

Kim SS, Ali D, Kennedy A, et al. (2015) **Assessing implementation fidelity of a community-based infant and young child feeding intervention in Ethiopia identifies delivery challenges that limit reach to communities: a mixed-method process evaluation study.** *BMC Public Health* 15, 316.

Introduction

To scale up primary health care services in Ethiopia, a program of female health extension workers (HEWs) was established in 2003 to deliver 17 service packages ranging from child survival and nutrition interventions, maternal and neonatal care, and hygiene and environmental sanitation measures at health posts in rural communities. Community volunteers are trained to support the HEWs and to facilitate activities of health and nutrition promotion and community mobilization. Studies investigating the impact of this Health Extension Program identified successes in certain health care services, but not all. This wide range of effectiveness was attributed to implementation challenges, such as poor quality and low availability of some services, inadequate infrastructure and insufficient monitoring and supervision (1).

The Alive & Thrive program in Ethiopia was developed to reduce undernutrition caused by suboptimal breastfeeding and complementary feeding practices (2). The program started in 2009, targeting young children under 2 years of age. The intervention included age-appropriate child feeding messages and counseling to mothers and caregivers. The primary strategy of the community-based intervention is a cascading scheme of transfer of information, knowledge, skills and program tools from HEW supervisors to HEWs to volunteers. This issue of *Nutrition News for Africa* (NNA) summarizes an article recently published in *BMC Public Health* that reports on an assessment of the program implementation (1). The study aimed to assess the extent to which the program was implemented as intended, which is also known as “program fidelity”.

Methods

The present study was part of a larger process evaluation of the Alive & Thrive program in two regions of Ethiopia. The assessment focused on implementation fidelity based on the four following elements (2):

- *health worker adherence* to the intervention design;
- *dosage and exposure*, which entails the assessment of the intensity of program delivery in relation to the prescribed intervention;

- *quality of delivery*, which assesses how well the staff delivers the intervention; and
- *participant responsiveness*, which evaluates the extent of the response and/or engagement of the participants in the intervention.

The assessment consisted of a qualitative study and a quantitative survey. For the qualitative study, six districts, three in each region, were selected for differences in intervention platforms, partners and operational duration. In each district, two villages were randomly selected for the evaluation. Fifty-four in-depth semi-structured interviews were completed with one HEW supervisor per district, one HEW per village and three community volunteers per village. Brief interviews with beneficiaries (n=60) were also completed to verify program exposure. In 2013, quantitative surveys were implemented with 75 HEW supervisors, 150 HEWs and 279 volunteers as well as 750 mothers of children aged 0 – 2 years using a two-stage cluster sampling method. Results from the 2013 studies were compared with the baseline survey conducted in 2010, where similar indicators of training exposure and infant and young child feeding knowledge had been assessed.

Results and Conclusions

Capacity building through partner organizations was an important aspect of the program. Although there were a variety of trainings offered by different partners and public health programs, the majority of HEWs reported having attended a training. However, the frequency of attending more than one training was low. Nevertheless, breastfeeding and complementary feeding knowledge increased among HEW supervisors and HEWs in both regions, although knowledge was already quite high at baseline. Training on nutrition was received by community volunteers primarily offered by HEWs, as intended by the program. However, there was little increase in overall breastfeeding and complementary feeding knowledge among community volunteers.

Supervisors had generally the highest breastfeeding knowledge scores, followed by HEWs and volunteers. Knowledge scores on specific aspects of breastfeeding, such as “breastfeed the baby on demand” and “breastfeed more often if mother thinks baby is not getting enough” increased among HEWs and/or HEW supervisors, but not among community volunteers. Knowledge of the complementary feeding message about adding an egg or a special food to the baby’s porridge increased substantially among all program workers. These findings on training and knowledge were corroborated by self-reported perceptions of work performance. In particular, among the three types of health workers, community volunteers felt the least confident to implement nutrition education. Most supervisors, HEW and volunteers expressed a need for more training.

Copies of program tools were distributed during trainings of supervisors and HEWs, who were responsible for disseminating the material to mothers and caregivers with the support of community volunteers. While over 90% of supervisors and HEWs reported having received the informative tools, only about half of the community volunteers had received them. When mothers were asked about the tools, only half reported having seen them, and even less had received a copy of the material. Thus, the present assessment identified a gap in the communication between HEWs and volunteers and in the use and distribution of the tools to the caregivers. Among the HEWs and volunteers who had the tools, most reported using them regularly. The main reason for not using these materials was lack of time. The HEWs and volunteers reported that either they or the mothers did not seem to have sufficient time to discuss the content of the tools.

Supervision was considered a key aspect of the program to ensure that each HEW delivered the 17 different health service packages correctly. As outlined by the government, each HEW supervisor oversaw 6 - 8 HEWs, and each pair of HEWs supervised 50 community volunteers. The majority of HEW supervisors reported observing counseling at health posts and group sessions. In contrast, less than half of the HEWs reported having received supervisory visits in the past month. Some HEWs even reported that they had never been visited by a supervisor. Similarly low were the reports by community volunteers regarding supervisory visits by HEWs.

Qualitative assessments confirmed that supportive supervision was not implemented to the full extent as originally planned. When supervisors visited HEWs, most reportedly provided an orientation about infant and young child feeding. But HEWs reported that supervisors did not often check on the availability or use of the program communication material. Even less often did HEWs reportedly receive immediate feedback. Similar reports were given by community volunteers about a lack of well-structured supervisory visits by HEWs.

In almost all of the above findings, there were differences by region. The authors explain that in the region where implementation fidelity was found to be higher, program implementation partners had strong technical capacity in the areas of health and nutrition. The second region was a mostly rural region of Ethiopia and the primary partners were women's associations and religious institutions with limited technical capacity. Although the comparison of two regions only does not allow final conclusions, the authors suggest that this difference among the implementation partners was likely contributing to the ability to reach beneficiaries and provide quality services.

Policy Implication

The present implementation assessment found that training frequency of HEW supervisors and HEWs was adequate, but that gaps remained in the delivery of program tools and messages to child caregivers. Supervision was also found to be less frequent and inadequate compared to the program intentions. Moreover, the assessment identified that community volunteers were underutilized. The authors also highlight that time and workload was raised as a constraint particularly by the HEWs, a challenge quite frequently identified by public health programs.

To maximize the reach and quality of the program, authors recommended that the linkages between HEWs and community volunteers needs to be strengthened. Thus, further efforts are needed to train community volunteers and to provide adequate support and supervision of HEWs. These results were reported back to the program and will be used for design adjustments of the second program phase starting this year.

NNA Editor's Comments*

The present paper is a good example of program delivery research. The use of the program impact pathway helped to identify how and which program components were or were not implemented as intended. Although the above described assessment may be of specific importance to Ethiopia, other countries using similar cascading strategies in their public health program may be able to benefit from the lessons learned. Of particular interest is the identified need of adequate training and continued supervision. Capacity building is often raised as an essential factor to successfully implement public health programs in Africa. In the present case, cascade training is only the starting point and ongoing capacity building through frequent and supportive supervision, particularly at the community level, is essential.

*These comments have been added by the editorial team and are not part of the cited publication.

1. Kim SS, Ali D, Kennedy A, et al. (2015) Assessing implementation fidelity of a community-based infant and young child feeding intervention in Ethiopia identifies delivery challenges that limit reach to communities: a mixed-method process evaluation study. BMC Public Health 15, 316. Available at: <http://www.biomedcentral.com/1471-2458/15/316>
2. Alive & Thrive. <http://aliveandthrive.org>

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