

BOX 8.4**LOCAL RESTRICTIVE BEHAVIORS
AND TRADITIONAL BELIEFS
SHOULD BE STUDIED AND
INCLUDED IN NUTRITION TRAINING**

Some of the caregivers in Tanga perceived that eating vegetables downgrades one's social status. In their communities, households that consume meat are considered of high income, whereas those consuming vegetables are perceived as poor. This is because meat is more expensive compared with vegetables, which are diverse and widely available. Therefore, even poor households do not consume vegetables when they can afford meat.

I eat other foods but not green vegetables. Good food includes meat (red or white meat), beef, or chicken. Vegetables are not considered good food here. In our normal diet, we do not eat vegetables even when they are available. (A 25-year-old mother of 2 HIV-positive children)

People do not want to cultivate vegetables; it is not their tradition. Young women are not made to make such gardens...it is not a matter of lack of energy. Even HIV-positive people do not have such tradition. A woman is a person who does not work, only men do that in Tanga. (A 35-year-old businesswoman and a mother of one HIV-positive child)

Such restrictive behaviors are inherited from one generation to another, creating generations of poor feeding practices and micronutrient deficiency. The lack of necessary nutrients for HIV-positive children further damages their ability to fight opportunistic infections, driving them to more advanced stages of the disease and increased risk of morbidity, undernutrition, and mortality. Knowledge of such local restrictive behaviors can help to streamline feeding counseling if health workers also have adequate nutrition counseling skills.

nutritionists, and laboratory technicians. In human resource-constrained areas, mid-level providers commonly serve in these facilities.

8.4.1.2 Deciding on the Training Venue

Training may be more effective if it uses existing health facilities. If the training venue is close to the facilities, then the trainees can easily move to and from various practical sessions. Because nutrition training usually takes more than 1 working day, health workers from distant facilities will need to travel to participate. Therefore, choosing training venues close to health facilities saves both time and money.

8.4.1.3 Gaining Cooperation from Patients for Practical Sessions

The inclusion of patients typical of the local context in practical sessions can help health workers learn practical knowledge and skills. However, it is important to include patients with varied characteristics, too. For example, if wasting patients are selected in a region where wasting rate is high, then the training will be more meaningful. Additionally, the inclusion of positive deviant HIV-positive children can promote understanding of survival despite common difficult conditions. For example, if a child is not experiencing wasting, despite experiencing the same difficult conditions as other children, he or she might be considered a positive deviant.

8.4.1.4 Assembling Training Materials

The WHO guidelines for nutrition training follow the Integrated Approach to Nutritional Care of HIV-Infected Children (6 months–14 years). According to these guidelines [13], prospective trainees need pre-training materials about basic nutrition knowledge before undergoing training. It is useful for participants to prepare common cases and discuss how they manage them. In this way, trainers can establish the needs of health workers before nutrition training. Learning materials will also help participants refresh their understanding of the link between undernutrition and HIV infection. Health workers will therefore acquire some basic knowledge before the nutrition training. Because there are differences in basic knowledge among health workers, it is important to prepare training materials and methods based on their level of understanding.

8.4.1.5 Assessment of Nutrition Knowledge Before Training

Prior to nutrition training, health workers' baseline knowledge level should be assessed. After the training, a similar knowledge test will help determine how much participants have learned. Knowledge decay can be also evaluated at a later stage. The training materials based on WHO guidelines contain questions that can assess knowledge levels [13]; these include different aspects of nutrition knowledge, such as food preparation hygiene, counseling knowledge and skills, feeding practices, and opportunistic infections.

8.4.2 An Example of Nutrition Training in Tanga, Tanzania

Nutrition training was conducted among health workers caring for HIV-positive children at care and treatment centers in Tanga, Tanzania [35]. It targeted mid-level providers, or a majority of health workers in Tanzania, who serve populations in rural and semi-urban areas [25] (Figure 8.1).



FIGURE 8.1 Participants of the nutrition training in Tanga, Tanzania.



FIGURE 8.2 Participants of the nutrition training in a practical anthropometric session.

The Tanga nutrition training followed the steps recommended by WHO (Figure 8.2). These included formative research to examine the magnitude of undernutrition and poor feeding practices [16]. This research examined and addressed specific determinants of undernutrition (Figure 8.2). It used a mixed methods design consisting of cross-sectional quantitative and qualitative studies. The triangulated results identified the specific factors and feeding practices associated with undernutrition among HIV-positive children.

In total, 16 midlevel providers participated in the nutrition training [35]. The 2-day training occurred at an HIV care and treatment facility and included 18 theoretical and practical sessions. The training emphasized pertinent characteristics previously identified in the formative research. It also emphasized local food availability, norms, and myths of feeding in Tanga and in potential areas of improvement. Before the training, the trainees' baseline nutrition knowledge and skills were assessed using a standard questionnaire.

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8.4.2.1 Contents of Nutrition Training

The integrated nutrition training consisted of 10 steps (Table 8.1) that aimed to teach the health workers how to assess, classify, and choose a nutrition care plan. They also aimed to teach health workers about how to implement the nutrition care plan, to manage special cases, and to consider other factors in the care of HIV-positive children [13]. A knowledge

TABLE 8.1 Ten steps of nutrition training in Tanga, Tanzania

<i>ASSESSMENT AND PLANNING</i>	
Step 1	<ul style="list-style-type: none"> • How to assess and classify child growth • How to take anthropometric measurements and assess nutritional status • How to plot growth curve and monitor growth • Clinical practice on wards in how to assess growth and nutritional status
Step 2	<ul style="list-style-type: none"> • How to assess child's nutritional needs • How to determine additional nutritional needs • Practical session on how to assess nutritional needs of HIV-positive children
Step 3	<ul style="list-style-type: none"> • How to classify nutritional needs in terms of a nutrition care plan based on individual characteristics, taught in step 2 • Each nutrition care plan explained, examples given of local foods to cater for each plan • How to move from one care plan to another
<i>IMPLEMENTING CARE PLAN</i>	
Step 4	<ul style="list-style-type: none"> • How to explore what the child eats and drinks • How to evaluate feeding practices: feeding frequency and dietary diversity • How to examine the child's ability to eat, and monitor associated problems
Step 5	<ul style="list-style-type: none"> • Who feeds the child and how the child receives food
Step 6	<ul style="list-style-type: none"> • How to examine the household's food security and socioeconomic status
Step 7	<ul style="list-style-type: none"> • Discuss local determinants of undernutrition and how to avoid them • Role-play and group discussion on local determinants of undernutrition • Discuss infection control, food preparation hygiene, and opportunistic infections
Step 8	<ul style="list-style-type: none"> • Make a decision to refer • Discuss conditions that warrant referral • How to prepare patients before referral, based on the local protocol
<i>DEALING WITH SPECIAL NEEDS</i>	
Step 9	<ul style="list-style-type: none"> • Discuss HIV-positive children with special needs • How to feed the child recovering from illness, who is vomiting, who has severe undernutrition, and who has mouth sores
Step 10	<ul style="list-style-type: none"> • Discuss HIV-positive children on ART • What to do if the child is not gaining weight on ART, if the child has nausea or vomiting while on ART, and side effects of ART

assessment was conducted before the training was completed, and a question-and-answer session was held to clarify any misconceptions, myths, and beliefs that restrict feeding practices.

8.5 CHALLENGES OF IMPLEMENTING NUTRITION TRAINING

8.5.1 Fragmented Efforts in HIV Programs

In Tanzania, vertical HIV programs are implemented by development partners other than the government. In Tanga, two nongovernmental organizations provide care and treatment in public health facilities. Each organization operates using its own protocol and hires its own health workers in care and treatment centers. The government also provides care for hospitalized patients or those who seek treatment for other conditions. Within this context, it is difficult to plan and implement nutrition training for all health workers who care for HIV-positive children. None of the organizations accept responsibility for developing the existing human resources. In addition, the government lacks funds to train all of its health workers, including those working for other implementing partners. This kind of fragmentation is common in many developing countries.

8.5.2 Health Worker Shortage

A limited number of health workers work in Tanzania, and they provide care and treatment for a large number of HIV-positive patients in routine clinics. For example, on a typical clinic day in Tanga, up to 80 children may visit a care and treatment facility in which only four or fewer mid-level providers work. If health workers have to spend more time on individualized nutrition care and detailed counseling, then they may not be able to complete other tasks. Therefore, even if they acquire a high level of nutrition knowledge from training, they will only be able to provide a general approach to nutrition care. Many sub-Saharan African countries suffer from a shortage of health workers and share these common problems.

8.5.3 Knowledge Decay—Retraining Needs and Costs

Trained health workers experience knowledge decay; therefore, training should not be a one-time investment. Health workers may gradually forget their knowledge unless nutrition training is provided frequently as continuing education. For this case, the training was privately funded for research purposes and may not be sustainable or able to be scaled up. Nutrition training should be institutionalized, and the overall running costs of HIV programs should be used to make it sustainable.

8.6 USE OF SUCCESSFUL MODELS TO IMPLEMENT NUTRITION TRAINING AND PROGRAMS

The effectiveness of nutrition training and subsequent counseling for health workers may be increased by following other successful models and programs. Such successful models include the ART-adherence model, active case finding by directly observed treatment programs (DOTS) in tuberculosis, and the positive deviance approach model.

8.6.1 ART-Adherence Model

Despite numerous challenges, the ART-adherence model in Tanzania has been successful even among children. The adherence counseling is integrated into routine care. In this model, health workers in care and treatment facilities receive frequent ART-adherence counseling training. This helps to sharpen their skills, knowledge, and methods of monitoring adherence. Patients are given simple tools to remember how to use ART on time, including a fixed timetable based on their most routine activities and peer reminder methods. Such local innovations during training are useful and practical. By repeating the training, health workers realize how important adherence counseling is for routine care.

Patients bring their remaining pills or a medicine diary and show their health workers how they use their ART. From this, health workers can know the level of adherence over the previous month and identify reasons for missing doses when pills remain. The health workers and patients are then responsible for moving toward adherence. Health facilities maintain high levels of ART adherence by continuing routine follow-up through pill counting whenever a patient visits there.

Nutrition care may adapt such an innovative and tailor-made ART-adherence model by frequently training health workers. In addition, nutrition care can be integrated into routine HIV care and treatment and can be made a mandatory intervention. In this model, health workers may provide feeding diaries to caregivers of HIV-positive children. It helps health workers and caregivers to plan together using individual feeding patterns, and it helps assist in monitoring progress. Peer reminders may be used in nutrition interventions through nutrition groups as in adherence interventions. In such groups, caregivers can encourage each other and remind themselves of the best feeding practices. A care and treatment center can also ask community health workers and home-based care to extend care and follow-up at home.

8.6.2 Active Case Finding and Supervision by DOTS

The DOTS program is one of the most successful interventions to combat tuberculosis. The DOTS strategy includes five elements: political

commitment to ensure adoption of policy and strategies and, to ensure financial sustainability, early and active case detection; standard and effective treatment and patient supervision; effective drugs and supplies; and monitoring and evaluation.

Nutrition interventions that adopt this model may yield better results. For example, the nutritional status of all children, including HIV-positive children, could be improved by strengthening nutrition governance through the adoption of updated nutrition guidelines [36], which recommend integrating nutrition care for HIV-positive children into national policies. Active identification of the early stages of undernutrition will help health workers identify such cases through constant monitoring to determine trends in growth. If health workers receive adequate training to sharpen their skills, then nutrition counseling for feeding practices will improve [22]. Monitoring and evaluation of health workers' nutrition knowledge and skills will help maintain the quality of health care and ensure that HIV-positive patients receive routine and standard care [23].

8.6.3 Positive Deviance Approach

Positive deviants are people who show extraordinarily positive results despite the normal trend in a population [37]. For example, in communities where undernutrition is common, children who have better nutritional status are considered positive deviants. Their caregivers might have taken a different approach toward feeding that may be considered abnormal in such a population. The use of such cases as examples of how nutritional status may improve, regardless of normal trends, can be helpful in changing patterns of undernutrition and poor feeding [38]. This approach has proved useful in Vietnam [37] and other regions with a high prevalence of child undernutrition [38].

A positive deviant approach may also be useful among HIV-positive children in areas where food is available but where caregivers have restrictive feeding practices, similar to those for HIV-negative children [38]. Collecting examples of how others feed their children well can help change the beliefs underlying poor feeding practices, and evidence of children with improved nutritional status can lead to sustainable results. In addition, the identification of centers that conducted successful counseling may help to stimulate other facilities into integrating such interventions, thereby helping to improve nutritional status through feeding practices.

8.7 CONCLUSION

The growing number of HIV-positive children will continue to exacerbate child undernutrition rates unless it is addressed. Both AIDS and

undernutrition are preventable if locally available resources are appropriately used. In some countries like Tanzania, food is available but not effectively used.

Nutrition training can benefit health workers of various cadres. Training of qualified health workers and community workers can benefit the general population. If the necessary resources are available, then they have the potential to improve feeding practices and undernutrition among HIV-positive children.

For nutrition training of health workers to be more effective, it is critical to identify specific and local risk factors for undernutrition and poor feeding practices. It is then important to institutionalize the training program to make it sustainable at a country level. In this way, HIV-positive children can live and enjoy their adulthood like other members of society without depending too much on donor agencies.

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