Alive & Thrive
Baseline Survey Report: Ethiopia
Executive Summary

August 2011

Alive & Thrive 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 provide a window of opportunity to prevent child deaths and ensure healthy growth and brain development. Alive & Thrive (A&T) aims to reach more than 16 million children under two years old in Bangladesh, Ethiopia, and Viet Nam through various delivery models. Learning 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, International Food Policy Research Institute (IFPRI), Save the Children, University of California-Davis, and World Vision.

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Executive Summary

Alive & Thrive (A&T) is a six-year initiative (2009-2014), funded by the Bill & Melinda Gates Foundation, aimed at reducing child stunting and death caused by suboptimal infant and young child feeding (IYCF) practices. To this effect, A&T aims to improve infant and young child nutrition by increasing rates of exclusive breastfeeding and improving complementary feeding practices among children less than 2 years of age in Bangladesh, Ethiopia, and Viet Nam.

Ethiopia A&T Country Program Model

The project focuses on improving IYCF-related practices among children under 5 years of age. In each country, A&T operates at a relatively large scale, across multiple provinces, regions, and districts, in order to maximize impact on stunting reduction. In Ethiopia, the A&T program model utilizes the government's extensive health extension program (HEP) that utilizes a large cadre of health extension workers (HEWs) and community volunteers, to deliver age-appropriate feeding messages and interventions at the community level. Coverage will be achieved through community-based interventions implemented at scale by the U.S. Agency for International Development (USAID)-supported Integrated Family Health Project (IFHP) and other local organizations' platforms to reach approximately 5.4 million children under 2 years of age in Ethiopia's four most populous regions, i.e., Amhara; Oromia; Southern Nations, Nationalities, and People's Region (SNNPR); and Tigray.

Acknowledging the workload of frontline health workers (FHWs) and the volunteers who are responsible for all the government health initiatives, A&T plans to focus its behavior change communications around an abbreviated set of feeding messages. These messages include two exclusive-breastfeeding-specific messages, four complementary feeding-related messages, and one message for feeding of sick children.

To optimize provision of IYCF messages to target populations, multiple platforms and partnerships will be used. Community mobilization is an important feature of the Ethiopia program. Among others, one community model being evaluated centers around "champion *kebeles* (communities)" that engage a wide range of community members to reach families with children under 2 years of age under the theme "Smart & Strong Family." Cultivation of champion communities involves workshops, community-set targets, educational activities, and celebrations and certificates of merit to recognize progress in achieving the essential actions promoted by the project. At a broader level, A&T is partnering with community-based organizations like the regional Women's Associations, along with religious groups and others, to reach families and promote improved feeding practices in their communities.

The A&T program also offers a competitive small grants program to test new approaches for integrating IYCF prevention interventions into social safety net and nutrition rehabilitation programs. In addition, the program is exploring ways to involve private sectors to produce affordable fortified complementary foods (FCF).

One major feature of the A&T program in Ethiopia is the extensive national and regional advocacy work aiming to draw attention to the problem of chronic undernutrition and stunting and the importance of prevention of malnutrition. A&T is producing a video in 2011 that makes the case to federal and regional leaders to fund and support IYCF programs and policies. A&T is also cultivating journalists, both nationally and regionally, to raise their awareness and better equip them to create and cover stories

on IYCF and chronic malnutrition. Thus the program seeks to shift the perception of malnutrition from a consequence of emergencies to that of chronic undernutrition.

Evaluation design

To evaluate the impact of A&T's community-based interventions, delivered through HEP, an adequacy design constituting of pre- and post- assessments only, without a comparison group being applied. In order to ensure maximum exposure to A&T interventions, the evaluation is being conducted in Tigray and SNNPR, two regions where the A&T interventions are being implemented in the first phase, beginning in June 2011.

A repeated cross-sectional pre-post evaluation design is utilized. A baseline survey was conducted between June–August, and an endline survey is planned for June–August 2013, three years later. The primary objective of the evaluation is to measure changes in stunting and IYCF practices over time in the program areas in the two regions (Tigray and SNNPR), and to employ plausibility analyses to attempt to attribute these changes to A&T interventions.

Methods

A baseline survey was conducted between June and August 2010 by the International Food Policy Research Institute (IFPRI) in collaboration with Addis Continental Institute of Public Health (ACIPH). The baseline survey had three separate components: 1) a household survey, 2) a frontline health worker survey, and 3) a community survey. A total of 3,000 households were selected from 75 enumeration areas (EAs) from 56 *woredas* (19 in Tigray and 37 in SNNPR) for inclusion in the household survey. Selection of households was based on three separate child age ranges, corresponding to the three primary A&T impact indicators. These were 1) presence of a child 0–5.9 months of age for detecting impact on exclusive breastfeeding (EBF); 2) presence of a child 6–23.9 months of age for detecting impact on complementary feeding indicators; and 3) presence of a child 24–59.9 months of age for detecting impact on stunting. The sample size of 3,000 households represented 600 households with a child age 0–5.9 months, 900 households with a child aged 6–23.9 months, and 1,500 households with a child aged 24–59.9 months.

The UNICEF conceptual framework of child undernutrition informed the development of the survey questionnaires. The framework identifies the causes leading to undernutrition as immediate, underlying, and basic, with each level of factors having influence on the others. A multi-module household questionnaire was developed, covering a wide range of information both for assessing the outcomes of interests as well as factors that influence the uptake and adoption of A&T interventions, such as household food security, socioeconomic status, parental characteristics, maternal knowledge and skills about IYCF, exposure to A&T and other IYCF/ nutrition interventions, exposure to media, household gender relationships, and child characteristics.

Health worker staff surveys collected information from three kinds of frontline health workers: volunteer community health promoters, health extension workers, and supervisors of health extension workers. The information included knowledge on IYCF, training received, job motivation, and job satisfaction of these health workers. The community survey was administered to a group of community members to collect information on contextual factors related to each community as well as to understand the differences in the community characteristics across the clusters.

A three-week-long training was arranged by ACIPH for the 60 enumerators selected for data collection. Questionnaires and an interview guide were translated in Amharic and the training was conducted in Amharic. The collected data were managed in three stages; first, a template for data entry was developed; then data were entered and cleaned by ACIPH in collaboration with IFPRI; and, finally, the data were analyzed using STATA 11.5 by the IFPRI team.

Results

Anthropometry and IYCF Practices

The key A&T impact indicators are stunting among children 24-59 months of age and the World Health Organization (WHO)-recommended IYCF indicators.

The overall stunting prevalence among children less than 5 years of age in the survey areas was 44.4 percent, with 47 percent in Tigray and 43 percent in SNNPR. In the 24–59-month age group, the overall stunting prevalence was found to be highest at 56 percent. The prevalence of stunting increases consistently during the first two years of life, reaching its peak, and then plateauing at approximately 21–23 months of age (Figure 4.3.9). The overall prevalence of underweight is 24 percent, with a significantly higher prevalence in Tigray compared to SNNPR. In the 24–59.9-month age group, nearly one-third of the children were classified as being underweight. About 7 percent of all the children less than 5 years of age were wasted; wasting was highest in the 0–5.9-month age category, where one in ten children were wasted. Overall, the prevalence of stunting, underweight, and wasting was slightly higher in Tigray compared to SNNPR. Children aged 0–59 months had mean HAZ, WAZ, and WHZ scores that were lower than the median of the reference population standards, with mean HAZ, WAZ, and WHZ scores of -1.69, -1.12, and -0.22, respectively. The Z-scores for all measures were found to be lower in Tigray than in SNNPR. It is evident that, in our survey population, growth faltering appears to occur early in life, with deterioration in anthropometric indices from birth, until approximately 21–23 months of age.

In general, IYCF practices were suboptimal, with breastfeeding-related practices better than complementary feeding-related practices. Breastfeeding was initiated within the first hour of birth for two-thirds of all children, and over 70 percent of children less than 6 months of age were classified as being exclusively breastfed. Breastfeeding through the first year of life was a near universal practice.

Complementary feeding practices were very poor in both regions. One-third of children were being fed solid/semisolid foods in the 6–8.9-month age window in SNNPR, compared to almost half of children in Tigray. In both regions, dietary diversity was very low (6 percent) as was the consumption of iron-rich foods (2 percent). Almost half of all children meet their minimum desired meal frequency, although the percentage consuming a minimally acceptable diet (a composite indicator of diet diversity and meal frequency) was very low, at less than 5 percent.

It is evident that the introduction of complementary foods is delayed in Ethiopia. Overall, only two-thirds of children in the 6–8-month age range had been given grain-based complementary foods, while consumption of other nutrient-rich foods was extremely low, in particular, animal source foods.

IYCF Challenges Reported by Caregivers

Reported challenges related to initiation of breastfeeding, or continuation of breastfeeding, were very low. Only 7 percent of the mothers cited any problems, which included pain in the breast or perceived

milk insufficiency. Less than half of these women sought any kind of help to resolve the problem. There were no major differences in the reported problems with breastfeeding at 3-to-4 months of age. Frontline health workers and older female members are the primary source of support when women were facing difficulty in breastfeeding. At 3-4 months of age, the role of family members diminished. Reported challenges related to initiation of complementary feeding were also low (8.8 percent). The major problems identified were related to their child being sick and their child refusing to eat. Two-thirds of the mothers reported seeking help for these problems. The major suggestions given to them were related to continuation of breastfeeding, providing smaller meals, and increasing frequency of feeding.

Caregiver Knowledge and Perceptions about IYCF

There were major gaps identified in knowledge of the caregivers about appropriate IYCF practices. Eighty percent of mothers correctly responded that breastfeeding should be initiated within the first hour after delivery. Knowledge regarding the necessity of giving colostrum was significantly lower. Only half of all respondents stated that colostrum should be given to babies immediately after birth, with the remaining respondents saying that it should be thrown away. Two-thirds of the respondents believed that babies should be fed other liquids if the mother feels that their baby is not getting enough breastmilk.

There were major knowledge gaps related to complementary feeding-related practices. In general, very few mothers reported the appropriateness of introducing foods, other than water, before 6 months of age. Plant-based foods were thought to be suitable to be introduced earlier (at 6 months of age) compared to animal source flesh and organ foods. Over 90 percent of the mothers stated that meat, fish, or poultry should not be introduced until the children were 9 months or older. Of note, approximately 65 percent of mothers believed eggs and milk products could be introduced at 6 months of age.

We attempted to understand maternal exposure to selected infant feeding-related messages and the sources of these messages. Exposure to different IYCF messages was found to be quite low. Exposure to messages was somewhat higher among respondents from Tigray compared to their counterparts in SNNPR. Overall, it can be surmised that mothers from the surveyed population had very limited exposure to breastfeeding and complementary feeding-related messages. About 20 percent of mothers reported hearing messages related to 1) feeding extra meals after a child was recovering from an illness, and 2) feeding babies mashed family foods. All other messages were reported to have been heard by less than 15 percent of mothers. Subsequent trial and adoption of the IYCF practices was very low. Overall, HEWs and mothers and mothers-in-law were consistently the main source of information related to IYCF.

Use of A&T Platforms

Health System

Knowledge about an HEW was near universal. However, only 32 percent of the respondents were visited by an HEW at their homes in the last six months. Another 20 percent had some contact with an HEW in the last six months within their community. A major focus of these interactions was related to hygiene and sanitation, safe water use, and child immunization. About two-thirds of respondents reported knowing a voluntary community health promoter (VCHP). Less than half of those who knew a VCHP were visited by one at home in the last six months. One-quarter of the respondents had an interaction with a VCHP within the community in the last six months. Immunization outreach and community conversations were the major forums where these

interactions happened. Similar to HEWs, the key topics discussed during these interactions were hygiene and latrine use, followed by safe water use and immunization.

Utilization of antenatal care during pregnancy at least once at a health facility was 65 percent. In addition, 20 percent of mothers reported being visited at home. The mean number of visits at a health facility was 3.3 times during a pregnancy. Health posts, followed by health centers, were the two most common health facilities visited by mothers for antenatal care. While antenatal visits were common, delivery at facilities were low. Over 90 percent of the mothers delivered at their own home and another 4 percent at their mothers' home. About 60 percent mentioned being assisted by a friend or a relative during birth. Twenty-one percent of mothers reported being visited by a health professional after birth. HEWs, followed by VCHPs, were the primary health professionals who visited mothers after birth.

Media

Exposure to different media outlets was relatively low as reported by respondents. Only 20 percent of the respondents reported having ever heard any health messages on the radio and 17 percent were exposed to messages on women and children through community gatherings. Exposure to other forms of media (television, newspapers, posters, and loudspeakers) was low, at less than 5 percent. In general, exposure to any kind of health messages through different media was reported by a higher percentage of women from Tigray compared to SNNPR.

Markets

Nearly 90 percent of mothers said that the most common places for them to shop at were markets in other villages. The majority of mothers reported making daily food purchase-related decisions on their own. Access to markets within a 1-hour commute (by the most common means of transport) was significantly higher in SNNPR than in Tigray. In SNNPR, 70 percent of the mothers stated that they could reach a market within 1 hour using the most common mode of transportation. In Tigray, mothers spent more time reaching markets than SNNPR. Purchase of manufactured complementary foods at these markets was very low, with only 8 percent of respondents reporting having purchased such foods.

Underlying Factors—Child, Caregiver, Household, and Community Factors

We examined several underlying factors that are likely to affect children's nutritional status. These included child- and maternal-level factors, as well as household- and community-level factors.

Child Characteristics

Overall, the prevalence of common childhood illnesses (fever, cold, breathing problems, and diarrhea) during the previous two weeks was quite high. The prevalence of these conditions was 27 percent, 32 percent, 10 percent, and 16 percent for fever, cold, breathing problems, and diarrhea, respectively. All four conditions peaked between 6–23.9 months of age. In SNNPR, the prevalence was slightly higher for all four conditions compared to Tigray. Thirty percent of respondent mothers from SNNPR complained of fever compared to 22 percent of respondents in Tigray. A higher percentage of respondents in Tigray sought treatment for illnesses. The treatment-seeking pattern was similar for all four illnesses, with approximately one-third of respondents seeking treatment. Over 65 percent of respondents reported going to the formal medical sector (doctors, heath centers, hospitals) for treatment, and between 17 to 23 percent of the respondents reported going to the HEWs at the health post. There was a high rate of satisfaction with the treatment sought, with 80 percent of respondents reporting being satisfied.

Immunization against eight preventable diseases was also measured. Overall, child immunization status is low. According to health cards, only 13 percent of the children in this age group received all the

recommended vaccines. According to mothers' reports, the percentage is only slightly higher, at 20 percent. Thirty-five percent of children received all the required vaccines as per either source. The overall vaccination status of children was much better in Tigray compared to SNNPR.

Maternal Characteristics

Approximately 25 percent of mothers were underweight (BMI $\leq$ 18.5 kg/m^2) and 2 percent were overweight (BMI $\geq$ 25 kg/m^2). The prevalence of maternal malnutrition was higher in Tigray compared to SNNPR. Mean height of the mothers was 156.5 centimeters. Only 2 percent of mothers were of short stature, i.e., having a height below 145 centimeters. A little over half of the study mothers perceived their own health to be quite good compared to the other women in the area. However, according to the standardized WHO Self Reporting Questionnaire (SRQ), about 40 percent of the women can be classified as having a high level of mental distress.

Women's control over household assets was assessed as one measure of maternal empowerment. Most household assets are possessed jointly with their spouse. About 4 percent of the respondents reported solely owning the house where they lived and 80 percent of those reported having the ability to sell these items. Less than 4 percent reported owning any large or small animals alone. Over 70 percent who owned these animals reported having the power to sell them. While nearly half of all respondents reported the ability to purchase small quantities of daily food items, less than half reported having the power to buy larger quantities. Decisionmaking power over larger household and food items was only reported by 20 percent of the women. Over 60 percent of women reported having the power to make decisions on child feeding-related matters. On all other matters, less than 30 percent of women reported being able to make decisions on their own. About 70 percent women were able to make decisions jointly with their husbands.

Household Characteristics

Household food insecurity was measured using the Household Food Insecurity Access Scale (HFIAS). Overall, two-thirds of all households experienced some form of food insecurity. One-third of households were classified as food secure—they rarely worried about their household not having enough food. Another third of households fell into the category of being moderately food insecure—they sacrificed quality more frequently by eating a monotonous diet or ate less preferred foods sometimes or often, and/or had started to cut back on quantity rarely or sometimes. Fifteen percent of the households were characterized as being severely food insecure—these households experienced at least one of the most extreme conditions. There was no major regional difference on any of the conditions.

Mean dietary diversity in the household measured through 24-hour recall was very low at 4.1 food groups consumed during the previous day. Forty percent of the household reported having 0-3 food groups the day prior to the survey. Another 47 percent reported having 4-7 food groups. Only around 8 percent reported having 8 or higher food groups.

We explored households' experiences of an economic shock in the previous 12 months. The most common shocks experienced were 1) loss of crops due to floods, 2) disease, injury, or loss of cattle, and 3) loss of crops due to drought, plant diseases, etc. Between 3 and 8 percent of respondents reported experiencing one of these kinds of economic shocks in the previous 12 months. Overall, 20 percent of all households experienced an economic shock of some kind in the previous 12 months.

Rural households in Ethiopia have historically received food or other forms of social assistance to protect households from falling into the grip of severe poverty. Forty percent of the respondents

reported that at least one family member in the household received some form of social assistance in the past one year. Two-thirds of the respondents from Tigray reported receiving food or other forms of social assistance compared to only 21 percent in SNNPR. The government's Productive Safety Net Program (PSNP) was by far the largest source of social assistance in both regions, with over two-thirds of respondents reporting this source of assistance.

Community Characteristics

In both regions, the major livelihood was agriculture for over 90 percent of respondents. Over 90 percent of the communities reported having a major road connection with the nearest town. However, the accessibility to the community during rainy reason was only 25 percent overall, with 46 percent in Tigray and only 14 percent in SNNPR. Over three fourths of the communities participated in the PSNP with 100 percent of Tigray's surveyed communities and 65 percent of SNNPR's surveyed communities. The community-based nutrition (CBN) program had also started in 70 percent and 35 percent of communities in Tigray and SNNPR respectively.

All the surveyed communities were served by the Government's health extension program (HEP) with most of the communities having a health post.

Frontline Health Workers

IYCF knowledge of HEWs was relatively high. Overall, HEW knowledge of IYCF practices was higher for breastfeeding-related practices, and lower for complementary feeding practices. Over 70 percent of the HEWs received training on breastfeeding or complementary feeding. Training on essential nutrition actions (ENA) was low compared to the 62 percent that received community-based nutrition (CBN) training.

Overall, it can be surmised that HEW satisfaction with their job was relatively high. The most satisfactory aspect of an HEW's job was that they felt that they were contributing to the improvement of the health of their community. Seventy percent of respondents strongly agreed with this statement.

Conclusions

Results from this baseline survey highlight the very high levels of malnutrition among children less than 5 years of age in Ethiopia. In particular these results demonstrate two key points: 1) the increasing prevalence of stunting, the primary A&T impact indicator, during the first two years of life; and 2) the suboptimal level of IYCF practices, in particular, complementary feeding practices.

Our results suggest that the Ethiopia A&T model aimed at delivering IYCF-related interventions through the Government's Health Extension Program (HEP) and through social mobilization efforts has the potential to improve knowledge and practices relating to infant feeding. The high level of stunting and very low level of IYCF indicators indicate a scope for the intervention to make a major improvement in these indicators.

The results of this survey highlight several challenging as well as enabling factors that may have implications on the delivery and success of A&T interventions. The overall situation of high poverty, low educational levels, high food insecurity, and low maternal knowledge of IYCF presents challenges to the program. However, the relative high level of interaction with the frontline health workers, their high level of IYCF-related knowledge as well as job motivation and satisfaction, the extensive reach of the government's HEP, and the large network of other platforms for social mobilization and service delivery, offer major potential for the program's success.