

MODULE 2: BREASTFEEDING AND INFANT AND YOUNG CHILD FEEDING

INTERVIEWER INSTRUCTIONS

Organization of this module

Module 2 consists of fourteen questions on breastfeeding and infant and young child feeding. Examples of optional questions on fortified foods, iron supplements, and deworming are also included. A tabulation plan for breastfeeding and infant and young child feeding (IYCF) indicators is provided at the end of the module. Denominators for all indicators in the tabulation plan should include only the children having a valid response to all questions included in tabulation of the numerator of the indicator. For example, the denominator for the indicator “Ever breastfed,” should only include children aged 0-23 months with a valid response (yes or no) to Q.1. Missing, out of range, or DK responses are not valid responses and those children should not be included in the denominator of the indicator.

Asking questions and recording answers

With the exception of question 12, all questions in this module are based on mothers’ (or other caregivers’) recall. It is very important that you ask each question exactly as it is written on the questionnaire. If the mother or caregiver does not understand the question, you may need to use extra probing questions. Probing questions are discussed during interviewer training. It is important that all interviewers use the same probing questions.

In addition to the questions, there are statements that appear in all capital letters. These are interviewer instructions, and should not be read aloud to the mother/caregiver.

Most questions have pre-coded responses. It is important that you do not read these choices aloud. When you ask a question, you should listen to the mother’s/caregiver’s answer, then circle the code next to the category that best matches her answer.

Q.1: Ever breastfed child

In this question it does not matter how long the mother breastfed the child, only whether or not she ever gave the child the breast.

Q.2: When breastfeeding began

Immediate breastfeeding ensures that the infant begins to receive the nutritional and antiviral/antibacterial benefits of the mother’s colostrum. Colostrum is yellow and thicker than the mature milk, and it contains more antibodies and white blood cells. It gives the infant protection against bacteria and viruses. Immediate breastfeeding also ensures that body warmth is maintained after delivery. In Question 2, record how many hours after birth the baby was first put to the breast. If the baby was put to breast within the first hour of life, record ‘00’ hours. If the baby was put to the breast after more than 24 hours, record the number of days after birth when the baby was first put to the breast.

Qs.3, 4, & 5: Colostrum (first milk) and prelacteal feeding

For approximately three days after delivery, the breasts secrete colostrum. There are some communities that believe colostrum is not good for infants and do not allow them to have colostrum. Fluids and/or semi-solids given to infants in the first few days after delivery are called prelacteal feeds. They may introduce pathogens that cause diarrhea and other diseases. Prelacteal feeds are given during the period when the colostrum is produced prior to the free flow of the mother's mature milk and rob the infant of this important health protecting substance. Question 3 assesses whether mothers who breastfeed their infants give the colostrum. Mothers are then asked whether the infant was given any prelacteal feeding (Q.4) and if so, what was given (Q.5).

Q.6: Currently breastfeeding

For Question 6, it does not matter if the mother is giving (NAME) other liquids or foods as well as breast milk; what is of interest is if the infant or child is breastfeeding at all. (NAME refers to child's name.)

Q.7: Duration of breastfeeding

This question is only for mothers who are no longer breastfeeding the infant or child in question. It is important to try to get as accurate information as possible. If the mother says she cannot remember how long she breastfed the infant or child, urge her to think about it for a while, or ask her if she remembers how old the infant or child was when she completely stopped breastfeeding him/her. If the mother gives an approximate answer, such as "about one year," establish if it was exactly one year or how much more or less. If the survey team has developed a calendar of local events and celebrations, use the calendar to help the mother remember.

Record the number of months when the mother completely stopped breastfeeding the infant or child. It does not matter if she was giving the infant or child other liquids or foods in addition to breast milk; you are simply recording how many months she breastfed the infant or child.

Q.8: Bottle use

Question 8 asks whether the infant or child drank anything from a bottle with a nipple yesterday. Baby bottles are not recommended, because they are very difficult to clean. Spoons, cups, and gourds may also be dirty, but bottles are even more likely to be contaminated and to make the baby sick.

Qs.9 & 10: Liquids and foods given yesterday

The main purpose of questions 9 and 10 is to obtain a better picture of the diversity of the child's diet. You will ask the mother or other caregiver about the types of liquids and foods given to the child the day preceding the interview ("yesterday during the day or at night").

Question 9 asks about different liquids. It is important to ask about all the different kinds of liquids. One reason is that for almost all infants less than 6 months old, only breast milk is recommended. We need to know if young infants are getting other liquids.

Read the question slowly and then read the liquids in the list. Wait for the mother's/caregiver's response after each liquid and record whether the infant or child had each liquid (or group of liquids).

Question 10 asks about different foods. Similar foods are grouped together. Once again, it is important to ask about all the different groups of foods. Children and older infants (six months or older) need many different kinds of foods. These questions will help show whether or not children in the project area are getting all the different kinds of food they need.

Just as with the liquids, read the question slowly and then read the foods in the list. Wait for the response and record whether the infant or child had each food (or group of foods).

Some foods in the list are listed as a single item – for example, beans – but may usually be eaten in a sauce, soup or stew. If the infant or child has eaten a mixed food like a sauce, soup, or stew, record all the food groups in the mixed food. For example, if the child ate a stew of beans, tomatoes, and green leaves, there should be a check mark for each of the three food groups that contain these foods.

Do not check off foods that have been added in very small amounts, or for seasoning. For example, if a spoon of fish powder is added to a pot of stew, do not record that the infant or child has eaten fish. If one chili pepper is included in the family pot, do not record that as an "other fruit or vegetable."

Q.11: How many times infant or child ate yesterday

This question asks about how many times the infant or child ate solid/semi-solid foods yesterday. Ask the mother/caregiver the question just as it is written. You may need to use probes to help her remember all the times her infant or child ate yesterday. Probing for this question is discussed during interviewer training.

Solid/semi-solid foods include family foods, and also many special dishes prepared for infants. Thick soups and stews should be included. Thick paps and porridges are also included. Very thin, watery soups and gruels should not be included because infants and young children do not get enough energy (calories) from very thin soups and gruels.

Liquids do not count for this question. Also, very small snacks, such as a bite or two of someone else's food, should not be counted.

Q.12: Type of salt

The purpose of this question is to assess whether the household uses salt that has been fortified with iodine in cooking. Fortified salt prevents iodine deficiency. Iodine is an important micronutrient for growth and cognitive functioning and a lack of it may lead to an enlarged thyroid gland in the neck known as goiter.

You will need an iodine testing kit order to assess the iodine content of the household's cooking salt. Ask the respondent for a sample of cooking salt in a spoon (a quantity of about one half teaspoon). If the household uses more than one type of salt, make sure that the sample provided is the salt that the household uses for cooking.

Qs.13 & 14: Vitamin A supplements

The purpose of questions 13 and 14 is to find out whether or not the infant/child received a dose of vitamin A in the last 6 months. Lack of vitamin A causes children to get sick more easily and in extreme cases lack of vitamin A can cause eye damage and blindness. Vitamin A supplements are given because many children do not get enough vitamin A from the foods they eat.

You will need examples of the vitamin A capsules or ampules that have been used in the project area. Show the mother/caregiver the capsule or ampule to help her remember if her infant or child ever received one. If the survey team has developed a calendar of local events and celebrations, use the calendar for question 14. This will help the mother/caregiver remember how long ago the child received the supplement to make sure it was in the last 6 months.

Examples of optional questions on fortified foods, iron supplements and deworming.

Optional questions are available for project areas where fortified foods, iron supplements and deworming are available, or where they will be promoted by the project.

Skip patterns for breastfeeding and infant/child nutrition module

It is very important that you ask the mother only those questions that are relevant to her situation. For example, if a mother never breastfed her infant or child you should not ask her how long after birth she put the infant to the breast. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. Here are the skip patterns in the Breastfeeding and Infant and Child Feeding Module.

Question	Response	Instructions
Q.1: Did you ever breastfeed (NAME)?	YES (1) NO (0)	Go to Q.2 Skip to Q.8
Q.4 In the first three days after delivery, was (NAME) given anything to drink other than breast milk?	YES (1) NO (0) DON'T KNOW (8)	Go to Q.5 Skip to Q.6 Skip to Q.6
Q.6 Are you still breastfeeding (NAME)?	YES (1) NO (0)	Skip to Q.8 Go to Q.7
Q.13 Has (NAME) ever received a vitamin A dose (like this/any of these)?	YES (1) NO (0) DON'T KNOW (8)	Go to Q.14 Skip to Q.15 Skip to Q.15

The KPC Module 2: Breastfeeding and Infant and Young Child Feeding questionnaire follows on the next several pages. If this is a “stand-alone” survey several changes would be necessary. There is no space on the questionnaire for interview date, interviewer's name or code, supervisor check off, etc. “Age” is recorded in months, whereas it is preferable to record the date of birth (when available) and date of interview; these two pieces of information are recorded elsewhere on the KPC.

Adapting the questionnaire

The KPC questionnaire is meant to be adapted to reflect the liquids and foods consumed in the project area. Questions 9 and 10 on this questionnaire (liquids and foods the infant or child had yesterday) require additional adaptation. Whoever works to adapt the questionnaire should consult local staff and nutritionists and make the food and liquid group descriptions as concrete and specific to the project area as possible. The model questionnaire gives a number of examples in each category. These are only examples, and the exact list for each category should reflect locally available foods.

Try not to leave categories abstract or vague (e.g., “other fruits and vegetables”). Instead, in question 10, say “other fruits and vegetables such as...” and then list all that are commonly eaten in the area. Similarly, it is better to list specific, locally available dark green leafy vegetables rather than to say “dark green leaves” or “dark green leafy vegetables.”

Clarity is important to distinguish among food group categories. Category 9D, “any fortified, commercially available infant and young child food” refers to complementary foods that have been fortified. Category 9E “any (other) porridge or gruel” refers to complementary porridges or gruels that have not been fortified with nutrients. In both cases local terms should be used to identify the complementary foods, and it is appropriate to use a brand name, when applicable. Fortified complementary food products can be a nutritious and important part of a young child's diet.

In addition to complementary foods, there are other optional questions about fortified foods in the questionnaire. These questions are meant as examples; they are not included in the standard tabulation plan. However, in areas where families have access to these fortified foods, it is recommended that questions and project-specific indicators be included.

In countries where grubs, snails, insects or other small protein foods are fed to children, a separate category for these foods must be added to question 10. Similarly, in countries where foods made with red palm oil, palm nut, or palm nut pulp sauce are fed to young children, a separate category must also be added.

BREASTFEEDING AND INFANT/YOUNG CHILD FEEDING

IDENTIFICATION

CLUSTER NUMBER |__|__|__|

HOUSEHOLD NUMBER |__|__|

RECORD NUMBER |__|__|

AGE OF CHILD (IN MONTHS) |__|__|

SEX OF CHILD (1=MALE, 2=FEMALE) |__|

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Did you ever breastfeed (NAME)?	YES 1 NO 0	8
2	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	HOURS 1 __ __ DAYS 2 __ __	
3	During the first three days after delivery, did you give (NAME) the liquid that came from your breasts?	YES 1 NO 0 DON'T KNOW 8	
4	In the first three days after delivery, was (NAME) given anything to drink other than breast milk?	YES 1 NO 0 DON'T KNOW 8	6 6
5	What was (NAME) given to drink? Anything else? DO NOT READ THE LIST RECORD ALL MENTIONED BY CIRCLING LETTER FOR EACH ONE MENTIONED	MILK (OTHER THAN BREASTMILK) A PLAIN WATER B SUGAR OR GLUCOSE WATER C GRIPE WATER D SUGAR-SALT-WATER SOLUTION E FRUIT JUICE F INFANT FORUMULA G TEA / INFUSIONS H HONEY I OTHER (SPECIFY) X	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP																														
6	Are you still breastfeeding (NAME)?	YES 1 NO 0	8																														
7	For how many months did you breastfeed (NAME)? IF LESS THAN ONE MONTH, RECORD "00" MONTHS.	MONTHS __ __																															
8	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES 1 NO 0 DON'T KNOW 8																															
9	Now I would like to ask you about liquids or foods (NAME) had yesterday during the day or at night. Did (NAME) drink/eat: READ THE LIST OF LIQUIDS (A THROUGH E, STARTING WITH "BREAST MILK").	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 65%;"></th> <th style="width: 15%;">YES</th> <th style="width: 15%;">NO</th> <th style="width: 5%;">DK</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Breast milk?</td> <td>A.....1</td> <td>0</td> <td>8</td> </tr> <tr> <td>B</td> <td>Plain water?</td> <td>B.....1</td> <td>0</td> <td>8</td> </tr> <tr> <td>C</td> <td>Commercially produced infant formula?</td> <td>C.....1</td> <td>0</td> <td>8</td> </tr> <tr> <td>D</td> <td>Any fortified, commercially available infant and young child food" [e.g. Cerelac]?</td> <td>D.....1</td> <td>0</td> <td>8</td> </tr> <tr> <td>E</td> <td>Any (other) porridge or gruel?</td> <td>E.....1</td> <td>0</td> <td>8</td> </tr> </tbody> </table>			YES	NO	DK	A	Breast milk?	A.....1	0	8	B	Plain water?	B.....1	0	8	C	Commercially produced infant formula?	C.....1	0	8	D	Any fortified, commercially available infant and young child food" [e.g. Cerelac]?	D.....1	0	8	E	Any (other) porridge or gruel?	E.....1	0	8	
		YES	NO	DK																													
A	Breast milk?	A.....1	0	8																													
B	Plain water?	B.....1	0	8																													
C	Commercially produced infant formula?	C.....1	0	8																													
D	Any fortified, commercially available infant and young child food" [e.g. Cerelac]?	D.....1	0	8																													
E	Any (other) porridge or gruel?	E.....1	0	8																													

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			SKIP
10	Now I would like to ask you about (other) liquids or foods that (NAME) may have had yesterday during the day or at night. I am interested in whether your child had the item even if it was combined with other foods. ¹				
	Did (NAME) drink/eat:	YES	NO	DK	
A	Milk such as tinned, powdered, or fresh animal milk?	A.....1	0	8	
B	Tea or coffee?	B 1	0	8	
C	Any other liquids?	C.....1	0	8	
D	Bread, rice, noodles, or other foods made from grains? ²	D.....1	0	8	
E	Pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside? ³	E.....1	0	8	
F	White potatoes, white yams, manioc, cassava, or any other foods made from roots?	F.....1	0	8	
G	Any dark green leafy vegetables? ⁴	G.....1	0	8	
H	Ripe mangoes, papayas or (INSERT ANY OTHER LOCALLY AVAILABLE VITAMIN A-RICH FRUITS)?	H.....1	0	8	
I	Any other fruits or vegetables?	I.....1	0	8	
J	Liver, kidney, heart or other organ meats?	J.....1	0	8	
K	Any meat, such as beef, pork, lamb, goat, chicken, or duck?	K.....1	0	8	
L	Eggs?	L.....1	0	8	
M	Fresh or dried fish or shellfish?	M.....1	0	8	
N	Any foods made from beans, peas, lentils, or nuts?	N.....1	0	8	
O	Cheese, yogurt, or other milk products?	O.....1	0	8	
P	Any oil, fats, or butter, or foods made with any of these?	P.....1	0	8	
Q	Any sugary foods such as chocolates, sweets, candies, pastries, cakes, or biscuits?	Q.....1	0	8	

¹ A separate category for any grubs, snails, insects or other small protein foods must be added in countries where these items are fed to young children. A separate category for any foods made with red palm oil, palm nut, or palm nut pulp sauce must be added in countries where these items are fed to young children. Items in each food group should be modified to include only those foods that are locally available and/or consumed in country. Local terms should be used.

² Grains include millet, sorghum, maize, rice, wheat, or other local grains. Start with local foods, e.g. ugali, nshima, then follow with bread, rice, noodles, etc.

³ Items in this category should be modified to include only vitamin A-rich tubers, starches, or vitamin A-rich red, orange, or yellow vegetables that are consumed in the country.

⁴ These include cassava leaves, bean leaves, kale, spinach, pepper leaves, taro leaves, amaranth leaves, or other dark green leafy vegetables.

R	Any other solid or semi-solid food? OPTIONAL FOOD GROUP: ADD IF COMMONLY GIVEN TO INFANTS/CHILDREN	YES R.....1	NO 0	DK 8
S	Grubs, snails, insects, other small protein food?	S.....1	0	8
T	Foods made with red palm oil, palm nut, palm nut pulp sauce	T.....1	0	8

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP
11	<p>How many times did (NAME) eat solid, semi-solid, or soft foods other than liquids yesterday during the day or at night?</p> <p>IF CAREGIVER ANSWERS SEVEN OR MORE TIMES, RECORD "7"</p> <p>ADAPT THIS QUESTION TO USE LOCAL WORDS FOR THE SEMI-SOLID FOODS THAT ARE GIVEN. INCLUDE MASHED OR PUREED FOOD, ALONG WITH PORRIDGES, PAPS, THICK GRUELS, STEWS, ETC. SOLID FOODS – E. G., FAMILY FOODS, BANANAS, MANGOES, POTATOES, BREAD – SHOULD ALSO BE INCLUDED.</p> <p>WE WANT TO FIND OUT HOW MANY TIMES THE CHILD ATE ENOUGH TO BE FULL. SMALL SNACKS AND SMALL FEEDS SUCH AS ONE OR TWO BITES OF MOTHER'S OR SISTER'S FOOD SHOULD NOT BE COUNTED.</p> <p>LIQUIDS DO NOT COUNT FOR THIS QUESTION. DO NOT INCLUDE THIN SOUPS OR BROTH, WATERY GRUELS, OR ANY OTHER LIQUID.</p> <p>USE PROBING QUESTIONS TO HELP THE RESPONDENT REMEMBER ALL THE TIMES THE CHILD ATE YESTERDAY</p>	<p>NUMBER OF TIMES __ </p> <p>DON'T KNOW 8</p>		
12	<p>IN AREAS WHERE IODIZED SALT IS AVAILABLE</p> <p>May I see the salt that is used for cooking?</p> <p>TAKE A TEASPOONFUL OF SALT AND TEST FOR IODINE</p>	<p>ADEQUATELY FORTIFIED 1 (≥15ppm)</p> <p>INADEQUATELY FORTIFIED.....0 (0ppm to < 15ppm)</p> <p>NOT AVAILABLE TO CHECK 8</p>		
13	<p>Has (NAME) ever received a vitamin A dose (like this/any of these)?</p> <p>SHOW COMMON TYPES OF AMPULES/CAPSULES/SYRUPS</p>	<p>YES 1</p> <p>NO 0</p> <p>DON'T KNOW 8</p>		<p>15</p> <p>15</p>

14	Did (NAME) receive a vitamin A dose within the last 6 months?	YES 1 NO 0 DON'T KNOW 8	
	IF OTHER FORTIFIED FOODS OR IRON SUPPLEMENTS ARE AVAILABLE IN THE PROJECT AREA, ADD QUESTIONS (SEE OPTIONAL QUESTIONS FOR FORTIFIED PRODUCTS)		

Examples of optional questions

The following questions are about fortified foods, iron supplements, and deworming. Select and adapt questions as needed, depending on the project area. Questions about iodized salt are already included on the questionnaire.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	Now I would like to ask you about some particular foods your child may eat. IN AREAS WHERE FORTIFIED COMMODITY FOODS SUCH AS CORN-SOY-BLEND OR WHEAT-SOY-BLEND ARE AVAILABLE Did (NAME) eat any food prepared with (LOCAL NAME FOR FORTIFIED CEREAL BLEND) yesterday during the day or at night?	YES1 NO0 DON'T KNOW8	
	IN AREAS WHERE COMMERCIALY FORTIFIED FLOUR IS AVAILABLE Did (NAME) eat any food prepared with (LOCAL NAME OF FORTIFIED FLOUR) yesterday during the day or at night?	YES1 NO0 DON'T KNOW8	
	IN AREAS WHERE FORTIFIED OIL IS AVAILABLE May I see the oil that is used for cooking? CHECK THE LABEL TO SEE IF OIL IS FORTIFIED. IF FORTIFIED, "1", ASK THE QUESTION BELOW. Did (NAME) eat any food prepared with this oil yesterday, during the day or at night?	FORTIFIED1 NOT FORTIFIED0 CANNOT TELL IF FORTIFIED, OR NOT AVAILABLE TO CHECK.....8 YES1 NO0 DON'T KNOW8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	<p>IN AREAS WHERE FORTIFIED MARGARINE IS AVAILABLE</p> <p>May I see the margarine your family uses?</p> <p>CHECK THE LABEL TO SEE IF MARGARINE IS FORTIFIED. IF FORTIFIED, "1", ASK THE QUESTION BELOW.</p> <p>Did (NAME) eat any food prepared with this margarine yesterday, during the day or at night?</p>	<p>FORTIFIED 1</p> <p>NOT FORTIFIED 0</p> <p>CANNOT TELL IF FORTIFIED, OR NOT AVAILABLE TO CHECK 8</p> <p>YES 1</p> <p>NO 0</p> <p>DON'T KNOW 8</p>	
	<p>IN AREAS WHERE FORTIFIED SUGAR IS AVAILABLE</p> <p>May I see the sugar your family uses?</p> <p>CHECK THE LABEL TO SEE IF SUGAR IS FORTIFIED. IF FORTIFIED, "1", ASK THE QUESTION BELOW.</p> <p>Did (NAME) have any food or drink prepared with this sugar yesterday, during the day or at night?</p>	<p>FORTIFIED 1</p> <p>NOT FORTIFIED 0</p> <p>CANNOT TELL IF FORTIFIED, OR NOT AVAILABLE TO CHECK 8</p> <p>YES 1</p> <p>NO 0</p> <p>DON'T KNOW 8</p>	
	<p>In the last seven days, did (NAME) take iron pills, sprinkles with iron, or iron syrup (like this/any of these)?</p> <p>SHOW COMMON TYPES OF PILLS/SPRINKLES/SYRUPS⁵</p>	<p>YES 1</p> <p>NO 0</p> <p>DON'T KNOW 8</p>	
	<p>Has (NAME) taken any drug for intestinal worms in the past 6 months?</p>	<p>YES 1</p> <p>NO 0</p> <p>DON'T KNOW 8</p>	

⁵ Iron sprinkles or syrup should be deleted in areas where not used.

TABULATION PLAN

Module 2 yields information on breastfeeding and infant and young child feeding (IYCF) practices within the target community. Table 1 presents indicators that can be derived from this module. PVOs should select a subset of indicators from Table 1 that are of relevance to their specific project objectives and activities.

A number of new indicators specific to the feeding practices of non-breastfed children are also included in Table 1. Indicators describing the feeding practices of non-breastfed children should be selected only if the number of non-breastfed children in the survey sample population is sufficiently large.⁶

The indicators included in Table 1 are not meant to represent a comprehensive list of infant and young child feeding practices. PVOs may need to develop additional indicators. When developing indicators, it is suggested that PVOs take national policies on infant and young child feeding into account.

Age-specific indicators (e.g., percent of 0-5 month-olds who receive breast milk only) are calculated using the age information recorded at the top of the questionnaire. These indicators are based upon "completed months". For example, the current international standard for exclusive breastfeeding is the provision of breast milk only until about six months of age. The exclusive breastfeeding indicator therefore includes children aged 0, 1, 2, 3, 4, and 5 completed months.

⁶ For more information on sampling see *Methodology and Sampling Issues for KPC Surveys* (1999) by Sariott, Winch, Weiss and Wagman.

TABLE 1: BREASTFEEDING AND INFANT AND YOUNG CHILD FEEDING INDICATORS

<p><i>Ever breastfed</i> <i>0-23 months</i></p>	<p>Percent of children aged 0-23 months ever breastfed # children aged 0-23 months with response = 1 for Q.1 _____ x 100 Total # children aged 0-23 months</p>
<p><i>Breastfed within 1 hour of birth</i> <i>0-23 months</i></p>	<p>Percent of children aged 0-23 months put to the breast within 1 hour of birth # children aged 0-23 months with response = 00 for Q. 2 HOURS _____ x 100 Total # children aged 0-23 months</p>
<p><i>Received a prelacteal feeding</i> <i>0-23 months</i></p>	<p>Percent of children aged 0-23 months who received a prelacteal feeding # children aged 0-23 months with response = 1 for Q.1 AND response = 1 for Q.4 _____ x 100 Total # children aged 0-23 months with response = 1 for Q.1</p>
<p><i>Exclusive breastfeeding</i> <i>0-5 months</i></p>	<p>Percent of infants aged 0-5 months who were given breast milk only in the 24 hours preceding survey # children aged 0-5 months with response = 1 for Q.9A AND response = 0 for Q.9B AND Q.9C AND Q.9D AND Q.9E AND response = 0 for Q.10A AND Q.10B AND Q.10C AND Q.10D AND Q.10E AND Q.10F AND Q.10G AND Q.10H AND Q.10I AND Q.10J AND Q.10K AND Q.10L AND Q.10M AND Q.10N AND Q.10O AND Q.10P AND Q.10Q AND Q.10R AND Q.10S AND Q.10T _____ x 100 Total # children aged 0-5 months</p>
<p><i>Bottle use</i> <i>0-23 months</i></p>	<p>Percent of children aged 0-23 months who had anything by bottle in the 24 hours preceding survey # children aged 0-23 months with response = 1 for Q.8 _____ x 100 Total # children aged 0-23 months</p>

<p><i>Continued breastfeeding</i> <i>6-11 months</i></p>	<p>Percent of children aged 6-11 months who are still breastfeeding # children aged 6-11 months with response = 1 for Q.6 _____ x 100 Total # children aged 6-11 months</p>
<p><i>Continued breastfeeding 12-17 months</i></p>	<p>Percent of children aged 12-17 months who are still breastfeeding # children aged 12-17 months with response = 1 for Q.6 _____ x 100 Total # children aged 12-17 months</p>
<p><i>Continued breastfeeding 18-23 months</i></p>	<p>Percent of children aged 18-23 months who are still breastfeeding # children aged 18-23 months with response = 1 for Q.6 _____ x 100 Total # children aged 18-23 months</p>
<p><i>Adequately Iodized salt in household</i> <i>0-23 months</i></p>	<p>Percent of children aged 0-23 months living in a household with adequately iodized salt (≥15ppm) # children aged 0-23 months with response = 1 for Q.12 _____ x 100 Total # children aged 0-23 months</p>
<p><i>Vitamin A supplementation</i> <i>6-23 months</i></p>	<p>Percent of children aged 6-23 months receiving vitamin A supplementation in 6 months preceding survey # children aged 6-23 months with response = 1 for Q.14 _____ x 100 Total # children aged 6-23 months</p>
<p><i>Vitamin A-rich food</i> <i>6-23 months</i></p>	<p>Percent of children aged 6-23 months who ate vitamin A-rich foods in 24 hours preceding survey # children aged 6-23 months with response = 1 for Q.10E OR Q.10G OR Q.10H OR Q.10J OR Q.10K OR Q.10L OR Q.10M OR Q.10T _____ x 100 Total # children aged 6-23 months</p>
<p><i>Iron-rich food</i> <i>6-23 months</i></p>	<p>Percent of children aged 6-23 months who ate iron-rich foods in 24 hours preceding survey # children aged 6-23 months with response = 1 for Q.10J OR Q.10K OR Q.10L OR Q.10M OR Q.10S _____ x 100 Total # children aged 6-23 months</p>

<p><i>Fortified food</i></p> <p><i>6-23 months</i></p>	<p>Percent of children aged 6-23 months who ate fortified food in 24 hours preceding survey</p> <p># children aged 6-23 months with response = 1 for Q.9D⁷</p> <hr/> <p style="text-align: right;">x 100</p> <p>Total # children aged 6-23 months</p>
<p><i>Animal source foods:</i></p> <p><i>Animal source flesh food</i></p> <p><i>6-23 months</i></p>	<p>Percent of children aged 6-23 months who ate beef, game, poultry, fish, shellfish, or organ meat in 24 hours preceding survey</p> <p># children aged 6-23 months with response = 1 for Q.10J OR Q.10K OR Q.10M OR Q.10S</p> <hr/> <p style="text-align: right;">x 100</p> <p>Total # children aged 6-23 months</p>
<p><i>Egg</i></p> <p><i>6-23 months</i></p>	<p>Percent of children aged 6-23 months who ate eggs in 24 hours preceding survey</p> <p># children aged 6-23 months with response = 1 for Q.10L</p> <hr/> <p style="text-align: right;">x 100</p> <p>Total # children aged 6-23 months</p>
<p><i>Dairy</i></p> <p><i>6-23 months</i></p>	<p>Percent of children aged 6-23 months who had dairy in 24 hours preceding survey</p> <p># children aged 6-23 months with response = 1 for Q.9C OR response = 1 for Q.10A OR Q.100</p> <hr/> <p style="text-align: right;">x 100</p> <p>Total # children aged 6-23 months</p>
<p><i>Any animal source food</i></p> <p><i>6-23 months</i></p>	<p>Percent of children aged 6-23 months who ate any animal source food in 24 hours preceding survey</p> <p># children aged 6-23 months with response = 1 for Q.9C OR response = 1 for Q.10A OR Q.10J OR Q.10K OR Q.10L OR Q.10M OR Q.100 OR Q.10S</p> <hr/> <p style="text-align: right;">x 100</p> <p>Total # children aged 6-23 months</p>

⁷ If additional optional questions on fortified foods are included in the questionnaire, the tabulation guidance for the fortified food indicator would need to be adapted accordingly.

Vitamin A-rich plant foods:			
<i>Vitamin A-rich yellow/orange vegetables</i>	Percent of children aged 6-23 months who ate vitamin A-rich yellow/orange vegetables in 24 hours preceding survey		
6-23 months	# children aged 6-23 months with response = 1 for Q.10E		
	<hr/>	x	100
	Total # children aged 6-23 months		
<i>Dark green leafy vegetables</i>	Percent of children aged 6-23 months who ate dark green leafy vegetables in 24 hours preceding survey		
6-23 months	# children aged 6-23 months with response = 1 for Q.10G		
	<hr/>	x	100
	Total # children aged 6-23 months		
<i>Vitamin A-rich fruit</i>	Percent of children aged 6-23 months who ate vitamin A-rich fruit in 24 hours preceding survey		
6-23 months	# children aged 6-23 months with response = 1 for Q.10H		
	<hr/>	x	100
	Total # children aged 6-23 months		
<i>Any vitamin A-rich plant foods (and red palm oil)⁸</i>	Percent of children aged 6-23 months who ate any vitamin A-rich plant food in 24 hours preceding survey		
6-23 months	# children aged 6-23 months with response = 1 for Q.10E OR Q10.G OR Q10.H OR Q10.T		
	<hr/>	x	100
	Total # children aged 6-23 months		

⁸ In areas where red palm oil, palm nut, or palm nut pulp sauce is consumed and has been added to the KPC questionnaire, a separate indicator, specific to consumption of red palm oil, palm nut, or palm nut pulp sauce can also be tabulated.

The summary IYCF indicator measures several IYCF practices among children age 6-23 months. Based on WHO guidelines for feeding breastfed (2003) and non-breastfed (2005) children, the **IYCF practices indicator** is comprised of the following three components:

1. Continued breastfeeding or feeding of milk or milk products
2. Feeding solid/semi-solid food the minimum number of times per day according to age and breastfeeding status
3. Feeding the minimum number of food groups per day according to breastfeeding status

Feeding Practice	Breastfeeding status	
	Breastfed	Non-breastfed
Breastfed or Fed milk or milk products	Continued breastfeeding (A)	Fed milk or milk products (i.e. milk, dairy products or infant formula) (B)
Fed (solid/semi-solid foods) minimum number of times per day 6- 8 months 9-23 months	Two (C) Three	Four (D) Four
Fed minimum number of food groups⁹ 6-23 months	Three (E)	Four (F)

The section below is a tabulation plan for the summary IYCF indicator for breastfed and non-breastfed children. The tabulation plan for each component of the summary indicator corresponds to cells (A)-(F) in the table above. The **IYCF practice indicator** is at the end of the section in bold.

INDICATOR	DESCRIPTION/DEFINITION
<i>Continued breastfeeding</i> <i>6-23 months</i> <i>(Cell A Above)</i>	Percent of children aged 6-23 months who are still breastfeeding $\frac{\# \text{ children aged 6-23 months with response} = 1 \text{ for Q.6}}{\text{Total \# children aged 6-23 months}} \times 100$

⁹ Based upon a 24 hour recall of food groups fed to the child age 6-23 months. The eight food groups are: 1. infant formula, milk other than breast milk, cheese or yogurt (Q.9C OR Q.10A OR Q.10O); 2. foods made from grains, roots, and tubers, including porridge, fortified baby food from grains (Q.9D OR Q.9E OR Q.10D OR Q.10F); 3. vitamin A-rich fruits and vegetables (and red palm oil) (Q.10E OR Q.10G OR Q.10H OR Q.10T); 4. other fruits and vegetables (Q.10I); 5. eggs (Q.10L); 6. meat, poultry, fish, and shellfish (and organ meats) (Q.10J OR Q.10K OR Q.10M OR Q.10S); 7. legumes and nuts (Q.10N); 8. foods made with oil, fat, butter (Q.10P).

INDICATOR	DESCRIPTION/DEFINITION
<p><i>Fed milk or milk products for non-breastfed children</i></p> <p>6-23 months</p> <p>(Cell B Above)</p>	<p>Percent of non-breastfed children aged 6-23 months who were fed milk, dairy products, or infant formula in 24 hours preceding survey</p> <p># children aged 6-23 months with (response = 0 for Q.1 OR response = 0 for Q.6) AND (response = 1 for Q.9C OR response = 1 for Q.10A OR Q.10O)</p> <p>_____ x 100</p> <p>Total # children aged 6-23 months with response = 0 for Q.1 OR response = 0 for Q.6</p>
<p><i>Minimum frequency of feeding for breastfed children 6-23 months</i></p> <p>(Cell C Above)</p>	<p>Percent of breastfed children aged 6-23 months who ate solid or semi-solid foods at least the minimum recommended number of times in 24 hours preceding survey</p> <p># children aged 6-8 months with (response = 1 for Q.6) AND (response = 2 OR 3 OR 4 OR 5 OR 6 OR 7 for Q.11) + # children aged 9-23 months with (response = 1 for Q.6) AND (response = 3 OR 4 OR 5 OR 6 OR 7 for Q.11)</p> <p>_____ x 100</p> <p>Total # children aged 6-23 months with response = 1 for Q.6</p>
<p><i>Minimum frequency of feeding for non-breastfed children</i></p> <p>6-23 months</p> <p>(Cell D Above)</p>	<p>Percent of non-breastfed children aged 6-23 months who ate solid or semi-solid foods at least the minimum recommended number of times in 24 hours preceding survey</p> <p># children aged 6-23 months with (response = 0 for Q.1 OR response = 0 for Q.6) AND (response = 4 OR 5 OR 6 OR 7 for Q.11)</p> <p>_____ x 100</p> <p>Total # children aged 6-23 months with response = 0 for Q.1 OR response = 0 for Q.6</p>
<p><i>Minimum dietary (food group) diversity for breastfed children</i></p> <p>6-23 months</p> <p>(Cell E Above)</p>	<p>Percent of breastfed children aged 6-23 months who received minimum dietary (food group) diversity in 24 hours preceding survey</p> <p># children aged 6-23 months with response = 1 for Q.6 AND dietary diversity of 3 or more food groups¹⁰</p> <p>_____ x 100</p> <p>Total # children aged 6-23 months with response = 1 for Q.6</p>
<p><i>Minimum dietary (food group) diversity for non-breastfed children</i></p> <p>6-23 months</p> <p>(Cell F Above)</p>	<p>Percent of non-breastfed children aged 6-23 months who received minimum dietary (food group) diversity in 24 hours preceding survey</p> <p># children aged 6-23 months (with response = 0 for Q.1 OR response = 0 for Q.6) AND (dietary diversity of 4 or more food groups¹¹)</p> <p>_____ x 100</p> <p>Total # children aged 6-23 months with response = 0 for Q.1 OR response = 0 for Q.6</p>

¹⁰ Refer to footnote 9 on page 17 for instructions how to tabulate dietary diversity (i.e. the number of food groups received in 24 hours preceding survey).

INDICATOR	DESCRIPTION/DEFINITION
<p><i>IYCF practice indicator</i></p> <p>6-23 months</p>	<p>Percent of infants and young children aged 6-23 months fed according to a minimum of appropriate feeding practices</p> <p># <i>breastfed</i> children aged 6-23 months (with response = 1 for Breastfeeding indicator AND response = 1 for Minimum frequency of feeding indicator AND response = 1 for Minimum dietary diversity indicator), as described above for breastfed children +</p> <p># <i>non-breastfed</i> children aged 6-23 months (with response = 1 for Fed milk or milk products indicator AND response = 1 for Minimum frequency of feeding indicator AND response = 1 for Minimum dietary diversity indicator) as described above, for non-breastfed children</p> <hr/> <p style="text-align: right;">x 100</p> <p>Total # children aged 6-23 months</p>

¹¹ Refer to footnote 9 on page 17 for instructions how to tabulate dietary diversity (i.e. the number of food groups received in 24 hours preceding survey).

REFERENCES

- Arimond, M., and M. T. Ruel. "Dietary Diversity is Associated with Child Nutritional Status: Evidence from 11 Demographic and Health Surveys." *J. Nutr.* 134 (2004): 2579-2585.
- Arimond, M., and M. T. Ruel. *Generating Indicators of Appropriate Feeding of Children 6 through 23 months from the KPC 2000+*. Washington, D.C.: Food and Nutrition Technical Assistance Project, Academy for Educational Development, 2003.
- Arimond, M., and M. T. Ruel. *Progress in Developing an Infant and Child Feeding Index: An Example Using the Ethiopia Demographic and Health Survey 2000*. Food Consumption and Nutrition Division Discussion Paper #143. Washington, D.C.: International Food Policy Research Institute, 2002.
- Caulfield, L. E., S. L. Huffman, and E. G. Piwoz. "Interventions to Improve Complementary Food Intakes of 6-12-month-old Infants in Developing Countries: Impact on Growth, Prevalence of Malnutrition, and Potential Contribution to Child Survival." *Food and Nutrition Bulletin* 20 (1999): 183-200.
- Coutsoudis, A., K. Pillay, L. Kuhn, E. Spooner, W. Tsai, and H. M. Coovadia. "Method of Feeding and Transmission of HIV-1 from Mothers to Children by 15 Months of Age: Prospective Cohort Study from Durban, South Africa." *AIDS* 15 (2001): 379-387.
- Curtis, V., S. Cousins, T. Mertens, E. Traore, B. Kanki, and I. Diallo. "Structured Observations of Hygiene Behaviors in Burkina Faso: Validity, Variability, and Utility." *Bulletin of the World Health Organization* 71 (1993): 23-32.
- Davis, T, J. Mobley, and P. Moses. *Knowledge, Practices and Coverage Survey: Training Curricula (Draft)*. Revised by the Child Survival Technical Support Project and the CORE Monitoring and Evaluation Working Group. March 2002.
- de Pee S., C. E. West, Muhilal, D. Karyadi, and J. G. Hautvast. "Lack of Improvement in Vitamin A Status with Increased Consumption of Dark-Green Leafy Vegetables." *Lancet* 346 (1995): 75-81.
- Dewey, K. B., and K. H. Brown. "Update on Technical Issues Concerning Complementary Feeding of Young Children in Developing Countries and Implications for Intervention Programs." *Food and Nutrition Bulletin* 24 (2003): 5-28.
- Dickin, K, M. Griffiths, and E. Piwoz. *Designing by Dialogue: A Program Planners Guide to Consultative Research for Improving Young Child Feeding*. Washington, D.C.: SARA/AED, 1997.
- Gibson, R. S., E. L. Ferguson, and J. Lehrfeld. "Complementary Foods for Infant Feeding in Developing Countries: Their Nutrient Adequacy and Improvement." *European Journal of Clinical Nutrition* 52 (1998): 764-70.
- Hatløy, A, L. E. Torheim, and A. Oshaug. "Food Variety – A Good Indicator of Nutritional Adequacy of the Diet? A Case Study from an Urban Area in Mali, West Africa." *European Journal of Clinical Nutrition* 52 (1998): 891-98.

- International Vitamin A Consultative Group (IVACG). "Conversion Factors for Vitamin A and Carotenoids." Washington, D.C.; IVACG, 2002.
- Jalal, F., M. C. Neshiem, Z. Agus, D. Sanjur, and J. P. Habicht. "Serum Retinol Concentrations in Children Are Affected by Food Sources of Beta-Carotene, Fat Intake, and Anthelmintic Drug Treatment." *American Journal of Clinical Nutrition* 68 (1998): 623-29.
- Johns Hopkins University, PVO Child Survival Support Program. Origin of the Rapid KPC Survey. *PVO Child Survival Technical Report 3* (1993). Cited in William Weiss. Variance Estimates of Rapid Knowledge, Practice and Coverage (KPC) Surveys: Implications for Monitoring and Evaluation of PVO Child Survival Projects. Unpublished document, 1998.
- Magnani, R. *Sampling Guide*. Food and Nutrition Technical Assistance (FANTA) Project Indicator Guides. Washington, D.C.: FANTA/AED, 1997.
- Manun'Ebo, M., S. Cousins, P. Haggerty, M. Kalengaie, A. Ashworth, and B. Kirkwood. "Measuring Hygiene Practices: A Comparison of Questionnaires with Direct Observations in Rural Zaire." *Tropical Medicine and International Health* 2 (1997): 1015-1021.
- Menon, P., Ruel, M.T., Loechl, C. and G. Peltó. *From research to program design: the use of formative research to develop a behavior change communication program to prevent malnutrition in Haiti*. Food Consumption and Nutrition Division Paper Series. Washington, D.C.: International Food Policy Research Institute (forthcoming).
- Odujinrin, O. M., C. O. Akitoye, T. Odugbemi, J. P. Oyerinde, and F. I. Esumeh. "Ethnographic Study on Childhood Diarrhoeal Diseases in a Rural Nigerian Community." *West African Journal of Medicine* 12 (1993): 185-188.
- Onyango, A, K. G. Koski, and K. L. Tucker. "Food Diversity Versus Breastfeeding Choice in Determining Anthropometric Status in Rural Kenyan Toddlers." *International Journal of Epidemiology* 27 (1998): 484-89.
- ORC Macro. MEASURE DHS+ Model "A" Questionnaire with Commentary for High Contraceptive Prevalence Countries. Calverton, Md.: ORC Macro, 2001.
- PAHO/WHO. Guiding Principles for Complementary Feeding of the Breastfed Child. Washington, D.C./Geneva, Switzerland: PAHO/WHO, 2003.
- Piwoz, E. G., S. L. Huffman, and V. J. Quinn. "Promotion and Advocacy for Improved Complementary Feeding: Can We Apply the Lessons Learned from Breastfeeding?" *Food and Nutrition Bulletin* 24 (2003): 29-44.
- Ruel, M. T. *Operationalizing Dietary Diversity: Conceptual and Measurement Issues*. Food Consumption and Nutrition Division Discussion Paper Series #140. Washington, D.C.: International Food Policy Research Institute, 2002.
- Ruel, M. T., K. H. Brown, and L. E. Caulfield. *Moving forward with complementary feeding: indicators and research priorities*. Food Consumption and Nutrition Division Discussion Paper # 146. Washington, D.C.: International Food Policy Research Institute, 2003.

- Ruel, M.T., and P. Menon. "Child Feeding Practices are Associated with Child Nutritional Status in Latin America: Innovative Uses of the Demographic and Health Surveys." *Journal of Nutrition* 132 (2002): 1180-87.
- Sarriot, E, P. Winch, W. M. Weiss, and J. Wagman. Methodology and Sampling Issues for KPC Surveys. Unpublished document, 1999.
- Stanton, B., J. Clemens, K. Aziz, and M. Rahaman. "Twenty-Four Hour Recall, Knowledge-Attitude-Practice and Direct Observations of Sanitary Practices: A Comparative Study." *Bulletin of the World Health Organization* 65 (1987): 217-22.
- Tarini, A, S. Bakari, and H. Delisle. "The Overall Nutritional Quality of the Diet Is Reflected in the Growth of Nigerian Children." *Santé* 9 (1999): 23-31.
- Valadez, J. *Assessing Child Survival Programs in Developing Countries: Testing Lot Quality Assurance Sampling*. Cambridge, MA: Harvard University Press, 1991.
- Valadez, J. J., W. Weiss, C. Leburg, and R. Davis. *A Trainers Guide for Baseline Surveys and Regular Monitoring: Using LQAS for Assessing Field Programs in Community Health in Developing Countries*. Washington, D.C.: NGO Networks for Health, 2002.
- Weiss, W. Variance Estimates of Rapid Knowledge, Practice and Coverage (KPC) Surveys: Implications for Monitoring and Evaluation of PVO Child Survival Projects. Unpublished document, 1998.
- West, C. E., A. Eilander, and M. van Lieshout. "Consequences of Revised Estimates of Carotenoid Bioefficacy for Dietary Control of Vitamin A Deficiency in Developing Countries." *Journal of Nutrition* 132 (2002): 2920S-2926S.
- WHO (World Health Organization). *Guiding Principles for Feeding Non-breastfed Children 6 to 24 Months of Age*. Geneva, Switzerland: WHO, 2005.
- WHO (World Health Organization). *Indicators for Assessing Breastfeeding Practices*. Reprinted report of an informal meeting, Geneva, Switzerland, 11-12 June 1991. WHO/CDD/SER/91.14.
- WHO/UNAIDS/UNICEF (World Health Organization/Joint United Nations Program on HIV/AIDS/United Nations Children's Fund). *HIV and Infant Feeding: Guidelines for Decision-Makers*. Geneva, Switzerland: WHO, June, 1998. WHO/FRH/NUT/CHD/98.1.
- WHO/UNICEF (World Health Organization/United Nations Children's Fund). *Complementary Feeding of Young Children in Developing Countries: A Review of Current Scientific Knowledge*. Geneva, Switzerland: WHO, 1998.
- Winch, P. J., J. A. Wagman, R. A. Malouin, and G. L. Mehl. *Qualitative Research for Improved Health Programs: A Guide to Manuals for Qualitative and Participatory Research on Child Health, Nutrition, and Reproductive Health*. Washington, D.C.: SARA/AED, 2000.