods where necessary** to allow the child to eat easily. Foods such as potatoes, *ugali*, cooked bananas, beans, continue to be mashed, but the consistency is thicker than that given at 6-8 months. Porridge is also made slightly thicker, but still running off the spoon.

Mothers also indicated that **they give the children more fruits (not juice) at this age because the children are able to eat without modification**. For example, the consumption of ripe bananas, papaya, mangoes, avocados and pineapples increases, albeit on a weekly basis. Few mothers give any kind of fruit on a daily basis. Some mothers with children in this age group indicated that **they give fresh juices**, such as orange juice.

Most mothers indicated that **they give the child three meals a day**, and continue to give porridge and cow's milk between meals. Few mothers indicated that they give fruits in between meals. In addition, **most mothers continue to breastfeed** their children.

Some mothers with children 9-11 months of age indicated that **they continue to cook separately for the child**, because their food requires modification. Most mothers indicated that **they do not cook the children's food with oil, but acknowledged that they enriched the food with margarine**. The foods that are enriched with margarine include potatoes, porridge and cooked vegetables.

Foods Given at 12-23 Months

Most mothers indicate that **they continue to give foods that given to their children earlier (6-11 months)**. These foods include staples such as porridge, cow's milk, *ugali*, potatoes, and cooked bananas. Other protein source foods such as beans, fish, chicken, beef continue to be given weekly, as well as fruits such as watermelon, oranges, mangoes, avocados and pineapples on a weekly basis. Mothers also continue to squeeze fresh fruit juices for the children. With the exception of mothers who indicated that they were HIV positive, all of the women continued to breastfeed their children at 12-23 months old.

Mothers of children ages 12-23 months indicate that the variety of food given to children increases. This is particularly evident in the variety animal source foods given to children of this age. Most mothers **introduce eggs**, which are not given to younger children due to cultural beliefs and perceptions. At 12-23 months old, children start to develop teeth and speech, which reduces the fear that the child will have issues with teething and speech. There is also **indication of increased consumption in quantity of beef, liver and chicken** on a weekly basis. Most mothers indicated that they would prefer to give meat more often if it were affordable. Instead, **they gave the children fish on a more regular basis because it was available and affordable.**

At 12-23 months, a few children are fed carbonated drinks, such as soda and commercial juices, by fathers or other caregivers. Most of the fathers who feed their children these drinks said that they brought their children these drinks when they came home in the evening. However, fathers said these beverages were given as a treat, in addition to the child's regular diet. In addition to carbonated drinks and juices, some fathers also brought their children their 'favorite foods', such as chips, cake, bananas, soda, *mandazi* (fried dough), biscuits, and sweets.

The mothers in this assessment indicate that at 12-23 months, **most children are eating family foods**, including *githeri* or *nyoyo*, beef, chicken, lentils, *chapati*, among others. Children in this age group are more able to chew some of the foods, such as meat, and their ability to digest the food is improved. At this age, children are also able to feed themselves with little supervision.

The mothers interviewed indicated that **they give the child at least three meals a day, and give three snacks in between meals.** The snacks given are usually porridge, cow's milk, fruits, *mandazi*, soda and chips. Some foods such as porridge are viewed as both a snack and a meal, depending on the time of day that it is given (see below under feeding schedule). Furthermore, **children are fed a greater number of carbohydrates**, with additions such as *chapati*, bread, sweet potatoes, and orange fleshed pumpkin. **The variety of plant protein sources also increases** with additions such as beans, green grams and nuts (peanuts).

Feeding Schedule and Preparation for Children 6-23 Months of Age

Most mothers indicated that **they have a schedule for feeding their children, even though further discussions illustrate that the schedules are not very well defined and not strictly adhered.** Generally, the children are given a meal in the morning "when they wake up", at mid-day, and in the evening "before they go to sleep". The times that these meals are scheduled coincide with the time that other household members have their breakfast, lunch, and dinner, respectively. Most of the mothers indicated that in between meals, they gave snacks at mid-morning, mid-afternoon, and early evening.

The mothers indicated that one of the main reasons for disruption of feeding schedules was due to continued breastfeeding on demand. **The mothers tend to breastfeed their children in between meals, which made the child full and interfered with the appetite of the child for a scheduled meal.** In addition, the respondents indicated that the children ate in between their scheduled meals because they demanded to eat whenever they saw anybody else in the family eating. Because of this, many mothers indicated that they were unable to keep track of the amounts of food their children eat throughout the day. Disruption of feeding schedules was also attributed to travel, work outside the home, and attendance of funerals, but was said to be minimal.

Most women interviewed indicated that **they have designated spots in the home where they feed the children to ensure that both the mother and child were comfortable.** These spots

include a special chair in the living room or the kitchen. The child is held on the mother's lap, with mother and child facing each other. In some cases, the child sits on the floor facing the mother. The women also acknowledged that they might deviate from feeding the children at the designated spot, depending on the circumstances and the mood of the children. For example, mothers mentioned that the temperature in the house is too hot during the day so they prefer to sit outside under a tree or shade and feed the children.

It emerged from the interviews that **most mothers have utensils set aside – cups, plates, bowls – which they use to feed their children.** The containers are washed and stored together with the rest of the household utensils.

Traditional vegetables are boiled, with salt to taste. For some, such as *apoth*, *magadi soda* (ash made from burning leaves of a local plant – the equivalent of bicarbonate of soda) is added to soften the vegetables. While most mothers said they did not add milk to the vegetables, a few indicated that they added milk for taste. The vegetables are given to children 6-23 months of age since they are soft and can be eaten easily by the child, even at the start of complementary feeding.

“I don't use cooking oil when cooking apoth... I use magadi soda to soften it.... No, I don't add milk. (Mother/Migori/Suna West/19 months)

Caregiver Influences on Food Preferences

It emerged that generally the level of the mother's experience greatly influenced the child's diet and feeding practices across the age groups. The level of confidence in the complementary feeding practices described by mothers who have experience taking care of older children.

“I may not have something to say since I do not know how to bring up children. I just told you earlier that I introduced porridge at even a month old with my older child...For instance, my first born I gave birth, while at school so with him he was introduced to porridge at two weeks old and later, he was introduced to other food... I actually do not know what the baby should be eating. I am just trying.... Whatever he likes is what I give him.” (Mother/Kisumu West/7months)

Some mothers also indicated that **they did not feed their children on foods that they themselves did not like or were allergic to.** In a few cases (4), mothers did not give certain foods to a child because an older child or family member was allergic to the food.

The preferences of the person who first introduces complementary feeding to the children persist throughout the first two years of life. For example, some women indicated that their mothers or mothers-in-law were responsible for starting the children on other foods. The mothers then continued to feed the children foods that were first introduced at the start of complementary feeding. In most cases, the mothers themselves were responsible for initiating complementary feeding.

Some mothers indicated that **some foods were not given to children due to beliefs about the food's effects on the mother during pregnancy.** The grandmothers in Migori shared that foods such as avocados and liver were believed to not be good for pregnancy. Eating avocado during pregnancy is undesirable since it is believed to lead to delivery of 'a big baby'. Eating liver during pregnancy is believed to lead to delivery of 'an abnormal' baby. In addition, eating chicken post-partum is believed to lead to poor milk production for the mother. The avoidance of these foods is not only observed by the mother during pregnancy and post-partum, but it is extended and applied to the child, with the understanding that it will minimize similar health effects on the child as well.

Advice on Nutrition and Feeding Young Children

Most of the mothers interviewed in this formative assessment indicated that they received information and advice about feeding and nutrition from healthcare workers at the health facility. In the communities, mothers received advice from community health volunteers (CHVs), other mothers and mothers-in-law, neighbors, friends, and random people such as clients/customers.

Advice and information received from health workers and CHVs is perceived by most mothers to be most reliable. When asked why they believe this information was reliable, mothers indicated that healthcare workers are trained and have the most knowledge of the best practices. In addition, through their experience, they know that they get a positive result when they apply the advice, as shown by the mothers below:

“The nurses and doctors are trained professionals and are very knowledgeable... they always provided me with different and diverse lessons [on complementary feeding].” (Mother/ Kisumu/Nyando/15 months)

“I consider any information that differs with the hospital's information to be false...I don't follow such advice nor act on the information.” (Mother/Kisumu/Nyakach/8 months)

Most mothers interviewed indicated that they did not heed nutrition advice received from neighbors and random people such as their customers/clients, **as they were not perceived to be accurate** and tending towards solutions in the realm of “witchcraft”.

“But the advice that are not good are those that sometime the baby has heat rushes then I am told that the baby has been be-witched and I should look for herbs to treat the baby. So, I am not happy with such advice.... so most of the time they are customers. They will look at the baby's body and suggest that the baby has been be-witched.” (Mother/Kisumu West/7 months)

Alternative Caregivers

Most women interviewed in this formative assessment indicated that they were the main caregivers for their children, given that most of them were involved in work and activities within the home. In the event that the mother left the home for a few hours, different family members – such as the child's father, older sibling, their mother or mother-in-law, co-wife, sister and neighbor – cared for her children.

“I have never left the child solely under the care of her father.... I am always around to take of the child as well....Besides my husband, I also leave the child with my mother in law to feed, but only when am busy and the child needs to eat.” (Mother/Kisumu/Nyakach/8 months)

It emerged from the interviews that husbands participated in care giving, yet played a minimal role. Most women said that their husbands often took care of the children in the presence of themselves or other female family members. In some cases, the men reluctantly agreed to accompany mothers to the health facility.

All women relayed that whenever they left the children in the care of someone else for a few hours, they prepared the meals themselves and left instructions on when and how the children should be fed. For some of the mothers, they felt confident that the caregivers were feeding the children well. However, others – particularly those who left the child with an older sibling to the child – were not

sure if the children had been fed according to instructions, or if the children cried during the period they were away.

Hunger, Satiety, and Appetite

All women said that they were able to tell when their children were hungry through various signs. **Crying by the child was the most commonly cited indicator of hunger** and mothers were prompted to give food by the children's cries. While the women acknowledge that children cry for various reasons – such as wetness and sickness – they said they were able to distinguish cries related to hunger.

Mothers were also **able to interpret signs of hunger when they see them reaching for food containers such as plates, cups and bottles**. This to them is an indicator that the children are hungry and need to be fed.

A few women mentioned that they were **able to tell that their children were hungry based on feeding schedules**. The children seemed to get hungry just at the time they were scheduled to feed.

Many women indicated that their **children sometimes experience poor appetite, especially when they are unwell**. In these instances, the mothers seek out multivitamins from the health facility or the CHV to improve the child's appetite.

“Most of the time, if the baby is not growing up well as expected it means the baby is not feeding well. Then I have to inform the CHV, who can then prescribe multivitamins for the baby to enhance the appetite so the baby can eat.” (Mother/Migori/Nyatike/12 months)

Feeding Style

The women in the formative assessment were asked to describe how they prepared to feed the children and how they ensured that the children fed well and were satisfied. Most mothers said **that they engage their children in conversation and playful exchanges during feeding**. This responsive approach was said to encourage the children to feed well, as well as encourage bonding between mother and child.

A few mothers indicated that **when responsive feeding was unsuccessful, they resorted to force-feeding**. All mothers who said they tried force-feeding said they it was not their preference, and that in most cases, they felt dissatisfied with the approach. As a result, a lot of the food meant for the child goes to waste due to spillage and resistance from the child. Some mothers and FGD participants narrated how they knew of friends, neighbors, and relatives who have lost children due to choking because of force-feeding. Such stories serve to scare many women from force-feeding their children.

Household Access to Food

Most of the women interviewed indicated that they were engaged in some kind of activity to earn income or to provide for basic needs for the family. Most of the activities are within the home and include farming activities, such as rearing cows for milk, chicken for meat and eggs, and growing subsistence crops. Subsistence crops include maize, beans, sweet potatoes, cassava, rice (in Nyando), millet, sorghum, bananas, vegetables – *osuga*, *apoth*, *kunde* and *kales*. These crops and animals provide food for the household, as well as income for the surplus sold.

Fish and *omena* were mentioned as popular foods in the households in both Kisumu and Migori, and are locally available and affordable. Beef and chicken were less common in the family diet, and most women reported eating chicken once a month.

Most respondents indicated that they feed their children potatoes, which are bought at the local market. Other common household foods that are purchased include onions, tomatoes, green grams, cabbage and beef.

Some crops are seasonal. While the respondents said they grow most of the foods constituting their household diet, they also acknowledge that some foods are seasonal and not available throughout the year. These are mostly fruits, such as mangoes, avocados and oranges.

Household staples: All the women indicated that they ate *ugali* every day or every other day. There was variation in what the households prepared alongside *ugali* – such as traditional vegetables, kales, cabbage, fish, *omena*, chicken and beef. Other foods, such as maize and beans, are available throughout the year, and can be easily be stored for later use.

HIV Positive Mothers

In this formative assessment, there was no specific objective to target HIV positive mothers in the sample, and there were no specific questions directed at HIV Positive mothers. However, as the interviews continued, five women and some FGD participants who were HIV positive were forthright in openly sharing their HIV status, which contextualized the responses on complementary feeding. Their children were 7, 11, 12 and 15 months old. One of the behaviors that were distinctly different between HIV positive and HIV negative mothers was with regard to breastfeeding. **While all the HIV negative women indicated that they continue to breastfeed their children** beyond 12 months of age, the **HIV positive women's responses indicated that the age of ceasing breastfeeding varied.** One of the HIV/positive indicated that she ceased breastfeeding at 2 weeks of age due to sickness, which required hospitalization for a long period, while others ceased between 6 and 10 months. All of the mothers indicated that they followed advice given to them by their counselors at the health facility, as shown below by the mother in Kisumu:

“I started feeding him porridge when he was turning a year old... actually, it was precisely when he was about 9 or 10 months old.... For the first 9 or 10 months, I gave him breast milk.” (Mother/Kisumu/Nyando/15 months)

Most respondents who indicated that they were HIV positive also **showed a deep knowledge of different foods, their nutritional benefits, and different ways to prepare and eat the foods.** They seemed to have a wider variety of foods that they give to their children, as well as the rest of their family. They also demonstrated **a systematic way in which they introduced various foods to the child, based on specific advice from their counselors at the health facility.** They began by giving liquids, such as milk and fresh juices, then gradually followed with solids such as *ugali*, potatoes, bananas, fruits, beans, and lastly with different types of meat.

“I was advised so at the hospital where they told me that introducing a particular food at the wrong time may cause illnesses such as diarrhea to the child.” (Mother/Kisumu/Nyando/15 months)

The five HIV positive women in the formative assessment **shared details of the meal plans and schedules for their children, which seemed to be more elaborate and precise compared with the HIV negative women.** Some of the HIV positive women (3) said they co-created the meal plans for their children and themselves with counselors at the health facility and CHVs, illustrating showing a greater level of care and detail to child feeding.

“As I already told you, my baby does not breastfeed. I usually therefore keep milk in a thermos, so that even if the baby gets up in the wee hours of the night, I’ll have something to feed it. That said, I usually start the babies off with milk when they wake up in the morning. By 8 AM, I have already made porridge, which I give to the baby. Around 10 am daily, I blend some fruits and feed the baby on it. For lunch, I could give the baby fish, omena soup, or greens. Around 2 pm, I give the baby milk and make them sleep. Around 4 PM, I can give the baby orange juice and some more food. After that they will be fed on porridge periodically till evening.”
(Mother/Migori/Awendo/12 months)

While men generally were perceived to have a minimal role in care-giving, it seems to differ among HIV positive couples. **The HIV positive women whose husbands were present indicated that they participate in counseling together, and take responsibility for the care of the child together.** This was corroborated by men in the FGDs, who acknowledged their HIV status and indicated that they are actively involved in the child’s day-to-day care, including feeding.

“I am HIV positive, and so is my wife. We go for check up at the facility often and we are advised how to take care of ourselves as well as the child. I contribute to taking care of the child to ensure that he is healthy and does not get the virus. Even feeding, we are advised about it, and we try to follow closely.” (FGD Participant, Male; Migori)

Feeding During and After Illness

All the mothers interviewed indicated that they feed their children during and after illness, but the children’s appetite is usually poor during these periods. During and after illness, the children are also irritable and uncooperative during feeding, and are likely to vomit the food they eat. As a result of these circumstances, most mothers indicated that their children feed less during illness. Mothers put the children to the breast and breastfeed more, since breastfeeding is believed to “provide nutrition, as well as comfort for the child”. They also give the child water to rehydrate.

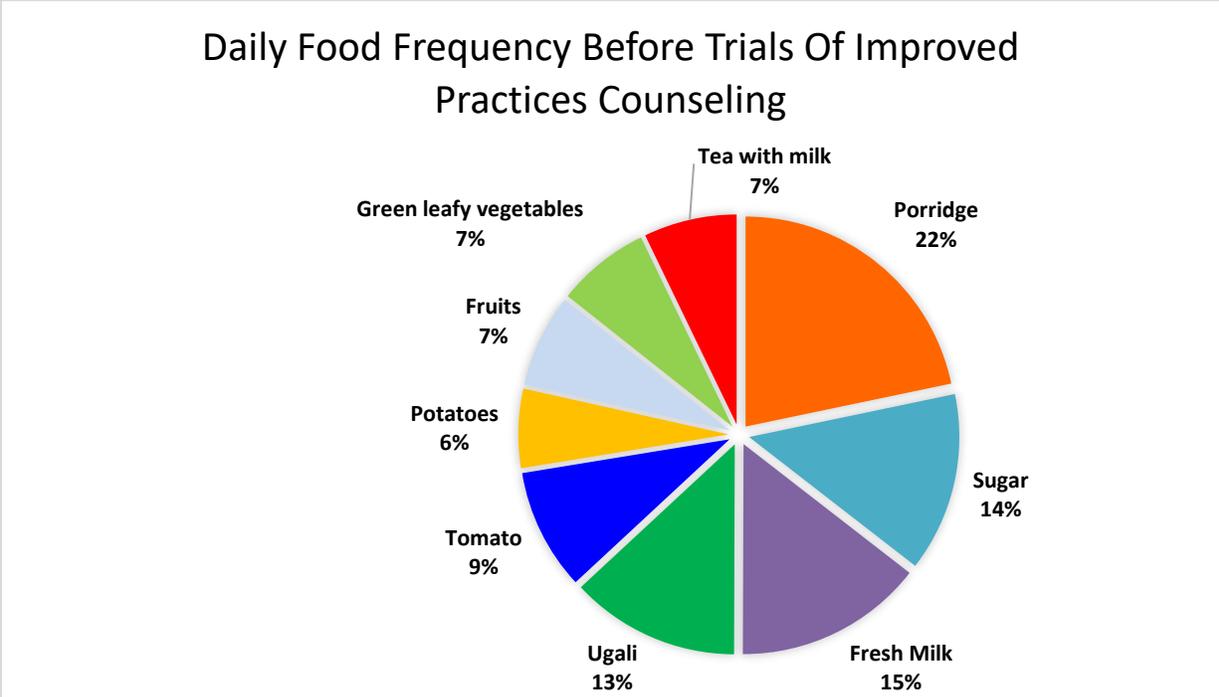
“If she is sick but can still eat, then I feed her. Because there are some time when she can be sick and cannot eat, then I only breastfeed her...yes, if that (breastmilk) is the only thing she can feed on then, that is what I feed her on. I can also give her some water.” (Mother/Migori/Nyatike/12 months)

Many respondents mentioned that they give their children multivitamins during illness. The multivitamins are believed to help in restoring the child’s appetite and boosting their energy levels. Most of the respondents got the multivitamins prescribed at the health facility the first time, and then buy these from the pharmacy on subsequent occasions.

“I buy multivitamin medication for the child to encourage him to eat... I give him two times a day... For a week.” (Mother/ Kisumu/Nyando/15 months)

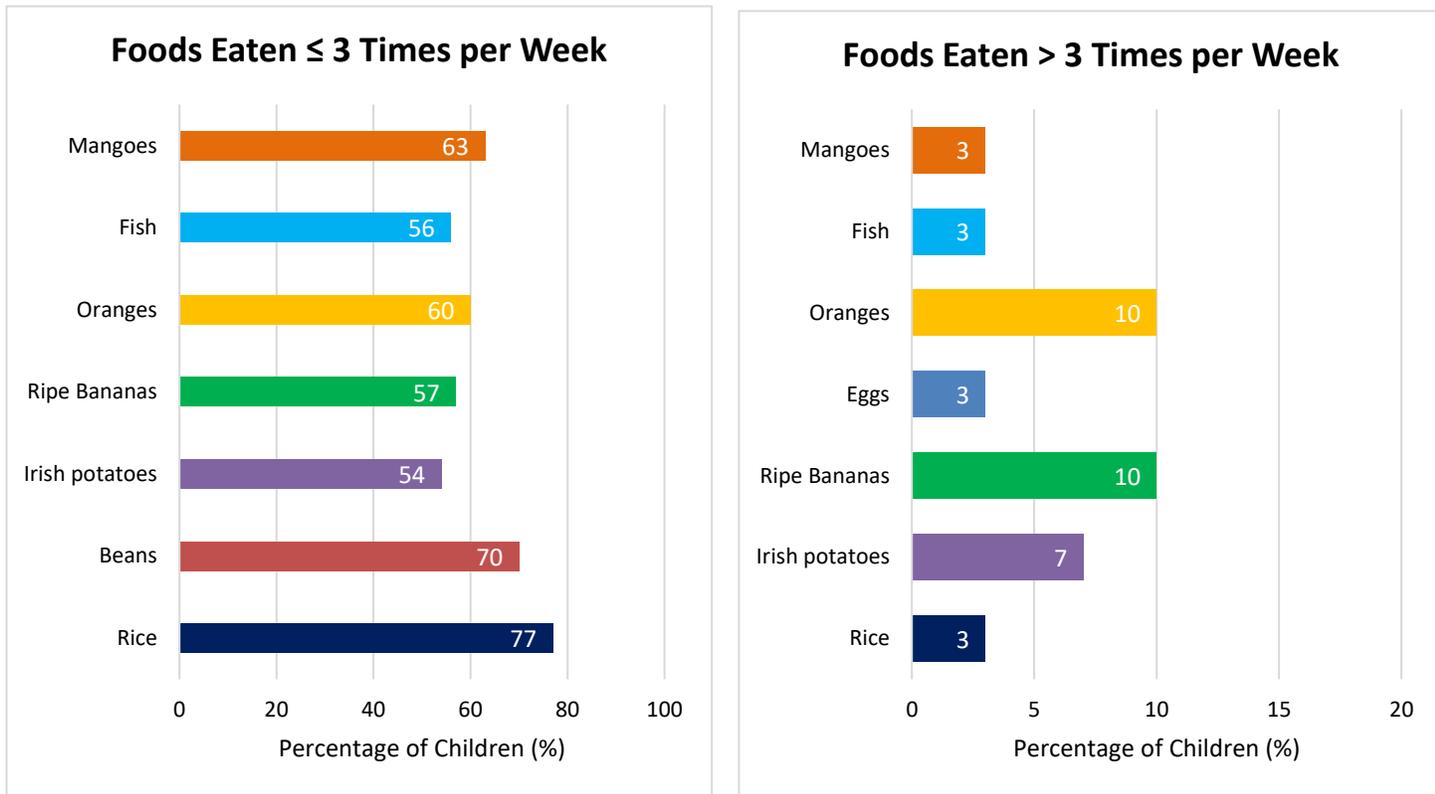
When asked if they received any nutrition advice regarding feeding during and after illness, most participants indicated that in addition to giving multivitamins, they were advised by the health provider to give liquids, such as water and fruit juice, to ensure that the child is hydrated. Figure 2 and 3 below give a summary of the frequency of foods for children aged 6-23 months in Migori and Kisumu.

Figure 2: Commonly consumed daily foods before TIPs counselling, children 6-23 months, Kisumu and Migori, Kenya (n=30)*



*The foods in the chart represent the most consumed foods as reported by the respondents. These are foods that are eaten daily by a percentage of the respondents. Porridge in the chart combines plain, sweetened as well as enriched porridge. Fruits include oranges, bananas, mangoes and papaya. Tomato was mentioned as part of the ingredients in some meals, as well as fresh tomatoes.

Figure 3: Commonly Consumed Weekly Foods in Migori and Kisumu



Chapter 3: Understanding Gaps in Complementary Feeding Practices, Recommending New Complementary Feeding Practices and Sharing Mothers' Experiences with New Practices

The TIPs formative assessment team used IDIs and FGDs to understand the prevailing practices in complementary feeding and how, if at all, these practices are informed by cultural beliefs and perceptions. In addition, the formative assessment team used dietary data from TIPs visit 1 to understand the challenges and gaps mothers in this region face in complementary feeding. Based on this information, mothers were counseled about optimal complementary feeding in TIPs visit 2 (see Figures 4 & 5 below), and were offered several feeding practices to try.

The research team reviewed the TIPs visit 1 data to make recommendations for TIPs visit 2. Interviewers proposed several new practices for mothers to try in TIPs visit 2, and following discussion of what was feasible for mothers to carry out, mothers agreed to try some or all of these offered practices for seven to ten days. The practices proposed to mothers are novel for them. The recommendations proposed are based on the gaps identified through the interviews and dietary data, therefore none of the mothers carried out any of the proposed feeding practices prior to the TIPs visits. During TIPs visit 3, mothers were asked to share their experiences with the recommended practices, their preferences, challenges, and any modifications to the recommendations that were made.

In Figures 4 & 5, the main recommended complementary feeding practices are depicted on the X-axis. The percentage of mothers who were counseled on each practice, accepted, tried, succeeded, and modified these practices are denoted on the Y-axis for Migori (Figure 4) and Kisumu (Figure 5). These figures reveal the continuum of TIPs: from counseling, to trial period, and the response of mothers, as detailed in Figures 4 & 5.

Figure 4: Migori - Main Outcomes by % of Mothers with Children 6-23 Months (N=15)

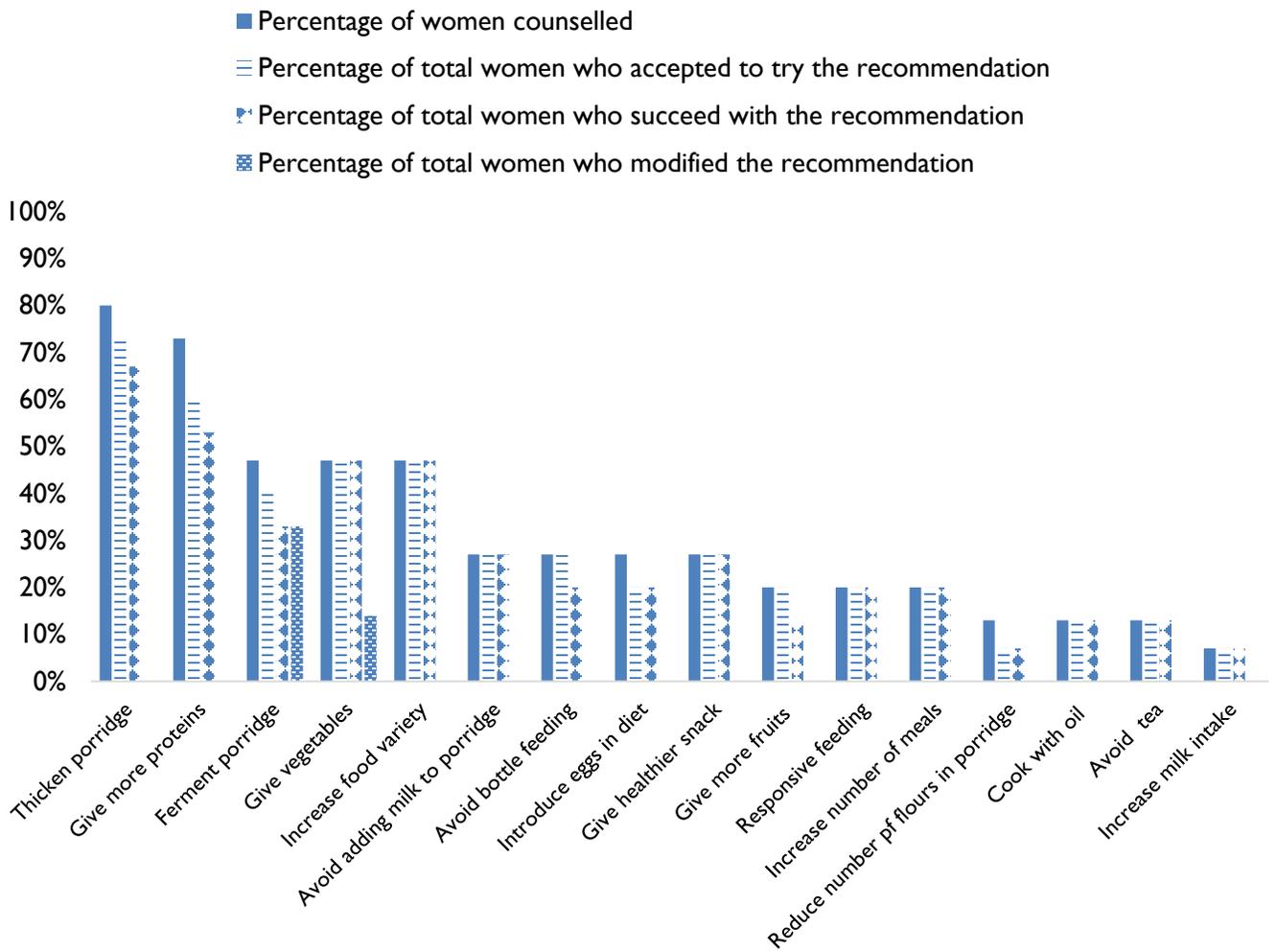
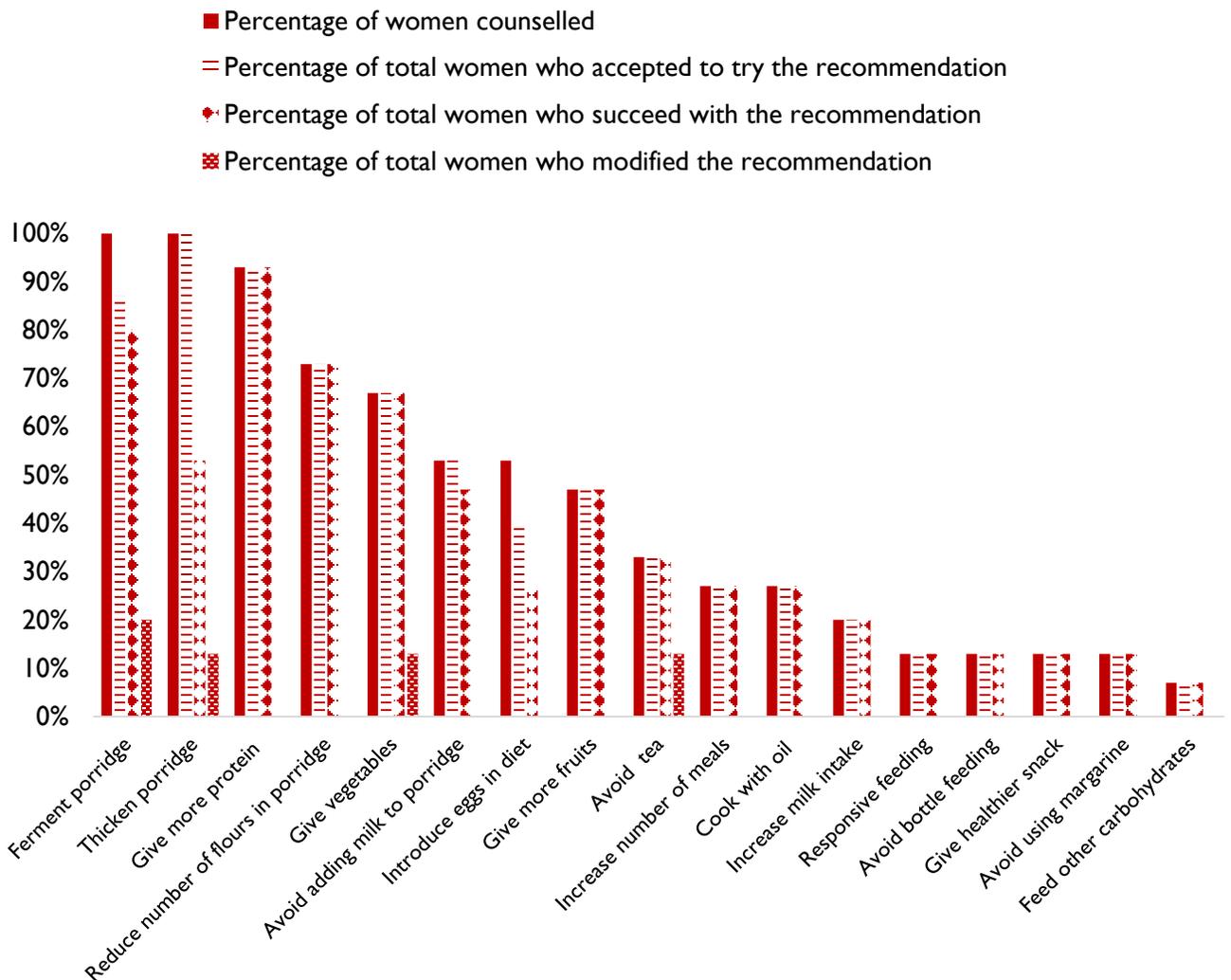


Figure 5: Kisumu - Main Outcomes by % of Mothers with Children 6-23 Months (N=15)



Figures 4 & 5 illustrate the complementary feeding recommendations offered to mothers during TIPs visit 2, based on gaps in current complementary feeding practices and dietary intake identified in TIPs visit 1. The different columns in each of the two graphs describe the following: 1) the counselling given for a proposed recommendation, 2) the percentage of women who accepted to try the recommendation, 3) percentage of women who succeeded with the accepted recommendation, and 4) the percentage of successful women who modified the recommendation.

As seen in Figure 4 & 5 (above), the response to the recommendations was similar across the two counties, but some differences were also noted. In this section, the details of the responses by the mother to the recommendations (Figure 4 & 5) and comparisons are examined between the two counties. This includes descriptions of mothers who were counseled and received these proposed complementary feeding practices; accepted; tried; and for some, and modified the practices. Motivations for trying and/or modifying proposed practices are assessed.

In relation to porridge preparation and feeding practices, there were five recommendations 5) on porridge (see fig. 4 & 5), as a staple food for children, as follows:

1. **Make Thicker Porridge:** In Migori, 80% of mothers were advised to make the porridge thicker, for greater energy density. 73% of the women accepted to try this practice. On TIPs visit 3, 67% of the women had succeeded in making the changes without modification. In Kisumu, 100% of the mothers were advised to make thicker porridge and all of them accepted to try the changes. On TIPs visit 3, half of the women succeeded in making thicker porridge for the child and half of those who succeeded had some made modifications. Some of those who made modifications indicated that the child did not like thick porridge so they modified it by adding milk to make it lighter. Some of the mothers who tried the recommendation unsuccessfully felt that the child did not like thick porridge, or they could not swallow it, so they reverted to their old way of preparation.
2. **Ferment porridge:** In Migori, 47% of the mothers were advised to ferment the child's porridge. It was explained to them that fermented porridge is beneficial because it increases the health of the gut and digestive system, and enhances the immune system. Fermentation can also increase the availability of vitamins and minerals such as iron for absorption. 40% of the women accepted to try to make this change, and 33% were successful in fermenting porridge. However, all the mothers who succeeded indicated that they made some modifications, which included fermenting for short period of time (ferment in the morning and cook it within 2-4 hours), adding ground sprouting millet (*kimera*), and adding sugar. In Kisumu, 100% of the women were advised to ferment the child's porridge and of these, 87% agreed to try it. On TIPs visit 3, 80% of the women had successfully fermented the child's porridge. 13% of the women in Kisumu modified the practice. The modification included adding sugar, lemon or avocado to the porridge to enhance the taste. The one woman who was unable to implement the change said she was advised by her mother-in-law against it due to the perception that porridge can cause diarrhea in children.
3. **Avoiding milk to porridge:** In Migori, 27% of the mothers were advised not to add milk to the child's porridge in order to maximize absorption of calcium and other minerals. All of them accepted to try the practice and all of them succeeded without modification. In Kisumu, a higher percentage (53%) of the women were advised against adding milk to the porridge. All of the counseled women accepted to try it out, and 47% of the women in Kisumu were successful in implementing the change on TIPs visit 3. Those who were unsuccessful indicated that the child rejected porridge without milk so they reverted to adding milk to the porridge.
4. **Use fewer flours in the porridge:** In Migori, 13% of the women were advised to use less number of flours in the child's porridge. It was explained to them that different flours (ingredients) have different cooking time, and using many flours at the same time would lead to undercooking of some of the ingredients in the porridge. The specific advice was to have two types of flours at most. 7% of the women accepted to try the changes, and all of them succeeded to use less number of flours in the porridge, without modification. In Kisumu, a higher percentage (73%) of women were advised to use less number of flours in the child's porridge and all 73% of these women accepted and successfully implemented the change.
5. **Avoid using ready-made flour purchased from the stores:** In Migori, 7% of the mothers were advised against using ready-made flour purchased from stores for the child's porridge. All 7% of them accepted to try to mix and grind their own flour, and all of them were successful in making the changes without modification. This recommendation was not given in Kisumu.

Some respondents, especially in rural settings in both Kisumu and Migori, expressed that **they would have liked to give their children cerelac, cerevita, weetabix and other processed cereals, but they could not afford it.**

“I fed him on Cerelac for a month then stopped. I could not afford it anymore.” (Mother/Migori/Suna West/19 months)

On the other hand, some respondents expressed that they did not give Weetabix, Cerelac and other processed cereals because they were perceived to be unhealthy and in some cases, carcinogenic, as the Migori mother below explains:

“I used to feed the baby Weetabix before the doctor discouraged me. He said that processed foods have certain chemicals and preservatives that are not good for the baby. He encouraged me to stick to natural foods such as sutsa, apoth, fish, etc. He told me to avoid adding cooking fat and onions to the baby’s food, and that I should only use tomatoes and milk in my cooking.” (Mother/Migori/Awendo/12 months)

OTHER TIPS RECOMMENDATIONS

In addition to the recommendations related to porridge, other recommendations touching on various issues were given. These include:

Give more animal source foods: Mothers were advised to increase the amount and variety of protein that they gave their children. Specifically, they were advised to introduce or increase the amount of animal source iron-rich foods in the diet, including eggs, beef, liver, and chicken. In addition to this recommendation, mothers were advised on ways to modify the meat to enable the child to chew and swallow easily. These methods included grinding and cutting the meat into tiny pieces. In Migori, 73% of the mothers were advised to increase the amount of protein in the child’s diet. 60% of the women agreed to try the changes. 53% of the women successfully implemented the changes on TIPs visit 3. In Kisumu, 93% of the mothers were advised to increase the amount and variety of proteins, all 93% of whom accepted and successfully carried out the changes.

Introduce/Increase vegetables: In Migori, 47% of the mothers were advised to introduce or increase the amount of vegetables in the child’s diet. All 47% of these women agreed to try the changes, and all of them successfully carried out the changes in the diet. In Kisumu, 67% of the women were advised to introduce or increase the amount and variety of vegetables in the child’s diet, all of whom accepted and successfully implemented the changes. However, 13% of mothers in Kisumu indicated that they modified the recommendation by adding milk or avocado to the vegetables to make them softer.

Introduce other carbohydrates: The mothers were advised to increase the variety of carbohydrates that they gave their children. It seemed that most mothers fed their children on porridge, ugali, potatoes, and rice. The specific advice for the mothers was to increase variety to include vitamin A rich sweet potato (orange fleshed/ yellow), pumpkin, butternut, among others. In Migori, half of the mothers were advised on this, and all of them agreed to and were all successful in implementing the changes. In Kisumu, only 7% were advised, and they all accepted and successfully made the changes in the diet.

Give healthier snacks, stop giving unhealthy processed / ”junk” foods: Mothers were advised to introduce healthier snacks in their child’s diet and stop giving unhealthy snacks such as sweets, chips and soda. The healthy snacks recommended included fruits, (whole or mashed) and nuts. In Migori, 27%

of the mothers were given this advice, and all of them agreed to try it out. All 27% of these mothers managed to successfully implement the changes in the child's diet.

Increase number of meals: Some mothers seemed to be giving less than optimal number of meals a day for the child's age. The team advised the mothers to increase the meals to 2 and 3 per day, for 6-8 month old children and 9-23 month old children, respectively. In Migori, 20% of the mothers were advised as such and all 20% agreed and successfully implemented the changes. In Kisumu, 27% of the women were advised to increase the number of meals and all 27% accepted and successfully implemented the changes in the diet.

Introduce eggs in the diet: In Migori, 27% of the women were advised to introduce eggs in the child's diet. 20% of the mothers agreed on the recommendation and successfully implemented the changes. In Kisumu more women (54%) were advised to include eggs in the diet, and 40% of the total number of women accepted. Only 27% of the women in Kisumu were able to successfully implement this in the child's diet.

Avoid tea: The women were advised to avoid tea, both with and/or without milk. In Migori, 13% of the women were advised as such, and they all accepted and successfully carried out the changes. In Kisumu, 33% of the women were advised to stop giving tea to their children and all of them accepted and successfully implemented the changes. However, 13% of the women in Kisumu indicated that they made some modifications to the recommendations. For example, one woman said instead of tea, she gave milk to the child, but added water.

Introduce/increase fruits: Mothers were asked to increase the amount and variety of fruits they were giving their children per day. They were advised that they could also mash the fruit, which is preferable, or make fresh fruit juice, without sugar, for the child. In Migori, 20% of the women were advised to make this change in the child's diet, all 20% of whom accepted to try the changes in the diet. Only 13% of the women in Migori successfully implemented the recommendation, and those who were unsuccessful indicated that they faced some challenges (cost and availability) obtaining fruits. In Kisumu, 47% of women accepted and successfully implemented the changes.

In addition to these recommendations, there were others that were less commonly given to the mothers in the formative assessment. These include:

Cook food with oil: Mothers who had indicated that they cook their child's meals without oil were advised to start cooking with oil. In addition, they were advised not to use too much oil either. In Kisumu, 27% of the mothers were given this recommendation, and all of them accepted and successfully started to cook their children's food with oil. The women indicated that their children tended to enjoy and eat more food when they cooked with oil. In Migori, 13% of the women received this advice and all accepted and successfully made the changes in their practices.

Avoid adding milk to porridge and vegetables: Many mothers indicated that they added milk to porridge and vegetables, to not only add nutritive value but also improve taste. The TIPs team advised these mothers to stop adding milk while preparing these foods, and instead give the milk to the child as a separate meal. In Kisumu, 53% of the mothers were given this advice and they all accepted to try it out. 47% of the women successfully implemented the recommendation without any modifications. In Migori, 27% of the women were advised as such, and they all agreed to try the changes. They were all successful in making the changes in the child's diet.

Increase milk intake: Some mothers were counseled to increase the child's intake of milk. In addition, those who were inclined to give cow's milk were counseled to boil the milk and give full fat. In Kisumu,

20% of the mothers were given this recommendation, which they all accepted and successfully implemented. In Migori, 7% of the women received this advice and they all accepted and successfully implemented the changes.

Responsive feeding: Some mothers were advised to engage more in responsive feeding, where they engage with the child to know when they are hungry and need to be fed, and to encourage the child to feed properly. In Kisumu, 13% of the mothers were advised to try responsive feeding, all of whom accepted and successfully carried out the changes. In Migori, 20% of the mothers were advised to make this change, and they all accepted to try it out. In the end, all of those who accepted to try the change reported having successfully implemented the changes in their feeding practices.

Avoid bottle feeding: Some mothers were advised to stop using bottles and other types of feeding tools for their children. In Kisumu, 13% of the mothers were given this advice. They all accepted and implemented as recommended. In Migori, 27% of the mothers were advised against using feeding bottles and other types of feeders, all of whom accepted to try the change. 20% of the women in Migori were able to successfully implement the change. One mother indicated that the child did not adjust to the new approach so she reverted to using the bottle.

Avoid adding margarine to food: Some mothers were advised to avoid adding margarine to food preparations – mostly porridge, potatoes and vegetables. Instead, they were advised to cook food with vegetable oil. In Kisumu, 13% of the women received this advice, all of whom accepted and successfully tried to make the change.

Other less common recommendations not included in the graphs (given to 7% of the mothers in Migori and Kisumu) were:

- Avoid using baking soda in cooking vegetables
- Boil/treat drinking water; observe better hygiene
- Increase feeding during illness
- Avoid overcooking vegetables
- Add vitamin A rich foods to the child's diet
- Set aside utensils for the baby
- Avoid sieving foods
- Avoid giving glucose water
- Empty one breast then change to the other breast.

Chapter 4: Challenges to Complimentary Feeding and Mothers' Reactions to TIPs Recommendations in Migori and Kisumu

In this chapter, mothers' motivations, reactions to recommended practices after the trial period, and any modifications mothers made to IYCN practices are described. Table 2 summarizes primary complementary feeding problems identified in TIPs visit 1, the age groups affected, recommended practices, motivation, challenges encountered and modifications to the recommended practices. Following TIPs visit 1, mothers were counselling on recommended practices for mothers and the motivations for trying these recommended practices were identified (TIPs visit 2). Mothers described the benefits of the recommended practice after a seven to ten day period, challenges encountered, and any modifications made to these (TIPS visit 3).

In the following table and paragraphs, the challenges of feeding children by age group that were found in the formative assessment are described. These depict the most frequently reported complementary feeding problems, and how they were addressed through TIPs.

Table 2: Summary of TIPs 2 and 3 Results

Main Complementary Feeding Problem	Age Group Affected by the Problem (In months)				Recommended Practice(s) for Mothers to Test (TIPs 2)	Motivation for Trying Recommended Practice(s) Discussed with Mothers (TIPs 2)	Benefits of Recommended Practice(s) Tried/Reasons Cited by Mothers (TIPs 3)	Challenges Encountered with Recommended Practice(s) (TIPs 3)	Modifications to Recommended Practice(s) (TIPs 3)
	6-8	9-11	12-17	18-23					
<p>Preparation of porridge:</p> <p>1) Too many types of flour</p> <p>2) Porridge is unfermented</p> <p>3) Milk is added to porridge</p> <p>4) Porridge made too thin</p> <p>5) Porridge flour bought from the store</p>	✓	✓	✓	✓	<p>1) Reduce number of flours</p> <p>2) Ferment the porridge overnight and clean the container daily</p> <p>3) Do not add milk to porridge</p> <p>4) Make the porridge thicker</p> <p>5) Mix and grind your own flour</p>	<p>1) The change is easy to do</p> <p>2) Porridge ingredients available locally</p> <p>3) Changes improve nutritive value of the porridge (i.e. iron)</p> <p>4) It will improve satiety</p> <p>5) Fermentation does not cause stomach problems for the child</p>	<p>1) Child liked the porridge</p> <p>2) Home prepared flour is cheaper</p> <p>3) Fermented porridge is rich in iron</p>	<p>1) Child did not like thick porridge</p> <p>2) Child did not like fermented porridge</p> <p>3) Perception that fermented porridge causes diarrhea</p>	<p>1) Added milk to make porridge thin</p> <p>2) Added sugar for taste</p> <p>3) Added lemon</p> <p>4) Added avocado</p> <p>5) Fermented for a short period of time</p>

Main Complementary Feeding Problem	Age Group Affected by the Problem (In months)				Recommended Practice(s) for Mothers to Test (TIPs 2)	Motivation for Trying Recommended Practice(s) Discussed with Mothers (TIPs 2)	Benefits of Recommended Practice(s) Tried/Reasons Cited by Mothers (TIPs 3)	Challenges Encountered with Recommended Practice(s) (TIPs 3)	Modifications to Recommended Practice(s) (TIPs 3)
	6-8	9-11	12-17	18-23					
Proteins in the diet: 1) Insufficient amount of proteins	✓	✓	✓	✓	1) Give more animal proteins – meat, fish, chicken, liver	1) Protein key for growth and maintenance	1) Beans and legumes readily available	1) Unable to afford beef, liver and chicken regularly	

Main Complementary Feeding Problem	Age Group Affected by the Problem (In months)				Recommended Practice(s) for Mothers to Test (TIPs 2)	Motivation for Trying Recommended Practice(s) Discussed with Mothers (TIPs 2)	Benefits of Recommended Practice(s) Tried/Reasons Cited by Mothers (TIPs 3)	Challenges Encountered with Recommended Practice(s) (TIPs 3)	Modifications to Recommended Practice(s) (TIPs 3)
	6-8	9-11	12-17	18-23					
<p>in the diet, especially animal proteins.</p> <p>2) Most children receive proteins via soup</p> <p>3) Insufficient beans/legumes given</p>	✓	✓	✓		<p>2) Modify meat (mince) to allow the child to chew and swallow easily</p> <p>3) Give/increase beans and other legumes. Mash to allow easy chewing and swallowing. Soak the beans before cooking to avoid gas.</p>		2) Fish is available		

Main Complementary Feeding Problem	Age Group Affected by the Problem (In months)				Recommended Practice(s) for Mothers to Test (TIPs 2)	Motivation for Trying Recommended Practice(s) Discussed with Mothers (TIPs 2)	Benefits of Recommended Practice(s) Tried/Reasons Cited by Mothers (TIPs 3)	Challenges Encountered with Recommended Practice(s) (TIPs 3)	Modifications to Recommended Practice(s) (TIPs 3)
	6-8	9-11	12-17	18-23					
Vegetables in the diet: 1) Insufficient vegetables in the diet 2) Vegetables are overcooked	✓	✓	✓	✓	1) Introduce/increase vegetable in the diet. 2) Modify vegetables to allow easy chewing and swallowing 3) Avoid overcooking vegetables	1) Vegetables can be accompaniment to many dishes 2) Vegetables are good source of vitamins 3) The changes are easy to do	1) Traditional vegetables are readily available	1) Child did not like the taste of the vegetables 2) Vegetables too coarse for child to eat	1) Added milk for taste 2) Added peanut sauce for taste 3) Added avocado to soften the vegetables
Insufficient/no eggs in diet	✓	✓	✓	✓	1) Introduce/increase eggs in the diet 2) Vary cooking methods – boil, fry	1) Eggs are a good source of protein 2) Eggs do not cause speech development	1) Eggs are readily available 2) Child liked eggs	1) Child preferred one method of cooking style over the other	

Main Complementary Feeding Problem	Age Group Affected by the Problem (In months)				Recommended Practice(s) for Mothers to Test (TIPs 2)	Motivation for Trying Recommended Practice(s) Discussed with Mothers (TIPs 2)	Benefits of Recommended Practice(s) Tried/Reasons Cited by Mothers (TIPs 3)	Challenges Encountered with Recommended Practice(s) (TIPs 3)	Modifications to Recommended Practice(s) (TIPs 3)
	6-8	9-11	12-17	18-23					
						problems for the child			
Fruits in the diet: 1) Insufficient fruits in daily diet 2) Little variety of fruits given	✓	✓	✓	✓	1) Increase/introduce fruits in the daily diet 2) Vary the fruits – include lemons, watermelons, papaya 3) Fruit can be in the form of fresh juice	1) Fruits are good for vitamins and digestion	1) Some fruits are readily available 2) Fruit is unaffordable at this time	1) Some fruits are unavailable because of the season 2) Fruit is unaffordable at this time	1) Adding fruit to other foods such as vegetables and porridge
Unhealthy snacks 1) Diet includes unhealthy snacks, such as chips, soda, cake, sweets, processed juice			✓	✓	1) Avoid unhealthy snacks such as chips, soda, sweets, cake, etc. in the diet 2) Give healthier snacks such as fruits	1) Unhealthy snacks do not have a lot of nutritive value 2) Healthy snacks have nutritive value	1) The change is easy to do 2) Fruits available locally	1) Some fruits are unavailable because of the season 2) Fruit is unaffordable at this time	

Main Complementary Feeding Problem	Age Group Affected by the Problem (In months)				Recommended Practice(s) for Mothers to Test (TIPs 2)	Motivation for Trying Recommended Practice(s) Discussed with Mothers (TIPs 2)	Benefits of Recommended Practice(s) Tried/Reasons Cited by Mothers (TIPs 3)	Challenges Encountered with Recommended Practice(s) (TIPs 3)	Modifications to Recommended Practice(s) (TIPs 3)
	6-8	9-11	12-17	18-23					
2) Diet has few healthy snacks								3) Child prefers chips, sweets	
Insufficient quantities of food: 1) Children eating less number of meals than recommended 2) Children eating less snacks than recommended 3) Children eating less quantities than		✓	✓	✓	1) Increase number of meals – 2-3, depending on the age group 2) Increase number of snacks – 2-3, depending on age group 3) Increase the amount of food given per meal	1) Increase in quantity of food will give the child energy and good growth	1) The change is easy to do	1) Wastage due to spillage during feeding	

Main Complementary Feeding Problem	Age Group Affected by the Problem (In months)				Recommended Practice(s) for Mothers to Test (TIPs 2)	Motivation for Trying Recommended Practice(s) Discussed with Mothers (TIPs 2)	Benefits of Recommended Practice(s) Tried/Reasons Cited by Mothers (TIPs 3)	Challenges Encountered with Recommended Practice(s) (TIPs 3)	Modifications to Recommended Practice(s) (TIPs 3)
	6-8	9-11	12-17	18-23					
recommended daily requirements									
Children having tea in their diet	✓	✓	✓	✓	<p>1) Avoid giving tea to the child</p> <p>2) Give milk (usually prepared in tea) as a separate meal</p>	1) Tea has little nutritive value for the child	1) Milk (usually prepared in tea) was available		1) Gave milk instead of tea, but added water to the milk
Insufficient oil in the diet	✓	✓	✓	✓	<p>1) Cook child's food with oil (not fat or margarine)</p> <p>2) Indulge the child in family foods</p>	1) Changes are easy to do	<p>1) Family foods readily available</p> <p>2) Child liked food with oil</p> <p>3) Child ate more food when cooked with oil</p>	1) Slow adjustment to family foods	

Main Complementary Feeding Problem	Age Group Affected by the Problem (In months)				Recommended Practice(s) for Mothers to Test (TIPs 2)	Motivation for Trying Recommended Practice(s) Discussed with Mothers (TIPs 2)	Benefits of Recommended Practice(s) Tried/Reasons Cited by Mothers (TIPs 3)	Challenges Encountered with Recommended Practice(s) (TIPs 3)	Modifications to Recommended Practice(s) (TIPs 3)
	6-8	9-11	12-17	18-23					
Diet lacks variety in carbohydrates (mostly porridge, ugali, rice, potatoes)	✓	✓	✓	✓	1) Introduce other types of carbohydrate (yellow/orange sweet potatoes) among others	1) Other carbohydrates have micronutrients such as vitamin A	1) Child liked sweet potatoes	1) Had to mash for child to eat	
Some mothers are force feeding	✓	✓	✓	✓	1) Practice responsive feeding	1) Responsive feeding helps with connecting/bonding mother and child		1) Child still doesn't like the food 2) Takes a long time to feed	

Main Complementary Feeding Problem	Age Group Affected by the Problem (In months)				Recommended Practice(s) for Mothers to Test (TIPs 2)	Motivation for Trying Recommended Practice(s) Discussed with Mothers (TIPs 2)	Benefits of Recommended Practice(s) Tried/Reasons Cited by Mothers (TIPs 3)	Challenges Encountered with Recommended Practice(s) (TIPs 3)	Modifications to Recommended Practice(s) (TIPs 3)
	6-8	9-11	12-17	18-23					
Poor feeding during illness 1) Insufficient food given 2) Feeding is primarily through breastfeeding 3) Use of multivitamins to improve appetite	✓	✓	✓	✓	1) Feed the child more during illness 2) Give more fruits to improve appetite 3) Avoid routinely giving multivitamins during illness	1) Child needs more nutrients during illness		1) Child had no appetite 2) Child was vomiting the food	

CHALLENGES AND MOTIVATIONS IN IMPLEMENTING TIPS RECOMMENDATIONS

Most of the mothers involved in this TIPs formative assessment accepted to try new complementary feeding practices recommended by the TIPs team. For various reasons, only a small percentage of women modified the practices. In Kisumu, 15 mothers were counseled and 7 to 8 recommendations were given per mother (35 to 40 given per age group). Of the 121 recommendations given to mothers in Kisumu, 98% were accepted to try them during the trial period. On TIPs visit 3, 90% of the recommendations had been successfully implemented and 8% of these recommendations were modified. In Migori, 15 mothers were counseled and 4 to 5 recommendations were given per mother (20 to 25 given per age group). Of the 74 recommendations were given, 92% of these were accepted. On TIPs visit 3, 93% of the recommendations had been successfully implemented, and 8% made modifications.

Most mothers were enthusiastic about trying new foods and practices, especially because they perceived that the changes would have a positive impact on the health of the child. Women were not aware that some foods – such as eggs, green grams and sweet potatoes – were both nutritious and available in their homes, and were happy to gain new knowledge to put it into practice.

Some mothers (6 in Migori and 3 in Kisumu) were not able to accept some the recommendations. Some reasons mothers gave for not being able to carry out recommendations were that they **would not be able to get some of the foods suggested because they were locally unavailable or were too expensive. In some cases, they accepted the recommendations but were unable to implement.** For example, two mothers in Kisumu and Migori were unable to give suggested fruits to the child because finding fruits in their locality was difficult at the time. Another mother was unable to afford purchasing eggs. Other reasons included having no time to prepare meals, and fears that the child could be allergic to the suggested foods.

Challenges and Motivations for Children Aged 6-8 Months

In both Migori and Kisumu, most mothers indicated that they started complementary feeding at six months. Complementary foods were introduced in a gradual manner, starting with milk, water and light (thin) porridge. Complementary feeding practices are characterized by lack of variety in carbohydrates in the diet, mixing too many types of ingredients in the porridge given, making porridge too light, adding milk to porridge, insufficient vegetables and fruits, inadequate oil/fat source, lack of animal source proteins, as well as poor feeding during and after illness.

Most mothers were able to do make several changes. These included the following: increase and vary fruits, vegetables and carbohydrates; increase animal source proteins, including beef, chicken, fish and eggs; modify foods to allow easy chewing and swallowing; make porridge with 2 types of flour; increase daily milk intake; cook food with oil; feed child more during illness; and avoid routine use of multivitamins to boost appetite.

All the mothers were motivated to try the majority of the recommendations given by the TIPs team. Mothers were motivated by various elements, including that most of the recommendations were easy to implement; most of the foods recommended were locally available and affordable; the child liked the food; and preparation of the food was easy.

While implementing the recommended practices, mothers encountered challenges. These included the following: the child not liking the food; the food had an unusual taste; the food not affordable; misperceptions about the effects of the food on the child's health; and the child's slow adjustment to the new food. To address the challenges, a few mothers made modifications to the recommendations. For example, some mothers added sugar to fermented porridge for taste, while others added milk. Some mothers also added avocado to vegetables to soften the consistency, while others added peanut sauce to improve the taste.

Challenges and Motivations for Children Aged 9-23 months

Mothers with children between 9-23 months old show similar challenges in implementing the recommendations, but with some additional challenges specific to this age group. These included: a lack of variety in carbohydrates in the diet; mixing too many types of flours in the porridge; making thin porridge; adding milk to porridge; insufficient vegetables, fruits, oil proteins (especially animal source proteins) in the diet; insufficient food quantities required for daily caloric intake; and poor feeding during and after illness. Unique problems for children 9-23 months of age were that children were not eating family foods; some mothers force-fed their children; inclusion of unhealthy snacks in the diet; and giving children tea with or without milk.

In addition to the recommendations given to address complementary feeding problems of 6-8 month age group, mothers with children 9-23 month were given additional recommendations specific to this age group. These include: introduction to family foods; use of responsive feeding approach; increase number of meals per day; increase amount of food to meet recommended daily caloric intake; avoid unhealthy snacks such as chips, soda, cake, sweets, and replace with fruits; and avoid tea in the child's diet, and instead give milk as a separate meal/snack.

In addition to the motivations highlighted for mothers of children 6-8 months of age, mothers of children 9-23 months were also motivated by convenience for the child to eat family foods, as it would cut down on preparation time.

The challenges and modifications for this cohort were similar to those cited by mothers of children 6-8 months of age

Chapter 5: Discussion of Findings

PERCEPTIONS, BELIEFS, ATTITUDE, AND PRACTICES

This formative assessment sought to explore perceptions, beliefs, attitudes, and practices among mothers in Migori and Kisumu counties regarding complementary feeding for children 6-23 months of age through qualitative and quantitative methods. In addition, the formative assessment used the TIPs approach to engage with mothers and discuss their perceptions, beliefs, attitudes, practices and how they can try out new, improved complementary feeding practices that would improve the health of their children. In this chapter, the findings and what they mean in the context of Migori and Kisumu, and their wider implications for IYCN programs are addressed. In this section, the key findings are highlighted and key counseling messages to improve complementary feeding are provided.

PERCEPTIONS OF CHILD HEALTH AND HEALTHY GROWTH

Mothers were asked about what they thought was characteristic of a healthy baby and healthy growth. From the descriptions, many mothers in the formative assessment associate health with physical and emotional appearance. These are important approaches to understanding health and healthy growth, but as the results show, the approaches are prone to misperceptions and misconceptions. There is need for health providers and counselors to further clarify and elaborate on the signs of poor health in their messaging to mothers. This is especially important to provide knowledge to the mothers and to minimize misperceptions of physical and emotional health and the wellbeing of the child in general.

PERCEPTIONS OF EXCLUSIVE BREASTFEEDING AND COMPLEMENTARY FEEDING

Exclusive Breastfeeding:

The results of this formative assessment reveal that **most mothers exclusively breastfed their children up to 6 months**. Mothers are determined to EBF for the recommended period of 6 months, to ensure that their children had good health and nutrition. Those mothers who started giving other foods in addition to breastmilk before the child reached six months said they were forced to do so due to circumstances. Such circumstances include poor milk production and illness. There are some perceptions about foods that assist with increased breastmilk production and those that negate breastmilk production. In this formative assessment, some communities believe eating liver and chicken will lead to poor milk production, and therefore, some women may avoid these foods. This practice of avoiding some foods may itself be promoting poor nutrition for the mother and poor milk production. Food avoidance can ultimately lead to women stopping EBF earlier than 6 months. Post-natal care counseling should include messages that address maternal nutrition and dispel long held beliefs that contribute to poor rates of EBF.

Children (6-8 Months):

Most mothers started complementary feeding at 6 months of age, based on advice received at the health facility and from CHVs in the community.

At 6 months, **mothers begin to feed their children liquids and semi-solid complementary foods**. These include thin, watery porridge, meat-based broth, milk, water, tea (with or without milk) and orange juice. Mothers also introduce fruits such as bananas, avocados and pineapples – not in the

form of juices. Mothers rarely feed their children animal source foods or vegetables, though they feed a thin broth consisting of small pieces of these foods. Mothers in western Kenya avoid these foods due to fears that children may choke.

The fact that the mothers gave soup from these foods indicates that the foods are indeed available. However, the results indicate that mothers have little knowledge of different ways of food modification to enable the children to easily eat different foods. Mothers modify some food preparation, but this is limited to starches, such as potatoes, rice and *ugali*, which are mashed to soften. To address this issue, mothers should be advised that animal source foods and vegetables are important for children of all ages, and can be modified for consumption.

The results show that there was **a tendency for caregivers to extend and impose their own food biases on their children**. These biases are informed by beliefs, perceptions, and personal experiences. These preferences are particularly influential on children's diets at the beginning of complementary feeding and persist until children are 23 months old. For example, there are mothers who do not give certain foods to their children because they (the mothers) or other family members were allergic to these foods, or had a bad experience with the food during pregnancy. Given the importance of initiating complementary feeding, caregivers need to be comprehensively educated on the nutritional value of all foods. Moreover, caregivers need to be informed that each individual has unique reactions to different foods. Therefore, caregivers should not deny children certain foods based on personal experiences with these foods.

Complementary Feeding (9-23 Months):

There is **a lack of variety in the foods given to children**. Mothers believe that the children's **digestive systems are too fragile to handle certain foods**. Mothers may limit the children's diet to only a few foods that the children like, as children may reject foods new to them. Rather than eliminating these foods, mothers need to be encouraged to continue feeding different foods. In some cases, the child may not like the style of foods preparation, and mothers modified these foods as a result. As TIPs visit 3 results illustrate, some mothers whose children initially rejected the food opted to modify them in one way or another. The children ate and liked these foods as a result of the modifications.

On the other hand, some **mothers were unable to increase variety in the foods they give their children due to the high cost or lack of access**. This was especially evident concerning increasing animal source proteins and fruits. Meat was reported to be too expensive. Fruits were indicated to be seasonal, and therefore expensive when off-season. These results indicate that mothers need to be educated on the nutritive value of locally available foods, as well as planning meals around foods that are in-season to reduce the costs.

Mothers did not have enough information about food preparation and absorption. This was evident in the way they mixed the porridge flours, added milk to the porridge, added milk to traditional vegetables, and cooked traditional vegetables with bicarbonate of soda. When the assessment team discussed with mothers about the interaction of these foods, they expressed surprise. Mothers were eager to make the changes on food preparation. The results of TIPs 3 show that most of the mothers were successful with the recommended changes, with very few modifications. Mothers were willing to try new practices, even if they challenged long held cultural beliefs and practices around complementary feeding. For example, millet is a source of iron. However, the iron is bound by phytates. The process of fermentation releases the iron. As has been mentioned above, fermented porridge was never given to children. Thus, when children consume unfermented porridge, they do not benefit from the iron because it is bound. However, when children consume fermented porridge, their bodies will be able to

utilize the iron since it is available through the fermentation process. Adding milk to iron-rich foods also makes the iron unavailable because the calcium in the milk and iron in the food react. Thus, mothers were advised to ferment porridge and give milk separately. Such information on food preparation, absorption, and interaction of nutrients should routinely be given to mothers, regardless of whether it supports or challenges existing beliefs and practices. There is great potential for positive reception and use of the information to improve complementary feeding for children.

Household Nutrition: In this formative assessment, it is clear that Kisumu and Migori counties are areas that subsistence **farming is practiced to produce food for family consumption**. A variety of foods are produced locally and are available, yet some caregivers did not have the knowledge to include these foods in the children’s diet. For example, many women and men were surprised to learn that it was healthy to give their children beans to boost their protein intake, without fear of causing stomach problems. Similarly, they were surprised to learn that eggs in the children’s diet would not cause slow development of speech or teeth.

On the other hand, mothers indicated that they bought some foods – such as white potatoes, tomatoes and onions – that they did not produce in their homes. Such foods are seen to be key ingredients in their meals and are used regularly in meal preparation. There is a need to counsel on incorporation of local foods that are in season, which would reduce the pressure for mothers to buy non-local foods or foods that are expensive when out of season.

Mothers are generally giving insufficient amounts of food to meet the recommended daily nutrient intake for the child. In most cases, mothers gave two meals and two snacks a day. For children ages 6-8 months, this is sufficient according to WHO guidance; however, guidance from the Kenya Ministry of Health guidance⁷ states that at 7-8 months of age, children should eat 3 meals a day. Older children (9-23 months of age) need to have three meals and two snacks a day.

Most mothers continue breastfeeding until the child is at least two years old. **However, there appear to be gaps about EBF practices, replacement feeding, complementary feeding, and cessation of breastfeeding among HIV seropositive mothers. The period of EBF for the HIV positive mothers ranged from 6-10 months, which is also the range within initiation of complementary feeding. One woman stated that she did replacement feeding as early as two weeks after delivery.** Women also indicate termination of breastfeeding prior to two years of age. All advice received on EBF practices was from facility-based health providers, which indicates confusion around Ministry of Health (MOH) guidelines and policies.

Mothers prepare children’s foods separately for a long period, and delay introducing the child to family foods. This is partly due to the belief that children should not eat foods prepared with oil and salt, which are commonly found in the family foods. Counseling packages for mothers should include the benefits of introducing the child to family foods by 12 months of age.

The data shows that **mothers are the sole caregivers, but also indicate that they receive support from their social network, which includes family – mothers, mothers-in-law, partners/husbands, siblings, and older children.** Others providing support to the mothers include neighbors, especially in urban settings. Most mothers indicated that they make most decisions about the IYCN by the alternative caregiver. Alternative caregivers who influence IYCF include mothers, mothers-in-law, and husbands. Counseling on complementary feeding should include other family members, such as through BFCI community support groups.

⁷ Kenya Ministry of Health (MOH). 2016. *National Maternal Infant and Young Child Nutrition Counselling Cards*. Nairobi, Kenya: Ministry of Health.

Chapter 6: Recommended Recipes for Complementary Feeding

The MOH, through the Nutrition and Dietetics Unit, developed 'A Guide to Complementary Feeding' to be used by everyone working to improve the health and nutrition of infants and young children. The guide supplements the existing maternal, infant and young child nutrition (MIYCN) counselling cards and is to be used by CHVs. One of the objectives of the guide is to enable users to develop appropriate recipes based on locally available food resources.

Based on the challenges identified in the previous chapters in preparation of complementary foods, recipes were then developed to address these gaps. These recipes show how to prepare various complementary foods for children 6-23 months of age. These recipes are intended to be used for conduct cooking demonstrations at all levels in Migori and Kisumu. These recipes can also be used to prepare foods for all age groups starting from six months. After the food has been prepared, it will then be modified to suit the age of the child, e.g. through mashing, dicing, grating, or mincing.

Oil has also been used in the preparation of these foods to increase the energy content of the foods.

MODIFICATION OF FOODS TO SUIT THE CHILD

All the food above can be eaten by children from 6 months onwards; however, these foods have to be modified to suit the age of the child. There are various methods of modifying foods for children as listed below:

- Mashing for example beans, sweet potatoes, butter nut and fruits
- Shredding of flesh foods for example beef, fish, poultry
- Pounding for example *omena*
- Grating for example carrots, beetroots, boiled eggs
- Grinding for example ground nuts
- Vertical slicing, dicing and mincing

There are various methods for modifying foods for children, depending on the age of the child, as denoted below:

- At 6 months of age – Mashing.
- At 7-8 months of age – Mashing, pounding, grating, shredding, grinding, and mincing.
- At 9-11 months of age – Mashing, mincing, grating, shredding, slicing, dicing, finger foods for example whole fruits e.g. banana, mango.
- At 12-23 months of age – Finger foods, dicing, slicing, mincing, whole foods.

PREPARATION OF PORRIDGE FOR CHILDREN 6-23 MONTHS OF AGE

From the TIPs findings, children of all ages consume porridge. However, the porridge is both made with many different flour ingredients mixed, or is not fermented and thus iron is still bound and the consistency is very thin. The following steps can be used to make porridge that is thick enough that it does not fall /drip off the spoon (to give more energy to the child), and ensure that iron is made available for utilization by the body.

Porridge

Germinating Grain for Porridge

Use *Wimbi*, Sorghum or any other grain

Process of Germinating Grain

- Sort the grain
- Soak for 24 hours
- Drain and put in a clean jute bag or *Osinde** grass or use banana leaves.
- Store in a dark warm place and leave for 2- 3 days until the grains germinate
- Sun dry the germinated grain then grind into flour

Preparation of Porridge From Germinated Grain Flour

Ingredients

- 1 cup flour from germinated grain
- 2 cups water

Method

- Pour 1 cup of water in a *sufuria* (cooking pot/pan) and bring to boil
- Put the flour in a bowl, add one cup of water to make a paste
- Slowly add the paste to the boiling water as you stir
- Continue to stir the mixture until it thickens
- Let it cook under low heat for 10 minutes
- Serve amount according to age of the child
- Enrich with any of the food items as indicated below (Enriching porridge)

Makes one cup of porridge.

Fermenting Flour for Porridge

A number of cereals are good sources of iron. However, the iron is bound and therefore not available in porridge. The process of fermentation makes the iron available in porridge. It also has additional benefits, such as:

- It makes the foods easier to digest and the nutrients easier to assimilate.
- It helps to retain beneficial enzymes, vitamins, and other nutrients that are usually destroyed by food processing.
- Fermented foods are excellent sources of probiotics (good bacteria), which help improve digestion and help in detoxification.
- It is rich in Vitamin K and Vitamin B complex, which help protect against disease and enhance immune function.
- Fermentation reduces the anti-nutritional factors, enhances flavor, color and texture.

To ferment flour for porridge, follow the following steps, using *Wimbi*, *Sorghum*, or any other available grain:

Ingredients

- 1 cup ground millet flour
- ¾ cups warm water

Method

- Put the flour in a plastic container or earthen pot or stainless steel container
- Pour the warm water into the flour and stir to make a smooth paste
- Leave for one day to ferment

Preparation of Porridge From Fermented Flour

Ingredients

- 1 cup fermented flour paste
- 2¾ cups water

Method

- Pour 1 cup of water in a *sufuria* (cooking pot/pan) and bring to boil
- Add the prepared paste slowly and continue stirring until it thickens
- Simmer for ten minutes
- Serve amount according to age of the child
- Enrich with any of the food items as indicated below

Makes 2¼ cup of porridge.

Enriching Porridge

Porridge can be enriched with any of the following: avocado, ripe banana, soya paste, groundnut paste, *simsim* paste, or oil.

Note: Ensure you only use one of the above.

Preparation of Avocado Enriched Porridge

Ingredients

- 2/3 cup porridge made from germinated or fermented flour
- 1/3 slice of Avocado
- ½ a piece of a medium sized orange (used to prevent the avocado from browning)

Method

- Cut the 1/3 slice of Avocado into small pieces in a bowl and mash
- Squeeze the orange into the mashed Avocado and mix to form a smooth paste
- Add the Avocado/ Orange paste into the 2/3 cup of porridge and stir until fully mixed

Preparation of Fermented Milk

Ingredients

- 1 liter of fresh milk

Method

- Sieve the milk
- Boil
- Let it cool
- Put in a fermentation container {guard or stainless steel} enamel containers or melamine containers.
- Leave for 2-3 days to ferment

Serve as a snack or with orange-fleshed sweet potatoes (OFSP) or *ugali*.

Pulses and Legumes

Pulses and legumes are important source of protein. There are several ways to prepare them for your child. They can either be cooked whole or sprouted e.g. green grams. After preparation of the pulses and legumes, it can be fed whole to an older child (12 months) or mashed for a younger child (6 months)

Preparation of Bean Stew

Ingredients

- 1 kg dried beans
- 1 large size chopped onion
- 4 chopped tomatoes
- Salt to taste
- 2 chopped Carrots
- 3 tbsp.. of cooking oil
- 2.5 liters of water

Method

- Sort out the beans
- Wash and soak for 12 hours.
- Discard the soaking water
- Boil the soaked beans in 2.5 liters water for 45 minutes to 1 hour until soft.
- Drain the beans and keep the stock
- Put oil in a *sufuria* (cooking pot/pan), add onions, and fry until soft
- Add tomatoes and cook until it is tender
- Add carrots, stir and simmer for 2 minutes
- Add cooked beans and stir well
- Add the stock, cover with a lid and leave to simmer for 5 minutes until the soup is thick
- Add salt to taste and stir then serve

Serve with rice, ugali, green bananas or OFSP.

Sprouting Legumes

Sprouting is the process through which plants grow from a seed. Green-grams, beans, cowpeas seeds or pigeon peas can be sprouted.

Sprouting Beans

Ingredients

- 1 kg beans
- 3 liters of water

Method

- Soak the beans for 12 hours
- Drain water
- Keep the seeds in the dark until sprouting begins
- The sprouts are ready to cook.
- Cook as bean stew

Preparation of Soya Stew

Method

- Sort out the soya bean
- Put enough quantity of water in a *sufuria* (cooking pot/pan) {1 part of soya to 3 parts of water}
- Heat the water to boiling point

- Drop in the soya beans little at a time maintaining the same boiling point
- Boil for 30-45 minutes
- Remove from the fire
- Put the boiled beans in cold water immediately to stop boiling
- Stew as beans

Serve with rice, chapati, or bananas

- For making flour, sundry the beans well and mill
- However, for soya milk, chunk and sauce, blend/mash the beans.

Fruits

It is important to ensure that children are fed on fruits. It is better to give whole fruits as opposed to making juice from the fruits. For younger children who are starting complementary feeding, the fruits can be mashed to form a smooth paste and fed to the child.

Examples of fruits include pawpaw, avocado, watermelon, bananas, mangoes, guavas, pears, apple, passion fruit, *zambarau* (purple plums), red plums, loquats, oranges or any other available fruit. Fruits can be given whole as finger foods or mashed based on the age of the child. Use fruits that are locally available and in season.

One example is given of how to mash pawpaw for the child. This method can be repeated with other fruits

Mashed Pawpaw

Ingredients

- Pawpaw

Method

- Wash the pawpaw and leave to dry
- Peel and slice into small pieces
- Put in a container and mash using a food masher or a wooden spoon
- Put in a feeding cup or plate.
- Note
- 7-8 months, give mashed fruits
- 9-23 months, give finger fruits

Oranges can be squeezed on other fruits such as avocados or pawpaw.

Flesh Foods

Flesh foods are excellent sources of nutrients including; protein, fat and micronutrients, such as iron and zinc that will prevent anemia and help the child grow well. Examples of flesh foods include meat, fish, poultry, birds, insects, liver and other organ meats. These flesh foods can be prepared as per the recipes described. The flesh foods can be minced (any meat), pounded (*omena*), or mashed (fresh fish) for younger children, shredded or sliced for older children.

Preparation of Beef stew

Ingredients

- ¼ kg of beef
- 1 medium chopped onion
- 2 medium chopped tomatoes
- Salt to taste
- 1 table spoon of cooking oil
- 1 cup of Water

Method

- Wash the meat before slicing
- Cut the meat into small pieces
- Boil the meat until tender
- Shred the meat
- Put oil in *sufuria* (cooking pan/pot) and heat
- Add onions and fry until soft
- Add tomatoes stir and simmer for 2 minutes
- Add cooked meat and stir
- Add 1 cup of water and mix well
- Simmer for 5 minutes
- Add salt to taste

Serve with spinach, amaranth leaves, or pumpkin leaves with *ugali*, rice, or OFSP.

Preparation of Chicken Stew

Ingredients

- ¼ kg Chicken
- 1 medium chopped tomato
- 1 medium chopped onion
- Salt to taste
- 1 cup of water
- 1 teaspoon of cooking oil

Method

- Wash the chicken
- Slice or cut into small pieces
- Boil until tender
- Put oil in *sufuria* (cooking pot/pan) and heat
- Fry the onion until soft
- Add tomatoes and simmer until tender
- Add cooked chicken
- Stir well then add water
- Cook under low heat for 5 minutes
- Add salt to taste

Serve with spinach, amaranth leaves, or pumpkin leaves with *ugali*, rice, or OFSP

Note: After cooking the chicken, mash the liver or heart, and then add soup to make it soft and serve with *ugali*, rice, or OFSP plus any other vegetable.

Preparation of Fresh Fish Stew

Ingredients

- Fresh medium sized fish
- 2 medium size chopped tomatoes
- 1 medium size chopped onion
- 1 tbsp.. of cooking oil
- 2 cups of water
- Salt to taste

Method

- Remove scales, intestines, wash the mouth and gills

- Wash the whole fish
- Cut into three pieces
- Put oil in a *sufuria* (cooking pot/pan) and heat
- Fry the onions until soft
- Add tomatoes, simmer until soft
- Add water and bring to boil
- Add fish and simmer for 20 minutes until it is well cooked
- Add salt to taste
- Flake the fish and ensure there are no bones left in the fish

Serve with *ugali*, rice, and vegetables.

Preparation of Fresh Omena Stew

Ingredients

- ½ kg fresh *omena*
- 1 large chopped onion
- 2 medium size chopped tomatoes
- 2 grated carrots
- Salt to taste
- 2 cups of water

Method

- Sort out the *omena*, wash with cold water
 - Heat oil on a *sufuria* (cooking pot/pan)
 - Add and fry the onions till soft, add tomatoes, simmer until soft
 - Add 2 cups of water and bring to boil
 - Add *omena* and simmer for 20 minutes
 - Add carrots and continue to simmer for 2 minutes
 - Add salt to taste

Serve with *ugali*, rice, green bananas, or OFSP and vegetables

Preparation of Dried Omena Stew

Ingredients

- ½ kg dried *omena*
- 1 large chopped onion
- 2 medium chopped tomatoes
- 2 grated carrots
- Salt to taste
- 3 cups of water

Method

- Sort out the *omena*, wash with warm water and rinse with cold water
- Bring to boil for 10 minutes and simmer for 5 minutes
- Drain the *omena* and keep the stock
- Heat oil on a *sufuria* (cooking pot/pan)
- Add the onions and fry until soft , add tomatoes, simmer until tender
- Add *omena*
- Add little water or stock and simmer for 2 minutes
- Add carrots and simmer for 2 minutes
- Add salt to taste

Serve with *ugali*, rice, green bananas, or OFSP and vegetables

Eggs

Eggs are a very good source of inexpensive, high-quality proteins. They also contain vitamins, minerals and essential fatty acids. Eggs can be prepared in a variety of ways, such as poaching, boiling, and scrambling. Eggs can also be mashed for younger children.

Preparation of Poached Eggs

Ingredients

- 3 Eggs
- 2 cups of water
- Salt to taste

Method

- Bring a shallow *sufuria* (cooking pot/pan) of water (2 inches) to boil
- Add salt and stir
- Wash the eggs
- Break the eggs and slide them gently into the water
- Simmer for 3-5 minutes till the eggs have set
- Remove the eggs using a “*mandazi*” spoon

Served with rice or *ugali*, and vegetable or any other staple food.

Preparation of Scrambled Egg

Ingredients

- 1 egg
- Salt (Optional)
- 1 teaspoon Oil
- Few leaves of *dhania* (*cilantro*)
- 1 small size chopped tomato
- 1 small size chopped onion

Method

- Wash the egg
- Break the egg and beat using a fork
- Heat the oil in a shallow *sufuria* (*cooking pot/pan*) on medium heat
- Pour the beaten egg and add all the other ingredients
- Stir using a wooden spoon as you cook under low heat for 5 minutes
- Add salt to taste

Served with rice, *ugali*, or any other staple food and vegetable.

Pulses, Nuts and Seeds

Pulses includes peas, beans and lentils. Nuts and certain seeds are rich in unsaturated fatty acids, vegetable protein, fibre and minerals. Examples of nuts are peanuts, groundnuts, and cashew nuts.

Preparation of Groundnut Sauce

Nuts provide both protein and fats. Fat is also an important source of energy.

Ingredients

- 1 kg ground nuts
- Salt to taste

Method

- Sort out the ground nuts and wash
- Roast the ground nuts in a *sufuria* (cooking pot/pan)
- Grind or blend to get the powder
- Add fermented milk or water to the powder and mix to make a paste
- Put the mixture on fire, cook and continue stirring until the sauce is smooth
- Add salt to taste (optional)

Served with sweet potatoes, green bananas, Irish potatoes, or rice and vegetables.

Preparation Butternut

Ingredients

- 1 medium size butter nut
- 2 cups of water

Method

- Wash the butter nut
- Put in a *sufuria* (cooking pot/pan) and add water
- Cover with a tight fitting lid or banana leaves
- Boil for 15-20 minutes
- Peel the thinner layer and mash or give as a finger food

Serve with a groundnut sauce, fermented milk, or beans and vegetables

Vitamin A-Rich Fruits and Vegetables

Vitamin A-rich vegetables include orange-fleshed sweet potato, carrot, pumpkin, dark green leafy vegetables, and deep yellow- or orange-fleshed squash. Vitamin A rich fruits include ripe mango, ripe papaya, red palm fruit/pulp, passion fruit, and apricot.

Preparation of Fried Vegetables

Spider weed, black nightshade, sweet potato leaves, amaranthus, or cowpeas.

Ingredients

- 2 bunches of tender spider weed
- 2 medium size chopped tomatoes
- 1 medium size chopped onion
- 1 tbsp.. of oil
- Salt to taste

Method

- Remove the stalk, wash and cut the vegetable
- Put oil in a *sufuria* (cooking pot/pan) and heat
- Add the chopped onions and fry till tender
- Add chopped tomatoes and stir till soft
- Add the cut vegetables and cook for 10 minutes

Serve with *ugali* and *omena* (or any other starch or protein).

Preparation of Steamed Vegetables

Spider weed, black nightshade, sweet potato leaves, amaranthus, or cowpeas.

Ingredients

- 2 bunches of tender spider weed
- 2 medium size chopped tomatoes
- 1 medium size chopped onion
- 1 tbsp.. of oil
- Salt to taste

Method

- Remove the stalk, wash and cut the vegetables
- Put water in a *sufuria* (cooking pot/pan) with a lid and bring to boil
- Mix all the ingredients in a smaller *sufuria* (cooking pot/pan) and cover with a clean banana leaf or foil paper
- Place the smaller pan with the vegetables in the bigger *sufuria* (cooking pot/pan) with boiling water and cover the bigger *sufuria* (cooking pot/pan) with a lid.
- Steam for 15 to 20 minutes.

Served with rice, *ugali*, or any other staple food and protein

Other Fruits and Vegetables

Preparation Orange-Fleshed Sweet Potatoes

Ingredients

- Boiled OFSP
- Ingredients
- 5 medium pieces of OFSP
- ½ liter of water

Method

- Select the potatoes, wash and put the unpeeled potatoes in a *sufuria* (cooking pot/pan) and add half a liter of water ensuring they are not submerged
- Cover with a tight fitting lid or banana leaves
- Boil for 15-20 minutes
- Peel the thinner layer and mash or give as a finger food

Serve with a groundnut sauce, fermented milk, or beans and vegetables.

Healthy Snacks

A snack is any nutritious food eaten in-between meals. Examples include milk, whole fruits, groundnuts, porridge, soya nuts, soya crunches, and OFSP.

Preparation of Soya Milk

- Put 1 cup of soya paste in a container, add 2 cups of water, stir well and sieve.
- Add a pinch of salt and sugar to taste

Serve

Use the left over from the sieve to enrich the green leafy vegetables

Preparation of Soya Chunks

- Use the soya left over to make chunks
- Season the left over to make chunks

- Bind the mixture with egg white or bread crumbs
- Make balls
- Deep fry in oil until golden brown then serve.

Preparation of Soya Nut

Ingredients

- ½ kg boiled soya beans
- Salt to taste
- 4 tbsp.. Cooking oil

Method

- Shallow fry boiled beans until brown and crispy
- Sprinkle salt

Serve as snack when warm or cold.

Conclusions

Through TIPs, mothers were able to demonstrate that they are open to trying new ways of improving their children's health and nutrition.

Kisumu and Migori counties have a wide variety of locally available foods that can be given to children 6-23 months of age. Despite this, the TIPs results indicate that there is limited variety of food given to children compared to what is available. Mothers demonstrate that they are able to vary the amounts and types of available, local foods given to young children in this assessment, without necessarily increasing the burden to the family on cost and time.

Food preparation methods are limited here, which often entail small changes in existing local recipes. The culturally tailored recipes shown in this report are reflective of recent guidance on complementary feeding from the MOH and can be used in western Kenya. This formative assessment reveals challenges, tested recommendations, and illustrative recipes, which can be implemented in future programming in this region of Kenya.

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Appendix I – Data Collection Form: TIPs I Visit, Mothers with Children 0-23 Months old

Instrument 1a. Trials for Improved Practices (TIPs): FIRST HOME VISIT

Child CODE:
First name of child:
Mother CODE:
First name of mother:

BACKGROUND INFORMATION:
A. Date of interview
B. Name of interviewer
C. Interviewer ID
D. County
E. Sub county
F. Community Unit/ village
G. Household ID
H. Link Health facility name
I. Child welfare clinic number
J. Age of mother/caregiver
K. Age of child
L. Sex of the child

M. How many other children do you have besides this one?
N. What are the ages of these children?
O. Mother's occupation:
P. Mother's level of education (Put x) <input type="checkbox"/> none <input type="checkbox"/> some primary <input type="checkbox"/> completed primary <input type="checkbox"/> some secondary <input type="checkbox"/> completed secondary <input type="checkbox"/> completed secondary and some college)
Q. Mother's marital status: <input type="checkbox"/> (check all that apply) <input type="checkbox"/> married <input type="checkbox"/> divorced <input type="checkbox"/> separated <input type="checkbox"/> widowed <input type="checkbox"/> Father is at home <input type="checkbox"/> Father is working abroad

Introduce yourself to the mother

Hello, my name is ----. How are you today? How is your family? Can you explain a little about the plans you have for your family and for your baby?

Today, I would like to talk to you about your child's health, growth and what you feed him/her so we can learn about how to improve programs for child health in your community.

Child Health and Growth

1. In your own words, tell me what you think are the characteristics of a 'healthy' child. Probes: How can a child be healthy? What can a mother do to keep her child healthy?
2. How can you tell that your child is growing well? Probes: What are the signs of good growth? What do you do to make sure your child grows well? What are the signs of poor growth? What do you do if you think your child is not growing well?

*Please use section according to age of the child, below:

For Women with Infants 6-8 Months:

1. When was the first time you introduced other types of food - other than milk?
2. And what was this type of food?

3. What are the usual first watery or thin or semi-solid foods?
4. What types of foods and liquids including water and drinks do you give to your child now?
5. What types of foods and liquids should older children be given?
6. Probes: When did you start giving each one? And how did you prepare each one?
7. What were your reasons for starting to give it at that time?
8. At what age did you start giving your child soup broth or veggies cooked in water?
9. How did you know that your child was ready to eat soup broth or veggies cooked in water?
10. What age did you start giving your child thin food (define)?
11. How did you know that your child was ready to eat thin food?

IF THE MOTHER DOES NOT FEED THE CHILD OTHER LIQUIDS-FOOD YET, PLEASE ASK:

12. When do you plan to give other liquids to _____?
 - a. How do you know when to start?
 - b. What will you give him/her?
 - c. How will you prepare this?
 - d. Who advises you on this?
13. When do you plan to give _____ solid foods?
 - a. How do you know when to start?

- b. What will you give him/her?
- c. How will you prepare this?

For Women with Infants 9-11 Months:

1. When did you first introduce other types of food than milk?
2. And what type of food was this?
3. What are the usual first watery, thin, or semi-solid foods?
4. What types of foods and drinks do you give to your child now?
5. Probes: When did you start giving each one? And how did you prepare each one?
6. What were your reasons for starting to give it at that time?
7. What are the usual first solid foods?
8. At what age did you start giving your child solid food?
9. How did you know that your child was ready to eat solid food?
 - a. How often do you feed your child food during the day?
10. How many meals and snacks? How important is it to have a schedule or routine for feeding?
 - a. Probes: What happens to your schedule/routine (if any) when you must go out (to work, other venue)?
 - b. How do you feel about that?
11. Is the amount of time it takes to feed your child important to you? Why/why not?

12. Do you feed your child when she/he is ill? Do you feed the child during the illness? After the illness? Why or why not?

For Women with Children 12-17 Months:

1. When did you first introduce other types of food than milk?
2. And what was this type of food?
3. What are the usual first watery, thin, or semi-solid foods?
4. What types of foods and drinks do you give to your child now?
5. Probes: When did you start giving each one? And how did you prepare each one?
6. What were your reasons for starting to give it at that time?
7. At what age did you start giving your child family foods?
8. How did you know that your child was ready to eat family foods?
 - a. How often do you feed your child food during the day?
9. How many meals and snacks? How important is it to have a schedule or routine for feeding?
 - a. Probes: What happens to your schedule/routine (if any) when you must go out (to work, other venue)?
 - b. How do you feel about that?
10. Is the amount of time it takes to feed your child important to you? Why/why not?
11. Do you feed your child when she/he is ill? Do you feed the child during the illness? After the illness? Why or why not?

For Women with Children 18-23 Months:

1. When did you first introduce other types of food than milk?
2. And what was this type of food?
3. What are the usual first watery, thin, or semi-solid foods?
4. What types of foods and drinks do you give to your child now?
5. Probes: What makes these foods appropriate for a child of this age?
6. At what age did you start giving your child family foods?
7. How did you know that your child was ready to eat family foods?
 - a. How often do you feed your child food during the day?
8. How many meals and snacks? How important is it to have a schedule or routine for feeding?
 - a. Probes: What happens to your schedule/routine (if any) when you must go out (to work, other venue)?
 - b. How do you feel about that?
9. Is the amount of time it takes to feed your child important to you? Why/why not?
10. Do you feed your child when she/he is ill? Do you feed the child during the illness? After the illness? Why or why not?

**FOR CHILDREN OF ALL AGES:
Advice about Young Child Feeding**

11. What kinds of advice have you received about how to feed your child?

- a. Probes: Who gave you the advice (find out about peoples' ages, relation to respondent, etc...)?
- b. When was the advice given (e.g. before/after birth)?
- c. Whose advice about feeding babies do you trust the most?
- d. Why?
- e. How do you know what advice to keep and what to ignore?
- f. Are there any circumstances where you feel either that what you are being told is wrong or that your child needs something different?

Alternate Caregivers

1. Tell me about who other than yourself takes care of your baby.
 - a. Probes: When/how often?
2. What do others feed the child?
3. Under what circumstances do others feed the child?
4. How do you feel about it?
5. What about in daycare?

Cues – Hunger/Appetite/Satiety

1. Tell me what you have noticed about differences in appetite between children or at different times for the same child?
 - a. Probes: How do you know when your child is hungry? What happens?
2. What do you do when you think your child is hungry?
3. How do you know when your child has had enough food?
4. Do you ever find it difficult to feed your baby? Why or why not?

5. What do you do when your child is not accepting very much food you offer for lunch or dinner, what should happen?
 - a. Probe on pressure/force to eat; not concerned; talk with others, etc.

Responsive Feeding/Styles of Feeding

1. What foods do you think is important for your child to eat daily? How do you make sure she eats those foods?
2. What are circumstances when a mother/caregiver should insist that a child finishes all her food?
3. How do you feel if your child touches, explores, even plays with food when learning how to eat? How long would you allow this happen?
4. What are all the different ways a mother can encourage her child to eat? Probe on strategies, such as helping, verbalization, role-playing, pressuring, etc.)
5. How do you know when the child is old enough to start feeding herself, at least some foods? Where do you usually sit when you feed the child and where do you place the child?
6. Who usually feeds the child – mother, child, grandmother, other? How has this changed over time?

Household Food Access

Thank you for sharing that with me. Now I would like to talk about how you obtain your food. Tell me:

1. In what activities/work do you participate to help maintain your family?
 - a. How much time do you spend on these activities/work? (Days/week, hours/day)
 - b. Do these activities vary through the seasons? How?
2. What foods does your family cultivate?
3. What foods do you obtain by raising any animals?

4. What foods are available every day?
5. What foods are available by season?
6. What foods are for fathers? Mothers? Babies?

Food Shopping Patterns

- I. Tell me about the places where you usually buy food.
 - a. Probe: How often do you shop?
 - b. How far is to the shops you use?
 - c. Do you shop at different places for different food items (e.g. fresh fruit/vegetables vs. staples)?
 - d. How far do you have to go to buy these foods?

Interviewer: Analyze the dietary information and identify any feeding problems listed on the Assessment and Counseling Guide. Write a brief summary of the following aspects of the diet and indicate whether or not current feeding is adequate which will be used during the counseling visit (Visit 2).

Summary of dietary information:

Appendix II – Data Collection Form: TIPs 2 Visit, Mothers with Children 0-23 Months old

Time started...

Child Code	
First Name of Child	
Mother Code	
First Name of Mother/Caregiver	

INSTRUMENT 2: TRIALS OF IMPROVED PRACTICES COUNSELING VISIT, KENYA

Date of observation/interview:		County	
Name of Observer/Interviewer		Sub county	
ID of Observer/Interviewer		Community Unit/ Village	

Village ID		Age of mother/caregiver	
Household ID		Age of child	
Health facility Name		Sex of Child	Male Female
Child welfare clinic number			

Child is sick: YES NO

Child Underweight: YES ___ NO ___

IDENTIFY FEEDING PROBLEMS:

Analyze the dietary information you collected during your interview/observations and identify any feeding problems based on the assessment and counseling guide, according to the child's age and health status. When analyzing the child's diet, take into account the following criteria:

I. FEEDING PRACTICES	
Question guides for summary of information:	
Is the child fed other foods and/or liquids other than breastmilk?	
How many meals was the child fed?	
Was the food thick or watery?	
Did the child finish all the food given?	
How much was eaten by the child? (ex. 1/2 bowl)	
Did the mother give any snacks?	
Did the diet include any meat, fish, egg, or poultry?	
Were vegetables given to the child?	
Was fruit given to the child?	
Did the mother motivate the child to eat?	
Are there any food restrictions/ beliefs with regards to MIYCN in the community	

Fill out the following table with the corresponding information once you have analyzed the child's diet, using the assessment and counseling guide.

Problems Identified	Recommendations	Motivations

Discuss the appropriate recommendations for the child's age and current feeding patterns, based on the Assessment and Counseling Guide.

On the following forms, record as much detail as possible about the mother's responses to the recommendations (for example, how does she react, why is she willing or unwilling to try?)

Negotiate with the mother so that she chooses one new practice she would be willing to try for a week to 10 days. Explain that you will be coming back to get her opinion on the new practice.

RECOMMENDATIONS:

Recommendation#		:	
Specific food options suggested:			
Mother's initial response:			
Willing or try? Why or why not?			

Any other circumstances under which she would try the recommendations? When? What modifications?

[Insert additional sheets for as many recommendations as are planned for this counseling session.]

Ask the mother to explain to you the new practice she will try. Make sure she understands and agrees. Summarize (in her own words) what the mother has agreed to try:

Ask if she has any questions or comments (record them). Make sure that all the details of preparation are clear.

Arrange a date for follow-up in about 7-10 days (see schedule). Ask the mother when is a convenient time of day to meet her and try to arrange that she will be home when you come.

Follow-up visit arranged for the following date:

Thank mother for spending time answering your questions and encourage her to really try the new practice.

Time finished: ____ : ____

Appendix III: – Data Collection Form: TIPs 3 Visit, Mothers with Children 0-23 Months old

Child Code	
First name of Child	
Mother Code	
First name of Mother/Caregiver	

Date of Interview:	
Name of Interviewer	
Interviewer ID	

County	
Sub county	
Community Unit/ Village	

Village ID	
Household ID	
Health facility name	
Child welfare clinic number	

Age of mother	
Age of child	
Sex of child	1 = Male 2 = Female

Child is sick: YES <input type="checkbox"/> NO <input type="checkbox"/>

FEEDING PRACTICES

Question guides for summary of information:

Was the child fed other foods besides breastmilk?

How many meals was the child fed?

Was the food thick or watery?

STEP 3. OUTCOME OF TRIAL:

Refer to summary of the agreement made with the mother during the second visit (after counseling). Using the following forms, note each practice she agreed to try, and ask the questions listed. Probe for reasons why and make detailed notes.

Fill in separate forms for each practice she agreed to try, or for what she tried instead.

Recommendation #1:

3. 1 Has the mother tried it? _____ Y/N

3. 2 If no, what are her reasons? Probe why not.

3.3 If yes, did she like it? _____ Y/N

3.4 What did she like about it?

3.5 What did not she like about it?

3.6 How does she feel the child responded?

3.7 Did she modify the recommendation? How? Why?

3.8 Did other people say anything about it? Who? (Husband, in-laws, friends) What did they say?

3.9 Will she continue the recommended practice? Why or why not? Will it be every day?

3.10 Would she recommend it to others? How would she convince them to try it? (In her own words)

Recommendation #2:

3.1 Has the mother tried it? _____ Y/N

3.2 If no, what are her reasons? Probe why not.

3.3 If yes, did she like it? _____ Y/N

3.4 What did she like about it?

3.5 What did not she like about it?

3.6 How does she feel the child responded?

3.7 Did she modify the recommendation? How? Why?

3.8 Did other people say anything about it? Who? (Husband, in-laws, friends) What did they say?

3.9 Will she continue the recommended practice? Why or why not? Will it be every day?

3.10 Would she recommend it to others? How would she convince them to try it? (In her own words)

Recommendation #3:

3.1 Has the mother tried it? _____ Y/N

3.2 If no, what are her reasons? Probe why not.

3.3 If yes, did she like it? _____ Y/N

3.4 What did she like about it?

3.7 What did not she like about it?

3.8 How does she feel the child responded?

3.9 Did she modify the recommendation? How? Why?

3.10 Did other people say anything about it? Who? (Husband, in-laws, friends) What did they say?

3.11 Will she continue the recommended practice? Why or why not? Will it be every day?

3.12 Would she recommend it to others? How would she convince them to try it? (In her own words)

[Insert additional sheets as needed].

Closure: Encourage mother to continue practice and ask if she has any questions or comments. Provide counseling or information as needed. Thank her for her participation in the study.

Appendix IV – Data Collection Form: Focus Group Discussion with Fathers with Children 6-23 Months old

County
Sub county

BACKGROUND INFORMATION:
A. Date of interview
B. Ages of fathers in focus group
C. Fathers; occupations
D. Ages of children

Child Health and Growth

In your own words, tell me what you think are the characteristics of a 'healthy' child. Probes: How can a child be healthy? What can you do to keep a child healthy?

How can you tell that a child is growing well? Probes: What are the signs of good growth? What do people do to make sure a child grows well? What are the signs of poor growth? What do people do if a child is not growing well?

Complementary Feeding:

For fathers of 6-8 month infants: What types of foods and drinks does the child eat now? Probes: When was each type of food or drink first given? Why was each started at that time? What are the usual first watery or thin foods? At what age did the child start eating watery or thin food? How did you know that the child was ready to eat watery or thin food?

For fathers of 9-11 month infants: What types of foods and drinks does the child eat now? Probes: When was each type of food or drink first given? Why was each started at that time? What are the

usual first solid foods? At what age did the child start eating solid food? How did you know that the child was ready to eat solid food?

For fathers of 12-17 month children: What types of foods and drinks does the child eat now?

Probes: When was each type of food or drink first given? Why was each started at that time? At what age did the child start eating family foods? How did you know that the child was ready to eat family foods?

For fathers of 18-23 month children: What types of foods and drinks does the child eat now?

Probes: How do you know that these foods are appropriate for a child of this age? At what age did the child start eating family foods? How did you know that the child was ready to eat family foods?

Tell me about the pattern of feeding throughout the day. Probes: How often is the child breastfed during the day and night? How long does the mother plan to breastfeed? (If breastmilk is not given), what drinks are given instead of breastmilk? How often does the child eat food during the day? How many meals and snacks?

How important is it to have a schedule or routine for feeding? Probes: What happens if the schedule/routine is disrupted? How do you feel about that?

Is the amount of time it takes to feed the child important to you? Why/why not?

Advice about Breastfeeding and Young Child Feeding

What kinds of advice do you give the child's mother/grandmothers about feeding the child? Probes: When did you give advice about child feeding? Why did you feel it was necessary to give advice?

Alternate Caregivers

How often do you take care of the child? Probes: How often are you responsible for feeding the child? Who other than yourself and the mother takes care of the child?

Cues – Hunger/Appetite/Satiety

Tell me what you have noticed about differences in appetite between children or at different times for the same child? Probes: How do you know when the child is hungry? What happens? What do you do when you think the child is hungry?

Let us imagine that the child is not accepting very much of the food you offer for 1-2 days, what should happen? Probe on pressure/force to eat; not concerned; talk with others, etc.

Responsive Feeding/Styles of Feeding

What foods are important for the child to eat daily? How do you make sure the child eats those foods?

What are circumstances when a mother should insist that a child finishes all her food? How do you feel if the child touches, explores, even plays with food when learning how to eat? How long would you allow this happen?

What are all the different ways a caregiver can encourage a child to eat? Probe on strategies, such as helping, verbalization, role-playing, pressuring, etc.

How do you know when the child is old enough to start feeding herself, at least some foods? Where do you usually sit when you feed the child and where do you place the child?

Who usually feeds the child – mother, child, yourself, and other? How has this changed over time?

Appendix V – Data Collection Form: Focus Group Discussions with Grandmothers of Children 6-23 Months old

INSTRUMENT: FGD WITH GRANDMOTHERS OF CHILDREN 0-23 MONTHS OF AGE

County
Sub county
BACKGROUND INFORMATION:
A. Date of interview
B. Village
C. Ages of grandmothers
D. Grandmothers' occupations
E. Ages of grandchildren

Child Health and Growth

In your own words, tell me what you think are the characteristics of a 'healthy' child. Probes: How can a child be healthy? What can you do to keep a child healthy?

How can you tell that a child is growing well? Probes: What are the signs of good growth? What do people do to make sure a child grows well? What are the signs of poor growth? What do people do if a child is not growing well?

Breastfeeding and Complementary Feeding:

For 6-8 month infants: What types of foods and drinks does the child eat now? Probes: When was each type of food or drink first given? Why was each started at that time? What are the usual first watery or thin foods? At what age did the child start eating watery or thin food? How did you know that the child was ready to eat watery or thin food?

For 9-11 month infants: What types of foods and drinks does the child eat now? Probes: When was each type of food or drink first given? Why was each started at that time? What are the usual first solid foods? At what age did the child start eating solid food? How did you know that the child was ready to eat solid food?

For 12-17 month children: What types of foods and drinks does the child eat now? Probes: When was each type of food or drink first given? Why was each started at that time? At what age did the child start eating family foods? How did you know that the child was ready to eat family foods?

For 18-23 month children: What types of foods and drinks does the child eat now? Probes: What makes these foods appropriate for a child of this age? At what age did the child start eating family foods? How did you know that the child was ready to eat family foods?

Tell me about the pattern of feeding throughout the day. Probes: How often is the child breastfed during the day and night? How long does the mother plan to breastfeed? (If breastmilk is not given), what drinks are given instead of breastmilk? How often does child eat food during the day? How many meals and snacks?

How important is it to have a schedule or routine for feeding? Probes: What happens if the schedule/routine is disrupted? How do you feel about that?

Is the amount of time it takes to feed the child important to you? Why /why not?

Advice about Breastfeeding and Young Child Feeding

What kinds of advice do you give the grandchild's mother/parents about feeding the child? Probes: When do/did you give advice about child feeding? Why did you feel it was necessary to give advice?

Alternate Caregivers

How often do you take care of your grandchild? Probes: How often are you responsible for feeding your grandchild? Who other than yourself and the mother takes care of the child?

Cues – Hunger/Appetite/Satiety

Tell me what you have noticed about differences in appetite between children or at different times for the same child? Probes: How do you know when the child is hungry? What happens? What do you do when you think the child is hungry?

Let us imagine that the child is not accepting very much of the food you offer for 1-2 days, what should happen? Probe on pressure/force to eat; not concerned; talk with others, etc.

Responsive Feeding/Styles of Feeding

What foods are important for the child to eat daily? How do you make sure the child eats those foods?

What are circumstances when a mother should insist that a child finishes all her food? How do you feel if the child touches, explores, even plays with food when learning how to eat? How long would you allow this happen?

What are all the different ways a caregiver can encourage a child to eat? Probe on strategies, such as helping, verbalization, role-playing, pressuring, etc.

How do you know when the child is old enough to start feeding herself, at least some foods? Where do you usually sit when you feed the child and where do you place the child?

Who usually feeds the child – mother, child, yourself, other? How has this changed over time?

Appendix VI – Food Frequency Questionnaire

Child CODE:
First name of child:
Mother CODE:
First name of mother:

A. Community Unit/ Village
B. Village ID:
C. Household ID
D. Health facility Name
E. Clinic ID
F. Age of mother/caregiver
G. Age of child
H. Sex of child: 1 = Male; 2 = Female
I. Mother's occupation:
J. Mother's level of education (Put x) _none _ some primary _completed primary _ some secondary _ completed secondary _completed secondary and additional schooling (i.e. college)
K. Father's occupation:
L. Father's level of education (Put x) _none _ some primary _completed primary _ some secondary _ completed secondary _completed secondary and additional schooling (i.e. college)
M. Mother's marital status: (check all that apply) __married __divorced __separated __ Father is at home __ Father is working abroad

Instructions for Interviewer:

- Ask the mother what she feeds her child in the morning, afternoon (lunch), after 12 noon, and evening so she can talk about how often she feeds her child certain foods – for example ask her what she fed the child yesterday.
- Mark the foods she mentions and ask her to show her how much she is feeding – according to local household utensils, her child of 6-59 months of age (For example spoonful, or cup, ½ cup depending on local measure)
- Then probe for other common foods listed below to see how many times they are consumed per week and per month

For frequency: write the exact number the mother says – 1 time per day, or if the mother says a range (2-3 times)

Food	Code	Frequency			Serving size/once	
		Daily	Weekly	Monthly	Household measure	Grams
Biscuit, plain						
Porridge						
Sweetened porridge						
Enriched porridge (Enriched with, specify.....)						
Rice						
Ugali						
Bread						
Pancakes						
Chapati						
Rice						
Sorghum/millet porridge						
Pumpkin						

Food	Code	Frequency			Serving size/once	
		Daily	Weekly	Monthly	Household measure	Grams
Sweet potatoes						
Irish potatoes						
Potato chips						
Any other not listed please specify here						
Beans,						
Lentils, peeled (yellow)						
Lentils, un-peeled						
Green grams)						
Nuts						
Fresh Milk						
Fermented milk						
Milk, powder						
Egg						
Beef						
Chicken						
Fish						
Chicken						

Food	Code	Frequency			Serving size/once	
		Daily	Weekly	Monthly	Household measure	Grams
Liver						
Ghee						
Butter						
Margarine						
Yoghurt						
Black tea						
White tea						
Hot drinks.....specify						
Carbonated, soft drinks						
Juice Fresh						
Other drinks/juices, e.g. quencher						
Tomato						
Cucumber						
Carrots						
Dark green leafy vegetables						
Fruits						
Watermelons						
Mangoes						
Plums						

Food	Code	Frequency			Serving size/once	
		Daily	Weekly	Monthly	Household measure	Grams
Strawberries						
Oranges						
Ripe Banana						
Grapes, seedless						
Apple						
Guavas						
Pineapple						
Other fruits: specify						
Lemons						
Oil						
Butter						
Molasses						
Honey						
Sugar						
Sweets						
Other sweeteners: Specify:						