

Successes and Challenges to Implementing an Early Childhood Supplemental Feeding Program in Rural Honduras: A Qualitative Study

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ABSTRACT

BACKGROUND: Malnutrition is a major cause of childhood illness, stunted growth and death worldwide. A supplemental nutrition program for young children was implemented in Guachipilincito, Honduras. This study explores early successes and challenges to implementing this program.

METHODS: We conducted a qualitative, semi-structured, key informant interview study in 2012. Two researchers analyzed interview transcripts using the immersion/crystallization method of qualitative analysis.

RESULTS: The program evolved from addressing macronutrient deficiency in 2010, to targeting micronutrient deficiency. Successes include: consistent food distribution, positive community feedback and establishment of a Honduran community oversight committee. Challenges include: tracking growth data, sharing of food among family members, and long-term sustainability. Next steps include: obtaining stable funding, utilizing local food suppliers, and increasing crop diversity. Participants identified cultural and economic factors contributing to challenges with these steps.

CONCLUSION: While the feeding program is having successes, it still faces many challenges. Additional interviews with Honduran-based staff, community leaders and program recipients may identify the best ways to address these challenges.

KEYWORDS: Childhood malnutrition, global health, supplemental feeding, micronutrient deficiency.

INTRODUCTION

Malnutrition is a major cause of childhood illness, stunted growth, and death worldwide.^{1,2} When people think of malnutrition, they typically think of macronutrient or protein-energy malnutrition, which is responsible for wasting in almost 10% of children under 5 worldwide.¹ However, micronutrient deficiency (vitamin and mineral malnutrition) also plays a significant role in childhood health, with over two billion people worldwide suffering from iron, vitamin A, and iodine deficiencies.^{3,4} These micronutrient deficiencies account for 7.3% of the global burden of disease and



Brown/Shoulder to Shoulder Guachipilincito clinic opening in 2011.

almost 3.5 million preventable deaths annually of children under the age of 5, mostly in underdeveloped countries.^{3,5} Health complications include stunting, wasting, greater susceptibility to both infectious and non-communicable disease, and interference with brain development.² These deficiencies are especially problematic during periods of accelerated growth, such as pregnancy, early childhood (<5 year olds) and adolescence.^{2,6}

In developing countries, supplementary feeding programs, iron and vitamin supplementation, and fortifying local foods are important steps to lowering rates of childhood illness and death.^{7,8} The World Health Organization has developed guidelines that promotes starting supplementary feeding programs for children older than 6 months and for mothers who are breast feeding.^{1,2} Encouraging exclusive breastfeeding is another way to decrease malnutrition in infants.^{7,9} Although studies have demonstrated the effectiveness of these interventions, there remain many barriers to implementing these programs in underdeveloped countries, particularly in remote, rural locations.

Honduras is a country in which many children suffer from the health effects of chronic malnutrition, and over 30% of children are stunted due to poor diet.¹⁰ Like many other developing countries, Honduras' lack of financial resources

and lack of access to a variety of foods in rural areas make addressing childhood nutrition more challenging. A country-wide, school-based feeding program for children over the age of 5 has been in place for a few years. However, poor nutrition in children under the age of 5 and in pregnant women still plays a significant role in the overall health of children, resulting in permanent health problems.^{3,4}

Shoulder to Shoulder (StoS), a US-based nonprofit organization that is partnered with several academic family medicine departments, has been working in Honduras for about 20 years.¹¹

StoS is also partnered with a grassroots sister organization in Honduras called Hombro a Hombro, which is a nonprofit non-governmental organization (NGO). In addition to clinic-based healthcare services in sites around the country, StoS has developed several community-based public-health programs to improve the health of the community, including nutrition, clean water, and community education programs.

Guachipilincito is a rural village of 500 people who until recently had to walk over an hour to reach the nearest health clinic in the town of Concepcion. The Brown Department of Family Medicine started a partnership with Shoulder to address the health needs of this community several years ago, resulting in the opening of a permanent, year round, local clinic in 2011. Many physicians, family medicine residents, medical students, college students and other professionals from Rhode Island, Brown University, The University of Rhode Island, and other parts of the country have volunteered their time to develop community health



Children waiting in clinic.

programs in Guachipilincito. In 2010 Shoulder to Shoulder started a new supplemental feeding and vitamin supplementation program for pregnant women and children under five in Guachipilincito, to complement the existing countrywide school-based feeding program. Initially this program struggled; however, it evolved and was bolstered after the opening of a new StoS permanent village health clinic in 2011.

Countries worldwide have attempted to implement supplemental feeding programs, but very few programs are evaluated. This is in part because when the scope of a feeding program is expanded, monitoring and evaluation are often neglected due to financial challenges.¹² This explorative qualitative research project, conducted in 2012, aimed to evaluate the early successes and challenges to full implementation of the Shoulder to Shoulder supplemental feeding program for children under 5 in Guachipilincito, Honduras.

METHODS

Design

This is a qualitative semi-structured, individual interview study of key informants. Institutional Review Board (IRB) approval was obtained.

Setting

Guachipilincito is a remote village in Honduras with a population of about 500. Shoulder to Shoulder (StoS) is a non-profit US organization working in Honduras for 20 years partnered with a sister Honduran organization, Hombro a Hombro. StoS's efforts in Guachipilincito are supported in collaboration with the Brown Department of Family Medicine.

Participants

Eight US-based key informants, including pediatricians, internists, family physicians, medical students, and a nurse practitioner agreed to participate in this study.



Patients file into the clinic.

Instrument

A semi-structured interview guide was developed for this study. Interviews were conducted in person or by phone in Honduras and in the USA by one researcher (HM). Interviews were audio recorded and transcribed verbatim.

Analysis

Two researchers (HM & FER) analyzed the interview transcripts for emerging themes using the immersion/crystallization method of qualitative analysis.¹³

RESULTS

Eight interviews were completed and analyzed. Major themes included evolution of the feeding program, successes of the program, and challenges to the program. Formal outcome data of the overall feeding program is pending as the childhood feeding program is still in its infancy. **Table 1** includes representative quotations from participant interviews for each of the themes described below.

Evolution of the Guachipilincito Childhood Feeding Program

In the fall of 2011, the feeding program radically changed the types of foods that were distributed from foods common in the local diet (corn, rice, beans), to other types of foods such

as fortified oatmeal, eggs, and wheat. The purpose of this was to shift from addressing only macronutrient deficiencies in children, to also include micronutrient deficiencies. These changes were implemented after a StoS program-wide study, which sampled serum from participating children and identified significant micronutrient deficiencies (iron, vitamin A, selenium, etc.) in Honduran children.¹¹

Successes

One success of the program is that all children under 5 and pregnant mothers who qualify are able to get the food from the program every month. While it is too early to see definitive clinical outcomes such as increase in participants' weight for height, the feeding program has been met with a lot of positive feedback from the local community. Higher levels of community engagement have included the development of a Honduran community nutrition committee that administers and monitors the program and uses Honduran health promoters to do outreach.

Challenges

Challenges include problems with recording data, as the growth charts that the program had been using for the last few years were lost. This makes it difficult to properly analyze whether or not the children are benefiting from the food

Table 1. Evolution, Successes and Challenges

Theme	Subtheme	Example Quotation
Evolution of the program	Diversify diet	"We're not going to give the children those micronutrients just by giving them more rice and beans. We needed to diversify their diet. And that is why we changed it to eggs, oatmeal...milk."
Successes	Monthly food distributed to all children < 5 years.	"On a monthly basis the food stuffs are provided to the recipients...it's a two-day process."
	Program is well received	"Had a meeting with the community...they felt it was an urgent need with their children being underweight...it was something the community very much wanted." "In general, that it's gone over well."
	Community is taking ownership of the program	"A nutrition committee...provides the program and monitors the program. It is ...volunteers from the community members, people who are being served by the program and the health promoter in the area."
Challenges	Growth data tracking	"When you came the first time in 2011 all the growth curves from 2010 were gone. Like no one could find them. So that's really frustrating for me, like more than any social or economic challenge... so when we came back next year we had to start growth curves all over again."
	Sharing of food	"So many difficulties to try to figure out culturally what's the right way of doing a program such as this." "...and you want to focus on these children who are under the age of 5, but there also happens to be a 6-year-old, and 8-year-old, a 10-year-old, and a 12-year-old in the house. What's a mother to do?" "Also may be cultural issues as well...who gets the food first."
	Sustainability	"Funding...major work of the board of the Brown University affiliate." "...It just doesn't seem sustainable long-term to have all the resources be coming from outside of the community...it will never work unless...(the community is) excited about changing some of the ways they farm..."



The clinic in rural Guachipilincito, Honduras.

that they are given. Since the fall of 2011, when the Brown Department of Family Medicine-sponsored Guachipilincito medical clinic opened, a new tracking system has been put in place that is recording the data in several places and linking it to participants' health records.

Another concern is that the food distributed by the childhood feeding program is being shared among family members of the recipients of the program other than the pregnant mother or young child. This sharing of food is troubling as it means that the food is not going to the intended recipient, and as a result the recipient's micronutrient deficiency is not being treated sufficiently. For the most part this is due to poverty, resulting in the need for wage-earning family members to have something to eat so they can go out and work.

In order to prevent the local population from becoming dependent on the food from the program, a system has been set up by the local community where, in exchange for the monthly food, mothers come to the local clinic and help to clean it for about an hour. Mothers who do not wish to pay with service can choose to pay a small fee in exchange for the food instead. This is a positive development as it demonstrates that the community is becoming involved in the implementation of this program. There is a resulting ethical dilemma however. If a mother won't or can't do either of these things, should she and her children still get the food from the program?

A final challenge to the childhood feeding program is that it is currently funded solely through fundraisers in the United States. Ways to improve sustainability include producing more of the food locally. For example, all of the eggs distributed by the program are now produced by local farmers. Another idea has been to diversify the crops grown locally. However, local beliefs about the uses of certain plants

can sometimes pose a barrier to change. For example, health promoters suggested to the local community that they cultivate a spinach-like crop native to the area (which contains many micronutrients missing from the local diet). This proved problematic, as this plant is considered by the local people to be an aphrodisiac, which leads to a reluctance to openly farm this plant.

DISCUSSION

Preliminary results show that the Guachipilincito supplemental nutrition program is having several successes including accessibility and distribution of food, acceptance from the local community and engagement of community members in the running of the program. However, it still faces many significant challenges such as uncertainty regarding food consumption by the intended recipient, data tracking, and sustainability.

Numerous challenges exist to establishing supplemental feeding programs in developing countries. Some of these challenges are commonly encountered, while others are unique to the particular country or location. Economic issues and sustainability are ubiquitous challenges.^{4,14} Distribution and cultural challenges, however, are more variable. For example, an evaluation of a feeding program in Mali identified food distribution challenges such as delays in delivery, that were very different from the challenges identified in our study.¹⁴ The cultural issue seen in Guachipilincito regarding the acceptability of eating a very nutritious and readily available leafy vegetable is likely unique to this particular community.

A limitation of this preliminary process study is that only US-based key informants were interviewed. For a broader understanding of this early childhood supplementary feeding program, interviews should also be conducted with Honduran-based staff, recipients of the program, and community leaders.

Next steps to better understand the unique needs, challenges and solutions to implementing the supplemental feeding program in Guachipilincito include conducting the above mentioned additional key informant interviews. Quantitative analysis of growth data as it becomes available will also be important. In order to move towards long-term sustainability for this program and reduce recipient dependence on this particular source of food, multiple solutions need to be explored. Possible strategies include identifying a more stable source of funding, obtaining food from local suppliers, and increasing crop diversity. Several authors advocate the development of home kitchen gardens to provide a sustainable source of nutritious food in developing countries.^{15,16} It is unclear at this time whether this will be a feasible solution in Guachipilincito.

Childhood malnutrition is a serious problem that needs

to be addressed worldwide. Supplemental feeding programs are an effective way of combating childhood malnutrition; however, implementation is often challenging. This qualitative process study of the program in Guachipilincito demonstrates that creative solutions are needed to address the unique challenges faced by Guachipilincito and other rural villages in developing countries.

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