Formative research on infant & young child feeding in Viet Nam

Phase 2 summary report: Trials of improved practices

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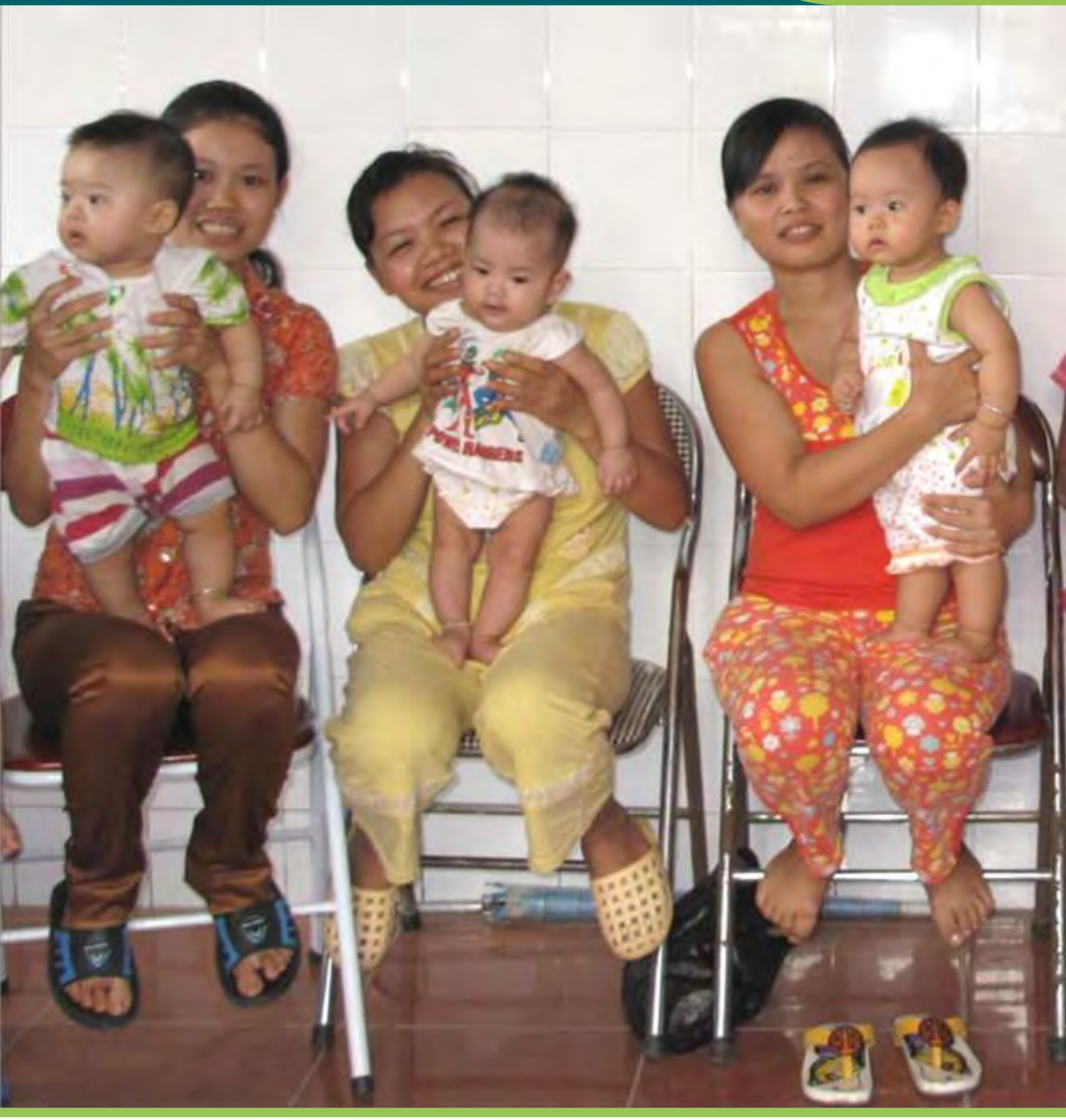

2012

Alive & Thrive (A&T) is a six-year (2009–2014) initiative to improve infant and young child feeding practices by increasing rates of exclusive breastfeeding and improving complementary feeding practices. The first two years of life provide a window of opportunity to prevent child deaths and ensure healthy growth and brain development. Alive & Thrive aims to reach more than 16 million children under two years old in Bangladesh, Ethiopia and Viet Nam through various delivery models. Learnings will be shared widely to inform policies and programs throughout the world. Alive & Thrive is funded by the Bill & Melinda Gates Foundation and managed by FHI 360. Other members of the A&T consortium include BRAC, GMMB, IFPRI, Save the Children, World Vision and UC-Davis.

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Study team

This summary report was co-authored by Nemat Hajeebhoy, A&T Country Director; Giang Huong Nguyen, A&T Behavior Change Communication Specialist; and Huong Thi Le and Xuan Thanh Le at Ha Noi Medical University. Staff at A&T headquarters and Viet Nam offices made valuable contributions, particularly Milena Dalton, who compiled the summary materials.

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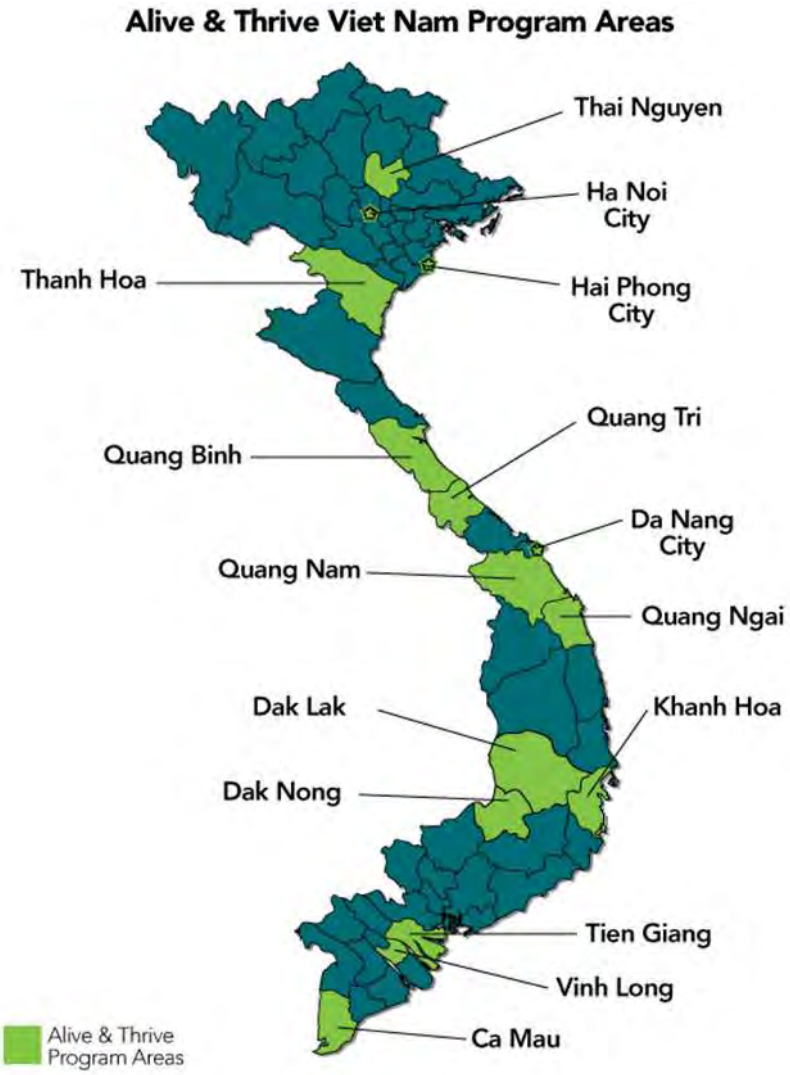
I. Background

Alive & Thrive (A&T) is a 6-year (2009–2014) initiative to improve infant and young child feeding (IYCF) practices by increasing rates of exclusive breastfeeding and improving complementary feeding practices. The time between birth and age 24 months provides a unique window of opportunity to impact the long-term health and development of children. A&T aims to reach more than 16 million children under 2 years old in Bangladesh, Ethiopia and Viet Nam, as well as to create program models that can be replicated worldwide.

In Viet Nam, A&T is working with the Ministry of Health (MoH), the National Institute of Nutrition (NIN), the Viet Nam Women's Union and provincial authorities to double the rate of exclusive breastfeeding, improve the quality and quantity of complementary foods, and reduce stunting by 2% each year. A&T aims to achieve this through:

- Policy engagement
- Implementation of the franchise model
- Fortified complementary foods and related products

While A&T aims to improve young children's nutritional status in all 63 provinces of Viet Nam, more intensive capacity building and provincial planning activities are taking place in 15 provinces (Ca Mau, Da Nang, Dak Lak, Dak Nong, Ha Noi, Hai Phong, Khanh Hoa, Thai Nguyen, Thanh Hoa, Quang Binh, Quang Nam, Quang Ngai, Quang Tri, Tien Giang, Vinh Long).



II. Formative research studies

To inform key decisions about program design, A&T conducted two phases of formative research on Vietnamese families' practices with regard to infant and young child feeding (ICYF), carried out by Ha Noi Medical University (HMU). Phase 1, completed in 2009, collected qualitative data on current breastfeeding and complementary feeding practices in 16 communes across seven provinces/cities (Ha Noi, Dien Bien, Thanh Hoa, Quang Ngai, Kon Tum, Vinh Long, Ho Chi Minh City). Provinces were selected purposively to represent different urban and rural geographic, economic, ecological and ethnic zones. Coastal, plain and mountain zones were selected purposively within each province. Findings from Phase 1 informed the selection of improved practices to pilot in Phase 2, conducted in 2010. This Phase 2 summary report presents methods and findings of the trials of improved practices.

Phase 1 revealed that pregnant women had several misconceptions about IYCF. The most common was that Vietnamese women do not produce enough breastmilk to exclusively breastfeed for the first six months. This perception led mothers to introduce complementary foods too early (before six months). Infants were also given water, formula milk and other drinks. Pregnant women were found to have limited knowledge about the size and capacity of a child's stomach. Breastfeeding sessions were short, and mothers did not empty one breast before moving to the other. These practices were found at all study sites except Ha Noi.

Phase 1 also identified barriers to ideal complementary feeding for children aged six to 12 months. The consistency of complementary foods was frequently too thin; often no oil or fat was added to the meal, and methods for preparing complementary foods were not appropriate. While home-based diets for infants and young children met most of their energy and nutrient requirements, they were highly deficient in iron. Hygiene practices were poor with regard to food preparation and infant feeding. Factors associated with improper complementary feeding were lack of knowledge and resources, remote geographical location and low socioeconomic status.

Trials of improved practices

Trials of improved practices are a formative research technique designed to pretest practices that a program plans to promote. A&T referred to methodologies presented in the *Designing by Dialogue* guide and *ProPAN* manual to design trials that would:

- Test the acceptability and feasibility of recommended priority feeding practices.
- Identify barriers and facilitating factors to the adoption of the recommended practices.
- Document changes in behavior that mothers make as a result of the trials.
- Obtain information on how to facilitate mothers' adoption of improved feeding practices.
- Identify messages that effectively encourage mothers to adopt the recommended practices.

Phase 2 of the formative research comprised two rounds of trials. Round 1 served to identify problems with regard to caregivers' current complementary feeding practices and recipes, based on which they were counseled to try modified practices and recipes. Nutritionally appropriate recipes were designed based on the participatory recipe creation exercise outlined in the *ProPAN* manual. Following a one-week trial period, Round 2 served to gather feedback on respondent experiences with trying and sustaining new or modified practices.

Trials were conducted in five communities across four provinces (Ha Noi, Thanh Hoa, Quang Ngai, Vinh Long), chosen purposively to represent different ecological zones and urban and rural areas in Viet Nam. Data from the two rounds were collected by an HMU-recruited research team, who then analyzed the results. All interviews were tape-recorded and conducted in Vietnamese.

To test recommended practices, interviews were conducted with the groups of women listed below. Key findings for each group will be discussed in turn.

Table 1. Participants in Phase 2: Trials of improved practices and recipe creations

Participants	Number interviewed in Round 1	Number re-interviewed in Round 2
Trials of practices		
Pregnant women	22	21*
Mothers of children aged 2–3 months	54	54
Mothers of children aged 4–5 months	46	46
Mothers of children aged 6–8 months	49	49
Mothers of children aged 9–11 months	48	48
Recipe creation exercises 1 group of mothers of children aged 6–8 months and 1 group of mothers of children aged 9–11 months in each community	51	51
Total	**270**	**269**

* One mother had not delivered by second visit

III. Key findings

Pregnant women

Twenty-two pregnant women aged 18 to 34 participated in the trial. All were due to deliver in one week's time, all were educated at least to a primary school level, and all but six of the 22 were employed. The mean number of antenatal checkups was 7.7 per woman, yet only five out of 22 received counseling on breastfeeding, only half knew the correct time to start breastfeeding (within the first hour after birth), and no mothers correctly answered a question about the size of a newborn's stomach.

By the end of the trial period, one woman had not yet given birth. The remaining 21 participated in a Round 2 interview. Of these, 19 reported a normal delivery and two a Cesarean section.

Table 2. Participants who were pregnant at Round 1 (*N*=22)

Recommended feeding practice	Number reporting at Round 1 that they intended to adopt the practice	Number who adopted recommended practice by Round 2
Initiate breastfeeding within 1 hour	15	19
Do not discard colostrum	20	22
Do not give water or prelacteals	11	22
Do not give formula milk	11	19
Do not bring formula to delivery	13	19

All five recommended practices were positively received and adhered to by the pregnant women, except for three who brought formula milk to the delivery and gave it to their child. Two mothers stated that the reason was their health status after a Cesarean birth, and one that the family had bought formula because the baby was crying. They reported that they could not breastfeed after delivery as they were too weak, breastfeeding was too painful or they did not have contact with the newborn. The reasons provided for giving formula were interference of family members and family pressure, past experiences with an older child and lack of appropriate support and information.

Women reported that factors that made it easier for them to follow these five practices included having received counseling before delivery, confidence about their own ability to produce enough breastmilk, understanding the breastmilk production process and the small amount that an infant needs, knowing specific benefits of breastmilk compared to formula milk and prelacteals, perception that the practice is easy to do, and perception that the recommendation came from a credible source.

"I couldn't follow the recommended practice when I delivered, because my sister-in-law brought formula to the hospital and fed it to the baby." – *Mother in Ha Noi*

"Breastmilk has all the protective substances. No need to use honey and lemon to clean the mouth." – *Mother in Thanh Hoa*

Mothers of children aged 2–3 months

Fifty-four mothers with infants two to three months old participated in the trial of improved practices. The mothers were aged 18 to 42. All were educated to at least a primary school level, and all but four of the 54 women were employed. This was the first child for 33 of the mothers; 31 of all infants were girls and 23 were boys. All were breastfeeding at the time of the interview.

Table 3. Participants with infants aged 2–3 months, practices at Rounds 1 & 2 (*N*=54)

Recommended feeding practice	Round 1	Round 2, after trial
Breastfeed	54	54
Breastfeed exclusively	16	39
Do not give water or non-milk liquids	33	45
Do not give formula milk	46	49
Do not give complementary foods	45	53
Empty one breast before switching to the other	31	54

Among the six recommended practices tested, 39 mothers (72%) followed and committed to maintaining exclusive breastfeeding for the first six months, 45 (83%) to not feed water or non-milk liquids, 49 (91%) to not feed infant formula, 53 (98%) to not feed complementary food, and all to feed from one breast until the baby is ready to switch to the other breast.

The main barriers to these practices were family and community pressure, lack of appropriate information, difficulty in changing ingrained practices, time and convenience. Facilitating factors were the explanation as to why infants need exclusive breastfeeding and why do not need water.

Increasing the frequency of breastfeeding and emptying one breast before switching to the other produced observable benefits for both child and mother within as little as one week. Babies breastfed more and obtained more nutrients; mothers found that their supply of breastmilk increased to meet their children's needs and that they had more time to do other things because the children slept longer. Mothers responded positively to the trial, reporting that the practices were easy to implement and that they were pleased their children would have sufficient nutrients to grow.

"My child got used to eating rice porridge, and it's difficult to quit."
– Mother in Quang Ngai

"I've tried to breastfeed exclusively. Breastmilk is 88% water and has enough nutrients. If the baby drinks a lot of water, their stomach will be full of water and this isn't good for their health." *– Mother in Quang Ngai*

Mothers of children aged 4–5 months

Forty-six mothers with infants four to five months old participated in the trial of improved practices. The mothers were aged 18 to 36. One mother had received no formal education, and all but four were employed. This was the first child for 27 of the mothers; 27 of the infants were girls and 19 were boys. All were breastfeeding at the time of the interview.

Table 4. Participants with infants aged 4–5 months, practices at Rounds 1 & 2 (*N*=46)

Recommended feeding practice	Round 1	Round 2, after trial
Breastfeed	46	46
Breastfeed exclusively	3	27
Do not give water or non-milk liquids	36	44
Do not give formula milk	44	45
Do not give complementary foods	15	30
Empty one breast before switching to the other	26	46

Among this group, 27 mothers (59%) followed and committed to maintaining exclusive breastfeeding, 44 (96%) to not feed their child water or non-milk liquids, 45 (98%) to not feed infant formula, 30 (65%) to not feed complementary food, and all to empty one breast before switching to the other.

The main barriers to exclusive breastfeeding were: difficulty in changing ingrained practices, return to work, perception that breastmilk is not sufficient for children at this age, influence of formula advertising, family and community pressure, and lack of appropriate information. Facilitating factors were the belief that the recommended practice was easy to carry out (e.g., mothers commented that it was easy to stop giving their children water), seeing that the practice produced positive outcomes (e.g., increased breastmilk supply as a result of emptying one breast before switching to the next) and the ability to explain why these practices are best for the infant.

Round 1

"I thought a four-month-old would need formula milk as well [as breastmilk]. That's the advice in books and newspapers. Some materials advise you to start formula milk and rice-flour soup at four months – so I think complementary feeding should start when the child is four months old." – *Mother in Ha Noi*

Round 2

"I like the recommended practice [of emptying one breast before moving to the next] because the child can get enough nutrients and my breasts stay proportionate. I see more breastmilk coming out, and the secretion is faster. I believe the advice is true." – *Mother in Thanh Hoa*

Complementary feeding beginning at 6 months

Trials of improved practices for complementary feeding comprised recipe trials and food frequency recalls, for children aged six to eight months and nine to 11 months. The recipe trials used four food groups and focused on quantity, diversity and cooking methods. The trials also addressed food taboos concerning the most commonly cooked meats, whether egg was given as a snack, and cooking preferences.

There were 49 mothers with children six to eight months old. The mothers were aged 20 to 45. All mothers in this group had completed at least primary school, and all but 11 were employed. Twenty-three of the children were girls and 26 were boys. Of the 49 mothers, 45 were still breastfeeding.

Table 5. Participants with children aged 6–8 months, practices at Rounds 1 & 2 (*N*=49)

Feeding practice	Round 1	Round 2, after trial
Breastfeed exclusively	0	0
Continue to breastfeed	45	45
Provide three main meals a day	23	32
Provide two snacks a day	15	34
Give child diverse foods	10	18
Give child iron-rich foods	10	24
Wash own hands before cooking and feeding	30	41
Give child Lyzivita micronutrient powder	0	38

Table 6. Foods that mothers report feeding children aged 6–8 months, Rounds 1 & 2 (*N*=49)

	Round 1			Round 2, after counseling		
	Daily	3–5 times a week	Total	Daily	3–5 times a week	Total
Rice soup	44	4	**48**	49	0	**49**
Green vegetables	15	16	**31**	36	11	**47**
Meat/Poultry	18	21	**39**	11	38	**49**
Seafood	4	27	**31**	3	43	**46**
Egg	3	27	**30**	1	43	**44**
Liver/Organ meats	1	5	**6**	0	34	**34**
Tofu	6	8	**14**	1	24	**25**
Yogurt/Cheese	5	9	**14**	4	21	**25**
Peanut/Sesame	2	3	**5**	4	12	**16**
Oil	19	5	**24**	47	1	**48**
Fruit	8	17	**25**	23	20	**43**
Biscuit	2	10	**12**	1	20	**21**

There were 48 mothers with children nine to 11 months old. The mothers were aged 18 to 40. All mothers in this group had completed at least primary school, and all but four were employed. Seventeen of the children were girls and 31 were boys. Of the 48 mothers, 41 were still breastfeeding.

Table 7. Participants with children aged 9–11 months, practices at Rounds 1 & 2 (*N*=49)

Feeding practice	Round 1	Round 2, after trial
Breastfeed exclusively	0	0
Continue to breastfeed	42	42
Provide three main meals a day	32	41
Provide two snacks a day	20	38
Give child diverse foods	11	25
Give child iron-rich foods	13	14
Wash own hands before cooking and feeding	37	48
Give child Lyzivita micronutrient powder	0	23

Table 8. Foods that mothers report feeding children aged 9–11 months, Rounds 1 & 2 (*N*=49)

	Round 1			Round 2, after counseling		
	Daily	3–5 times a week	Total	Daily	3–5 times a week	Total
Rice soup	44	3	**47**	47	1	**48**
Green vegetables	27	12	**39**	38	8	**46**
Meat/Poultry	14	27	**41**	11	34	**45**
Seafood	3	34	**37**	4	38	**42**
Egg	0	36	**36**	1	41	**42**
Liver/Organ meats	1	11	**12**	0	25	**25**
Tofu	3	9	**12**	2	20	**22**
Yogurt/Cheese	8	14	**22**	5	15	**20**
Peanut/Sesame	1	5	**6**	6	13	**19**
Oil	31	3	**34**	45	0	**45**
Fruit	14	22	**36**	23	20	**43**
Biscuit	3	14	**17**	5	17	**22**

There were differences among the provinces in terms of acceptance of modified and new recipes. Mothers in urban and riverside communities accepted the recipes more readily than those in coastal and mountain communities, probably because they have better economic conditions and greater food availability.

Food for the recipe creation exercise

While many mothers accepted adding green vegetables such as green beans (94%), liver or organ meats (51%) and peanuts or sesame (39%),

a number did not use recipes with liver, peanuts or sesame, as they reported their children did not like eating these foods. Furthermore, some mothers hesitated to cook certain recipes because they involved new foods, and the mothers were afraid the children would not want to eat them.

"I don't feed my child oil or fat because I'm afraid he'll get a stomach ache. I don't feed him vegetables while he's breastfeeding because he'd get diarrhea. Old folks in the community have said that feeding infants fish causes intestinal disease."

– Mother in Thanh Hoa

"Cooking is easy. I used to think organ meats were toxic, so I didn't dare feed them to my child. Now I do, and I see my child is eating well."

– Mother in Quang Ngai

The most frequently reported barriers to complementary feeding, irrespective of age group, were:

- Lack of appropriate information (on the recommended number and portion of meals and snacks, breastfeeding, cooking methods, need to add oil)
- Cultural and food taboos (e.g., the belief that organ meats are toxic for the child)
- Economic conditions and poor availability of food
- Mother's return to work
- Family influence and pressure
- Lack of time

Facilitating factors included:

- Easy-to-follow recipes
- Appropriate information from a reliable and credible source

IV. Conclusions and recommendations

This study demonstrated that pregnant women are more likely to initiate breastfeeding within one hour of birth, with correct positioning and attachment, if counseled before delivery. Such counseling must address key barriers such as how breastmilk is produced and how much is needed. In terms of exclusive breastfeeding, once pregnant women were counseled on breastmilk production they understood why breastfeeding was the best alternative for their child. Counseling included information on the infant's stomach size and the fact that mothers have sufficient breastmilk to feed their child. The results also showed that after pregnant women and mothers were counseled on the quality of their breastmilk and the child's energy and nutrient demands, they understood the need to

exclusively breastfeed until six months, introduce complementary food from six months and wean their child at 24 months. In addition, after receiving information about the two types of breastmilk (hindmilk and foremilk), mothers understood why they must empty one breast before switching to the other. More barriers were observed with regard to expressing and refrigerating breastmilk to maintain exclusive breastfeeding while mothers were at work: Three of the five mothers counseled did not implement the practice, and the other two only for two to three days. One mother in Quang Ngai reported: "It isn't convenient in a work setting. My company doesn't have any private areas."

The findings showed that giving babies water is the biggest barrier to exclusive breastfeeding. Mothers should be reassured that breastfed babies do not need water. Once mothers understood that water displaces breastmilk, has zero calories and that breastmilk contains 88% water, all mothers wanted to breastfeed their child exclusively. It is also crucial to explain this to family members, the community and health workers to gain their support in achieving optimal breastfeeding practices.

For mothers of children six to 11 months old, recipes with options for variation were well received and used by mothers. Once mothers understood that the recommended recipes were easy to prepare and that key ingredients, such as organ meats, were not toxic for the child but in fact high in iron, they were more willing to use them in their cooking. Counseling should also focus on hygienic meal preparation, as findings showed that once mothers understood how to prepare a meal hygienically and that it was feasible, almost all adopted these practices. Mothers were also counseled on the quality and quantity of snacks for their child, following which more than two thirds fed their children one to two snacks a day. As well as feeding children organ meats as a source of iron, mothers were also counseled on adding iron supplements to their child's food. Once mothers understood that Lyzivita micronutrient powder contains 14 essential minerals and vitamins, is easy to use and does not affect the taste of the child's food, more than two thirds started to add it to their child's meals.

In terms of how mothers receive this information, the findings showed that the information needs to be disseminated through a trusted source. In addition, it needs to be timed and targeted correctly in order to build mothers' confidence. Antenatal visits are a key opportunity to do this. Therefore, behavior change communication materials and activities should use the most commonly accessed and credible sources of information. Recommendations on the best communication channels varied among the study communities: Some mothers suggested involvement of local health workers in counseling sessions and dissemination of materials, for example during antenatal checkups and vaccinations, or at refresher demonstrations every one to three months; others suggested education sessions at preschools, collaboration with civil organizations such as the Viet Nam Women's Union, and the use of pamphlets and loudspeaker networks. Other channels could include television, family, friends and other pregnant women.

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Alive & Thrive franchise model

MẶT TRỜI Bé thơ
Dinh dưỡng hôm nay, sức khỏe cho ngày mai

A&T Viet Nam has launched an innovative franchise system, *Mặt Trời Bé Thơ* ("Little Sun"), that provides a quality counseling package on infant and young child feeding (IYCF) for pregnant women, lactating mothers and caregivers at commune, district and provincial health facilities.

Approximately 800 social franchises are in operation across 15 provinces, providing accurate IYCF information through interpersonal counseling and group sessions from the third trimester of pregnancy through the first two years of life.

The health system is enabled to run franchises through focused capacity building for healthcare workers at all levels. One-on-one services, including e- and tele-counseling, are supported by a communication strategy that generates demand and promotes optimal IYCF practices via a mass media campaign, print materials and an interactive website (*www.mattroibetho.vn*).

franchisors

Alive & Thrive
- Advertising & promotion
- Monitoring & evaluation
- Detailing & referral system
- Client support

National Institute of Nutrition
- Training
- Support & supervision

sub-franchisors

Provincial departments of health & reproductive health centers
- Overseeing regional implementation
- Establishing franchises
- Procuring supplies
- Coordinating staff development
- Supervising and monitoring franchises

franchisees

Province
- Provincial hospitals
- Reproductive health centers
- Preventive medical centers

District
- District hospitals
- Maternity homes
- Preventive medical centers

Commune/Ward
- Commune health centers
- Private clinics

service package

for pregnant women, lactating mothers, caregivers & fathers of children 0–24 months old

- Breastfeeding promotion
- Breastfeeding support
- Breastfeeding management
- Complementary feeding promotion
- Complementary feeding management

demand creation

- Mass media
- Village health workers
- Nutrition collaborators
- Women's Union