

PN-ABZ-572

92344

## SUMMARY REPORT

# Rapid Assessment of Infant Feeding Practices in Two Rwandan Refugee Camps

Mary S. Lung'aho  
Wellstart International's Expanded Promotion of Breastfeeding Program

Brenda Clause  
International Rescue Committee-Tanzania

François Butera  
CARE-Tanzania

July 1996



Wellstart International  
Expanded Promotion of Breastfeeding Program • 3333 K Street, NW, Suite 101 • Washington, DC 20007  
Tel: 202-298-7979 • Fax: 202-298-7988  
E-mail: [info@dc.wellstart.org](mailto:info@dc.wellstart.org)

## SUMMARY REPORT

# Rapid Assessment of Infant Feeding Practices in Two Rwandan Refugee Camps

## INTRODUCTION

The United Nations High Commission for Refugees (UNHCR) estimates that there are currently fifteen million refugees or returnees and an additional 30 million internally-displaced people in the world today (*Refugees*, No. 103. Geneva, Switzerland: UNHCR, 1996). Remarkably, while the nutritional status of infants and children is among the first factors to be assessed and is monitored carefully over the course of any emergency, little is known about changes in infant feeding behavior in emergencies, especially the crucial role of breastfeeding.

During December of 1995, Wellstart International's Expanded Promotion of Breastfeeding (EPB) Program, in collaboration with CARE and the International Rescue Committee (IRC), carried out an assessment of infant feeding practices in two camps for Rwandan refugees in Ngara, Tanzania. The objectives of this assessment were: i) to determine breastfeeding and other early infant feeding practices; ii) to describe selected factors that may be associated with infant feeding practices in refugee populations; and, iii) to provide information to camp management that will allow them to make program improvements.

## SAMPLE

Using systematic sampling, we obtained from each camp a representative sample of approximately 600 mothers with infants less than eighteen months of age. Data were collected on all living children in the target age range. The final sample consisted of 1184 infants, 596 in Camp 1 and 588 in Camp 2.

## DATA COLLECTION

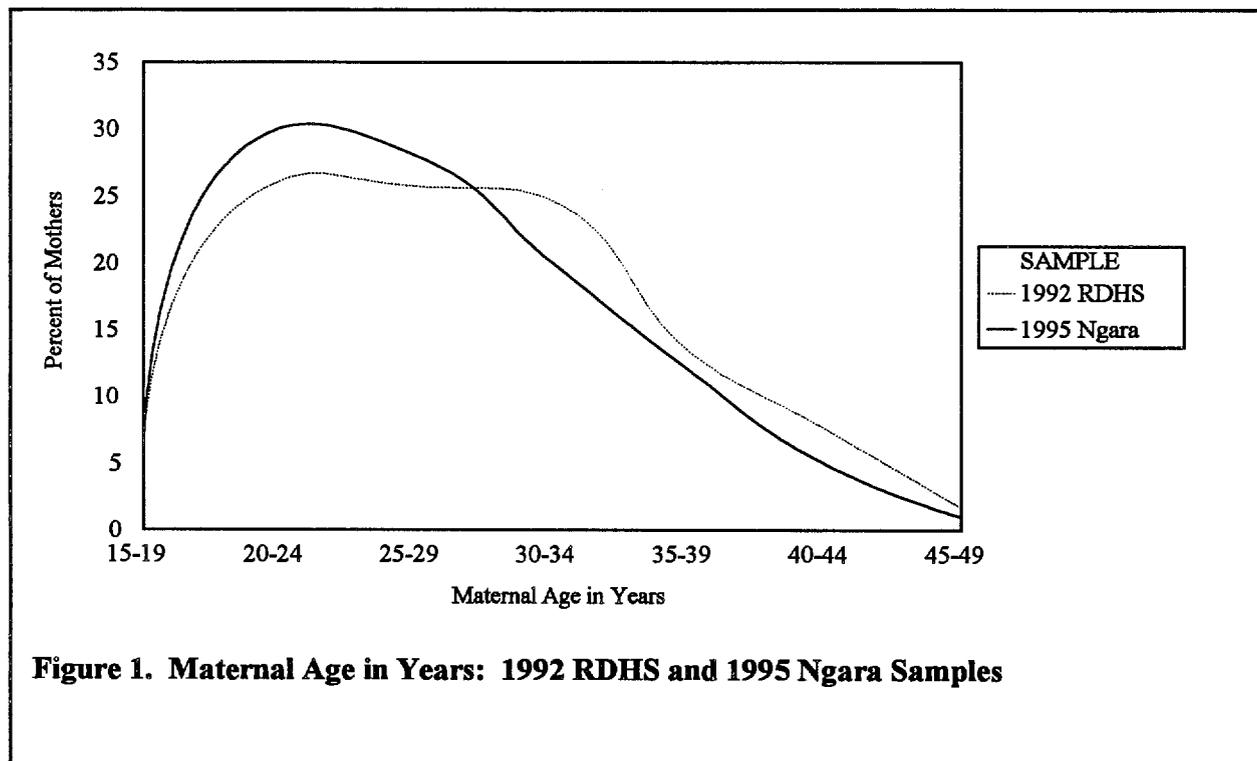
In preparation for data collection, interviews were conducted with key informants to determine the food availability in the camps, types and availability of camp health services, and information on various socio-economic factors that might affect infant feeding practices. Observations of food preparation were also conducted.

Data on current infant feeding practices were collected from mothers using the "24-hour recall" method. Mothers were asked whether at any time on the previous day, during the day or at night, the child was given a particular food or liquid. Additional questions assessed other relevant feeding factors such as time of initiation of breastfeeding and feeding frequency. Data were collected on use of the various camp health services and receipt of advice on breastfeeding, and on a limited number of socio-demographic factors, including infant date of birth, mother's age, parity, education, and work status; father's presence in the household; the length of residence in the Ngara camps; and, length of any previous displacement inside Rwanda.

## SAMPLE CHARACTERISTICS

More than 99% of the caregivers in Ngara were the birth mothers. The child's father was present in 88% of sample households, 92% of households with infants less than six months, and 85% of households with infants aged 6 - < 18 months.

The mean age of mothers was 28 years. The distributions of age data for mothers of infants aged 0 - < 18 months from the 1992 Rwanda Demographic and Health Surveys (RDHS) and the 1995 Ngara samples are shown together in Figure 1. While the two samples cannot be strictly compared, this graph illustrates the greater proportion of younger mothers in the camps than in the overall RDHS sample.



The mean number of children for mothers in both camps was 3.7. For one-quarter of the respondents, the sample child was their first. Sixty percent of the Ngara sample mothers had some schooling (Table 1). The education levels of mothers in the Ngara sample appear similar to those of mothers in the RDHS sample.

### *Previous Displacement*

Data were collected on three factors related to displacement. Mothers were asked whether they had been displaced inside Rwanda (i.e. "previously displaced") prior to crossing the border into Tanzania and becoming refugees. They were also asked about the length of time between crossing the border and entering the camps in the Ngara area ("transit time"), and about the length of time that they had been resident in the camps.

Table 1: Maternal education				
	1992 RDHS	1995 Combined camps	Camp 1	Camp 2
Mother's educational level	n = 3650	n = 1181	n = 594	n = 587*
None	43%	41%	36%	45%
Primary	51%	53%	54%	51%
Post-primary	6%	7%	10%	3%

Symbol next to value in right hand column indicates statistically significant differences between camps.  
\*p < 0.001

The first camps in Ngara were established in April 1994, about twenty months prior to the survey. About half the mothers of both camps had arrived in the first three months. Only 7% of the sample mothers reported living in the camps less than twelve months.

Overall, 39% of the sample reported having been previously displaced in Rwanda prior to their arrival in Ngara. Throughout the remainder of this report, "previously displaced" will refer to those individuals who had been displaced inside Rwanda prior to becoming refugees in the camps, while "non-displaced" will refer to those not previously displaced inside of Rwanda before becoming refugees. Fewer Camp 1 (14%) than Camp 2 residents (63%) had been previously displaced.

Moreover, the length of previous displacement in the two camps differed. A larger proportion of mothers had been previously displaced for a much longer time in Camp 2 than in Camp 1. The median length of previous displacement was three months in Camp 1, and 43 months in Camp 2. However, neither transit time nor time resident in the camps since arrival in Ngara differed between the two camps.

Table 2: Maternal work			
	Combined camps n = 1184	Camp 1 n = 596	Camp 2 n = 588
Plant inside camp	94%	91%	96%**
Plant outside camp	7%	9%	6%
Work away from home	12%	11%	13%
Cultivate for self	7%	9%	4%**
Cultivate for others	3%	1%	5%**
Collect/sell firewood or water	4%	3%	6%**
Sell in market	< 1%	1%	< 1%
Work for NGO	1%	2%	< 1%*

Symbol next to value in right hand column indicates statistically significant differences between camps.  
\*p < 0.05 \*\*p < 0.001

There was little variation in maternal work activities between the two camps (Table 2). Only 12% of mothers reported that while resident in the camp they had regularly worked away from home for periods of at least half a day a week. However, certain types of outside work were considered to be a sign of material hardship, e.g., collecting firewood or water to sell to others or cultivating crops for others. Other work outside the home, e.g., working for an NGO, did not connote hardship. Among those mothers who regularly worked away from home, the previously displaced represented a greater proportion of those in hardship-related activities (cultivated for others: 36% previously displaced vs. 15% non-displaced; collected firewood or water for sale: 48% previously displaced vs. 24% non-displaced). Previously displaced mothers also reported that they had made fewer fires for cooking on the day preceding the study (1.7 vs. 2.0 fires, findings not shown).

## FEEDING PRACTICES FOR INFANTS LESS THAN SIX MONTHS

The 1992 RDHS showed that Rwanda had a very high rate of exclusive breastfeeding of infants younger than six months. We found that breastfeeding practices remained generally good in the camps. Virtually all mothers reported sleeping with their infants and feeding on demand. The number of suckling episodes on the day preceding the survey averaged over twelve. Despite this very positive situation, there were some problems associated with breastfeeding and infant feeding that should be addressed.

While initiation of breastfeeding exceeded 99%, only one-quarter of all newborns were put to the breast within the recommended hour after birth (Table 3). One-quarter of the mothers delayed breastfeeding their infants beyond 24 hours; over 10% of newborns had not begun to breastfeed at 48 hours.

Table 3: Time of initiation				
	1992 RDHS*	1995 Combined camps**	1995 Camp 1	1995 Camp 2
	n=3650	n=1178	n=592	n=586
Breastfed within one hour (%)		26%	35%	16%
Breastfed within six hours		47%	54%	40%
Breastfed within 24 hours	48%	74%	80%	68%
Breastfed within 48 hours		87%	89%	85%

\*Based on last born children ever breastfed within five years before the survey (both living and dead children), RDHS 1992, p.188

\*\*Based on all children between zero and less than eighteen months of age ever breastfed

Any practice which delays the initiation of lactation or interferes with the infant's desire or ability to nurse effectively, such as the provision of prelacteal feeds, should be avoided. We looked at the feeding on the day of the interview of infants less than three days of age to assess whether there was use of prelacteals in Ngara. There were only thirteen infants this age in the sample. The mothers of four infants reported feeding other liquids: water, sugar water, and tea or infusions. While the sample size is too small to draw reliable conclusions about the magnitude of this practice, these findings suggest the possibility of prelacteal use among a substantial proportion of the population.

Previous research in Rwanda has indicated high rates of exclusive breastfeeding for the first few months. The 1992 RDHS reported that 94% of all infants less than two months were exclusively breastfed. Rates of exclusive breastfeeding were also high in Ngara: 81% of Ngara infants were exclusively breastfed in the first

two months (Table 4). The rates dropped only slightly in both camps through the fourth month, and then dropped rapidly over the next two months. The rate of decline in exclusive breastfeeding followed a curve parallel to the RDHS data for infants less than six months (Figure 2).

Table 4: Percent of infants less than six months exclusively breastfed on day preceding survey				
Age of child	1992 RDHS*	1995 Combined camps	1995 Camp 1	1995 Camp 2
0-1 month	89%	81% n=224	83% n=132	78% n=92
2-3 months	90%	79% n=183	84% n=106	71% n=77
4-5 months	71%	63% n=171	67% n=95	58% n=76
0 - < 6 months		75% n=578	79% n=331	70% n=245

\*Estimated from graph on p. 119 (RDHS, 1992) with data in figure calculated with tri-mean

The exclusive breastfeeding rate for infants 0 - < 6 months of age was 75% across the two camps. However, this figure may not accurately reflect the six-month exclusive breastfeeding rate for a normally-distributed population of camp infants: there are disproportionately more infants aged 0 - < 4 months than in a normal age distribution. While the average is 75%, only two-thirds of infants are still exclusively breastfed at four to five months of age.

By the sixth month, over one-third of the infants in each camp had received supplementation. For those infants, the liquids and foods which most frequently replaced breastmilk in the infant's diet were non-milk liquids and porridges. During the first four months, water and teas were the liquids most likely to be given to infants. Teas were given more frequently by mothers in Camp 2 than in Camp 1 (16% vs. 4%). The

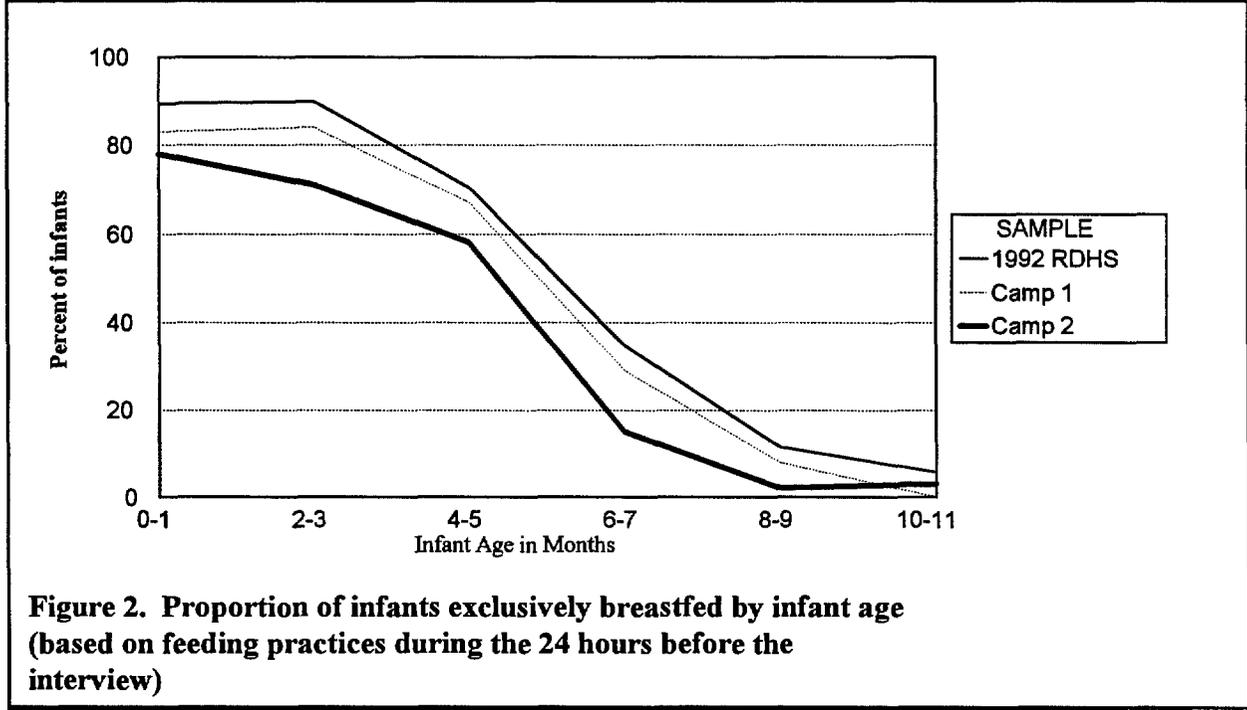


Figure 2. Proportion of infants exclusively breastfed by infant age (based on feeding practices during the 24 hours before the interview)

feeding of porridges increased rapidly after the first three months. By the time infants had reached six months, one-quarter had been given porridge on the preceding day. Porridge was the food other than breastmilk fed most frequently to infants less than six months.

There were very few infants younger than six months who had received no breastmilk on the day preceding the survey: in both camps, fewer than 1% of infants this age were fully weaned. Cow's milk was only rarely given in the camps, and there was no bottle use reported by the respondents. There was little use of oral rehydration salts (ORS) solution for infants less than six months.

## **FEEDING PRACTICES FOR INFANTS OVER SIX MONTHS**

The delayed introduction of complementary foods has been a major concern in Rwanda. By around six months infant development indicates the need for additional foods and the child is ready to receive solids, which will assure continued optimal growth. At around this time, mothers should begin to feed appropriate and hygienically prepared complementary foods. The foods available in the camps for infant feeding included: those generally available from rations, including maize grain, pulses, corn-soy blend (CSB), and oil; any crops which families have to been able to plant (greens were being planted at the time of the survey); and, foods available for purchase from the local markets for those households with resources to do so.

The mushy or solid foods most infants received were maize porridge or mashed legumes. A stiff maize paste was added as the infant aged. About three-quarters of the infants aged 6 - < 10 months had eaten complementary mushy or solid foods in addition to breastmilk (i.e. 75% of infants 6 - < 10 months received "timely complementation") on the day before the survey. However, for about half of these infants, porridge was the only solid food. In total, 58% of the infants aged six to less than ten months received no solid foods other than porridges. For 20 - 30% of infants aged 10 - < 18 months, porridge was the only solid. Qualitative research associated with this study suggested that the porridges may be of low nutritive value, often lacking oil or sugar that are generally available from food rations and could be used to increase the energy-density of the infant's diet. Fruits, vegetables, and animal products that would provide necessary vitamins and minerals are rarely added; they are generally not provided in the rations and are available to only a small minority of camp residents.

For the 25% of 6 - < 10 month old infants who had not received appropriate complementation (mushy or solid foods in addition to breastmilk), the largest proportion who were fed inappropriately were exclusively breastfed on the day preceding the survey; a smaller proportion were fed breastmilk and other liquids. However, by ten months, virtually no infants were still exclusively breastfed.

The consumption of animal products is a proxy for a more diverse and higher quality diet. The proportion of infants who received any animal foods other than breastmilk on the day preceding the survey was very small — only 2% of infants aged 6 - < 10 months and 5% of infants older than ten months. When we asked about intake over the last seven days, the proportion of infants who had received animal foods rose slightly — about 4% of 6 - < 10 month old infants, and 10% of infants older than ten months. In general, foods of animal origin are expensive and difficult to obtain, and rarely (if ever) provided in the general ration.

Assessing the adequacy of feeding practices for infants in the latter part of the first year of life requires not only consideration of food quality, but also feeding frequency and cleanliness. Given their small stomach capacities, young children need to be fed frequently, as many as five to six times/day, to ensure adequate food consumption. Where foods given to the weaning age child are low in energy density and high in bulk, more meals are needed to achieve nutritional adequacy.

Infrequent cooking may pose a special problem for the feeding of young children, since either they will be fed too infrequently, or will receive contaminated food. Eighty-two percent of Ngara households cooked two or fewer times on the day preceding the survey: 30% of the households reported making only one cooking fire. Thirty-two percent of infants aged 6 - < 10 months and more than half of those over ten months received foods saved from a previous meal, an unsafe practice likely to increase the risk of infection from contaminated foods.

## **SUMMARY OF INFANT FEEDING PRACTICES: STRENGTHS AND WEAKNESSES**

### ***Strengths***

- On average, 75% of infants younger than six months were exclusively breastfed. However, the World Health Organization (WHO) recommendation is that 100% of infants 0 - < 6 months of age be exclusively breastfed.
- Formula or cow's milk was only rarely given in the camps.
- There was no bottle use in the camps.
- Complementation was timely for about three-quarters of infants aged 6 - < 10 months.
- At month eighteen over 95% of mothers were still breastfeeding their children.

### ***Weaknesses***

- Only one-quarter of mothers initiated breastfeeding within the recommended first hour after delivery, and another quarter had failed to initiate even after 24 hours.
- There are indications that a substantial portion of the infants may receive prelacteal liquids, which can interfere with breastfeeding and be a source of contamination.
- The 25% of mothers who supplemented their infants younger than six months most frequently gave water and teas.
- One-quarter of infants aged 6 - < 10 months were not given complementary foods.
- While complementation was timely for three-quarters of infants, there were indications that the foods given may have been inadequate.
- For 20-30% of infants over ten months of age, (maize) porridges were the only solids they received.
- Fewer than 5% of children received any animal products other than breastmilk.
- On the day preceding the survey, most families cooked two or fewer times; this practice means that either an infant is likely to be fed too infrequently or that the child will receive "saved foods," a practice likely to increase the risk of contamination.

## **FACTORS ASSOCIATED WITH INFANT FEEDING**

### ***Socio-demographic characteristics***

The number of mothers who regularly worked outside the home was small — only 9% of mothers with infants younger than six months and 12% of all mothers. However, the percentage of mothers who exclusively breastfed their young infants was smaller for women who worked outside than for those who did not (67% vs. 76%) and a greater percentage of those working outside the home reported feeding their infants younger than six months solid foods in addition to breastmilk. Infants whose fathers were absent from the home, which occurred in only 8% of households, were also less likely to have been exclusively breastfed and more likely to have received solid foods within the first six months. However, the effect of both of these factors was small.

### Previous Displacement

The rates of exclusive breastfeeding differed for infants of previously displaced and non-displaced mothers. We found that fewer previously displaced (68%) than non-displaced (80%) mothers exclusively breastfed infants in the 0 - <6 month age group. To better understand this result, data for infants in this age group were examined by monthly intervals using risk analysis. Infant feeding practices in the first two monthly intervals, as well as those in the last month, were no different whether the mothers were previously displaced or not. However, infants in months two through four were at twice the risk of not being exclusively breastfed if their mothers' status was previously displaced rather than non-displaced (Table 5).

Table 5: Risk of not exclusively breastfeeding among displaced and non-displaced mothers by infant age		
Infant age in months*	Displaced	Non-displaced
< 1 mo. n=107	1.1 (0.6-2.3)**	0.9 (0.6-1.4)
1 mo. n=110	1.1 (0.5-2.6)	1.0 (0.7-1.3)
2 mo.*** n=83	1.8 (1.0-3.4)	0.7 (0.5-1.1)
3 mo.*** n=95	1.6 (0.8-3.2)	0.8 (0.5-1.2)
4 mo.*** n=97	1.7 (1.1-2.7)	0.6 (0.4-1.0)
5 mo. n=71	1.0 (0.6-1.7)	1.0 (0.6-1.5)

\*Differences in the mean age between the displaced and non-displaced ranged between one and two days for each month period.

\*\* Relative risk (95% confidence interval)

\*\*\* p < 0.05

When exclusive breastfeeding was examined by camp, the differences between the previously displaced and non-displaced were smaller in Camp 1 than in Camp 2 (Table 6). The group with the highest rates of exclusive breastfeeding were the non-displaced in Camp 1 (81%), while those with the lowest rates were the displaced in Camp 2 (65%). While the experience of having been previously displaced was related to infant feeding practices, we found no relationship between the total length of previous displacement and infant feeding practices.

There were differences in the proportions of previously displaced and non-displaced who made only one cooking fire on the preceding day (41% of previously displaced vs. 25% of non-displaced). Not surprising, there was also a difference in the proportion of mothers who reported that they fed their children aged 0 - <4 months foods that had been saved (34% previously displaced mothers vs. 17% non-displaced).

<b>Table 6: Percent of mothers with appropriate infant feeding practices</b>			
	<b>Timely initiation*</b>	<b>Exclusive breastfeeding, infants 0 - &lt;6 months**</b>	<b>Timely complementation, infants 6 - &lt;10 months***</b>
<b>Camp 1</b>			
Non-displaced	36%	81%	69%
Displaced	31%	75%	80%
Within-camp differences	n=569, n.s.	n=322, n.s.	n=91, n.s.
<b>Camp 2</b>			
Non-displaced	18%	76%	81%
Displaced	16%	65%	82%
Within-camp differences	n=579, n.s.	n=241, p<0.05	n=147, n.s.
<b>Between-camp differences</b>	<b>n=1178 p&lt;0.001</b>	<b>n=575 p&lt;0.01</b>	<b>n=245 p&lt;0.05</b>
<b>Non-displaced vs. displaced differences</b>	<b>31% vs. 18% n=1148, p&lt;0.001</b>	<b>80% vs. 68% n=563, p&lt;0.01</b>	<b>n=238 n.s.</b>

\*Initiation of breastfeeding within one hour after birth

\*\*Percent of infants aged 0 - <6 months given only breastmilk within the last 24 hours

\*\*\*Percent of infants aged 6 - <10 months given breastmilk and solids within the last 24 hours

## USE OF HEALTH SERVICES

Ninety-seven percent of the sample children were born in the Ngara camps. Approximately two-thirds of the infants were born at their own homes; the remainder were born in a camp health facility.

Mothers were asked whether they had ever used various camp health services for their children or the mother's pregnancy. These services included: prenatal care, delivery, postpartum care, family planning services, and pediatric care.

Seventy-eight percent of the Ngara sample received prenatal care at least once (Table 7, with provider information in Tables 7a and 7b). Very few women received postpartum care for themselves. About three-quarters of the mothers in Camp 1 reported talking with a provider about family planning, compared with about half of the women in Camp 2. The amount of pediatric care used was relatively high: 98% of the sample reported attending growth monitoring sessions and 99% of the infants had received immunization. In Camp 1 and Camp 2, similar proportions of mothers reported using most of the services. In two areas, delivery and family planning, a higher proportion of mothers in Camp 1 than in Camp 2 reported using the services. For pediatric care for illness, a significantly larger proportion of Camp 2 than Camp 1 mothers reported using the service.

Table 7: Percent of mothers reporting use of camp health services				
	1995 Combined camps n=1184	1995 Camp 1 n=596	1995 Camp 2 n=588	p value
Prenatal care*	78%	78%	78%	n.s.
Delivery**	68%	76%	60%	p < 0.001
Six-wk postpartum care	6%	7%	5%	n.s.
Family planning	65%	77%	54%	p < 0.001
Pediatric care				
for illness	76%	72%	80%	p < 0.001
for growth monitoring	98%	99%	97%	n.s.
for immunization	99%	99%	99%	n.s.
home visits	76%	76%	76%	n.s.
Supplementary feeding	8.6%	9.6%	7.7%	n.s.
Therapeutic feeding	1.7%	2.0%	1.4%	n.s.

\*Camp health service protocol calls for a pregnant mother to visit the MCH approximately twelve times, once every month for the first two trimesters and then twice a month for the last trimester. TBAs recommend antenatal visits for all mothers according to the protocol above.

\*\*Deliveries which were attended by trained camp personnel, including health personnel and TBAs.

\*\*\*Growth monitoring is done once a month when mothers come for EPI. Malnourished children are monitored once every week when they receive their food supplements.

Table 7a: Prenatal care provider				
	1992 RDHS* n=5612	1995 Combined camps n=1184	1995 Camp 1 n=595	1995 Camp 2 n=588
Care giver		**	**	**
Trained health personnel	94%	19%	23%	5%
TBA	1%	65%	64%	67%
HIT		16%	12%	19%
Traditional healer		2%	1%	3%
No prenatal care	4%	22%	22%	22%

\*From p. 94-95, RDHS, 1992

\*\*Summed data may exceed 100% because some mothers received prenatal care from more than one source.

Table 7b: Delivery care				
	1992 RDHS* n=5612	1995 Combined camps n=1184	1995 Camp 1 n=596	1995 Camp 2 n=588
<b>Assistance at delivery</b>				
Trained health personnel	26%	29%	32%	26%
TBA	13%	39%	44%	33%
Relatives/other	40%	24%	16%	31%
No one	20%	9%	8%	10%
<b>Place of delivery</b>				
Health facility**	25%	33%	33%	33%
Home***	73%	66%	66%	65%
Other	1%	1%	1%	2%

\*From p. 97-100, RDHS, 1992

\*\*Includes maternity deliveries

\*\*\*More than 99% of home births were at the home of the mother. Overall, TBAs attended 53% of all home births, 61% in Camp 1 and 45% in Camp 2.

#### ADVICE: SOURCES, CONTENT AND RECALL

In both camps, health care staff provided mothers with advice about infant feeding to encourage mothers to engage in optimal infant feeding practices. We examined three dimensions of advice: maternal reports on the sources of advice, the content of that advice, and the relationship of advice to breastfeeding behaviors.

Mothers were asked whether they recalled being given any advice about breastfeeding during receipt of the health services described above (e.g., prenatal, delivery, postpartum, family planning, pediatric, supplementary and therapeutic feeding services). Table 8 presents data on the percent of mothers using a particular service who recalled receiving advice from that service.

Table 8: Percent of mothers who report receiving breastfeeding advice by service				
Service	Combined camps	Camp 1	Camp 2	p value
Prenatal care	36% n=920	51% n=461	21% n=459	p < 0.001*
Delivery	41% n=796	55% n=447	23% n=349	p < 0.001*
Pediatric	33% n=1146	44% n=566	23% n=580	p < 0.001*
Family planning	50% n=763	64% n=450	31% n=313	p < 0.001*

\*When controlling for displaced status, values remain significant.

Overall, about 60% of the Ngara mothers recalled receiving any advice about breastfeeding in at least one of these settings: For all services, a greater proportion of mothers from Camp 1 recalled receiving advice: 72% in Camp 1 reported recall of some advice, while 49% did in Camp 2. About half of the mothers who recalled receiving no advice (38% of total) were mothers of infants aged 0 - <6 months.

Without reference to any specific setting, mothers were asked to spontaneously recall the breastfeeding advice they had received. The interviewers coded their responses into categories of possible response. These are listed in Table 9, along with the frequency with which they were recalled. For all responses, we analyzed the data first for mothers of infants under six months and then for mothers of all infants. The responses for both groups were nearly identical.

<b>Table 9: Percent of mothers who report receiving the following messages</b>			
<b>Messages</b>	<b>Combined camps n=1184</b>	<b>Camp 1 n=596</b>	<b>Camp 2 n=588</b>
<b>Stop breastfeeding</b>	< 1%	< 1%	< 1%
<b>Breastfeed often</b>	20%	28%	12%
<b>Increase frequency</b>	8%	14%	2%
<b>Increase feeding when ill</b>	2%	< 1%	4%
<b>Only breastmilk for six months</b>	11%	14%	8%
<b>No bottles</b>	< 1%	< 1%	< 1%
<b>Extra feeding frequency during and after illness</b>	4%	4%	4%
<b>Compl. foods at six months</b>	10%	12%	8%
<b>Protein-rich/animal foods</b>	6%	10%	3%
<b>Vitamin-A rich foods</b>	9%	10%	8%
<b>Prompt: Maternal nutrition</b>	35%	44%	25% p < 0.001
<b>Prompt: EBF to six months</b>	32%	44%	20% p < 0.001

Following the unprompted responses, mothers were asked two specific questions (the last two rows of the table): "Were you ever given any advice about how you yourself should be eating?" Thirty-five percent said "Yes." "Has anyone ever told you about the importance of giving only breastmilk for the first six months?" Thirty-two percent responded "Yes."

The most frequently recalled unprompted responses concerned breastfeeding frequency (20% reported advice on need to breastfeed often, and only 8% reported advice on increasing the frequency of feeding) and breastmilk exclusivity (11% reported advice to give only breastmilk for six months). Not surprisingly, mothers were most likely to recall messages when they were prompted. The percent of mothers in Camp 1 who recalled the prompted messages was about double the percent of mothers in Camp 2. Mothers with more education recalled receiving advice from more services than did those with less education. However, there was no relationship between maternal education and recall of advice content.

## ADVICE AND BREASTFEEDING PRACTICES

Although use of health services alone was not related to breastfeeding practices, we did find several instances where there was a statistically significant relationship between advice and a particular feeding behavior. However, in all cases the impact of advice on feeding behavior appeared to be small.

- Mothers who recalled receiving advice in prenatal care were more likely than those who did not recall receiving advice to initiate breastfeeding within the recommended hour (31% vs. 22%).
- Mothers who exclusively breastfed their infants recalled receiving advice in more service settings than did mothers who did not exclusively breastfeed (2.4 vs. 1.8 mean number of services out of a possible total of 7).
- There was no relationship between mother's spontaneous recall of breastfeeding message content and breastfeeding practices.

## CONCLUSIONS AND RECOMMENDATIONS

These data were collected as an initial exploration of possible factors to consider in addressing the needs of refugee populations in many parts of the world. The following are some of the major recommendations based on the findings:

- ① **Conclusion:** Breastfeeding practices are generally good and camp staff have made significant efforts to protect, promote and support breastfeeding. Mothers are also conscious of the importance of breastfeeding.

**Recommendation:** Continue to monitor baby-friendly practices in the camps. Identify strategies and opportunities to increase women's confidence that they are providing their infants with breastmilk sufficient in quantity and quality to provide optimal nourishment.

- ② **Conclusion:** There is evidence that the infant feeding advice is positively related to infant feeding practices.

**Recommendation:**

- Help staff to identify opportunities for communication with mothers; provide training for staff in both technical content and interpersonal communication skills.
- Ensure consistency of messages from all camp staff.
- Monitor quality and accuracy of breastfeeding promotion messages.

- ③ **Conclusion:** There is evidence that some infant feeding practices are less than optimal.
  - Only one-quarter of mothers initiated breastfeeding within the recommended first hour after birth.
  - A substantial proportion of infants may have received prelacteal feeds.
  - Twenty-five percent of mothers supplemented their infants younger than six months.
  - The substances given most frequently in the early months were water and teas.
  - One-quarter of the infants between six and ten months did not receive timely complementation.
  - For a substantial proportion of infants over ten months of age, porridges were the only solids they received.

**Recommendation:** These findings have several implications for the promotion of breastfeeding practices.

- Breastfeeding promotion messages need to promote specific behaviors.

] Breastfeeding promotion messages which provide specific messages on recommended behaviors rather than a general encouragement of breastfeeding will help to target areas where improvement is needed. One practice which breastfeeding promotion messages in the camps might target for improvement is initiation of breastfeeding within about one hour of birth.

Earlier EPB research on breastfeeding in Rwanda found that the concept of “immediate breastfeeding after childbirth generally meant “within one day,” and needed to be changed to “within the recommended hour.” Since it was found that the first feed was usually prompted by the child’s cries, the recommendation might also add that the child be put to the breast as soon as possible “whether or not he/she is crying.” Camp staff may need to explore ways to provide this message to mothers who deliver with no assistance, since there is some evidence that these mothers are less likely to initiate within the recommended hour.

- Messages need to be targeted to counter suboptimal practices.  
Use of teas interferes with exclusive breastfeeding. Where teas are being used (i.e. greater use in Camp 2 than in Camp 1), IEC messages should target the use of teas.

Messages should stress that exclusive breastfeeding satisfies an infant’s fluid needs, and dispel the idea that infants need water or other liquids such as herbal teas to maintain hydration status in hot climates. The potential dangers of water supplementation, including the introduction of contaminants and reduced nutrient intake, should be stressed. All substances offered to infants younger than six months are less nutritious than breastmilk, and their displacement of breastmilk will put the infant at a nutritional disadvantage even if the foods are prepared hygienically.

- Promote appropriate enhancements to complementary foods from available food sources.  
Without access to many traditional complementary foods, mothers reported a great reliance on porridges made from camp rations. Moreover, many mothers reported not using energy-dense foods, e.g., oil and sugar, to enhance porridges.

In fact, earlier EPB research found a belief among Rwandan mothers not in camps that fats and oils are not good for children. In preparing food for small children, some mothers tried to limit or remove as much oil as possible, and deliberately set aside a portion of the family food for the child before adding oil. In the camp environment where there are limited ways to increase the caloric density of a child’s food, such practices need to be discouraged. There is need for further research to better understand the magnitude and reasons for this practice.

- Qualitative research can help to identify a few key messages.  
Qualitative research should be used to identify local beliefs and practices so that appropriate messages and educational strategies can be developed.

④ **Conclusion:** There were subgroups at-risk of suboptimal breastfeeding practices: mothers who regularly performed certain types of work for others, mothers who had been previously displaced, and mothers who delivered with no assistance<sup>1</sup>.

---

<sup>1</sup>Other information suggests additional possible risk factors: a larger proportion of the mothers in the sample than in population of women of reproductive age were young women under twenty years of age; a quarter of the sample were first-time mothers; a family planning survey conducted by CARE in July 1995 concluded that a high proportion of women had limited social support networks – they found that 44% of female respondents (fifteen to 49 years) had no one to whom they could go for advice on life and family matters.

*Recommendation:* Develop strategies for informing and supporting at-risk groups, e.g., mother-to-mother support groups, community-based breastfeeding counseling

- ⑤ Practical and simple indicators for monitoring infant feeding behaviors should be incorporated into health monitoring systems as soon as possible after the initial stages of an emergency. Over the course of the emergency, with appropriate support for breastfeeding there should be movement toward more optimal feeding practices.

General Conclusion: Breastfeeding practices among Rwandan women during the first six months postpartum are among the best in the world. If optimal breastfeeding can be eroded among such women, other populations without a strong breastfeeding tradition and widespread community support are likely to experience far greater threats to optimal breastfeeding practices. The factors likely to exert such impact will include not only population-risk factors such as previous displacement and lack of social support, but also absence of messages targeting specific behaviors, inconsistency in message delivery, and other lapses in breastfeeding promotional efforts.

## QUESTIONS FOR FUTURE RESEARCH

- Which characteristics of the previously displaced put them at greater risk? Our understanding is limited.
- What are the most effective ways of reaching previously-displaced and other at-risk populations within the camps? Do effective services best come from camp staff? Can effective support also be provided by other women or some other structure that does not rely on contact with camp staff?
- If breastfeeding promotion messages are to be delivered within camp services, in which services can this most effectively be done?
- Can refugee camps actually improve breastfeeding practices over population baseline rates? When refugee populations return home, what kinds of knowledge, skills and practices do they carry with them?
- Breastfeeding promotion and support: a cost-effective intervention in refugee camps?
- What are the best strategies in a camp setting for improving the nutritional status of pregnant and lactating women and infants, and for improving infant feeding practices?

---

*The following persons contributed significantly to the development, implementation, or review of this work: Louise Howarth and Lisa Schwartz, CARE-Ngara; Susan Farnsworth and Mike DeVries, CARE-Tanzania; Judy Canahauti, Chessa Lutter, Martha Holley-Newsome, Katherine Krasovec, and Lorraine Soisson, Wellstart EPB; Sandra L. Huffman, Nurture; Elisabeth Sommerfelt, MACRO International, Demographic and Health Surveys; Ellen Piwoz, Academy for Educational Development; and, Christophe Grundmann, EPB consultant. We would like especially to acknowledge the important contributions made by the teams of interviewers from CARE-Tanzania and IRC-Tanzania and by the Ngara mothers who graciously donated their time.*

*For more information about Wellstart International's Expanded Promotion of Breastfeeding (EPB) Program, contact us at the contact information listed on the front of this document.*



*This activity was supported by the United States Agency for International Development (USAID) under Cooperative Agreement No. DPE-5966-A-00-1045-00. The contents of this document do not necessarily reflect the views or policies of USAID.*