

ADDENDUM TO THE 2005 ETHIOPIA DEMOGRAPHIC AND HEALTH SURVEY

INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES

Appropriate Infant and Young Child Feeding (IYCF) practices include breastfeeding through the age of two years, the introduction of solid and semisolid foods at age 6 months, and a gradual increase in the amount of food given and the frequency of feeding as the child gets older. The average, healthy **breastfed child** should receive solid and semisolid foods 2-3 times per day at age 6-8 months and 3-4 times per day at age 9-23 months, with an additional snack 1-2 times per day. The minimum frequencies for feeding children in developing countries are based on the energy output of complementary foods. The energy needs of children are based on age-specific total daily energy requirements, plus 2 SD (to cover almost all children), minus the average energy intake from breast milk. Infants with low breast-milk intake need to be fed more frequently than those with high breast-milk intake. However, care should be taken that feeding frequencies do not exceed recommended input from complementary foods because excessive feeding can result in displacement of breast milk (PAHO/WHO, 2003).

Although the World Health Organization recommends that infants be breastfed up to the age of two years, some infants are not breastfed at all, or stopped breastfeeding before their second birthday. Guidelines have been developed for these children, who may not have been breastfed because their mother was HIV-positive, or because their mother had died, or for other reasons (WHO, 2005). It is recommended that the **nonbreastfed child** be given solid and semisolid foods 4-5 times per day at age 6-23 months, with an additional snack 1-2 times per day.

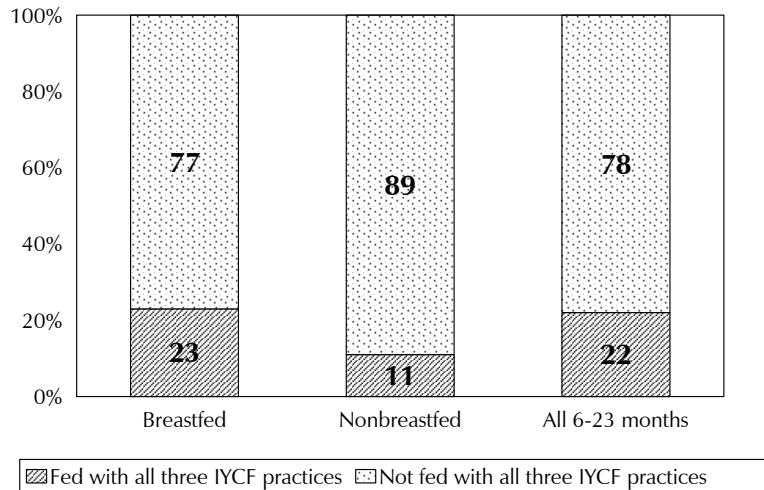
Appropriate nutrition includes feeding children a variety of foods to ensure that nutrient requirements are met. Studies have shown that plant-based complementary foods by themselves are not sufficient to meet the needs of some children for certain micronutrients (WHO/UNICEF, 1998). Therefore, it is advised that children eat meat, poultry, fish, or eggs daily, or as often as possible. Vegetarian diets may not meet children's nutrient requirements unless supplements or fortified foods are also provided. Vitamin A-rich fruits and vegetables should be consumed daily, and the diets of children should include an adequate amount of fat. Fat is important in the diets of infants and young children because it provides essential fatty acids, facilitates absorption of fat-soluble vitamins (such as vitamin A), and enhances dietary energy density and palatability. Tea and coffee are not recommended for children because they contain compounds that inhibit iron absorption. Sugary drinks and excessive juice consumption should be avoided because other than energy they contribute little to the diet and decrease the child's appetite for more nutritious foods (PAHO/WHO, 2003).

In summary,

- Breastfed children age 6-23 months should receive animal-source foods and vitamin A-rich fruits and vegetables daily (PAHO/WHO, 2003). Because first foods almost always include a grain- or tuber-based staple, it is unlikely that young children who eat less than three food groups will receive both an animal-source food and a vitamin A-rich fruit or vegetable. Therefore, three food groups are considered the minimum number appropriate for breastfed children (Arimond and Ruel, 2004).
- Breastfed infants age 6-8 months should receive complementary foods 2-3 times per day, with 1-2 snacks; breastfed children age 9-23 months should be receive meals 3-4 times per day, with 1-2 snacks (PAHO/WHO, 2003). The table below shows the percentage of breastfed children who were fed at least the minimum number of times per day for their age (i.e., twice for infants age 6-8 months and three times for children age 9-23 months).
- Nonbreastfed children age 6-23 months should receive milk or milk products to ensure that their calcium needs are met. In addition, they need animal-source foods and vitamin A-rich fruits and vegetables. Four food groups are considered the minimum number appropriate for nonbreastfed young children.
- Nonbreastfed children age 12-23 months should be fed meals 4-5 times per day, with 1-2 snacks (WHO, 2005). The table shows the percentage of nonbreastfed children age 6-23 who were fed at least the minimum number of times per day (i.e., four times).

According to the results presented in the table below, 98 percent of (youngest) Ethiopian children age 6-23 months living with their mother received breast milk or breast milk substitutes during the 24-hour period before the survey. However, only 38 percent had a sufficiently diverse diet—i.e., they had been fed foods from the appropriate number of food groups for their age and breastfeeding status—and 41 percent had been fed the minimum number of times per day appropriate for their age and breastfeeding status. Feeding practices for only about one in four Ethiopian children age 6-23 months met the minimum standards with respect to all three of the IYCF practices (see figure below).

Infant and Young Child Feeding (IYCF) Practices, Ethiopia 2005



Breastfed children were more likely to be fed the recommended minimum number of times per day but less likely to receive foods from the recommended minimum number of food groups, compared with nonbreastfed children. Children in the older age group (9-23 months) were more likely to meet the minimum standards than younger children. Also, children in urban areas (30 percent) were more likely to received foods according to the recommended feeding practices compared with their rural counterparts (22 percent). Regional differences in the feeding practices of children were apparent in the 2005 Ethiopia results; children living in Addis Ababa were about four times more likely to be fed according to the three IYCF practices than children living in Somali (12 percent). Children in the highest wealth quintile were twice as likely to be fed according to the recommended IYCF practices compared with the children in the lowest wealth quintile.

Arimond, M., and M.T. Ruel. 2004. Dietary Diversity is Associated with Child Nutritional Status: Evidence from 11 Demographic and Health Surveys. *Journal of Nutrition* 134: 2579.

Pan-American Health Organization and World Health Organization (PAHO/WHO). 2003. *Guiding Principles for Complementary Feeding of the Breastfed Child*. Washington, D.C. and Geneva, Switzerland: PAHO/WHO.

World Health Organization (WHO). 2005. *Guiding Principles for Feeding Nonbreastfed Children 6 to 24 Months of Age*. Geneva, Switzerland: WHO.

World Health Organization and United Nations Children’s Fund (WHO/UNICEF). 1998. *Complementary Feeding of Young Children in Developing Countries: A Review of Current Scientific Knowledge*. Geneva: World Health Organization, WHO/NUT98.1

Addendum Table: Infant and young child feeding (IYCF) practices in Ethiopia

Percentage of youngest children age 6-23 months living with their mother who are fed according to three IYCF feeding practices that are based on number of food groups received and the number of times child was fed during the past 24 hours (day and night preceding the survey), by breastfeeding status and background characteristics, Ethiopia 2005

Background characteristic	Among breastfed children 6-23 months, percentage fed:				Among nonbreastfed children 6-23 months, percentage fed:				Among all children 6-23 months, percentage fed:					
	3+ food groups ¹	Minimum times or more ²	Both 3+ food groups and minimum times or more	Number of children (weighted)	Milk or milk products ³	4+ food groups	4+ times or more	With 3 IYCF practices ⁴	Number of children (weighted)	Breast milk or milk products	3+ or 4+ food groups ⁵	Minimum times or more ⁶	With all 3 IYCF practices	Number of children (weighted)
Age														
6-8	16.2	37.4	13.7	588	*	*	*	*	10	99.5	16.3	37.2	13.5	598
9-11	31.7	33.2	15.4	435	*	*	*	*	24	99.1	32.8	33.0	15.3	459
12-17	44.9	44.9	26.9	1,021	66.3	25.6	28.1	9.8	71	97.8	43.7	43.8	25.8	1,091
18-23	53.3	49.0	31.6	632	66.3	33.9	27.0	12.5	85	96.0	51.0	46.4	29.4	718
Sex														
Male	38.7	42.9	24.1	1,369	63.0	34.0	31.6	11.1	86	97.8	38.4	42.2	23.4	1,455
Female	38.2	41.7	22.3	1,307	73.3	31.1	24.6	10.9	103	98.0	37.7	40.4	21.4	1,410
Residence														
Urban	52.8	56.5	33.6	176	87.8	43.7	36.4	16.8	43	97.6	51.0	52.6	30.3	219
Rural	37.4	41.3	22.5	2,500	63.0	29.1	25.3	9.3	147	98.0	37.0	40.4	21.8	2,646
Region														
Tigray	47.8	41.7	25.4	173	*	*	*	*	6	97.5	46.5	41.7	24.5	180
Afar	22.7	31.8	12.6	24	*	*	*	*	3	98.5	23.1	32.0	12.1	26
Amhara	39.7	36.9	22.3	650	*	*	*	*	9	99.5	39.7	37.1	22.3	660
Oromiya	43.4	43.2	25.1	1,029	(73.6)	(35.3)	(18.2)	(8.5)	104	97.6	42.6	40.9	23.6	1,133
Somali	20.6	24.3	12.5	89	*	*	*	*	15	96.5	18.6	24.6	11.7	104
Ben-Gumuz	33.3	35.9	20.1	24	*	*	*	*	2	93.8	33.2	36.1	19.8	25
SNNP	28.9	48.0	21.2	634	(54.7)	(26.2)	(39.5)	(15.6)	36	97.6	28.7	47.5	20.9	669
Gambela	35.8	37.3	23.4	7	(84.2)	(31.0)	(49.5)	(24.2)	0	96.3	36.5	36.2	22.1	7
Harari	35.2	53.5	27.7	5	(81.9)	(69.6)	(55.0)	(24.8)	1	97.1	34.4	52.8	27.0	6
Addis Abeba	60.2	73.1	51.4	33	*	*	*	*	11	95.5	62.5	68.6	44.8	44
Dire Dawa	37.7	39.5	17.4	8	*	*	*	*	2	97.4	34.0	36.8	14.9	10
Mother's education														
No education	36.1	40.0	20.7	2,113	60.4	23.6	20.4	8.3	116	97.9	35.5	39.0	20.0	2,229
Primary	45.6	48.5	31.2	460	(79.7)	(41.8)	(31.5)	(10.6)	39	98.4	45.3	47.1	29.6	499
Secondary	52.4	60.9	37.6	94	(81.0)	(55.1)	(44.6)	(21.5)	29	95.4	53.0	57.0	33.7	123
More than secondary	(69.5)	(69.5)	(69.5)	9	*	*	*	*	5	(100.0)	(55.4)	(69.4)	(50.7)	14
Wealth quintile														
Lowest	32.2	32.7	14.5	589	68.0	20.1	13.2	7.7	39	98.0	31.4	31.6	14.1	628
Second	38.2	43.3	23.2	599	30.5	28.0	35.3	16.4	29	96.8	37.7	43.0	22.9	628
Middle	35.8	41.8	23.9	588	66.1	34.7	11.5	4.0	35	98.1	35.8	40.1	22.8	623
Fourth	41.8	44.8	26.1	510	75.6	24.1	32.0	8.7	28	98.7	40.9	44.2	25.2	538
Highest	47.9	52.6	31.7	390	86.2	45.5	41.5	15.9	58	98.2	47.6	51.1	29.7	449
Total	38.4	42.3	23.2	2,676	68.6	32.4	27.8	11.0	189	97.9	38.1	41.3	22.4	2,865

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

¹ Food groups: a) infant formula, milk other than breast milk, cheese or yogurt or other milk products; b) foods made from grains, roots, and tubers, including porridge and, fortified baby food from grains; c) vitamin A-rich fruits and vegetables (and red palm oil); d) other fruits and vegetables; e) eggs; f) meat, poultry, fish, and shellfish (and organ meats); g) legumes and nuts; h) foods made with oil, fat, butter.

² At least twice a day for breastfed infants age 6-8 months and at least three times a day for breastfed children age 9-23 months

³ Includes commercial infant formula, fresh, tinned and powdered animal milk, and cheese, yogurt and other milk products

⁴ Nonbreastfed children age 6-23 months are considered to be fed with three IYCF practices if they receive other milk or milk products and are fed at least the minimum number of food groups, at least the minimum number of times per day.

⁵ 3+ food groups for breastfed children and 4+ food groups for nonbreastfed children

⁶ Fed solid or semisolid food at least twice a day for infants age 6-8 months, 3+ times a day for other breastfed children, and 4+ times a day for nonbreastfed children