Micronutrient Initiative

Solutions for hidden hunger

Family and Community Approaches to Improve Infant and Young Child Nutrition in South Asia: A Report of the World Bank South Asia Region Development Marketplace

Report prepared by the Micronutrient Initiative under contract to the World Bank

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Micronutrient Initiative

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Micronutrient Initiative

List of Abbreviations

2CL	Two Child Logo
A2Z	USAID Micronutrient and Child Blindness Project
AIDS	Acquired Immunodeficiency Syndrome
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AusAID	Australian Agency for International Development
AWW	Anganwadi Worker
BCC	Behavior Change Communication
BF	Breastfeeding
BFSG	Breast Feeding Support Group
CAMS	Computer Aided Monitoring System
CF	Complementary Feeding
CHV	Community Health Volunteer
CHP	Community Health Promoter
CNC	Community Nutrition Center
CNSP	Community Nutrition Sales Point
CRF	Client Record Form
CRP	Community Resource Person
DOTS	Directly Observed Treatment, short-course
DTC	Diarrhea Treatment Center
ECCE	Early Childhood Care and Education
ENA	Essential Nutrition Actions
FCHV	Family Community Health Volunteer
GIS	Geographic Information System
GMP	Growth Monitoring and Promotion
HAPPI	Healthy and Positive Pregnancy Initiative
HIV	Human Immunodeficiency Virus
ICT	Information Communication Technology
IDD	Iodine Deficiency Disorder
IEC	Information Education and Communication
IFA	Iron-Folate Supplements
IMNCI	Integrated Management of Neonatal and Childhood Illness
ITD	Iodine Test Demonstration
IYCF	Infant and Young Child Feeding
LQA	Lot Quality Assurance
M&E	Monitoring and Evaluation
MDG	Millennium Development Goals
MI	Micronutrient Initiative
MIS	Management Information Systems
MNP	Multiple Micronutrient Powder
MUAC	Mid-Upper Arm Circumference
NDCC	Nutrition and Day Care Center
NFHS	National Family Health Survey

NGO	Non-Governmental Organization
ORS	Oral Rehydration Salts
PAG	Program Assessment Guide
PDG	Program Documentation Guide
PEM	Protein-Energy Malnutrition
PLHA	People Living with HIV/AIDS
PLW	Pregnant and Lactating Women
PPS	Probability Proportional to Size
SAR DM	South Asia Regional Development Marketplace
SMART	Specific, Measurable, Achievable, Realistic, and Time-bound
SMS	Short Messaging Service
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VHND	Village Health and Nutrition Health Days
VHSC	Village Health and Sanitation Committees
WFP	World Food Programme
WHC	Ward Health Committee
WHO	World Health Organization

Executive Summary

South Asia has both the highest prevalence rates and the largest number of undernourished children in the world. Undernutrition impedes productivity, economic growth, and the reduction of morbidity and mortality in vulnerable groups. Given the importance of good nutrition as a prerequisite for inclusive growth and poverty reduction in South Asia, the World Bank, with its partners, held a South Asia Regional Development Marketplace (SAR DM) on Nutrition in August 2009, under the theme: "Family and Community Approaches to Improve Infant and Young Child Nutrition."

The SAR DM successfully piloted many new ideas to improve infant and young child nutrition. Twenty-one civil society organizations were selected from among the 1,000 proposals received; each won a grant of up to $40,000 to implement their project. The Micronutrient Initiative **(**MI) was contracted by the World Bank to improve the monitoring and evaluation (M&E) capacity of the grantees, to provide ongoing technical M&E support to grantees, and to identify, highlight and report on lessons learned during the SAR DM initiative.

Profile of the SAR DM Nutrition Projects

The SAR DM projects were spread across South Asia: India had nine projects, Bangladesh and Nepal had four projects each, Pakistan had two projects, and Sri Lanka and Afghanistan had one project each. Eleven projects were based in rural areas, nine were based in urban areas, and one was based in both rural and urban areas. While all projects included children under two years as beneficiaries, seven projects also included pregnant and lactating women. A majority of projects (15 out of 21) focused on improving infant feeding practices (some also included a focus on the nutritional status of pregnant women) and the remaining six projects focused on reducing food insecurity, anemia, iodine deficiency, diarrhea, mothers' mental stress, and on the nutritional rehabilitation of severely malnourished children.

The projects used a variety of strategies and most projects implemented multiple interventions. These primarily included mobilization of community groups (men, women, grandmothers, adolescents), home visits, and peer counseling. Other projects attempted to improve food security through model farms, the development and distribution of nutritious snacks, or fortifying staples such as flour and salt. Several projects addressed problems contributing to undernutrition such as childhood diarrhea (with a focus on oral rehydration solution and active discouragement of intravenous fluid administration) or mental health issues/stress among pregnant women. Nutrition counseling was a common thread running through all of the interventions.

Methodology for Synthesis of Grassroots Experiences and Lessons Learned

MI conducted site visits to review project design, implementation, monitoring/supervision and evaluation plans, studied program documents, and met program staff and beneficiaries. MI also requested grantees to self-report on their experiences and challenges. A two-day workshop at midterm was held to strengthen the M&E capacity of grantees, including how to conduct end-line evaluations. MI also provided ongoing technical support to grantees, upon request, during project implementation. MI used two tools – the Program Assessment Guide[1] (PAG) and the Program Documentation Guide[2] (PDG) – as frameworks to examine implementation and M&E issues and challenges, and to glean lessons learned from the projects. Five projects were selected as case studies to gather more in-depth information.

Experiences Across Programs: Outcomes and Lessons Learned

A rich collection of grassroots experiences emerged from the SAR DM nutrition interventions:

There is a great depth of research talent in South Asia. While many of the grantees did not design their programs as pure research projects, others did and exhibited very strong research skills, including detailed project designs, extensive data management practices, and strong analysis. This was true for all of the countries in the region and demonstrates a depth of expertise that can be called upon in the future.

NGOs in the region are strong in program implementation and evaluation. South Asia has a rich history of strong programming (at any scale) and there was a high degree of sophistication in terms of evaluation. Very few grantees required extensive input or assistance during evaluation; assistance when required was most often in the data analysis phase.

The SAR DM timeframe was reasonable and sufficient to assess effectiveness; however, grantees need to improve project planning. There was much debate on the length of the grant period, which was fixed at 18 months. Many grantees experienced challenges with timelines because their project's objectives were overly ambitious, or had too many planned activities. In addition, many grantees targeted changes (such as reductions in stunting) that cannot be measured within an 18-month timeframe. These challenges could be avoided through better use of log frames (less than half of the grantees used log frames) and earlier intervention of technical advisers to review them. Log frames could have also improved grantees' monitoring plans by focusing on key activities and not, as was often the case, extraneous or unnecessary elements. In some cases, timelines were affected by external factors, such as projects that required the lease or building of premises, where timelines are very hard to estimate, or research projects that took longer than

[1]Pelletier, D., Corsi, A., Hoey, L., Houston, R., Faillace, S. Program Assessment Guide. August 2010, A2Z Project, AED, Washington, DC.
[2]Pelletier D, Houston R, Faillace S. Program Documentation Guide. August 2010, A2Z Project,AED, Washington, DC.

expected to complete case and control selection. In these cases, it might be useful to start the 18-month project timeframe only after a critical and time-sensitive element has been completed.

Not all community-based projects can be scaled up or replicated in their entirety because community-based programs are shaped and refined in innumerable small but vital ways to suit the particular characteristics of the local population. Projects had to be flexible, with additions and modifications made during implementation, in order to successfully reach the community. However, the kernels of many of the project ideas can be scaled up, such as using widely available technology to deliver information and education, sourcing locally available ingredients for therapeutic foods, or developing home gardens.

Layered funding is an interesting model. In a few cases, SAR DM grants were used to add new elements to ongoing, more extensive programs. This is a promising concept and one that the World Bank may want to consider more closely in future. On the one hand, this kind of layering can generate increased interest in the project's concepts and a more in-depth evaluation of the ongoing program. On the other hand, these kinds of programs are often on a scale that is out of reach for most grantees, and they also require sophisticated measurement and evaluation.

Partnership with government programs led to more effective project implementation, especially when interventions could leverage existing government resources. In some cases, project interventions supplemented and/or improved government programs by encouraging cross-sector convergence, or the regular presence of government functionaries at service delivery points. However, such partnerships also required continual, additional efforts by grantees to ensure that the partnership goals were met and that the partners performed their roles. Other challenges faced included competing priorities among government programs or government partners' slow response to change; many grantees successfully responded by aligning their nutrition interventions with what already existed on the priority list of government programs. Partnership with government does not necessarily enhance a project's sustainability, because community-based projects are labor-intensive, in terms of development and monitoring, which is a level of assistance generally unlikely to occur in reality if taken over by government bodies. However, scaled down versions of the projects, with fewer activities, could be feasibly sustained.

Partnership with the private sector facilitated the production and distribution at scale of fortified nutrition products (biscuits, salt, and wheat flour). Advocacy successfully brought suppliers on board, since they could see the potential for profit and an increased share of the market. Consumer awareness efforts and demonstrations of the palatability and benefits of fortified products encouraged consumer demand. Projects developed distribution networks to ensure regular supply of fortified products to remote areas, and community groups pressured suppliers to stock the products and helped motivate households to purchase and use them. Key lessons learned were the importance of maintaining supply chains when production machinery malfunctioned, the need to reformulate products for greater safety and consumer acceptance, and the role of credit mechanisms to enable suppliers to purchase and stock sufficient quantities.

Community mobilization and outreach: Almost all projects enrolled people from the community as outreach workers, either forming new groups or building on existing groups such as village-level health and development committees of the government or local NGOs. In particular, efforts to ensure increased involvement of men as fathers and family caregivers for nutrition care were successful. People were mobilized as change agents and advocates to improve child feeding and healthcare practices, as catalysts to improve the use of available nutrition services, as data collectors for baseline and end-line surveys, as salespersons of nutrition products, and as monitoring support to ensure that functionaries performed their role. In a few projects, incentives were given to community members; however, this did not necessarily lead to better performance. Outreach workers can become valuable partners who ensure reach to remote areas and increase community acceptability of the interventions. For this to happen, it is necessary to align project expectations with the capacity, available time and willingness of outreach workers, and offer them continued capacity building training, on-site supervision and encouragement.

Computer Aided Monitoring Systems (CAMS): An integral part of all projects, CAMS helped ensure the efficient use of resources and enhance project impact. Systems were designed based on their purpose, as well as in consideration of the computer literacy of the end-user. Grantees that opted for in-house CAMS (rather than outsourcing) reported fewer challenges with using and maintaining the system, and could more easily make mid-course corrections. Field realities prompted several changes and simplification of the CAMS used in some projects. Also important was efficiently using CAMS data for decision-making in the field. Some grantees sustained use of their computer systems beyond the grant period as part of their ongoing monitoring system, or partly embedding elements of CAMS into the government system where it was a partner. Projects realized that to obtain the long-term benefit of CAMS, it is necessary to deliberately build in time and resources at the planning stage to effectively integrate CAMS into the projects.

Information, Education and Communication (IEC) was a component of all projects, either as the main intervention, or as an important support for the services offered. For a majority of the projects, including technology-based IEC efforts through cell phones or radio, interpersonal communication through community change agents was critical to ensure transformation of knowledge into improved practices. IEC programs also helped people understand the benefits of recommended practices and proper use of a product like a nutrient supplement or fortified food, overcame barriers or resistance, and improved the knowledge and counseling skills of community counselors.

Value of case studies: Case studies helped corroborate MI's lessons learned from across projects; they also provided additional insight into the micro-picture of nutrition interventions at the field level. For example, case studies demonstrated the importance of the convergence of various departments to ensure integrated nutrition service delivery, the success of food-based strategies, peer counselors' ability to motivate families to improve IYCF practices, and the gains possible by exploiting the reach of mobile phone technology to spread nutrition messages.

Recommendations for Nutrition Project Design, Implementation, and M&E Systems

Project design should be based on strong scientific evidence of nutrition interventions that have demonstrated efficacy and efficiency, especially at the regional level. Most grantees reported that solutions to nutritional problems are not under-researched, but rather inadequately implemented. Project teams should also familiarize themselves with national and/or regional nutrition policies and action plans, and ensure that the nutrition program is aligned with them.

A challenge facing nutrition programs, which needs to be addressed in program design, is the 'invisibility' of undernutrition or micronutrient deficiency conditions like anemia. Efforts are needed to help communities recognize that these conditions are not 'normal' and need attention. In addition to good initial project program design, it is important to stay flexible in order to respond to challenges along the way. Short-term projects need to keep in view the long-term impact and stay on course – this is especially important for nutrition change because household practices like feeding, seeking treatment, or hygiene behaviors are slow to improve.

Prior to the implementation phase, formative research should be conducted in order to fine-tune the intervention, refine M&E systems, and provide baseline data. Of particular relevance to nutrition projects is formative research that includes the gender dimension, which significantly impacts on feeding practices and healthcare, such as the role of men and grandmothers, or including adolescent girls as participants. Formative research and review of secondary data sources also helps to identify beneficiaries who live in inaccessible areas, or who are nutritionally most vulnerable, and ensure they are included in project design.

Sound management practices, including financial management to optimize the use of resources, are essential for cost-effective nutrition interventions. Since a large part of nutrition improvement occurs at the household level, it is essential to budget for adequate resources and time for outreach work and to make sure that regular, ongoing home visits take place. Project management must also pay close attention to the 'software' of the program – the people and processes – because they largely determine the outcomes and impact. This includes developing the skills of government functionaries, ongoing supervision and motivation, and providing educational materials for household contacts.

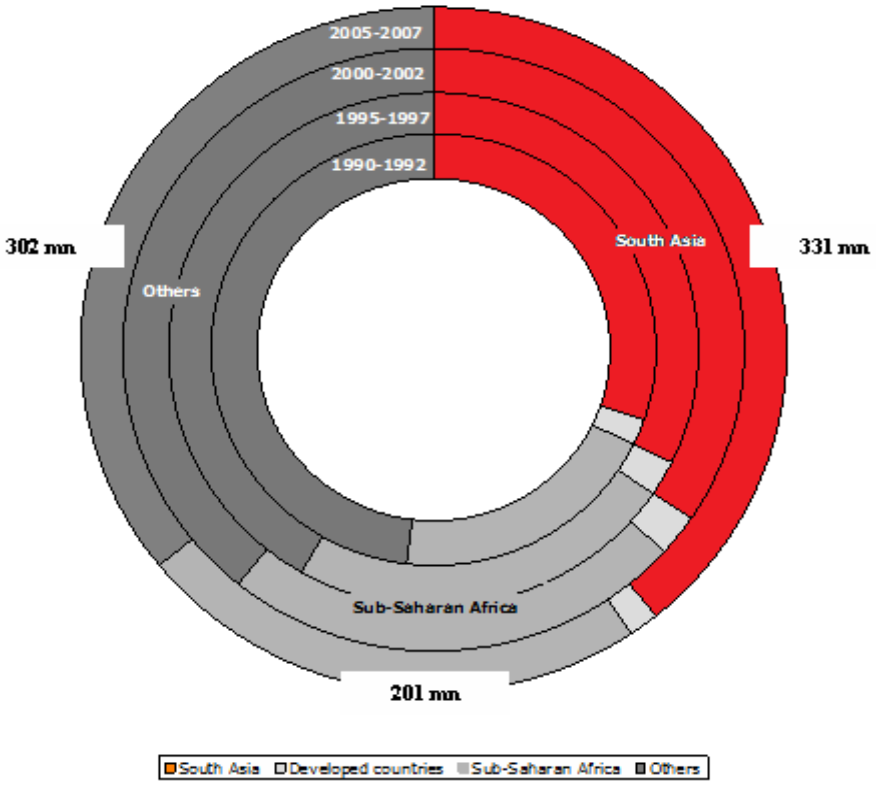
Sustainability should also be an integral part of the project's design and implementation. Deliberate efforts should be made to build alliances, empower communities, build infrastructure and knowledge bases, advocate with government and NGOs for legitimate attention to nutrition concerns, and attempt to build-in successful practices (or at least the principles and lessons learnt from the practices) to ongoing programs in the same organization and/or other organizations with similar goals. The bottom line is that malnutrition is a long-standing problem and therefore requires long-term solutions to address it.

CHAPTER 1: Introduction

Not only is the persistence of widespread undernourishment in South Asia — more than in all other regions in the world — quite extraordinarily, so is the silence with which it is tolerated, not to mention the smugness with which it is sometimes dismissed. ~ Amartya Sen, 1998

Asia, particularly South Asia, has some of the highest levels of undernutrition[3] in the world, characterized by calorie deficits and deficiencies of essential micronutrients. Figure 1 shows that South Asia outnumbers all other regions in terms of total number of malnourished people.

Figure 1. South Asia has the world's largest number of undernourished people, 1990-2007



Source: FAO Statistics Division, last updated 13.09.2010

South Asia also has both the highest prevalence rates and the largest numbers of undernourished children in the world, and in some of its larger countries the underweight and stunting rates are much higher than those of Sub Saharan Africa (33 to 41 percent as compared to 11 to 30 percent, respectively), as shown in Table 1.

[3] Undernutrition includes stunting, wasting, intrauterine growth retardation and micronutrient deficiencies.

Table 1: The Burden of Child Undernutrition in Asia

Region	Stunting	Underweight	Severe Wasting
	(%)	(%)	(%)
South-Central Asia (includes India)	40.7	33.1	5.7
South-East Asia	34.3	20.7	3.6
East Asia	50.0	28.0	3.6
Sub-Saharan Africa	30.2	11.4	2.7
Central America	23.1	6.2	0.6

Source: Black et al. 2008

In Nepal, the prevalence of underweight children has been estimated to be 48 percent among children under 5 years, in India 43 percent, in Bangladesh 41 percent, in Pakistan 38 percent and in Sri Lanka 29 percent. These high levels of malnutrition persist despite the known adverse effects of undernutrition on physical growth, cognitive development and human capital formation, as well as its direct and indirect association with over half of all child deaths.

Undernutrition also disproportionately affects women in South Asia. The World Health Organization's (WHO) global database on Body Mass Indices[4] estimates that over one third of adult women in Bangladesh, India and Pakistan are underweight, and the prevalence of iron deficiency anemia ranges between 55 and 81 percent across the region. Besides limits to their own health and productivity, undernourished women also have an increased likelihood of adverse pregnancy and birth outcomes, including an increased likelihood of delivering babies with low birthweight who are likely to grow up to be underweight and stunted children and adolescents.

Given the current undernutrition levels in South Asia, and slow progress of improvements, it is unlikely that any country in the region will achieve the Millennium Development Goal (MDG) for nutrition (Target 2 of MDG 1), which is to halve, between 1990 and 2015, the proportion of people who suffer from hunger as measured by the percentage of underweight children under five years.[5]

Addressing the causes of undernutrition in South Asia is particularly important as it impedes productivity, economic growth and poverty reduction. A child who is undernourished during its

[4] http://siteresources.worldbank.org/SOUTHASIAEXT/Resources/223546-1171488994713/3455847-1232124140958/5748939-1234285802791/nutritionsouthasiafeb2009.pdf
[5] UNICEF. State of the World's Children, 2009

first two years of life is less likely to complete school and, as an adult, will earn, on average, a 10 to 17 percent lower income[6] than adults who were well nourished as children. It is necessary for all nutrition workers and supporters, within the region and at the international level, to collectively search for better ways and means to improve the situation. There is an urgent need to build a strong, healthy and well-nourished population that can make the most of education and employment opportunities available in today's rapidly globalizing world[7]. This can be done through innovative actions, such as family and community approaches, that are needed to save the lives and improve the nutrition of millions of mothers and children in the region.

In South Asia, as well as in other global regions, the World Bank, in collaboration with other development partners, is increasing its role in combating the problem of malnutrition by expanding its capacity to generate country-specific knowledge on the magnitude of the problem, its causes, and constraints to addressing undernutrition. More recently, the Bank has initiated an organization-wide effort to scale-up its work on nutrition that will enable countries to respond to the current nutrition crisis, and to build programs to ensure good nutrition for children, women and men in the medium and long term.

To highlight the problem of undernutrition in the region, and to seek innovative ideas to address this in South Asia, the World Bank held a South Asia Regional Development Marketplace (SAR DM) on Nutrition in August 2009. Administered by the World Bank and funded by various partners[8], the Development Marketplace is a competitive grant program that identifies and funds innovative and early-stage development projects with a high potential impact. The primary objective of the Development Marketplace is to identify and support creative solutions to pressing social and economic concerns – solutions that deliver results and have the potential to be replicated and/or scaled-up. In this way, the World Bank and its partners gain insights from grassroots practitioners who have important contributions to make in their fight against poverty and its consequences.

The objective of the 2009 SAR DM on Nutrition was to identify, fund and learn from innovative, results-driven approaches, with a potential of replication and scale-up, to deliver improved nutrition to pregnant women, infants and young children during their first two years of life. The SAR DM intended to create a platform to engage civil society and grassroots organizations contributing to improving nutrition in South Asia, and to share their experiences with the broader development community on how to improve nutrition in South Asia.

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[6] http://youthink.worldbank.org/blog?page=2&issue=521

[7] http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/0,,contentMDK:22264595~menuPK:158937~pagePK:2865106~piPK:2865128~theSitePK:223547,00.html

[8] The 2009 SAR Nutrition DM is funded by World Bank, World Food Program, UNICEF, Micronutrient Initiative, Global Alliance for Improved Nutrition (GAIN), Federal Republic of Germany/GTZ, PepsiCo.

In February 2009, the SAR DM invited proposals from nongovernmental organizations (NGOs), civil society organizations and others in all countries in South Asia[9] under the theme: "Family and Community Approaches to Improve Infant and Young Child Nutrition." The SAR DM sought proposals that clearly demonstrated how families and communities could empower girls and women to address gender issues and other sociocultural determinants of malnutrition, especially at the household level and in feeding and child care practices. The SAR DM also requested proposals that increased access to and/or use of micronutrient-rich foods or supplements and that developed sustainable ways of changing household behaviors to address malnutrition within the household's resource constraints. Proposals were also considered that could demonstrate and measure the impact of community-based interventions through indicators such as growth monitoring and promotion, child development and care, and the provision of a safer hygienic environment by improving the quality of the physical and social environment for infants and young children.

Nearly 1,000 proposals were submitted to the World Bank in April 2009. These proposals were thoroughly assessed by development experts from the World Bank and the greater nutrition and development community. From this first round, 60 organizations from Afghanistan, Bangladesh, India, Nepal, Pakistan and Sri Lanka were invited to present their proposals to an independent jury comprised of eminent persons in development, academia, civil society, foundations, and government at the SAR DM event held in Dhaka, Bangladesh in August 2009. The evaluation criteria included:

1. *Innovation*– Proposals had to demonstrate an idea/concept that is new in approach, (a product, technology, process/combination of processes and/or financing) to achieve sustainable improvements in infant and young child nutrition practices.
2. *Realism* – Proposals should have provided a realistic implementation plan, time frame, and budget, and indicate the organization's capacity to implement the project.
3. *Results* – Projects had to have clear and measureable results that have a direct impact on the theme and/or subthemes. Proposals should have made provisions for effective monitoring and evaluation with objectives, beneficiaries, and key performance and outcomes indicators clearly identified.
4. *Sustainability* – Proposals should have shown how the project can continue to operate and yield results beyond the SAR DM funding period (financial and organizational sustainability).
5. *Growth Potential* – Proposals should have demonstrated potential for replicability and scalability. It should have been possible for government and/or other organizations to replicate and implement the idea in other places with similar contexts. Proposals had to be clear on how the project could be effectively scaled-up in a sustainable way.

[9] Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka

Twenty-one civil society organizations from across South Asia were awarded grants totaling $840,000. Grantees each received up to $40,000 to implement innovative ideas on how to improve nutrition in their respective countries. Most grantees began implementation in the fall of 2009, reached mid-term in July/August 2010 and completed implementation by July/August 2011.

Recognizing the importance of M&E to improve performance, and capture the lessons and promising approaches for improving infant and young child nutrition from the SAR DM with potential of scale-up, the World Bank contracted MI to assist with M&E process for the SAR DM-funded projects. MI was contracted to design, in consultation with the World Bank, an M&E process and tools to improve the capacity of grantees to monitor and evaluate their programs, to provide ongoing technical assistance and support to all 21 grantees on their M&E plans, and on other technical issues, based on demand, and to identify, highlight and share lessons and promising approaches of grant recipients at appropriate dissemination forums.

Representatives of the 21 SAR DM grantees celebrate at the award ceremony, August 2009.

CHAPTER 2: Methods

MI was contracted by the World Bank to improve the M&E capacity of the grantees, to provide ongoing technical M&E support to grantees, and to identify, highlight and report on lessons learned during the SAR DM initiative. MI wanted to identify what worked, and how to do it, in addition to common challenges and constraints faced by the grantees during project implementation.

This report is based on information derived from a number of sources such as project M&E data, workshop discussions, grantee reports, raw research data, telephone calls with grantees, questionnaire feedback, and one-on-one interviews. Site visits were also conducted, with at least two site visits for those grantees whose projects were used as case studies.

Ongoing Support

Grantees were encouraged to contact MI for technical advice at any time during implementation. Types of assistance provided by MI ranged from advice on M&E design, sample size and review of questionnaires for end-line evaluations, to advice on data analysis plans/strategies, completion of log frames, and refine monitoring data to ensure comprehensiveness. However, the majority of grantees did not require ongoing assistance beyond that which was provided in the workshop.

Site Visits

The first set of site visits took place approximately six months into implementation wherever feasible, although implementation schedules varied and in some cases the first site visit was relatively earlier or later in the implementation process. Standardization of site visits across evaluators was ensured through the use of a comprehensive checklist for review of program design, project plans and program documents on site, and a previsit request for information (Annexure 1).

Nutrition Focal Persons from the World Bank accompanied MI staff on site visits when possible; they also conducted independent site visits in most cases to assess early implementation processes and challenges. Project documents that were reviewed and were of particular interest to the team included the projects' logical framework matrices (log frames), monitoring plan, evaluation plan, and an extensive review of baseline data and questionnaires.

Implementers Workshop

Following the site visits, MI requested the grantees to self-report on their M&E issues, experiences and challenges. This information was used to develop the contents of a workshop held over two days in Kathmandu, Nepal in November 2010. The workshop strengthened aspects of the projects to allow for mid-course correction in implementation if necessary. It also gave

grantees the opportunity to network and create links amongst groups doing similar work. Information from the site visits was used to organize grantees into small group work sessions that best suited their needs. Workshop topics included survey design, data analysis, qualitative research methodology and monitoring (Annexure 2). During the workshop, sessions were held where each grantee could interact directly with World Bank and MI staff to discuss ongoing issues in their project.

Information Collection and Processing

Information Collection

MI used two tools – the Program Assessment Guide (PAG) and the Program Documentation Guide (PDG) – to examine the issues and challenges faced by projects in implementation and/or M&E, and to glean lessons learned from these challenges. The workshops are designed to build the capacity of implementers to integrate evidence, contextual knowledge and experience in the rigorous design, implementation, management, scaling up, and evaluation of interventions. The PAG is also designed to facilitate design of operations research to address knowledge gaps, develop list of critical points in the delivery system for M&E and develop a strategic plan for generating support for the action plan and subsequent implementation.

The PAG and the PDG are organized in a modular fashion and consist of focal questions related to program planning, management issues and problem solving. MI adapted these focal questions into a semi-structured questionnaire that was completed by the SAR DM grantees (Annexure 3). This tool asked about inputs on the following areas: the problem being addressed by the intervention, goals and associated values, delivery systems, hard to reach populations, roles and responsibilities, needs/inputs/activities and systems changes, action planning, M&E/quality improvement, and organizing/leading/managing. Responses were synthesized and overall lessons for programmatic practices emerged. These are presented in Chapter 3.

Thematic Lessons Across Programs

Synthesis of the thematic issues was carried out using a number of short questionnaires (Annexure 4) that were sent to grantees grouped according to the key aspects of their particular programs. In some cases, teleconferences or one-on-one discussions were set up to gather this information. The reports and information provided by the grantees were carefully reviewed to uncover thematic lessons learned across programs that, if highlighted, would be useful to any organization implementing a program using similar elements and would also apply, to a greater or lesser degree, to interventions beyond nutrition. Project experiences organized by theme and lessons learned are presented in Chapter 4.

Case Studies

Five projects were selected to gather more in-depth information as case studies. Time and reporting space considerations limited MI to completing five case studies; however, many others not described as case studies also demonstrated strong results. These projects were selected to reflect the varied nature of the problems of undernutrition in childhood, different socio-cultural and environmental contexts, and the innovative nature of responses by community-based organizations in different countries in South Asia. The case study documentation attempted to highlight factors of success and areas of weakness and convey lessons that could be used by others when designing or implementing similar programs. MI also documented the capacity required for both the successful scale-up of projects and the design of strong monitoring and evaluation frameworks in low resource contexts.

The SAR DM projects chosen as case studies had been showing signs of positive impact at the time of mid-term assessment. Case study visits lasted two or three days and included standardized impact assessment tools or questionnaires, documentation review of proposals, operation manuals, meeting minutes, progress reports and evaluation reports, secondary analysis of quantitative data, key informant interviews, and participant observation and focus group discussions with beneficiaries, project staff and others as required. The case studies are described in Chapter 5 in this report.

PART I: Key Findings and Lessons Learned

CHAPTER 3: Findings Across Programs

M&E Capacity of NGOs

During the capacity building process carried out by MI, some observations and experiences emerged in relation to strengthening M&E capacity of grassroots organizations.

1. *Capacity building should be a continuous process and initiated at the start of the project.* Most implementers did strengthen their capacity for M&E (data collection, monitoring and measuring outcomes) by the end of their projects. However, since formal capacity building/technical M&E support began only half way through the implementation period, there was limited scope for improving existing M&E frameworks and baseline data.

2. *M&E training and support should be tailored to implementers' capacity and experience.* It is important to deliver early training on M&E to implementers with limited prior experience in the field. An inception workshop, which includes structured training on the theoretical aspects and the field guidelines related to M&E, would be an ideal format for such early training. Both on-demand and proactive follow-up technical support is also necessary. While more experienced implementers actively sought M&E support, others needed more assistance to identify and define their needs. Delivering technical assistance long-distance, or electronically, was less effective for the implementers who had not identified and articulated their technical assistance needs clearly.

3. *Peer-to-peer learning is an effective method of capacity building and should be facilitated.* The variation in capacity and experience across the implementers stimulated cross learning on all programmatic aspects, including M&E. The Development Marketplace event in Dhaka and the capacity building workshop in Kathmandu were ideal platforms for implementers to learn best practices and adapt them in their projects. Implementers felt that additional opportunities to meet face-to-face, even at the national rather than the South Asia regional level, would have been useful learning experiences.

4. *Nutrition updates:* Apart from technical assistance on M&E, some of the implementers' core experience was limited in nutrition programming, so there was a clear need for capacity building on nutrition programming and implementation.

Findings Across Programs

The challenges faced and lessons learned by the 21 grantees presented both the macrocosm and microcosm realities of addressing undernutrition in South Asia.

1. Strong science lays the foundation for good innovation.

Half of the projects had been informed by strong global, regional or local evidence; 40 percent indicated that there was some evidence from research studies for the interventions undertaken. Only two projects did not report prior scientific evidence on the efficiency of the interventions. This indicates that the problem of undernutrition, and its solutions, are not necessarily under-researched, but rather that contextual factors and implementation challenges prevent the solutions from effectively addressing undernutrition.

2. Building synergies with national health and nutrition policies and plans of action is important.

Most grantees (15 out of 18) reported that their intervention fit within existing national nutrition and health policies. A few did not fit into current national policies, such as the use of 'sprinkles' or fortified complementary foods. However, there was lack of clarity about existing national plans of action connected to these general policies. Only a little more than half of the projects (10 out of 18) reported that they were aware that such national plans were available and that their interventions were in sync with them, and three of the grantees reported that they were not sure about any plans and how their project fit into them. This indicated that although policy frameworks are largely in place in the South Asia region, the plans to implement those policies are often not clearly articulated or shared. The collective implementation experiences of SAR DM projects could provide leads to help design such plans.

3. Realistic and well-planned project goals and program models provide a framework for effective implementation.

Goals and Objectives: Nearly 80 percent of the grantees reported that they had held consultations with key stakeholders to agree upon goals of the project before implementation. The remaining had either consulted some, but not all stakeholders, or had consulted them on some, but not all, of the goals. All 21 grantees tried their best to achieve their project goals within the 18-month implementation period. However, by the end of implementation, only 60 percent thought the goals set by them had been realistic in the timeframe and context. Others felt that their goals may have been achievable were it not for some obstacles along the way. Nearly 80 percent of the grantees felt that their project had specific, measurable, achievable, realistic, and time bound (SMART) objectives. The remaining grantees felt that only some of their objectives were SMART.

Program Model: The majority of grantees reported that their project had a sound log frame or other program model. Roughly 1 in 5 reported that their program model/log frame was not very sound, or that they had left out some elements of the program. Many of the projects may not have progressed enough within the SAR DM timeframe to achieve desired outcomes/impact, but having a program model in place would help to demonstrate that they are on the path towards achieving change.

To understand the practical challenges of planning for an innovation using program models, the grantees were asked to identify which aspects of a program model were most out of sync with what was planned.

Outputs: About one third (7 out of 20 responses)[10] reported that the outputs were not as they expected them to be. A few realized that they could cater to many more beneficiaries than earlier envisaged, due to the high demand in the community for those services. Others realized that they could not achieve the target either due to challenges of reaching largely non-literate beneficiaries or those in relatively inaccessible areas, or because of the short duration of project.

Inputs: One in four grantees reported that the inputs were not in sync with what was planned, citing problems in acquiring premises to run the project, difficulties in identifying and hiring appropriate staff, or delays in getting relevant permission from local authorities to implement project activities.

Assumptions: One-fifth of the respondents believed that the assumptions made in their log frames before implementation did not truly reflect the context. An example was given of a project where traditional birth attendants were identified for training as nutrition volunteers; however, few traditional birth attendants actually wanted the training, so other interested women were trained.

4. Trained and motivated people and processes influence implementation and impact.

The SAR DM grantees were largely fortunate to have motivated people and communities to help implement their projects. Examples of enthusiastic community partners mentioned by grantees were ward health committee members, government functionaries, community based peer counselors or support groups, radio listeners' groups, and local experts who provided technical inputs as needed.

Alliances were formed to address the multifaceted problems related to undernutrition. Several projects formed cross-sector links critical for success, such as links with the agricultural sector through extension workers who helped create the village model farms, with the health sector/government functionaries to converge health and nutrition services, or with the education system to mobilize schoolchildren. Nearly half of the grantees constituted technical advisory groups and task forces to guide their projects and ensure focus on appropriate nutritional interventions and quick problem solving.

The processes which mattered were training for capacity building, setting up or strengthening management information systems (MIS), producing information, education and communication (IEC) materials and ensuring their effective use, and taking advantage of information-

[10] There were multiple responses to this query from some grantees

communication technology (ICT) instruments. Also important were the sensitization processes carried out by grantees which helped communities realize the gravity of the nutritional problems being addressed and brought forth greater cooperation from them. Some lessons learned from the process of training and good people practices are stated below.

Training: Training modules and materials which were effective were those which were practical, easy to understand, addressed specific gaps in skills or knowledge of service providers based on baseline data and local context (rather than being generic), included team-building and other motivational tools, and were adapted with experience. Demonstrations helped overcome deeply rooted community beliefs; for example, showing skeptical caregivers how a child's symptoms due to diarrhea were rapidly reduced and her sense of well being quickly restored after feeding the child ORS solution with zinc.

Motivation: Many grantees (10 out of 18) motivated and supported their project functionaries. Some ensured that all field functionaries received opportunities to share their concerns regarding their work schedules, and allowed flexible work hours so that they could fulfill their family or other professional responsibilities. Some grantees paid field volunteers/workers performance-based incentives. A few reported engaging volunteers to implement components of the program, or hired project staff who shared the same cultural background and spoke the same language as the target community. One NGO instituted annual recognition awards for their field workers.

5. Formative research was invaluable to fine-tune the interventions.

Formative research using qualitative open-ended tools and/or structured baseline surveys refined the interventions, especially behavior change communication (BCC) materials and strategies. Qualitative tools helped validate survey data, or, in a few cases, provided a different picture. For example, mothers reported in surveys that they always washed their hands after defecation with soap, while unstructured observations revealed that this was not so. Appropriate visuals therefore depicted specific ways of hand washing in the local context. Where data revealed strong family influence on mothers, as regards feeding and care of her young child, BCC materials and local support groups involved family members in the counseling process.

Similarly, formative research helped shift the focus in BCC programs to topics that needed more attention. For example, based on data of one project, emphasis shifted to improving BF-CF practices rather than newborn feeding, which was less of a problem. In other cases, data from formative research helped grantees include additional vulnerable target groups into their projects. For example, one project introduced programs on nutrition for adolescents as the prevalence of undernutrition in this group was found to be high in the baseline survey.

6. Patience and persistence helped reach the less accessible and most vulnerable.

Thirteen of 18 respondents specifically identified vulnerable and/or hard-to-reach populations as part of their project's target groups. All of them reported that their patience and persistence paid

off and that they were able to reach these groups through their interventions despite logistical, cultural and geographical challenges. This meant travelling by boats, and waiting for the tide to ebb, where frequent flooding was common, setting up childcare and education centers at construction sites for on-the-move children of migrant laborers, or establishing community nutrition centers for children of sex workers and people living with HIV.

7. All roadblocks come with diversions – implementation problems need attention to ensure quality of interventions.

More than half of the grantees (7 of 18) reported specific problems with program management, but the majority was able to address them with innovative solutions. Implementation challenges related to supply and transport logistics (such as break in supply chain of fortified foods or IEC material), problems with equipment (such as malfunctioning production machinery making fortified biscuits or shortage of computers), or space constraints for some activities like training. Grantees promptly addressed these implementation challenges. Some involved community leaders to mobilize resources, while some modified their budget and timelines to take care of emerging needs like computers, supplies or IEC material. One NGO worked around the problem of a woman lacking proof of identity for cell phone registration by having a family member register on the woman's behalf. One organization convinced financially sound bulk buyers located in strategic locations to stock excess quantities of salt to tide over smaller retailers during times of strikes and *Chakka Jams* (transport shutdown).

8. Monitoring systems are effective only if they are results-oriented.

The SAR DM grantees not only included several critical control points or vulnerabilities in their M&E frameworks, but, importantly, used emerging data to take prompt corrective action during implementation. Monitoring formats were varied and included checklists to measure the exposure of beneficiaries to the intervention, daily work plans for peer counselors visiting mothers and indicators of their performance, and computer aided monthly sales tracking of the supply of products like iodized salt in the markets. The SAR DM grantees also constantly assessed projects through supervisory visits and review meetings to discuss the monitoring data.

The midterm workshop in Kathmandu (November 2010) helped further build the M&E capacity of grantees by presenting M&E frameworks and providing one-on-one time to resolve the specific issues grantees faced in their projects. This effort translated into better data for decision-making for the projects, as well as structured evaluations that could measure the success of many of these innovations.

The majority of respondents (16 out of 18) took remedial actions for the identified implementation problems within the project time frame. Most of them could provide specific examples of how data from the project helped them make decisions to fine tune project

implementation and focus on achievement of their goals. Some examples of corrective action by various projects are given below:

- When high moisture content and biscuit spoilage was reported in a project manufacturing nutritious biscuits, implementers improved the design of the biscuit-producing machine to enhance taste, safety and shelf life of the biscuits.
- One NGO organized a "nutrition fair" to engage with the existing program functionaries and traditional birth attendants to ensure children and mothers enrolled early enough to benefit from the project.
- When electrical failures or power cuts adversely affected broadcast of nutrition messages through radio programs, the producers of the program changed broadcast timings to avoid the power cuts and distributed audio-tapes of prerecorded programs to the facilitators of the radio listening groups to play at the convenience of their audience.
- One organization purchased sweets from the market (meant for distribution at the birthday celebrations), when some villagers resisted the idea of 'lower caste villagers' making sweets at home for village consumption.
- Monitoring data of the work by peer counselors in another project showed that some were weak with regard to counseling on complementary feeding practices. These peer counselors were shown graphical representation of their performance, and were re-trained to help them improve in these specific areas.
- A hospital-based program found that breastfeeding initiation was delayed in one project hospital because of delay in placing the baby by the side of the mother after delivery. Project staff conducted refresher training on the Baby Friendly Hospital Initiative (BFHI) to persuade hospital staff to facilitate early transfer of baby to the mother so that timely initiation of breastfeeding could be achieved.
- When the database at the diarrhea treatment center (DTC) of one project showed that a few patients had left the DTC with dehydration, treatment protocols were changed such that no patient left or was discharged before two hours of treatment to enable adequate rehydration to take place; thereafter no patient left the DTC with dehydration.
- When monitoring of home visits in an urban project revealed that the high-density diet being provided for severely malnourished children was being shared among all the siblings, the weekly ration for these households was then proportionately increased.

9. Financial management – making every cent count.

More than half of the grantees (11 out of 18) reported strong financial management practices. Examples include an electronic fund management system to ensure timely release of funds and tracking of fund utilization by the nutrition/daycare centers, mobilizing funds from the community through village level committees (such as Village Health and Sanitation Committees), maintaining daily income expenditure statements of the project in the books of

account, or providing their field staff with budget sheets and allowing them to adapt project activities within permissible budget lines.

10. Innovations pave the way for further change.

One of the key objectives of the SAR DM initiative was to allow innovations to become mainstreamed to address the long-standing enigma of undernutrition in South Asia. Some of the SAR DM grantees were able to go beyond conceptualizing their innovations and implementing them to demonstrate that change is possible. They further advocated for change within traditional systems at local or national levels; a few also attempted to bring about change in policies, where required. They also forged new alliances to tackle the deep-rooted multidimensional problem of various facets of malnutrition (9 of 18 grantees).

Through their innovation, eagerness and potentially path-breaking results, the grantees succeeded in attracting the attention of other donors to continue funding their project or further scale it up. Some of the key elements of their strategies are also being replicated or adapted by other organizations (8 of 18 grantees). Some examples are given below.

- Health Education and Literacy Programme in Pakistan is continuing work in partnership with MISEREOR (Germany), United States Agency for International Development (USAID), United Nations Children's Fund (UNICEF) and the World Food Programme (WFP).
- Training and Assistance for Health and Nutrition Foundation in Bangladesh has established a new alliance with the Bangladesh Rural Advancement Committee and the Alive and Thrive project funded by the Bill and Melinda Gates Foundation. The International Centre for Diarrheal Diseases Research, Bangladesh, is launching a project which will scale-up key components of the Training and Assistance for Health and Nutrition Foundation project, supported by funding from the Australian Agency for International Development (AusAID) in the Mirpur slums of Dhaka.
- In India, private doctors in the district adjoining Deepak Foundation's project have shown interest in providing the horoscope, containing key birth and feeding details, to their clients. Deepak Foundation has also successfully advocated with the state government to support the continued training of Village Health and Sanitation Committees through a consortium of NGOs.
- The Kurigram Municipality and Terre des Hommes International Federation have launched a new project to address childhood undernutrition, following the successful partnership with Concern Worldwide for the SAR DM funded project, along with the creation of a municipal-level forum to coordinate services and improve coverage.
- Child in Need Institute (India) convinced *Panchayats* (local self-government groups in rural areas of India) to purchase and distribute Nutrimix to malnourished children.

- Lata Medical Research Foundation (India) received co-funding from the Alive and Thrive project, and it also established a new alliance to promote the baby Friendly Hospital Initiative and breastfeeding in Nagpur, Central India.
- Care for Afghan Families scaled up their project in three other provinces in Afghanistan, with UNICEF support, and successfully advocated with the Ministry of Public Health to pilot female community health supervisors in some parts of Afghanistan.
- Advocacy efforts by Helen Keller International (HKI), Nepal resulted in the Ministry of Health and Population adopting communication materials created by the project for their larger IYCF communication strategy.

In sum, the evidence from the SAR DM projects strongly suggests the need for change – to move from looking at problems in potential solutions and holding back action, to looking at the solutions in every problem and forging ahead.

CHAPTER 4: The Collective Experience of SAR DM Projects by Selected Themes

The kaleidoscope of grassroots experiences emerging from SAR DM projects provide rich insights into many facets of implementation, from partnering with the government to using radio as a communication medium to improve nutrition awareness and practices. This chapter, organized thematically, presents the challenges and lessons learned grantees experienced while testing different implementation strategies to strengthen nutrition care in South Asia.

Partnership with Government

Grantees gained several advantages by working with government systems. In many cases, grantees could leverage the resources of ongoing government programs to enhance the coverage and diversity of their own interventions. In India, for example, birth registration, birth weight recording and newborn care improved when the project integrated its intervention with the government's monthly Village Health-Nutrition Days (VHND). In addition, grantees offered capacity building opportunities to government functionaries in areas such as supervision, monitoring and communication skills. In Nepal, project interventions were closely coordinated with relevant government ministries, and their representatives were included in sensitization and training efforts. Partnering with government functionaries also accelerated their sensitization to nutrition issues and resulted in activities continuing beyond the SAR DM project. For example, one project's strategy of forming Ward Health Committees to oversee nutrition interventions not only fostered partnerships between urban government departments, NGOs and community leaders, but also paved the way for new partnerships between the municipality and NGOs to scale up the model to other wards.

<u>Challenges Faced and Lessons Learned</u>

Although assigned importance at the policy level, nutrition is often a low priority for service delivery at the field level, due to the many competing priorities in government programs. As a result, it was challenging to integrate nutrition interventions into government systems. Considerable advocacy with key government players was required prior to the intervention in order to bring them on board, obtain necessary permissions, and ensure availability of government staff for joint activities such as training and review meetings. In addition, projects had to continue to mobilize government functionaries, in particular grassroots functionaries, throughout the intervention period.

Another challenge was the reluctance of some government functionaries to take on what they perceived as an "additional burden of work", even though it was an expected, if often neglected,

part of their job function. This included function such as timely supervision, household contacts, or counseling while delivering nutrition services such as micronutrient supplements or fortified ready-to-use food premix packets.

Projects needed to deal with management issues and inadequate attention to quality assurance in some government services. These included personnel issues, such as absence from work of some functionaries, functionaries being pulled away to more immediate activities or campaigns, and vacant positions or acute staff shortage in some areas. There were also challenges with irregular supply chains of essential medicines/supplements, inadequate supervision and monitoring, or lack of convergence of key line departments.

Project managers need to acknowledge these inherent limitations of working with government at the outset and provide for the required supervision support, time for liaison with partners, and additional resources to bridge the gaps in the system. Aligning a nutrition intervention with what is already high on the priority list of government programs, and building on what already exists, helps the intervention to gain acceptance, ensures adequate time and resources from government functionaries, and makes long-term sustainability more achievable.

Developing Computer Aided Monitoring Systems

While all grantees used computers to maintain their M&E data, some of them used more comprehensive computer aided monitoring systems (CAMS) that were fully integrated into the program. Implementers used CAMS for functions such as baseline/end-line data documentation, beneficiary profiles, and tracking movement of nutrition products; these systems became particularly valuable when coverage was high and quality assurance was a challenge in remote and relatively inaccessible areas.

The NGOs that already had a well-developed computer division with ongoing maintenance support were able to quickly operationalize CAMS and use it extensively in their SAR DM project. The SAR DM projects had a range of CAMS end-users – from experienced computer programmers/operators to semi-literate grassroots functionaries – which was an important determining factor for how the system was developed and the level of complexity attempted. The programs had to be at a level these users could comfortably and correctly use. Equally important was ensuring that the statistics and monitoring data were generated promptly and the two-way flow of information from field operations to central levels and back was efficient.

A few projects sustained the use of their computer systems beyond the grant period as part of the monitoring of their ongoing programs, or by embedding elements of CAMS into the government system. However, not involving key government functionaries while developing the CAMS affected their willingness to use the findings emerging from the system, as a project in India found out when a key government officer in charge of maintaining records of births and deaths stated that he would not depend on “outside data” and would rather rely on his own records.

Challenges Faced and Lessons Learned

Putting in place well developed CAMS and providing the required maintenance support took more time than anticipated by the grantees; as a result, projects need to build in the required time in the initial implementation period. Where outside experts had to be hired, or the computer applications were complex, there were delays in using CAMS for project implementation and monitoring. In one project that initially began with a more complex, web-based system and expert help, field realities led to simplification in the program as the project progressed.

The overall learning is that CAMS, which are complex and require frequent use of outside expertise, may prove counter-productive in the long run. Using relatively simpler systems, which meet critical objectives and can be handled in-house (with additional training using experts as needed), seems to be a more pragmatic approach. This also facilitates the process of training program staff and mid-course modification of activities.

Partnership with the Private Sector

Some projects partnered with industry (such as salt manufacturers or flour millers) or adopted a corporate marketing approach to develop, market and sell nutrition products (for example the Nutrimix supplement). This approach required attention to both the supply side and the demand side. On the supply side, project implementers used advocacy and persuasion to bring suppliers on board; for example, by convincing suppliers to fortify flour or salt. These efforts were largely successful because the wheat millers or salt producers could see the potential for increased profit and an expanded market. The NGO producing Nutrimix needed to ensure that the infrastructure, production machinery, personnel and sale stations were in place in the communities served. A well-developed monitoring system in all these projects helped track supply, stock situation and distribution of fortified products and their uptake by consumers.

On the demand side, consumer education and awareness efforts ensured that consumers used the fortified product (whether salt, flour or Nutrimix). One project provided free samples of the fortified product to consumers to demonstrate that there is no distortion in taste or color in the product. Another project made *chapattis* (a staple food of unleavened bread made from wheat flour in India) from the fortified wheat flour to show households that the *chapatti* looks and tastes the same as the one made from ordinary flour. Sensitized consumers were willing to pay a little extra if they realized the benefit of the product for their health and their family's health.

Challenges Faced and Lessons Learned

Maintaining the supply chain was a challenge. For the salt distributors who did not have sufficient financial resources to stock up on a premium salt brand, mechanisms were put in place to ensure they could buy on credit. When the Nutrimix producing machinery malfunctioned and results showed high moisture content in the product, supplies were affected until additional machinery for the required processing of the product was obtained and other related problems

related to taste and safety of the product were resolved. The project supporting local wheat grain millers to fortify wheat with iron premix found that even after the initial training on the fortification process, retraining had to be done as new millers entered the market, which was not anticipated. In conclusion, project design needs to flexible enough to accommodate these kinds of challenges, and continued advocacy and capacity building of private sector partners.

Community Mobilization and Outreach

Most of the SAR DM projects used various strategies to reach out to their catchment areas, especially the remote ones, by using outreach workers, mobilizing existing community groups or creating new ones, or providing incentives to project workers. For some grantees, formation of community based groups for project implementation was the principal focus of the project.

Community mobilizers and educators were drawn from varied sources, such as the pool of government functionaries, respected community members like elderly women, young adolescent girls, formal/informal leaders, or schoolteachers and students. At times, NGO grassroots functionaries were trained as change agents and nutrition educators. NGOs already active in rural development welcomed the additional portfolio of nutrition interventions as they found that this made their own work more worthwhile and brought them closer to the communities they served. The overall experience was that community based outreach workers were able to perform the expected functions if they were given adequate training, supervision and information support.

Some grantees used existing community groups/government functionaries based on the belief that these groups were more likely than new groups to continue beyond the project period, helping assure sustainability of the project. It was also perceived to be a faster and more cost-effective approach than creating new groups. Existing functionaries were willing to put in some extra work, which gained them recognition, a break from the monotony of routine work, and, at times, monetary incentives.

On the other hand, other projects trained newly-recruited community women as counselors, formed new support groups to promote optimal breastfeeding practices, or developed new radio listeners' groups to discuss nutrition messages. New groups also functioned well provided there was adequate capacity building, supervision and ongoing monitoring. The new radio listeners' groups wanted to continue beyond the project period and also offered to help form such groups in other areas.

Adequately trained and supervised outreach functionaries could successfully perform a range of functions; these included visiting families to persuade them to adopt recommended IYCF practices, conducting baseline/end-line surveys, referring cases to health facilities for further care, selling nutrition products, and performing quality checks (vigilance committees).

Community groups and/or outreach workers made a significant contribution in terms of greater coverage of beneficiaries (especially in the remote areas), better acceptability of the interventions

by the community, change in nutrition practices, and importantly, empowerment of the mobilized workers themselves as they reached out to their people. As an official in one of the projects pointed out, *"Once you have created a community resource by training and educating individuals, whether or not they continue to function as a group, at least they are empowered with knowledge which stays with them and may spread to others in future."*

Challenges Faced and Lessons Learned

Both existing staff and newly recruited community workers needed continuous supervisory support to ensure quality and coverage of the outreach interventions and data collection. The irregular attendance of government functionaries at work, high turnover of nutrition workers (especially urban areas), and mobility of trained staff were additional challenges. Some of the measures that helped facilitate the work of community mobilizers were reimbursement of travel expenses, or making arrangements for travel to interior areas. Others appreciated receiving well-designed visual aids with pictures to impart nutrition messages.

While the likelihood of finding willing volunteers to carry out the required functions increased if incentives in the form of monetary compensation (along with recognition and appreciation) were given, this strategy yielded mixed experiences. One project experienced difficulties in the initial period to decide about the range of total monetary incentives to offer per month, based on the tasks undertaken; with experience and necessary documentation, this problem was overcome. Another project reported that there was a tendency among the peer counselors to work for other NGOs who were implementing similar activities and get remuneration from multiple sources.

To make effective use of community groups and/or outreach workers, it is necessary to engage in renewed advocacy and retraining for those who join at different stages of the program, or contingency plans to take over essential functions to complete the ongoing activities, should volunteers or group members leave. Projects also need to be open and flexible regarding their expectations from community members. Given the fact that members of community groups are largely non-literate in many areas, do not have the necessary nutrition awareness, and also have competing priorities (both at home and outside), expectations from them had to be modified over the project period and involvement kept to realistic levels. However, at times enthusiastic volunteers exceeded expectations.

Involving Men in Family Nutrition Care

Men, as husbands and fathers, are often key decision makers in family health matters, including providing the resources and money needed to purchase food or receive health care. Several of the SAR DM projects involved men in the nutrition care of their families; for example, through men's advocacy groups to empower fathers with nutrition information to support improved IYCF in their families, encouraging men to assist with child-care, purchase nutritious foods, and help feed complementary foods to infants, or sensitizing men through community support group

meetings to enable change in social norms about infant nutrition. The project that used radio to spread nutrition awareness not only had separate men and women radio listeners groups with facilitators, they also included in their radio programs success stories of fathers who had actively supported the nutrition care of young children in their family, which was a powerful advocacy tool for other men to get involved. In fact, many fathers wrote letters expressing that they would continue to take interest in the nutritional wellbeing of their children. Another innovative strategy was distributing clay pots to families and encouraging men to regularly deposit money into them for the mother to use for her children's nutrition – this led to increased availability of money to buy food for the child. Over time, father's groups increasingly showed interest in saving money for children's nutrition care.

Challenges and Lessons Learned

As child feeding and care and women's nutrition are traditionally considered a woman's domain, projects initially found it challenging to get men interested in nutrition interventions. However, experience showed that if project staff persisted in efforts to sensitize men, and carried out repeated advocacy, then over time there is improved participation and commitment from men. Also, curiosity created by the nutrition-focused events gradually attracts male members and increases their willingness to assume responsibility for nutrition care.

Information, Education and Communication

All of the SAR DM grantees creatively blended information, education and communication (IEC) in their projects; for some, it was the main pillar of their program. Strategies included demonstrations of iron-rich recipes, social marketing of iodized salt, use of radio, peer counseling, communicating with small groups, and yoga and meditation to reduce stress during pregnancy.

Two grantees used radio broadcasts to deliver nutrition health messages. One involved community-based media societies to develop the nutrition topics for the broadcast before involving experts to review them, while the other used technical experts to develop topics. In both cases, community participation was sought to insert local voices and stories of individual families into the broadcasts, or even full local production by the community. The projects used creative approaches to present the radio messages in a palatable and attractive format; for example, through stories, plays, poetry, and inviting experts to give their views. Once a broadcast was produced it could be replayed, especially when radio stations fell short of topics to air on radio.

An important common thread running through most IEC strategies was the element of inter-personal communication through home visits or through group discussions. A rich diversity was seen in the change agents who communicated good nutrition at home to families – these included elderly women, adolescent girls, traditional birth attendants, government functionaries,

community health volunteers and schoolteachers and students. Family and community support was encouraged by many of the projects in the form of group-based communication efforts with three generations (adolescents, mothers and grandmothers), men's groups and radio listener groups, In the radio listener groups (or media societies), questions could be asked, clarifications sought and practice change could be tracked. The listeners groups continued after the project end and some also assisted neighboring areas to set up similar groups. .

Most of the projects documented an increase in awareness of child feeding and healthcare as well as an improvement in reported practices. However, improvement in nutritional status was not the aim, or built into the design, of many projects. Nevertheless, a few projects did measure growth improvements and found that the ICE interventions improved linear growth in one project in Pakistan or at least helped to arrest deterioration in growth in India. The short duration of the project was cited as a constraint by some projects, since there was not enough time to document significant impact on nutritional status.

Challenges and Lessons Learned

A unique challenge hindering nutrition improvements is that many of the manifestations of undernutrition or micronutrient deficiencies are not easily identifiable. Families are reluctant to change household practices or use a service when they cannot identify the problem, and in fact perceive a condition to be 'normal', such as anemia in pregnant woman or low birth weight in newborns. As a result, IEC strategies had to include regular contacts and repeated message dissemination to help people to distinguish between the 'normal' and 'not normal' nutrition conditions in order to improve health-seeking behaviors.

The projects faced challenges with counselors, including frequent turnover (especially those drawn from the communities), their reluctance to visit and counsel "difficult clients who were not open to change", or their taking up multiple responsibilities. This was seen more frequently in urban projects than in rural ones. The generation of demand through awareness campaigns and household contacts needs to be backed by adequate and timely supplies. A few projects faced the problem of the community demanding a service when it was not stocked/available or supplies fell short of consumer demand.

In the radio projects, greater community involvement resulted in longer production time; however, grantees felt that this involvement was vital. Production of the broadcasts required strong support, guidance and supervision. Close follow-up of local FM radio stations was necessary to ensure that the radio stations adhered to deadlines and broadcast schedules. Power outages and weather-related broadcast issues were overcome by supplying batteries and other equipment to enable the listening groups to continue to listen to the broadcasts. To maintain continuity, it was also necessary to address the turnover of production staff and retrain incoming staff; these contingencies should be accounted for when doing project planning.

PART II: A Closer Look at What Worked and Why

CHAPTER 5: Case Studies

Projects were selected as case studies in order to reflect the varied nature of childhood undernutrition in different socio-cultural settings, show the diversity of innovative nutrition strategies implemented, including factors contributing to success, and demonstrate the best practices that could be replicated by others implementing similar programs. Case study documentation was done by MI through detailed site visits, use of standardized impact assessment tools, documentation reviews, key informant interviews, field observations and focus group discussions with beneficiaries and project staff.

5.1 Horoscope as a 'timely' intervention to promote neonatal and infant nutrition in tribal areas of Vadodara, Gujarat, India

Deepak Foundation, India

Introduction

Leelaben, a 22-year-old woman from a tribal hamlet in Pavi Jetpur block, Vadodara district, Gujarat, India, gave birth to a girl child weighing 2.2 kg. She gave her daughter her first breastfeed nearly four hours later. Complementary foods were initiated only after eight months and her daughter, now two years old, is still underweight. This is a story that is often repeated in rural areas across India, especially in tribal areas. Nearly one quarter of children in rural Gujarat have low birthweight.

A life-changing incident, of seeing a woman giving birth in a bullock cart, drove Mr. C.K. Mehta, Chairman, Deepak Group of Companies, to set up Deepak Foundation, a corporate social responsibility response of the Group, in 1982. Initially, Deepak Foundation provided medical and healthcare facilities to its workers and the local community around the industrial suburb of Nandesari. The Foundation has since evolved to become a leader among NGOs working in the area of maternal-child health and rural livelihoods. It reaches over two million people across 1,548 villages, through the Safe Motherhood and Child Survival project, a public private partnership initiative with the State government.

Project Description

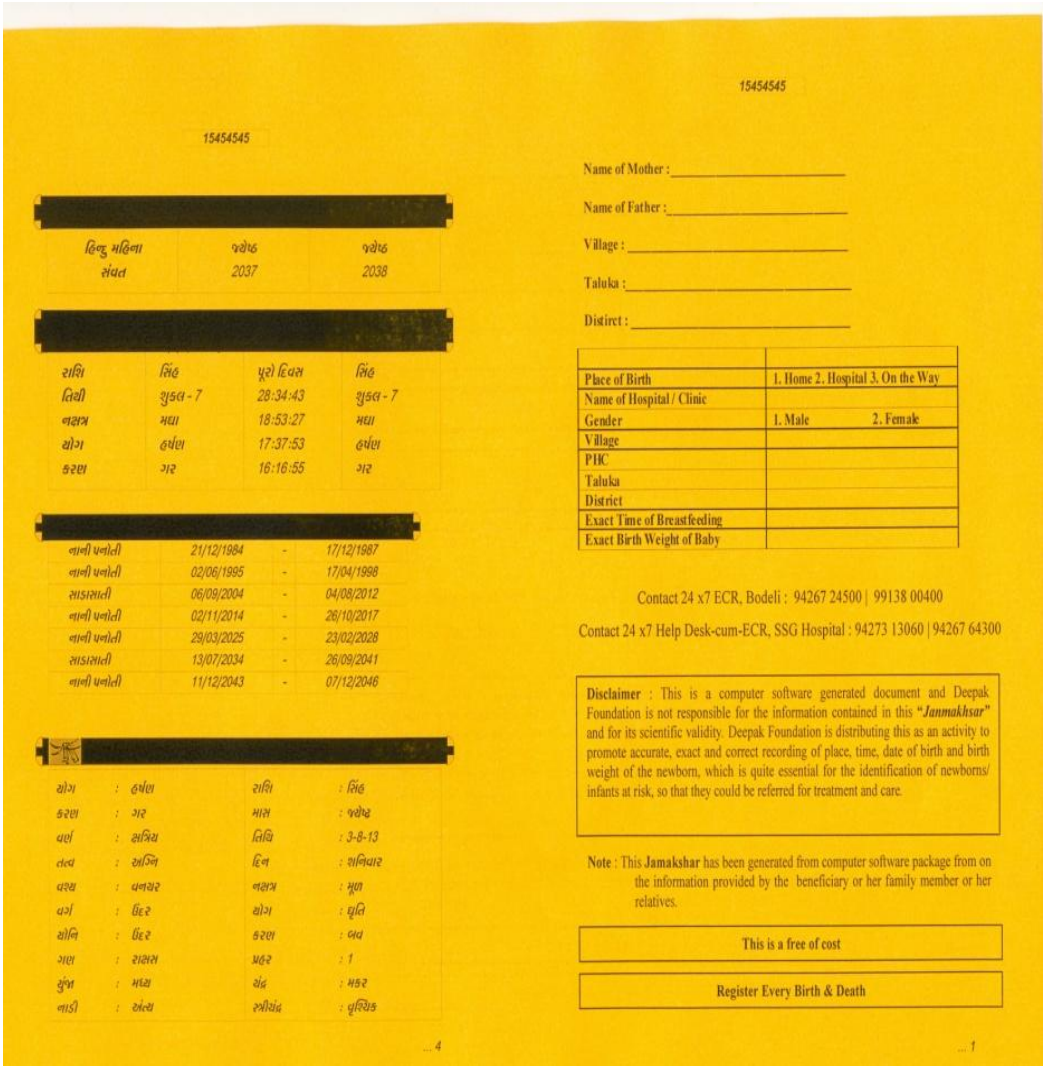
Project Objectives

The project aimed to improve the detection and referral of at least 40 percent of low birth weight babies, and to promote breastfeeding and good IYCF practices.

Project Strategy

Deepak Foundation found an ally in a cultural tool: the horoscope (*Janmakshar*).[11] The horoscope is a prized document for the local communities, and it is used throughout a person's life, as proof of birth date, as an astrology tool to predict future events, and, very often, to decide the life partner for marriage. In this project, Deepak Foundation gave a free horoscope to all new parents and used it to record time of birth, as well as birthweight and time of initiation of breastfeeding. The horoscope facilitated prompt registration of births, referral of low birthweight babies for institutional care, and helped enhance community participation and convergence in public nutrition programs. Horoscopes were distributed during monthly birth celebrations in the village, and as an integral part of government-implemented community health and nutrition days.

Figure 2: A Sample Horoscope



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સાડાસાતી	06/09/2004	-	04/08/2012
નાની પનોતી	02/11/2014	-	26/10/2017
નાની પનોતી	29/03/2025	-	23/02/2028
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નાની પનોતી	11/12/2043	-	07/12/2046

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કરણ	: ગર	માસ	: જ્યેષ્ઠ
વર્ણ	: ક્ષત્રિય	તિથિ	: 3-8-13
તત્વ	: અગ્નિ	દિન	: શનિવાર
વશ્ય	: વનચર	નક્ષત્ર	: મૂળ
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... 4

15454545

Name of Mother : _____

Name of Father : _____

Village : _____

Taluka : _____

Distirct : _____

Place of Birth	1. Home 2. Hospital 3. On the Way
Name of Hospital / Clinic	
Gender	1. Male 2. Female
Village	
PHC	
Taluka	
District	
Exact Time of Breastfeeding	
Exact Birth Weight of Baby	

Contact 24 x7 ECR, Bodeli : 94267 24500 | 99138 00400

Contact 24 x7 Help Desk-cum-ECR, SSG Hospital : 94273 13060 | 94267 64300

Disclaimer : This is a computer software generated document and Deepak Foundation is not responsible for the information contained in this "***Janmakhsar***" and for its scientific validity. Deepak Foundation is distributing this as an activity to promote accurate, exact and correct recording of place, time, date of birth and birth weight of the newborn, which is quite essential for the identification of newborns/ infants at risk, so that they could be referred for treatment and care.

Note : This **Jamakshar** has been generated from computer software package from on the information provided by the beneficiary or her family member or her relatives.

This is a free of cost

Register Every Birth & Death

... 1

[11] Procuring horoscope is expensive and the cost depends on the *pandits* (experts) who are approached by lay people

In addition to the horoscope, the project ensured birth registration of all infants through the involvements of the Village Health and Sanitation Committees (VHSC) on Village Health and Nutrition Days (VHND. The project also promoted good feeding practices by encouraging mothers to put newborns to the breast within an hour of birth, and by ensuring that all children (aged 6 to 23 months) received the fortified complementary food premix (*BalBhog*) and iron/Vitamin A supplements from government health and nutrition programs.

Project Activities

As part of the larger Safe Motherhood and Child Survival project, Deepak Foundation has formed and activated VHSC in all villages in its service area. It has also identified and trained women from the community as village-level volunteers, who were later recruited as ASHAs under the government's National Rural Health Mission. These women act as behavior change agents by continuously motivating the community to adopt preventive practices to save the lives of women and children, and use services under government programs such as Integrated Child Development Services, immunization services and micronutrient supplementation.

Under the SAR DM funded project, a more intensive program aimed at improving utilization of government services and improving household nutrition behaviors was implemented in a subset of 300 villages. The project leveraged the joint implementation of VHND, an initiative of the government's National Rural Health Mission, where the ASHA, community nutrition and early childhood education workers (Anganwadi Worker- AWW), and the Auxiliary Nurse Midwives (ANMs) jointly offer key health and nutrition services and counsel beneficiaries.

The ASHA, in addition to conducting home visits to reinforce behaviors and support the ANM and AWW in maintaining the community database of beneficiaries, was expected to attended all deliveries, whether institutional or at home, to document information on time of birth, birthweight, and time of initiating breastfeeding of each child born in the village. This information was captured in specially designed forms by the ASHA; in cases where ASHAs did not accompany women for deliveries, or in cases of home deliveries where an ASHA was not present; this information was obtained from parents. As a result, a great deal depended on the ability and interest of parents to document these indicators, an interest generated by the incentive of a free horoscope for the child. The information was then sent to the block office of the Foundation, where it was fed into special software that generated the horoscope.

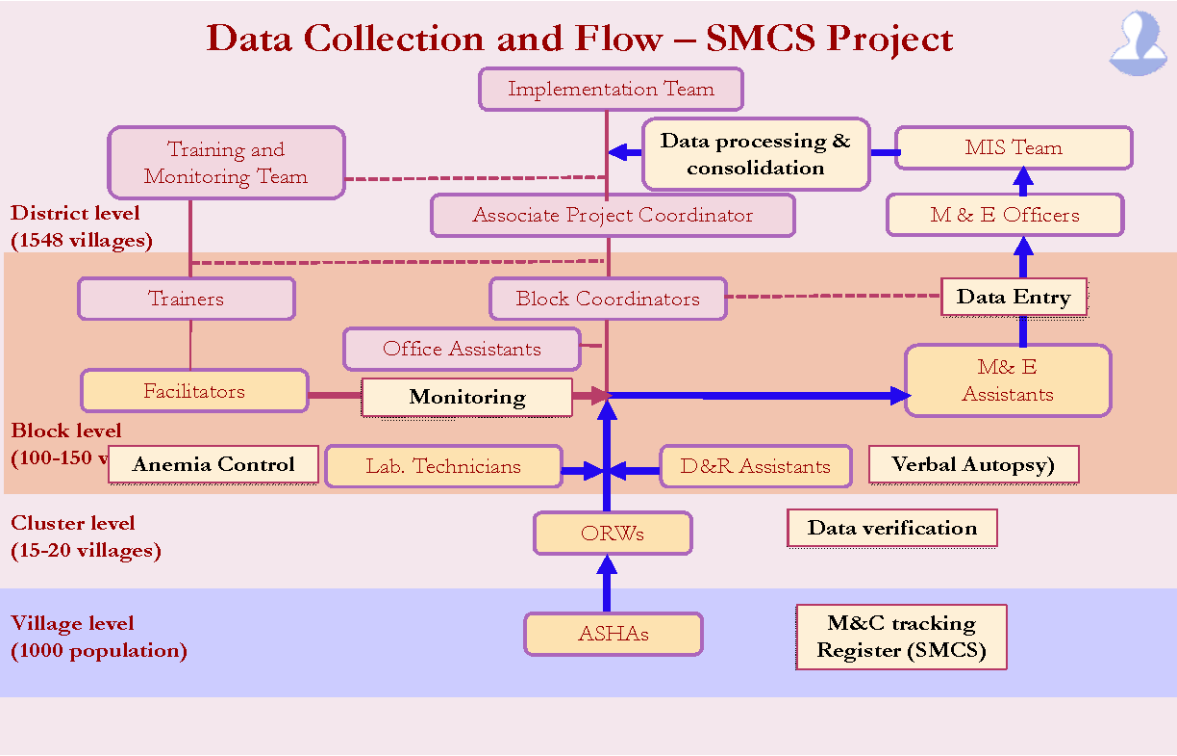
This horoscope was distributed at the community level by outreach workers during birthday celebrations held on VHNDs. During these monthly events, messages about exclusive breastfeeding, timely initiation of complementary feeding, availability of immunization services, micronutrient supplementation, and the complementary food premix (*BalBhog*) through government health and nutrition programs were emphasized. Vital indicators of the village were shared and updated through wall paintings on the community service buildings in the village.

ASHAs and the outreach workers[12] mobilized the VHSC members to get involved in infant nutrition services by monitoring other related services at Anganwadi Centers, such as immunization, growth monitoring and the distribution of *BalBhog* micronutrient supplements during VHNDs. The VHNDs were used as a platform to communicate nutrition messages regarding infant and young child nutrition. Included in the VHNDs were practical demonstrations of the preparation of recipes that could be used for complementary feeding using *BalBhog*, and use of locally available food to ensure diversity. In addition, the project also worked towards integrating the water committees under the Water and Sanitation Management Organization[13] with the VHSC to bring drinking water quality testing and its dissemination under the mainstream health activities in the village.

In order to smoothly implement the program, Deepak Foundation sensitized government functionaries and community members about the intervention and its purpose through a series of meetings and workshops

Monitoring and Evaluation

Figure 3. Data Collection and Monitoring System

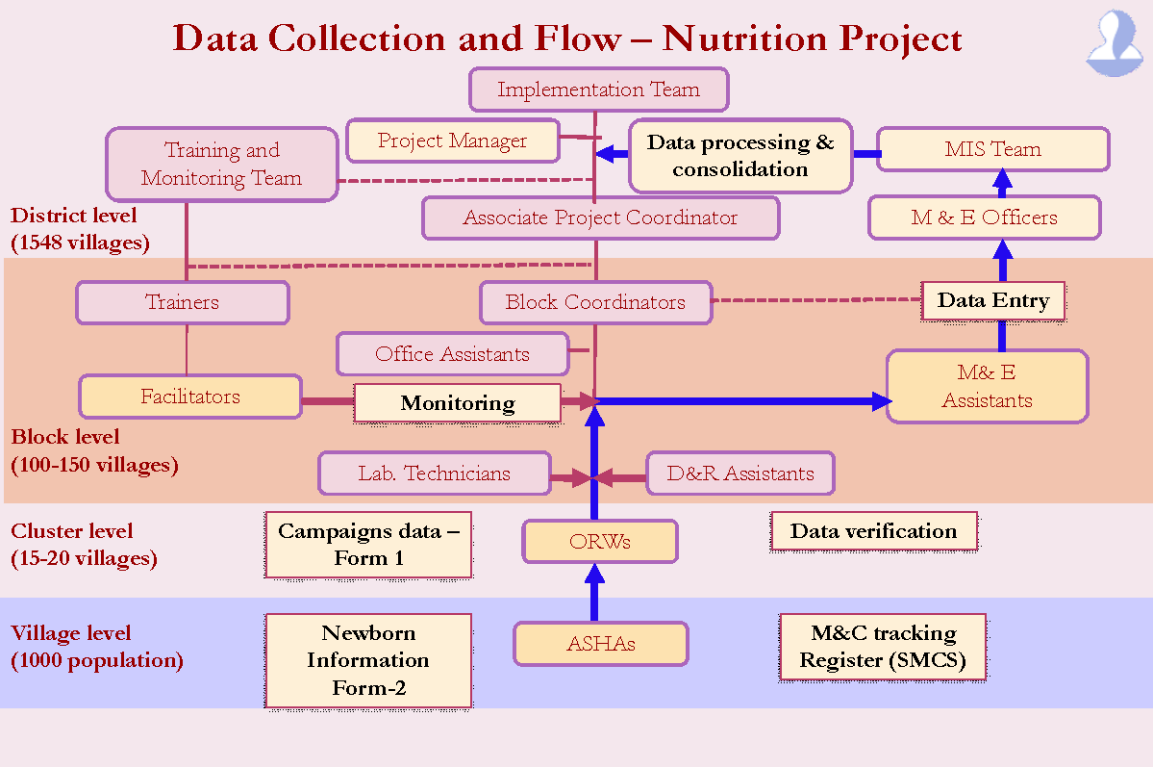


[12] One outreach worker was recruited for supervision of 15-20 ASHAs each

[13] Water and Sanitation Management Organization – an autonomous body constituted by Department of Water Resources, Govt. of Gujarat

As Figure 3 indicates, a strong M&E framework was already in existence in the larger Safe Motherhood and Child Survival project, which provided a robust computerized management information system (SAFAL) for the project where individual vital information for over two million beneficiaries was already available. ASHAs, trained by the Foundation, and present in every village in tribal blocks, had maintained records of all pregnant and nursing women for two years in registers, including the number of pregnant and nursing mothers, deliveries conducted, pregnancy outcomes, number of low birthweight babies, high risk identification and referrals, and maternal and infant deaths. This information was then entered into the database at the block level and collated for the entire Safe Motherhood and Child Survival project.

Figure 4. Data Collection and Monitoring System in the SARD M Project



The SAR DM funded project (Figure 4) developed specific formats to capture monitoring information such as birth and breastfeeding related information, details of services provided during the birth celebration campaigns on VHNDs, and supervision checklists for supervisors attending these celebrations. The project also conceptualized representative cross-sectional baseline and end-line surveys, which captured information directly from women respondents with children in the appropriate age group using semi-structured questionnaires. This approach validated the monitoring data and helped collect new information on specific infant and young child feeding practices. A capsulated midline survey yielded specific information on feeding practices missed out in the baseline survey.

In addition, qualitative research methods such as focus group discussions and in-depth interviews were also employed to coincide with data collection for the baseline and end-line surveys – these methods elicited perceptions and attitudes of grassroots workers, government functionaries and community members regarding the innovation as well as infant and young child nutrition practices. All data collection tools were translated into Gujarati, the local language and pretested before use. The project's implementation was overseen by a project in-charge, who was supported by two project managers, with implementation and MIS management responsibilities respectively. The MIS manager had an M&E assistant at each block, while the implementation team consisted of supervisors, block coordinators and outreach workers. ASHAs in the project villages were voluntary workers who had been trained by the Foundation and were paid incentives for participating in the project activities.

Results

The project enhanced implementation of government programs and improved IYCF practices, as shown in Table 2 below. However, the table also indicates that there was no significant change in the percentage of children graded normal according to weight-for-age. The likely reasons are that rampant infections and suboptimal feeding practices during infections compromise the growth of young children. In addition, 12 months is a short duration to attain a significant improvement in feeding practices that would show an impact on the nutritional status of young children. A longer duration of intervention, combined with additional components of interpersonal counseling and support, and a sustained input towards increased attention of communities towards newborn and child health, will be needed in the future.

Table 2: Process and Impact Indicators Before and After the Intervention

Indicators	Baseline Value (%)	End-line value (%)
% Nutrition health campaigns/birth celebrations attended by at least 50 participating beneficiaries	56.3*	67.6**
% Nutrition health campaigns/birth celebrations attended by AWW, ASHA and ANM together	35.7*	69.5**
% Infants and children weighed every month at AWCs	78.4*	92.0**
% Beneficiaries receiving iron fortified complementary food premix (*BalBhog*) from AWCs	59.9*	83.4**
% Low birthweight babies referred	39.4*	48.7**

% Children put to the breast within one hour of birth	68.8	67.5
% Infants aged 0 to 5 months who are fed exclusively with breast milk	42.7	68.8
% Children in normal category of nutrition status as per weight for age criteria	57.6	54.2

*/** Denote monitoring data of first quarter and last quarter of implementation respectively; other values are available from baseline and end-line surveys.

The results shown in Table 2 are discussed in more detail below.

Convergence of Health-FW Department and Integrated Child Development Services for service delivery improved: A total of 3,023 birth celebrations (83.9 percent of the target) were held across 300 villages during the project period. Most of these celebrations (2,406 – or 79.6 percent) were attended by at least 50 participants, most of who were mothers along with their children under two years of age. Field-level health and nutrition government functionaries (ASHA, AWW and ANM) attended more than two-thirds of the birth celebration events; their participation doubled over the project period, indicating that the project had the desired effect on improving the convergence of the government programs. Community members of the VHSCs attended more than half of the events (53.3 percent) and 69 percent of the VHSCs resolved to bear the costs of the events themselves, although this could often not happen in practice due to delays in the release of untied grants to VHSCs by the government. Further, the qualitative study revealed that male members of the VHSCs attended these events only occasionally, as they felt that these events were for women and children only. In most cases, male members of the VHSCs attended the events only to distribute the horoscopes to the women who had given birth recently.

Birth registration and low birthweight tracking improved: Monitoring data suggested that 91.5 percent of newborns had their birthweight recorded within 24 hours of birth. However, it was noted during the end-line evaluation that birthweight records were available for inspection for only 64.9 percent of newborns born during the project period. These records were available for 73.5 percent of those who had reported receiving a horoscope against only 64.7 percent of those who had not received a horoscope[14]. Further, there was an increase in the proportion of children whose exact time of birth, time of initiation of breastfeeding and birthweight was recorded, from 47.6 percent in the first quarter to 70.8 percent in the last quarter of implementation.

Monitoring data also indicated that more than 90 percent of births during the project period were registered. However, birth registration documents were available for inspection in only 64.3 percent (of those born during the project period), at the time of the end-line survey. Women

[14] Not statistically significant (p>0.05)

mentioned that it was the responsibility of the male members of the family to get the birth registration done with the *Gram Panchayat*. They also pointed to infrequent visits by the *Talati* to the village as a reason for not obtaining the birth certificates. It was perceived by women that it is easier to obtain certificates in case of institutional deliveries, as the birth records were updated by the hospital authorities with the Gram Panchayat.

"15 divas karta vadhi jay to, amare talati ne paisa apva pade, talati nu mo mithu karavu pade, toj dakhalo male." (If we are delayed in registering the birth, we have to pay the Talati, to sweeten his mouth, then only will we get birth certificate*)*.

"*Amara gharvala nam nondhava jaye*." (My husband goes for registration of the baby.)

ASHAs reported that 18 percent of the newborns tracked were low birthweight (less than 2,500g). However, where records of birthweight were available during the end-line survey, it was found that a higher proportion (23.6 percent) of children were low birthweight[15].

Newborn feeding practices and utilization of government services improved, but referral of low birthweight infants lagged behind: Monitoring data revealed that 56.3 percent of low birthweight infants were referred to higher institutions for care. However, qualitative data revealed that there was reluctance amongst parents to seek medical care for low birthweight babies, coupled with a tendency amongst functionaries to refer only children weighing less than 1.5 kg to higher centers. Functionaries advised mothers, whose newborns were about 2 kg in weight, that they should breast feed more frequently and keep the child warm and close to her at all times.

The end-line survey revealed that 67.5 percent of children less than 12 months were put to the breast within an hour of birth. This was significantly different for those women who delivered in institutions as against those who delivered at home (73.1 percent versus 50.4 percent). Qualitative data suggested high awareness regarding this important practice and functionaries reported that most women followed their advice; one exception was women from the Nayka community, among whom the practice of delaying breastfeeding initiation and prelacteal feeds was deep rooted.

There was a significant increase in the distribution of the complementary food premix (BalBhog) through the Anganwadi Centers from 59.9 percent (first quarter) to 83.4 percent (last quarter). Qualitative findings indicated a definite change in perception with regard to the utility and quality of BalBhog: women reported during baseline that they fed it to their cattle or threw the packets away, whereas during the end-line survey they reported that they received 4 to 5 packets of BalBhog for their children every month, and that these were accepted and consumed by the children. During end-line surveys it was found that, among those who had consumed any semisolids/solids in the last 24 hours, 51.4 percent of mothers of children aged 6 to 11 months

[15] N= 250 out of 359 children aged 3-15 months during the end-line survey.

reported offering them BalBhog, as compared to 65.3 percent mothers of children aged 12 to 24 months. However, the survey also found that only 29 percent of mothers of children aged 6 to 8 months offered them semi solids/solids, with one quarter of these reporting that their child consumed BalBhog. Glucose biscuits remained the first choice of mothers for the introduction of semi solids to the child; most women would not consider feeding green leafy vegetables, other vegetables or fruits to children less than one year.

At end-line, only 25.8 percent of children aged 6 to 23 months received iron-folate supplements (IFA), and only 21.2 percent of children aged 12 to 23 months received a Vitamin A dose in the last six months. Inconsistent supplies, and an incorrect perception amongst providers that iron supplements are meant for only severely malnourished children, seemed to be the main causes for poor coverage of IFA. Recall issues probably affected the correct estimation of Vitamin A supplementation, since supplies were reportedly adequate during the biannual rounds in August-September and February-March during the project period.

Horoscopes were distributed but adequate awareness of their content was lacking: At the end of the project, more than 4,000 horoscopes had been distributed, accounting for about 58.7 percent (4,319 out of 7,386 live births) of all births recorded during the project period. The end-line survey corroborated the monitoring findings, with 55.7 percent of mothers who had given birth during the intervention period reporting that they had received a laminated horoscope. However, qualitative data suggested that not many women were aware of all the vital information that the horoscope contained, indicating that communication from the ASHAs did not improve their awareness levels about the importance of birthweight or early initiation of breastfeeding. In the words of a few women who received the horoscope:

- *"Pilu kagal aapyu chhe, ghare mukyu chhe, ema shu chhe e khabr nathi"* (Yellow paper has been given, which is at home, I don't know what is written on it).
- *"Ema balak nu vajan lakhuy chhe ane naam paadva maate chhe*" (The weight of the child is written in it, and it is used for naming the child).

Qualitative data also revealed that the local government functionary (*Talati*), who is in charge of birth registration, did not consider the information on the horoscope and depended only on the local government (*Gram Panchayat*) records. As one of them stated:

"*Ame kok na kagadiya maanya na raakhi sakiye…Gram Panchayat na chopda ma je lakhyu hoy ena par thi j amare daakhlo aapvo pade…(*We cannot consider anyone's document. We can issue the certificate only on the basis of what is written in the register of Gram Panchayat).

<u>Challenges</u>

Mobility of pregnant women: ASHAs found it difficult to track and attend all deliveries, despite incentives under various government schemes. Work-related migration of families, deliveries at

night, the traditional practice of the woman going to her parental home for delivery, and travelling long distances to reach health institutions hampered the collection of authentic first-hand data.

Erratic supply delivery: The supply of micronutrient supplements and the complementary food premix was often erratic which resulted, at times, in demand not being met by adequate supply. Additionally, non-availability of printer cartridges and data entry staff, machine breakdowns and power shutdowns adversely affected the timely delivery of horoscopes for the birthday celebrations at the VHNDs.

Involvement of the male members of the VHSCs proved to be difficult: Issues related to child nutrition are traditionally considered to be a woman's domain. However, repeated advocacy, and curiosity created by the birth celebration events, resulted in improved participation and commitment from the VHSCs, and willingness to share costs for these campaigns.

Lessons Learned

A tangible product can anchor behavior change efforts and make convergence happen: The provision of a horoscope (which is seen as a valuable asset by the local community), when coupled with an event (birth celebration at VHNDs) centered around its distribution, can be the catalyst for a process to bring about change in health and nutrition behaviors related to young children. The perceived value of the horoscope and the visibility of the birth celebration help spur action to overcome seemingly difficult changes in newborn and child nutrition and care practices. This can also invigorate public systems and encourage convergence around their actions to bring about the desired behavior change.

Community mobilization for nutrition is possible: It is possible to mobilize the community and its resources for nutrition-centered themes using such innovations. Sensitization efforts need to be focused on community needs and inculcate a sense of ownership. However, securing the involvement of men of the community, in an area traditionally believed to be a woman's domain, is difficult and needs continued effort. Men may need to be involved in traditional paternal roles, such as that of family providers or well wishers, before sustained advocacy attempts to make them an equal stakeholder in making behavior change happen. There also seems to be a need for greater capacity building of VHSCs in monitoring and demanding services for nutrition.

Demand creation needs to have a supply backup: The project, within its short existence, created demand for community nutrition services, such as the provision of BalBhog, Iron Folic Acid and Vitamin A supplements. However, the erratic supply situation and the poor quality of supplies at times acted as a dampener for the complete 'user experience' and the sustained practice of the desired health and nutrition behaviors. While community monitoring of nutrition services was initiated through the project, and community representatives put issues related to service delivery

forth in public hearings organized regularly by the Foundation, supply issues were too deeply-rooted to be solved immediately.

Linkages to all public departments are vital: The project increased awareness around birth registration, early initiation of breastfeeding and the recording of birthweight. However, the project did not link up to the Revenue Department, through the village Talati, who issues the birth certificates. This meant that the vital details on the horoscope were not acceptable as official records for issuing the birth certificate. Also the registration form, issued by hospitals, has a record of the birthweight, but this does not appear on the birth certificate, thereby reducing its perceived importance.

Demand picks up quickly, but behavior change lags behind: The project demonstrated that the demand for BalBhog went up, because of the constant reminders through the birth celebrations at the VHNDs. However, the behavior change required to initiate complementary feeding at six months could not be achieved in the short span of project.

Low birthweight is often not viewed as a healthcare issue: Communities and health functionaries do not view low birthweight as an issue justifying medical care. Only very low birthweight babies (under 1.5 kg) are referred and taken to health facilities for follow-up care.

Recommendations

Government programs should consider supporting locally relevant innovations as a catalyst for leveraging ongoing behavior change efforts. Often, government services are viewed as being of poor quality and delivered in a routine, mechanized way. Such innovations may increase community interest and help achieve long-term behavior change adoption as well as increased utilization of public services.

Birthweight recorded on registration forms should also be reflected on birth certificates to give importance to the tracking of birthweight. Referral and prompt action for low birthweight babies for further care should be promoted. There is also an urgent need to implement Integrated Management of Neonatal and Childhood Illness (IMNCI) program completely where most referred newborns can be managed locally, thereby increasing referrals of low birthweight newborns.

Supplies of products that aid nutrition behaviors should be adequate to meet demand, timely and of good quality; as perceptions once formed during initial stages of a program are difficult to change. The general belief that increased demand will move service providers to increase supply is not necessarily true.

Capacity building of frontline health and nutrition functionaries, including ASHAs, needs to be conducted on a regular basis to develop their confidence while counseling women and families on issues of infant and young child feeding and care practices.

5.2 Enhancing nutritional quality by adding animal food sources to complementary diets helps improve growth of toddlers in Pakistan

Aga Khan University, Pakistan

Introduction

"My mother-in-law believes that a young child should not be given any food that is "hot" for the system like meat," a young mother with an infant in Karachi, Pakistan.

This belief expressed by a woman from a squatter settlement in urban Pakistan typifies one of the many obstacles that deny young toddlers under two years the nutrient-rich foods they need for normal growth and development. Meat, in particular, is a rich source of micronutrients that is traditionally consumed, but it is not given to children under two years due to its perceived unsuitability for the children.

Hidden hunger – deficiencies of essential micronutrients – is known to compromise children's physical and cognitive growth. The damage resulting from protein-energy malnutrition (PEM) and micronutrient deficiencies in the first two years of life is largely irreversible. Deficiencies of iron and zinc are of particular concern, especially in developing countries. Iron deficiency in infancy may lead to poor psychomotor development and impaired cognitive function. Zinc deficiency may lead to stunted growth and compromised immune function including delayed recovery from diarrhea. Severe forms of iron and zinc deficiencies contribute to the heavy toll of infant mortality.

In Pakistan, key contributors towards infants' poor nutritional status are the twin problems of infectious diseases and inappropriate breastfeeding-complementary feeding (BF-CF) practices. Lady Health Workers (LHWs) of the National Program for Family Planning and Primary Health Care address these factors through antenatal dietary counseling, promoting appropriate BF-CF practices, and managing childhood infections and iron supplementation.

Established in 1983, AKU is an autonomous, international institution. The Community Health Science (CHS) Department of AKU is actively engaged in community-based needs assessments, primary health care, health systems' development and operational research. CHS partnered with a local NGO HANDS (Health and Nutrition Development Society), and the government's LHW program to implement the project.

Project Description

Project Objectives

To enhance iron and zinc intake among infants aged 6 to 18 months, and assess the impact on linear growth (along with other benefits, such as weight gain and morbidity reduction). The project also aimed to determine if mobilization of elderly community women as behavior change agents would lead to improvements in IYCF at the household level.

Project Strategy

Aga Khan University (AKU) decided to implement a food-based strategy to enhance iron and zinc intake in infants and young children, using locally available chicken liver. Chicken liver is an accessible and affordable source of iron and zinc in urban squatter settlements in Karachi, Pakistan where the project was implemented. In addition, the project mobilized elderly community women as IYCF behavior change agents, in addition to the counseling provided by the existing network of Government LHWs.

Project Activities

From April 2010 to June 2011, CHS and its partners conducted a randomized control trial in two urban squatter settlements in Karachi, Pakistan. These urban poor communities were selected because earlier data revealed that high rates of stunting and undernutrition, which were likely to be associated with iron and zinc deficiencies, were present in the communities. Data also indicated that these deficiencies could be addressed by adding chicken liver, which is a rich source of bioavailable iron and zinc, to infant complementary foods. The Ethical Review Committee of AKU approved of the study.

Sample: 300 infants were selected using criteria including being aged 5 to 6 months at enrollment, predominantly breastfed, and free from congenital abnormalities. The sample size was based on 40 per cent probability of detection of treatment differences at 5 per cent significance level between the intervened group and the control group.

Methodology: CHS, with support from Health and Nutrition Development Society, conducted a baseline survey on the enrolled infants that included anthropometric measurements, assessment of BF-CF practices, and morbidity. The project followed a cohort study design, where the enrolled infants of about six months were randomized into intervened (n=150) and control groups (n=150) and followed for 12 months, until the children were 18 months.

Mothers of enrolled infants were informed of the purpose and procedures of the study. Mothers of all participating infants in the intervened group and the control group received weekly visits from LHWs, who used pictorial IEC materials to convey message about good BF-CF practices and the importance of adding chicken liver to enhance the micronutrient quality of complementary foods. For the intervened group, elderly community women, trained as nutrition educators, also carried out weekly home visits over the 12-month intervention period to counsel families to give chicken liver as a complementary food at least three times a week. These elderly community women also helped the families to purchase, cook and feed chicken liver to infants.

To monitor their work, field workers in their weekly visits specifically asked mothers about the visits of elderly community women.

The LHWs and the elderly women educators followed up all enrolled infants on a weekly basis for one year to assess changes in BF-CF practices and report any morbidity. Trained project staff (eight field workers) measured weight, length and head circumference at six, nine, 12 and 18 months, using standard methods such as an electronic weighing scale (SECA 770) and recumbent length using a wooden length board (infantometer). Head circumference was measured using non-stretchable tapes.

Data Analysis: Z-scores – weight-for-age (WAZ), length-for-age (HAZ), and weight-for-length (WHZ) – were calculated with EPI-Info 6, using WHO recommended growth references (WHO, 2007/2009). Data were analyzed using the SPSS 11.0 software package, and presented using standard accepted procedures in terms of Mean±SD, Z scores, and the percentage of children underweight, stunted or wasted (as seen in the results section). The intervened and control groups were compared pre- and post-intervention for baseline variables and primary and secondary outcomes. In particular, the effect of liver consumption on linear growth velocity was examined from 6 to 18 months. Level of significance for interpretation of the statistical analysis was set at p values less than 0.05.

Monitoring and Evaluation

The project had a comprehensive monitoring system. The Project Coordinator visited each site at least twice a week to meet the field supervisors, field workers and elderly community women, to monitor their work and to help them solve problems. The Project Coordinator also visited the homes of study infants, enquired about the project activities implemented by the field staff, and talked to family members about any issues related to the study, including any recent illness of the infants and any referrals made. The Principal Investigator/Co-Investigator also met the head of Health and Nutrition Development Society to resolve implementation issues.

Indicators used during monitoring and evaluation included tracking drop-outs and finding reasons for dropout, the number of times per week infants in the intervened group consumed chicken liver, any changes in BF-CF practices, consistency of feeding and food hygiene, use of IEC material by field staff for counseling, morbidity and referrals, and the immunization status of study infants and whether appropriate action was taken.

Results

Children who completed and who dropped out of project: Of the 300 infants recruited from two catchment areas, 276 (92 per cent) completed the intervention and could be measured at follow-up. Twenty-four infants (8 per cent) dropped out during the intervention for the following reasons: moving house/shifted to some other area/left the catchment area (12 cases), withdrawal (8 cases) and death (4 cases). The infants who dropped out did not differ from the infants who

completed the trial for age, sex, nutritional status and parental characteristics. Subjects in the intervened and control groups were comparable regarding most socio-economic indicators, such as the literacy status of mothers (a little over half were illiterate). However, more fathers of infants in the control group were literate compared to those in the intervened group.

Impact on growth, especially linear growth velocity: At 18 months, infants in the intervened group were 1.23 cm taller than those in the control group and this was statistically significant. As Figure 5 below indicates, after one year (for children aged 6 to 18 months), the linear growth of the infants in the intervened group was significantly better than those in the control group, in terms of pre/post difference in height, linear growth velocity and the Z scores. Further, the height differences became significant at 18 months (and not earlier at six or 12 months), as seen in Table 3 below, indicating that it takes time for linear growth to improve. This indicates that the duration of interventions, which look at height gains, needs to be at least one year. The prevalence of stunting was the same in both intervened and control groups at 18 months (25 per cent), suggesting that while actual height gain may start, stunting prevalence will take longer to improve.

Figure 5. Linear Growth Measurements among Infants of Liver-Fed and Control Group

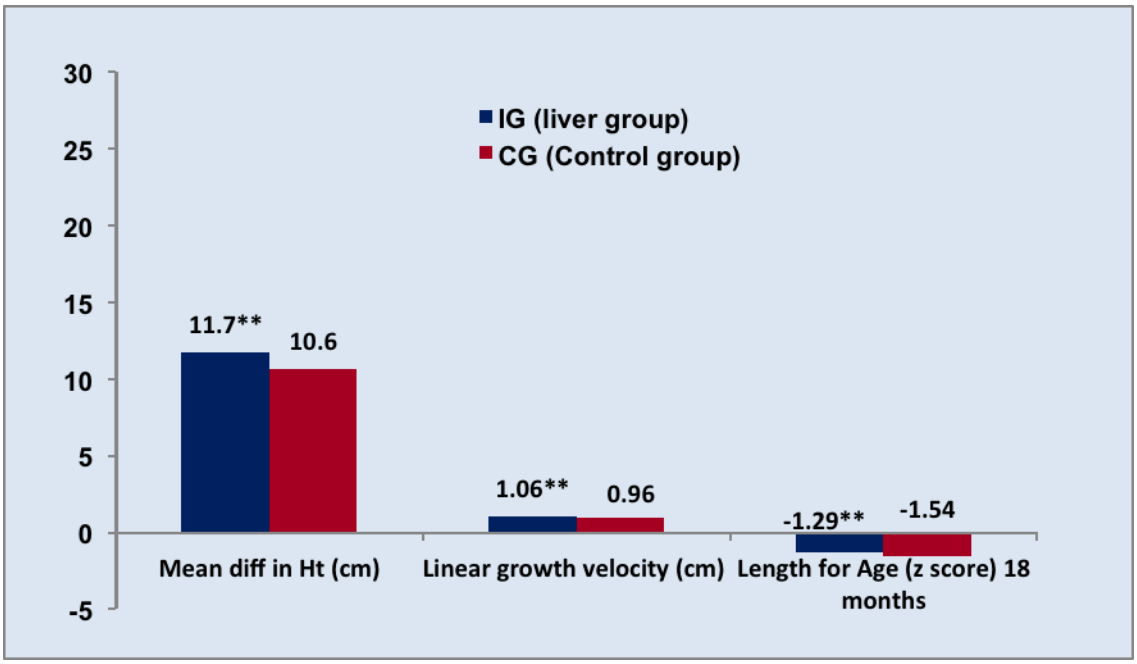


Table 3: Linear Growth Measurements by Time among Infants of IG and CG

	Liver (n=147) Mean SD	Control (n=129) Mean SD	P-value
Length (cm)			
6 months	63.1 (3.1)	63.1 (3.6)	0.97
12 months	71.11 (2.4)	70.66 (2.52)	0.14
18 months	76.93 (2.1)	75.66 (2.2)	0.00**

** p<0.01 and p=0.00

Impact on weight and head circumference: The intervened group infants gained, on average, 3kg in 12 months (from 6.3kg mean weight at six months to 9.3kg at 18 months), which was significantly higher than the gain of 2.5 kg seen in the control group (from 6.1 kg to 8.6 kg). In Table 4, a trend is clearly seen that with time there is a cumulative impact – by 18 months, intervened group infants show a significantly better weight-for-age and head circumference profile as compared to infants in the control group. However, wasting (weight for height) was not significantly different even at 18 months, which is understandable given the fact that other factors like infections would be playing a role.

Table 4: Weight and Other Measurements by Time among Infants of Intervened Group (IG) and Control Group (CG)

	IG (n=147) Mean (SD)	CG (n=129) Mean (SD)	P-value
Weight for Age Z Score (WAZ)			
6 Months	-1.57 (1.6)	-1.86 (1.6)	0.05
12 Months	-1.78 (1.2)	-2.16 (1.3)	0.01**
18 Months	-2.06 (1.4)	-2.62 (1.4)	0.01**
Weight-for-length/height Z score (WHZ)			
6 Months	-1.18 (4.5)	-1.92 (5.1)	0.20
12 Months	-.48 (1.7)	-.82 (2.0)	0.14
18 Months	-1.16 (1.8)	-1.20 (1.7)	0.84
HC –Age Z score			
6 Months	-1.37 (1.5)	-1.46 (1.6)	0.62
12 Months	-.89 (1.6)	-1.53 (1.8)	0.00**
18 Months	-1.60 (1.3)	-.87 (1.5)	0.00**

Highly significant: ** p<0.01 and p=0.00

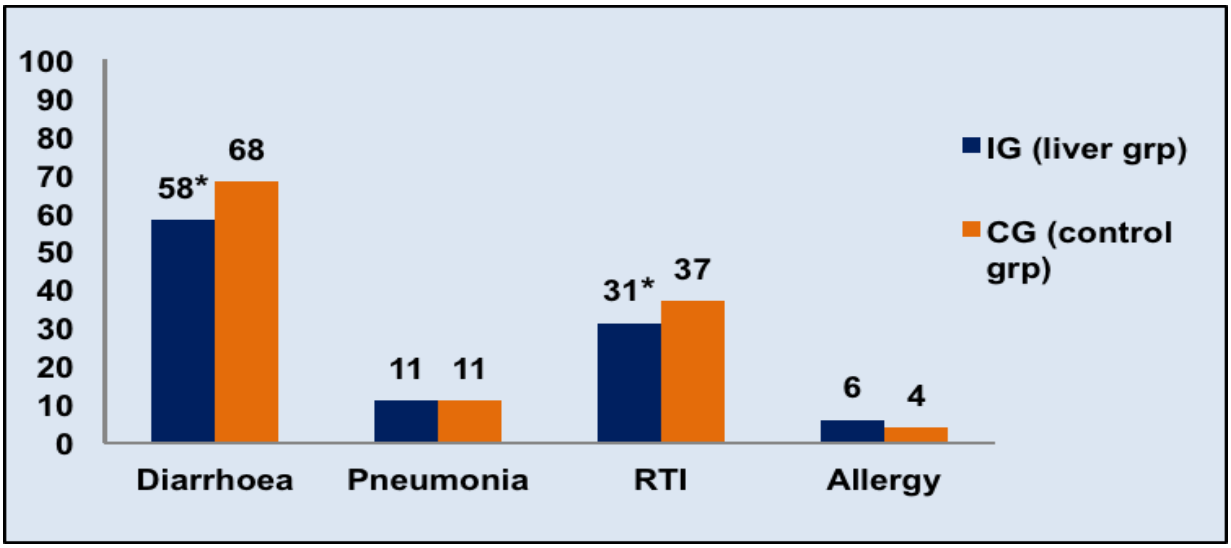
The overall positive impact on health and traditional beliefs was evident in the intervened group of families; as one of the mothers in the Focus Group Discussions (FGDs) stated:

"Meri saas nahi manti thi ke do saal tak bachon ko koi garm chees dein yani yakhni, gosht waghaira. Magar jab Jannato ke kehne par bachi ko kaleji khilai tau sub ghar walon ko laga ke is ki sehat behtar ho gai hai aur is ki bhook bhi khul gai hai. Ab tau meri saas bhi kehti hain key har hafte kaliji pakao aur bachon ko bhi khilao." (My mother-in-law does not believe that hot foods (soup, meat, and so on) should be given to children under two years. However, when we started giving chicken liver to my daughter on the advice of Jannato (senior community woman), we all felt that her health is getting better and her appetite has improved. Now my mother-in-law also tells us to cook liver once a week and to feed to all children).

Impact on number of meals in a day and commonly given foods: The average number of meals in a day fed to the child at six months (weekly recall) was reported to be 1.7 and 1.4 in the intervened group and control group, respectively. However, this increased to just over two meals at 12 months and nearly three meals by 18 months in the intervened group. At six months, biscuits were commonly given to the infants, while other foods were milk, rice and semolina. The quality and variety in a child's diet gradually improved at 12 and 18 months, as cereals, rice, meat, pulses, semolina, fruits and vegetable were included in their diet. Interestingly, banana was the only fruit, and potato was the only vegetable, given to the infants at that age.

Impact on morbidity: As shown in Figure 6 below, at 18 months, respiratory and diarrheal morbidities were significantly lower for children in the intervened group, as compared to children in the control group. Making micronutrients available through food sources appears to help control morbidity, which, in turn, favorably impacts growth.

Figure 6. Incidence of Morbidities among Children in Intervened Group and Control Group



How reduced morbidity can save lives is revealed in the words of this mother:

"Merey char bache hain aur sub ko dant nikalte waqt motion aur ulti lag jati hai. Mera aik bacha is hi wajahay se faut bhi ho giya. Yeh pehli martaba hua hai ke merey chote bachey ke dant bhagair motion ulti ke nikley hain. Mujhe lagta hai key yeh kaleeji khilaney se hua hai." (I have four children and all had motions (loose motions) and vomiting while they were teething. One child died because of this. This is the first time that my youngest child has had his teething without motions and vomiting. I think that this is because he had liver).

Impact on change agents themselves: One of the senior community women, who was the nutrition educator reaching out to women in the IG, became aware of the nutritional benefits of chicken liver, and said:

"Hamari saari zindagi guzar gai ye hi suna tha ke kaliji garam aur nuqsan deti hai. Ab jab aap ke saath kam kiya tau mein ne apney potey ko khilaya. Mujhe lagta hai ke bachon ki sehat behtar ho gai hai. Mei ye hi sab logon ko batati hoon." (All my life I have been hearing that liver is 'hot' and harmful. Since working with you I know better and I give liver to my grand children and I feel that their health is getting better. I tell this to every mother in the community.)

A local physician remarked:

"I always prescribed iron syrup to young infants, but the mother complained that child gets diarrhea. Now they are giving chicken liver to their infants through motivation of their neighbors (senior community women) and they say that their child is fine. I am happy that the children are eating a rich source of iron. This is a breakthrough in the community."

Other spin-off benefits that were noticed are illustrated in the words of a chicken seller:

"Mein hamaisha kaleji hotel walon ko baich deta hoon kyun ke koi aur kharidta hi nahi. Hotel waley is ke das bees rupay dete hain. Aj kal tau hamarey ilaqay ke log shoq se kaleji kharidney lagay hain. Pehle koi nahi kharidta tha. Hamei bhi faida ho giya aur bachon ki sehat bhi achi ho gai." (I always sell liver to hotels as no one else buys it – they give us Rupees 10-20 for the liver. But now the people of our area purchase liver from us…earlier no one bought from us. We have got financial benefit and the children's health is getting better).

Challenges

Various issues were faced during the implementation of the project, which were resolved through timely consultations with the SAR DM team, LHW program functionaries and the collaborative partner, Health and Nutrition Development Society. Initially, there were some issues related to data quality used for weekly and monthly monitoring forms. It was first decided to collect information every week from the respondents related to messages given to them through IEC material. In addition, the field workers had to collect information from each respondent on a monthly basis. There was confusion with information collected during week four, and for the

monthly questionnaire, as these two visits coincided; this was resolved in joint consultation with partners. Another issue related to data quality was whether the elderly community women and field workers were regularly visiting the assigned households. In this regard, the field supervisors and project coordinator were instructed to plan their field visits as unannounced surprise visits. In addition, the Principal Investigator and Co-Investigator conducted field visits at least twice a month. Refusal by families to feed chicken liver to infants was resolved through intense education-communication efforts by the elderly community women.

The project was backed by a sound research design to ensure quality and clear implementation and monitoring guidelines for the project team. The study's design followed the appropriate methodology including sample selection (justification of sample size, inclusion/exclusion criteria to select subjects), baseline and end-line surveys, data collection procedures and analysis.

Lessons Learned

This community-based intervention showed a positive impact of feeding iron and zinc-rich chicken liver, not only on linear growth, but on weight gains and morbidity reduction as well. This is a feasible strategy as the cost of adding chicken liver is very small and is affordable by most families in poor neighborhoods. However, for this strategy to be effective, it was most important to address the community's beliefs surrounding the feeding of liver to children under two years. The project demonstrated the critical importance of community mobilizers as change agents who can ensure that changes in practices happen at the household level. Both intervened and control groups received routine program inputs from the government's LHWs, but clearly this was not adequate. The effectiveness of the community mobilization strategy through elderly community women in the intervened group came as a result of regular home visits, and repeated counseling and reassurance to remove the doubts and anxieties of family members.

Recommendations

Nutrition programs should consider strategies using the services of senior community workers to counsel mothers and other family members on how to improve the quality and frequency of complementary foods. Senior women, belonging to the same community, have access to the households, are respected, can counsel families and can also follow up to ensure that messages are being implemented. As the strategy uses existing workers and elderly community women it can be replicated in any community. Advocacy efforts will be needed to bring on board members of civil society, other stakeholders like NGOs and policy makers, and program implementers to sustain such innovations.

Micronutrient Initiative

Glimpses from the Field

Complementary feeding of children under two years: feeding chicken liver to a toddler

Attention to hygiene: A baby's hand is washed before he is fed.

5.3 Action against malnutrition through agriculture in Nepal

Helen Keller International, Nepal

Introduction

Malnutrition remains a serious impediment to child survival, growth and development in Nepal. The most common form of malnutrition is protein energy malnutrition and micronutrient deficiencies, including iron, vitamin A, iodine and zinc. Low birthweight, a sign of poor maternal nutrition leading to an intergenerational cycle of malnutrition, is also a challenge. According to the Nepal Demographic and Health Survey (2011), 41 percent of children under five years are stunted, 29 percent are underweight, and 11 percent are wasted. The prevalence of anemia among children under five years is 48 percent, and 42 percent in pregnant women.

Nepal has made considerable progress in reducing child and maternal mortality, but has had less success in improving nutritional status. Problems are more severe in the remote Far Western Region. According to the findings of the Nepal Demographic and Health Survey (2006), stunting (low height for age) or evidence of chronic malnutrition among children under five years is 52 percent in the Far Western Region, wasting (low weight for height) or evidence of recent severe malnutrition is an alarming 16.7 percent, and the composite measure of underweight (low weight for age) is estimated for the region at 44 percent. Anemia prevalence is extremely high in both women of reproductive age and young children, at over 50 percent in both cases.

Helen Keller International, established in 1915, is a private voluntary organization with programs in 23 countries; its mission is to save the sight and lives of the most vulnerable and disadvantaged. Helen Keller International has expertise in nutrition (including breastfeeding, complementary feeding, micronutrient supplementation, food fortification, dietary diversification, nutritional surveillance, and nutrition and infectious diseases) and eye health (including cataract, trachoma, onchocerciasis control, and refractive error).

Project Description

Project Objectives

The objectives of the project were to improve maternal-child feeding and care practices and the nutrition-health status of pregnant and lactating women and children under two years.

Project Strategy

In its Action Against Malnutrition through Agriculture project (AAMA means “mother” in Nepali), Helen Keller International (Nepal) focused on improving the availability of micronutrient foods at the household level. Approaches used in the project included BCC to

promote Essential Nutrition Actions (ENA) and homestead food production with relevant training and capacity building. ENA included breastfeeding, complementary feeding, maternal nutrition practices, feeding during illness, and control of micronutrient deficiencies. Homestead food production included village model farms, home gardens and poultry. BCC activities such as counseling, negotiations skills and group discussion/group support facilitated both the interventions above.

Project Activities

Using SAR DM funds, Helen Keller International implemented the project in one village development council of Kanchanpur district. The organization has been implementing the same project in Kailali and Baitadi districts with USAID support. The project was launched in all districts, including Kanchanpur, at almost the same time, in collaboration with Helen Keller International's national partner, Nepali Technical Assistance Group, who provided technical support in training, awareness creation, monitoring and supervision. The project's implementation team comprised of staff of Helen Keller International, Nepali Technical Assistance Group, and a local NGO that is responsible for all three districts.

A rapid assessment, through five focus group discussions with mothers of children under two years, was carried out to obtain preliminary data related to focal areas of the project, especially IYCF knowledge and behavior of mothers, and to help formulate project interventions. The findings of the rapid assessment were shared with the program stakeholders. The project area was selected in close consultation with the District Public Health Office.

Key findings related to IYCF practices were that exclusive breastfeeding until six months was not practiced because of beliefs such as poor milk production, the child is weak, or because the mother is working away from home. The first complementary foods usually included rice, offered in the form of varied recipes that were often without a high protein source, and the introduction of foods from animal sources varied from six months to three years. Food restrictions included certain food types, preparation methods, and beliefs related to suitability of food for children related to things like its temperature, or the season. However, cultural beliefs are changing and foods that were previously unaccepted are now being included in children's diets. The frequency of feeding for children aged 6 to 24 months ranged from two to six times per day, and, regarding responsive feeding, it was stated that if children ask for food then they are fed and will eat as much as they want, or their appetite permits. Different practices were followed during a child's illness, but in all cases mothers reported increasing liquids, particularly mother's milk, and offering fewer solids.

During project implementation, the team focused on three program priorities: the development of IEC/BCC materials, establishing village model farms and homestead gardens, and training and capacity building for program staff, NGO partners and government counterparts. Throughout the project period, Helen Keller International closely coordinated with the Ministry of Health and

Population, the District Public Health Office, and the District Agriculture and Development Office for the project interventions.

The project built its BCC materials and strategies, which emphasized one-on-one counseling and negotiation reinforced by group discussions, on existing USAID-funded Action Against Malnutrition through Agriculture materials, incorporating refinements that directly addressed the challenges and best practices identified in the USAID-funded baseline data and formative research. Key elements of material development included a desk review of existing national and international IEC/BCC materials related to IYCF and women's nutrition, development of flip charts pretested with mothers (target audience), FCHVs and program stakeholders, development of a counseling card, and discussion and feedback on materials from the Ministry of Health and Population before finalization.

Training modules, training manuals and other key materials for homestead food production implementation were developed. Materials consisted of homestead food production manuals in Nepali and English for national and local audiences that included crop calendars, registers to track data related to village model farms/homestead food production beneficiaries, and posters for gender sensitization.

Households were selected as program beneficiaries for village model farms if they had at least 1,000 to 1,200 square meters of property that was irrigated, flood free and located in close proximity to the home, if they were centrally located with 20 surrounding households, the farthest no more than 30 minutes distance by foot in Kanchanpur, if they had at least one literate household member and adequate labor available, and if the head of the household was an active community member.

The criteria for selecting homestead food production beneficiaries included the presence of at least one child under two years, or a pregnant woman, a household with at least 40 to 75 square meters of property, that the homestead food production beneficiary be a woman, although other household members are likely to support the garden, and that they are located a maximum distance from the village model farm of 30 minutes by foot in Kanchanpur. Priority was given to lower caste and other socially excluded or disadvantaged households. Almost 60 percent of homestead food production beneficiaries were selected from disadvantaged and from *dalit* (downtrodden) castes.

Each village model farm received 20 chicks and seed packets consisting of 10 varieties of micronutrient rich vegetables (green leafy vegetable, yellow-orange color vegetable, and other micronutrient rich vegetables) for the three seasons. These were also distributed to homestead food production beneficiary households.

Training for the village model farms began in January 2010. Three village model farmers were trained for three days on homestead food production. Training included aspects such as land

usage and management (irrigation, live fencing, seed and sapling production, grafting, crop rotation, composting and integrated pest management), crop selection, diversification and seasonality, poultry management (introduction of improved breeds, construction of appropriate housing structures, improved feed preparation using local inputs), roles and responsibilities for effective planning and implementation (including community outreach and leadership), how the village model farm would serve as a platform for FCHV meetings and to offer incentives, how to maintain links with District Agriculture and Development Office subcenters, and how to provide ongoing mentoring and support to homestead food production beneficiaries and other motivated community members.

Following the village model farm training, 127 homestead food production beneficiaries were trained over one day on homestead gardening and poultry production, which included aspects such as the year-round production of vegetables, egg production, and the management of gardens on small plots of land. Each of the three village model farms also separately trained two groups of approximately 20 homestead food production beneficiaries each at the village model farm, for a total of approximately 40 homestead food production beneficiaries per farm. The village model farm owners and NGO field supervisors also provided hands-on support in the field to the homestead food production beneficiary households as they applied their new skills to establish developed homestead gardens.

Before program implementation, the program team conducted a half-day workshop to orient district health and agriculture offices on Action Against Malnutrition through Agriculture program activities. The Action Against Malnutrition through Agriculture field staff also held meetings with the district counterparts on quarterly basis to provide continued program updates.

Monitoring and Evaluation

The project developed an M&E plan, and log frame, in a combined format. Under the project, each of the three village model farms provided technical support to the 40 neighboring households under its umbrella. The project used a variety of monitoring tools. Registers for each village model farm and homestead food production beneficiary recorded detailed monthly information on their activities, such as the quantity of vegetables cultivated, consumed, and sold, or the number of chickens reared, consumed and sold. Structured monitoring checklists, observation checklists, and review of records enabled field supervisors/district coordinators to carry out regular monthly monitoring of village model farmers and homestead food production beneficiaries and provide feedback and technical support. The data were maintained at field office and reports were analyzed at Helen Keller International's head office.

Process monitoring: The first round of process monitoring was conducted with all 127 homestead food production beneficiaries in July, using the homestead food production beneficiary checklist which included: monitoring of home gardening, poultry, feeding of micronutrient rich vegetable and eggs to children aged 6 to 24 months, support received from

village model farms, homestead food production beneficiaries' participation in homestead food production beneficiary group meetings, and water access for irrigation in the garden and related aspects.

Impact Evaluation: A baseline survey was not conducted considering the very small project area (only three wards of one village development council). The baseline data from an adjoining district, Kialali, was used as proxy for this project. Kialali has similar geographic setting and socioeconomic characteristics, and is where Helen Keller International has been implementing the same project around the same time as SAR DM project. Sampling at baseline was guided by 30-cluster EPI survey methodology. A two-staged cluster sampling technique was adopted to select 500 households:

Stage 1: The primary sampling unit – a cluster – was defined as a ward, a part of the ward, or a combination of wards. The sampling frame was based on the number of village development councils in the wards, as enumerated by the 2001 census, and the clusters were sampled using the probability proportional to size (PPS) method.

Stage 2: Fifteen households with children under two years were randomly selected from each cluster. The first household was selected randomly by spinning a pen in the center of the ward. In the direction that the pen pointed, the number of houses was counted and, by picking a random number, the house corresponding to that number became the starting point of the survey. If the household had a child in the stipulated age group living in that particular house, then the mother/caretaker of that child was interviewed. If the same household had more than one eligible child, then all were included for the interview.

A midline survey was conducted using the Follow-on Lot Quality Assurance Sampling survey method where all outcome indicators except for weight-age were measured. For the end-line survey, a sample of 114, six clusters of the nine in the village development councils were selected randomly; from each, 19 mothers with children under two years were randomly selected from the sampling frame for interviews.

The main indicators for the project monitoring and evaluation:

- Percent homestead food production beneficiaries and non-homestead food production beneficiaries reporting village model farms as a source for health/nutrition messages;
- Number of sessions held with homestead food production beneficiaries on ENA since last quarter;
- Percent mothers with children less than 24 months correctly implementing age-appropriate ENA behaviors (focus on IYCF);

- Percent homestead food production beneficiaries (especially those with children younger than two years and mothers) consuming micronutrient rich animal/plant source foods from homestead food production: frequency daily or in the last week;
- Percent of children under two years receiving appropriate treatment for diarrhea from FCHVs/ mothers;
- Number of FCHVs utilizing village model farms or community forums to talk about ENA/homestead food production activities; and
- Village model farm production in the previous four months (varieties, yield).

The project carried out monthly monitoring of the process level/output level indicators and collected information on the outcome-related indicators at midline and end-line surveys. Qualitative data was collected concurrently with the quantitative surveys.

Informants for the qualitative research were selected with help of local FCHVs using purposive sampling, ensuring representation of the various geographic areas included in the quantitative sample. Five focus group discussions with mothers of children aged 12 to 24 months, drawn from six village development councils (between 5 and 8 mothers per group), were conducted using semi-structured guidelines to assess perceptions and practices relating to child feeding and care and social norms. Question guides included 55 open-ended questions and the discussions averaged in duration about two hours. In-depth interviews were conducted with five mothers-in-law and five husbands drawn from 11 village development councils. Each interview lasted an average of 45 minutes. Interview guides facilitated the process and contained about 48 open-ended questions. Interviews and focus groups were conducted in Nepali by a two-person team consisting of an interviewer/facilitator and a note keeper. All sessions were tape-recorded, transcribed, translated into English and assigned identification numbers for data analysis.

Results

As Figures 7 and 8 show, the project data indicated that the primary goal of the project – to improve food security and access to micronutrient rich foods year-round through an agricultural intervention – was largely achieved. ENA practices also improved in the intervened areas.

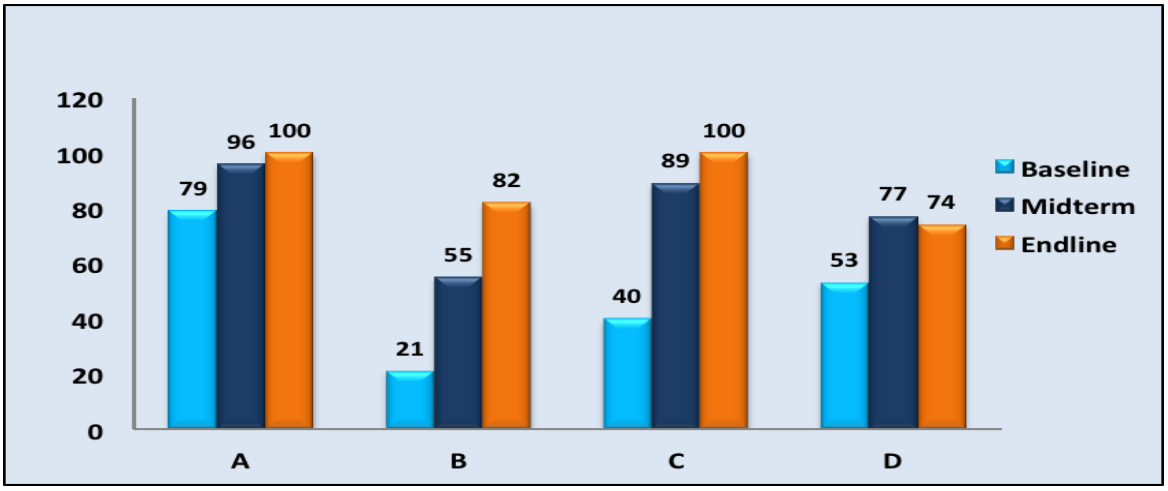
There was good impact on specific subgroups, especially in IYCF behaviors where caretakers or mothers started feeding eggs to their children aged 6 to 8 months, while earlier they did not practice this. Similarly, there was improvement in dietary diversity and frequency of feeding practices to children of all age groups.

As planned, three village model farms and 127 homestead food production beneficiaries were trained on homestead food production and ENA/BCC. Twenty-nine female community health workers and local health facility staff were trained on ENA. Varieties of seed packets were

distributed to each homestead food production beneficiary and village model farm. All three of the village model farms received 20 chicks each and 10 varieties of seeds; and all 127 homestead food production beneficiaries received five chicks each and 10 varieties of vegetable seeds in all three seasons during the project period.

Monitoring and evaluation was carried out as planned. Village model farms also carried out monthly homestead food production beneficiary group meetings while the field supervisor and district coordinator carried out regular monitoring and supervision visits to village model farms, and to homestead food production beneficiaries during their group meeting, and provided the necessary technical support. Figures 7 to 9 below show the project's impact by comparing baseline, midline and end-line results.

Figure 7. Changes in Reported IYCF Practices at Baseline, Midterm and End-line



Key:
A: Proportion of children (under six months) who received only breast milk in the previous 24-hour period
B: Proportion of children (aged 6 to 24 months) receiving four food groups during the previous 24-hour period
C: Proportion of children (aged 6 to 8 months) receiving solid or semi-solid foods a minimum of 4 times or more in the previous 24-hour period
D: Proportion of children (aged 9 to 23 months) receiving solid or semi-solid foods a minimum of 4 times or more in the previous 24-hour period

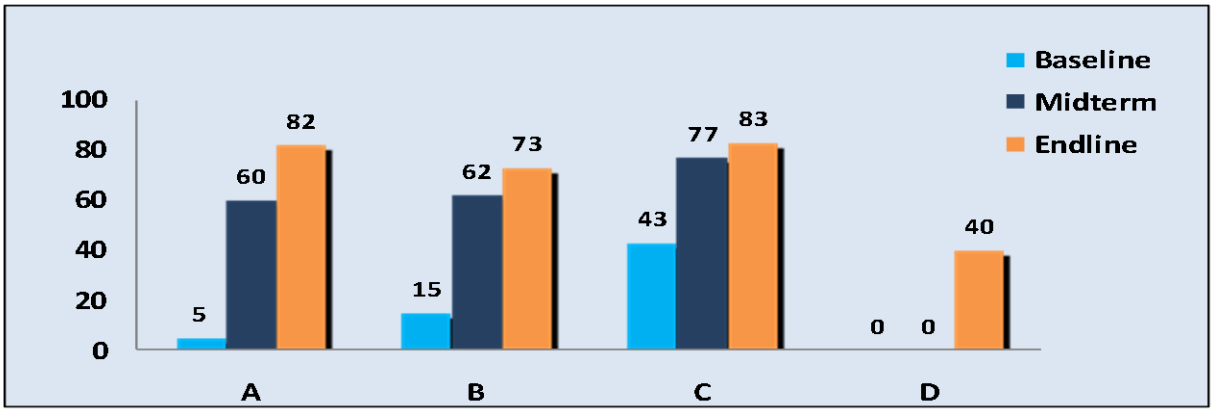
IYCF Practices: According to the project targets, a 10 percent increase was aimed for in the proportion of infants less than six months who received only breast milk during the last 24 hours.

However, the results showed an increase to 100 percent of infants receiving breast milk in the last 24 hours, against 79 percent at baseline (Figure 7).

Similarly, there was a remarkable increase in the percentage of children receiving four food groups (during the previous 24-hour period) from 21 percent at baseline to 82 percent at the end of the survey.

Further, in the younger age group (aged 6 to 8 months), the proportion of infants receiving foods at desired frequencies increased more than two-fold – from 40 percent to 100 percent. The impact was less marked in the older infants.

Figure 8. Changes in Consumption of Micronutrient-rich (iron and Vitamin A) Foods by Children and Hygiene-Related Behaviors by Mothers

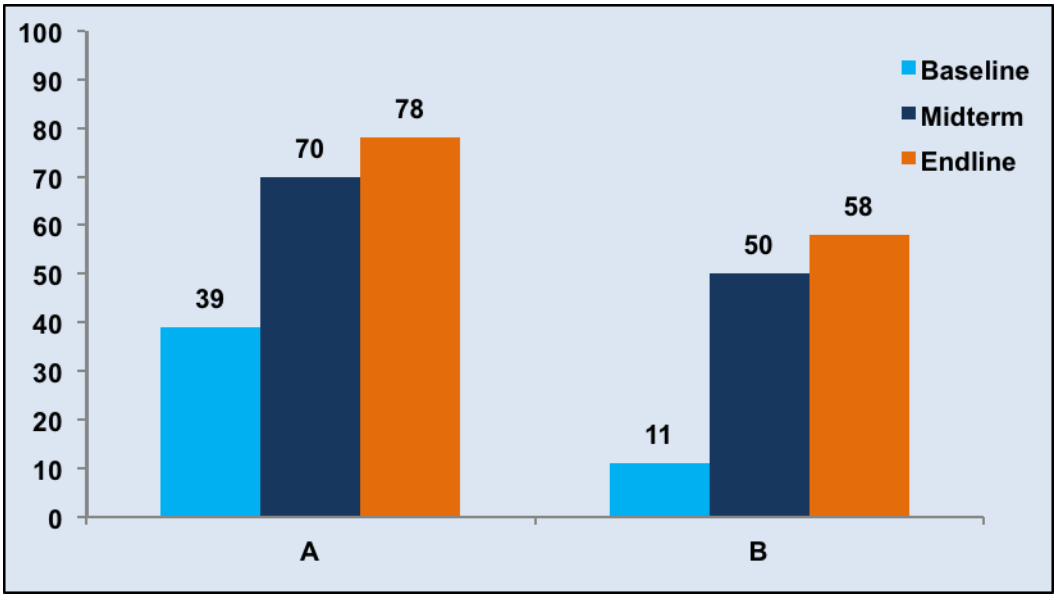


Key:
A: Proportion of children (aged 6 to 24 months) who consumed Vitamin A-rich animal source food in the previous 24 hours
B: Proportion of children (aged 6 to 24 months) who consumed iron-rich animal source foods in the previous 24 hours
C: Proportion of mothers who washed their hands with soap and water in the previous 24 hours
D: Proportion of mothers who washed their hands during four critical points (i.e. before child feeding, before handling food, after handling child's feces/cleaning, after defecation)

Consumption of micronutrient rich foods and hygiene practices: At baseline, the micronutrient intake of Vitamin A and iron-rich foods was dismally low; this showed a significant rise after the intervention- Vitamin A: 5 percent to 82 percent and Iron: 15 percent to 73 percent (Figure 8). Similar improvement was observed in the hygiene practices of the mothers and caregivers of children post intervention. Very few mothers (less than one percent) practiced washing hands during four critical points (before child feeding, before handling food, after handling child's

feces/cleaning, and after defecation) before the intervention, but the proportion increased remarkably to 40 percent by the end of the survey.

Figure 9. Changes in Health Care-Related Behaviors During Illness and Diarrhea



Key:
A: Proportion of children (aged 6 to 24 months) fed more after illness
B: Proportion of children (aged 6 to 24 months) receiving homemade or ORT during the most recent episode of diarrhea

As seen in Figure 9, feeding more quantity of food after illness for faster recovery was practiced by less than half (39 percent) of the mothers at baseline, which improved to 78 percent post intervention. Similarly, the proportion of children (aged 6 to 24 months) receiving homemade or ORT during diarrhea also increased five times (11 percent to 58 percent) from baseline to end-line survey.

Viewed collectively, as a result of the Action Against Malnutrition through Agriculture project, more than 13,000 mothers were trained on nutrition and agriculture practices. A large number (300) of village model farms were established, access for 13,000 people to homestead gardens was ensured, and 60,000 chickens were distributed. Additionally, multisector governance activities were initiated. Several IYCF behaviors improved.

Box 1 below provides the views of a woman farmer belonging to one of the village model farms who benefitted from the project:

Box 1: Appreciation of the Benefits Received from the Program

"Earlier we produced only two to three types of vegetables in the garden; that too only in winter season. Most of the vegetables were cauliflower, cabbage and potatoes. At times, we sold them in the nearby market, and I was not aware about the nutritional value of vegetables and eggs and requirements for the small children in our community. We did not have the practice of feeding eggs to our small children.

After being trained and involved in this program, I now know how to grow more vegetables and rear poultry, compost, and prepare bio-pesticide at my local level. In addition, I learned the proper way of breastfeeding, and the preparation of nutritious food like Jaulo [a semi-solid mixture of rice, lentil, ghee, green leafy vegetables, or egg]. I am now growing 8 to 9 varieties of vegetables, mostly all-round the year. On most days in a week, I give an egg to my child and we cook at least some of the green leafy vegetables in our kitchen such as the mustard leaf or Helen-Sweet-Potato.

We meet each month with other mothers who have children less than two years, and a female health community volunteer, and we discuss complementary feeding and cultivation of vegetables. Moreover, I earn money by selling vegetables and selling poultry eggs; I sell each egg for 10 rupees. My husband supports me to take care of poultry, cultivate vegetables and sells them in the nearby market. We produce many eggs, but some of the new generation of chickens is dead, due to lack of vaccination. So, I worry about the lack of vaccination to save my chickens."

- Kisani Chaudhary, Baisibichhuwa-4, Kanchanpur

Challenges

As the SAR DM-funded project was built on the larger existing project improving food security of nutritionally superior foods, no major challenges were faced.

Lessons Learned

A strong monitoring system, led by Helen Keller International, helped to track the progress of the field activities. It was found that strengthening linkages between the agricultural and health sectors, and linking them to the community, contributed to improved household food consumption and nutritional practices, thus benefitting households, individual mothers, and children under two years. In addition, the mix of interventions used by the projects – social enterprise, motivational incentives, training and counseling for behavior change – significantly contributed to achievement of results.

As observed during a visit to the project area and stakeholders, even after the expiry of the project, village model farms were seen to be providing technical assistance to homestead food production beneficiaries. FCHVs were also conducting home visits to counsel and educate mothers on breastfeeding and complementary feeding practices.

The sustainability of the model developed by the project will rest heavily on the ability of the village model farm to increase demand for improved household food production, thereby creating a local market for its products and services. The village model farm owner's ability to be a vendor and trustworthy partner to HHs and FCHVs within the community is also a key determinant for the model's sustainability. The village model farm, as an enterprise, is likely to continue to generate income; however its linkages to FCHVs and the households they serve will be vital for continued income generation. This will result in its continued presence as a community-level agricultural and health resource.

Further, because Helen Keller International had strong implementing partners at the field level, which helped to link Action Against Malnutrition through Agriculture with existing programs of the Ministry of Health and Population and the Ministry of Agriculture and Cooperatives, the opportunity for replication of this model to other parts of the country has been created. USAID, or other donors, are likely to show interest to support the expansion of this model to other districts.

Recommendations

Rural projects seeking to improve food and nutrition security should establish functional linkages between health and agriculture sectors and these in turn, should be strongly linked with community groups and households through link workers. Networking with local NGOs is also recommended to spread the intervention model and obtain ongoing support.

Glimpses from the Field

Nutrition recipe demonstration and feeding children (left) and mothers gather to learn about ENA (right)

Village Model Farmer discusses modern farming practices with one of the members of her group on the farm.

5.4 Peer counseling as a communication strategy to improve complementary feeding practices in rural and urban Bangladesh

Training and Assistance for Health and Nutrition Foundation (TAHN), Bangladesh

Introduction

"My baby was growing well when he was taking only breast milk, but although I want to give him suji and khichuri since he is older, he does not want to eat, and you can see he looks thin now." – Mother of nine-month-old Rahim.

Child malnutrition rates are very high in Bangladesh. According to the Bangladesh Demographic and Health Survey (NIPORT, 2009)[16], 41 percent of children under five years are underweight, 43 percent are stunted and 17 percent are wasted. Common contributors of child malnutrition include inappropriate infant feeding practices, such as delayed initiation of breastfeeding, prelacteal feeding, non-exclusive breastfeeding, bottle feeding and inappropriate complementary feeding (either early or late). Despite the efforts of the government and other agencies, the exclusive breastfeeding rate for infants under six months in Bangladesh is stagnant, remaining at around 40 percent over the last 15 years. In addition, since growth faltering peaks between 6 and 12 months of age, it is important to emphasize to mothers appropriate complementary feeding practices to support continued breastfeeding.

The project was implemented by Training and Assistance for Health and Nutrition Foundation, a not-for-profit organization that aims to empower and enable people to improve the health, nutrition and well-being of their communities. As part of its ongoing work, Training and Assistance for Health and Nutrition Foundation supports peer counselors for IYCF and nutrition, training government and non-government health workers and community volunteers, and undertaking strategy development, evaluation of programs, and relevant research. The SAR DM project provided an opportunity for Training and Assistance for Health and Nutrition Foundation to test the effectiveness of peer counselors to improve complementary feeding practices, in addition to breastfeeding practices.

Project Description

Project Objectives

The objective of this project was to improve the nutritional status of children under two years.

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[16] National Institute of Population and Training (NIPORT), Mitra and Associates & Macro International. (2009) *Bangladesh demographic and health survey 2007*. National Institute of Population Research and Training, Mitra and Associates, Macro International: Dhaka, Bangladesh and Calverton, USA.

Project Strategy

The project tested the use of peer counselors for their potential to increase and sustain exclusive breastfeeding and improve complementary feeding practices. The project also explored a strategy of involving adolescents and influential men in the community to help improve and sustain optimal IYCF practices.

Project Activities

Training and Assistance for Health and Nutrition Foundation implemented their project in an urban slum of Dhaka *(Badda)* and in rural communities in a Chittagong subdistrict *(Anowara).* The key inputs of the project included recruiting and training of peer counselors, regular supervision and monitoring of counselors by program staff, training of adolescent group leaders on IYCF and adolescent nutrition (to build their own knowledge and to support lactating mothers), and forming community support groups that included men.

All of the peer counselors were women; the eligibility criteria to be engaged as a peer counselor were that they should be married with children, have at least 10 years of schooling, be long-time residents of the community they would serve, and have sufficient leadership and communication skills to be able to help other mothers. The peer counselors were paid an honorarium for their services

Training and Assistance for Health and Nutrition Foundation worked with 12 peer counselors (seven in the rural areas, and five in the urban areas, of the project) and initially trained them for four hours per day, over four days, in a classroom setting, using locally adapted training materials based on the WHO/UNICEF IYCF integrated counseling course and other breastfeeding training materials. The peer counselors were then given hands-on training in their communities, about how to effectively counsel pregnant mothers, and mothers of infants from 0 to 12 months, regarding appropriate IYCF practices. The hands-on training included practical demonstrations to improve their IYCF counseling skills. Peer counselors also received ongoing training at monthly meetings and through direct observations by their supervisors during counseling sessions with mothers.

Community Outreach by Peer Counselors: Each peer counselor worked part-time for the project (four hours every day) and catered to approximately 4,000 households in urban Dhaka, and 2,450 households in five unions of rural Anowara, Chittagong. Each peer counselor had an average of 50 to 60 mothers in her catchment area and all of her assigned households were within walking distance of her residence. The project enrolled 1,180 mothers (746 in rural Anowara and 434 in the urban slum of Dhaka), of which 81 percent (a total of 952 women, 592 in Anowara and 362 in Badda) remained enrolled until the end of the project. Mothers were excluded from the project if they migrated out of the project areas, had more than three living children, lived more than one

hour away from the peer counselor's residence, were not receptive to the peer counselor's suggestions about feeding, or if their infants had died.

Each peer counselor enrolled households with pregnant women in the last trimester of pregnancy and visited each mother twice during that time. The peer counselor also visited the mother and baby three times during the first month after delivery and, on average, once a month for the following year. In addition to providing counseling services to the mother, the peer counselors included influential family members, particularly grandmothers, as the secondary target group to promote optimal IYCF practices.

During household visits, the peer counselors demonstrated the preparation and responsive feeding of appropriate micronutrient rich foods and encouraged good hygiene practices, such as encouraging the mother to wash her hands with soap after coming from the toilet, or before preparing food, and to wash her own and the baby's hands before feeding. The peer counselors motivated mothers to adopt appropriate health-seeking behavior such as antenatal care, iron folate supplementation during pregnancy and the first six months of lactation, immunization for mother and child, postpartum vitamin A supplementation, and the early treatment of any illness. There was also continuous monitoring and supervision by the local IYCF supervisor (an experienced peer counselor) and Training and Assistance for Health and Nutrition Foundation staff (project managers and project coordinator) over the 17-month period of the project.

Empowering adolescents: An important project strategy was to mobilize adolescent girls as peer group leaders, after training them to lead peer groups of 8 to 10 members. During training, they learned about adolescent nutrition and how to promote appropriate IYCF practices for their families and neighbors. The peer group leader in each peer counselor's field area was provided with a computer to encourage computer literacy, and also as an incentive to conduct group meetings, which could be a source for future income generation (as they could teach others).

Men as caregivers: The project empowered men by informing and encouraging fathers to buy diverse foods, to help out with child care, especially playing with the children and taking them outside the house, and to help feed their children complementary foods. Other influential men (such as local community leaders, school teachers, religious leaders, and health personnel) were also sensitized about appropriate IYCF practices through community support group meetings held to support the project and to change social norms about infant nutrition.

Monitoring and Evaluation

Local project managers supervised peer counselors and adolescent groups. The project coordinator was responsible for the coordination and monitoring of local supervisors and project managers, including their monitoring visits, supervision of adolescent groups and computer learning sessions.

Tools for Monitoring: Peer counselors maintained registers to record data from their household visits. Separate tools were employed for mothers of the younger (aged 0 to 6 months) and older (aged 7 to 24 months) infants. Data included the timing of initiation of breastfeeding, colostrum feeding, exclusive breastfeeding status from 0 to 6 months, and complementary feeding practices after six months, such as the number, frequency, amount, and consistency of food groups fed, the giving of snacks, and continuation of breastfeeding.

The project managers and the project coordinator had observation checklists to check the quality of counseling provided by the peer counselors to lactating mothers; the checklists were sufficient to cover at least 10 percent of the sample. Feedback was provided immediately after the observed counseling sessions to encourage improvement. The project managers/project coordinator converted all monitoring data to electronic formats and analyzed them for feedback to the peer counselors. Interviews were also conducted with a similar subsample of mothers, in the absence of peer counselors, to record their IYCF practices.

Review Meetings: Monthly review meetings of peer counselors, in the presence of project managers, facilitated discussion of problems faced and corrective actions required. Data analysis showed some peer counselors to be weak in certain areas of complementary feeding counseling, such as the four food groups or the amount of food to be fed. Simple colored bar graphs were shown to each peer counselor representing the number of mothers that were practicing the desired behaviors. The graphical representation of data was effective for peer counselors to visualize their weaknesses and also helped to instill a competitive spirit among them, which motivated them to improve their efforts to promote appropriate IYCF practices. Small bonuses given to the best-performing peer counselor every 3 to 4 months also gave them an incentive to work harder.

During selected peer group meetings, adolescents shared information about their own diets. Peer group members also shared experiences of the number of families they had interacted with to promote appropriate IYCF practices and what the response from those families was. These discussions helped each adolescent to become more proactive in their efforts.

Evaluation: The project did not conduct a baseline survey. However, the findings of the Bangladesh Demographic and Health Survey conducted in 2007 and a survey conducted by the Alive and Thrive project in 2009 in Dhaka and rural Chittagong was used as a baseline. The project conducted an end-line survey in the implementation area and in neighboring comparison areas. The end-line survey was designed to detect an assumed difference between intervention and comparison groups in three key program outcome areas: the prevalence of exclusive breastfeeding for infants aged 0 to 6 months, rates of early initiation of breastfeeding, and rates of adequate complementary feeding.

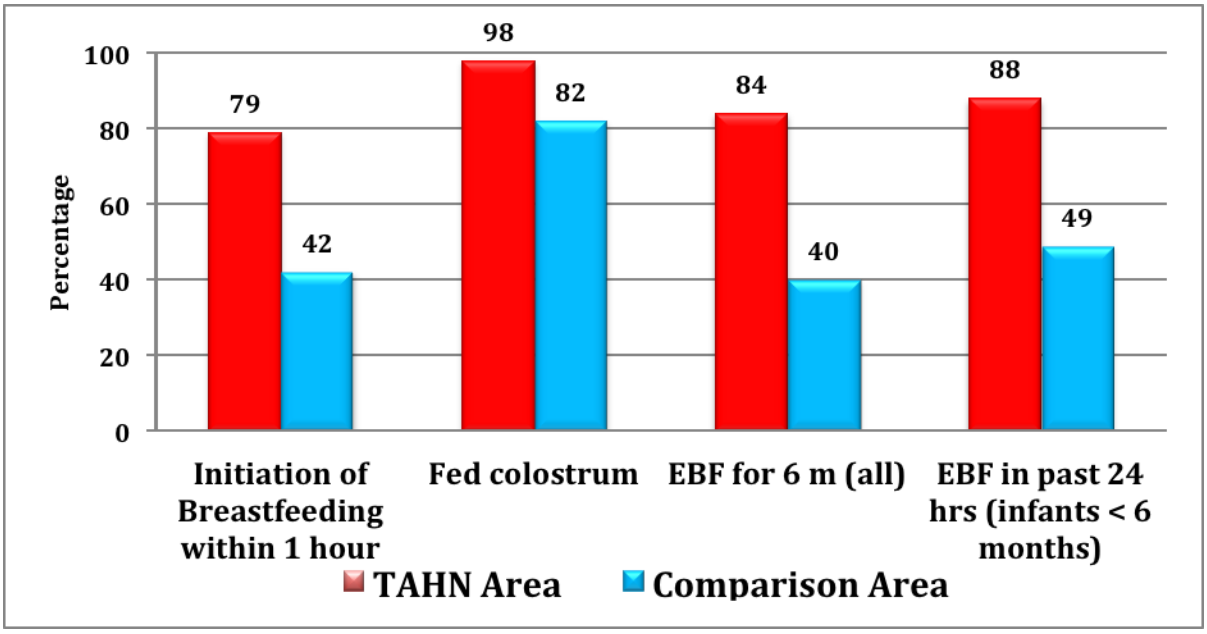
Formative Research: Formative research (focus group discussions) prior to the project's implementation helped to understand the perceptions and practices of mothers and key family

members regarding complementary feeding. This research did not focus on breastfeeding because Training and Assistance for Health and Nutrition Foundation's earlier research had already covered this aspect. Two focus group discussions that were held with mothers of infants younger than six months did not provide any new information. Twelve focus group discussions were held with mothers of infants aged 6 to 11 months, one focus group discussion and one in-depth interview were held with grandmothers, and four focus group discussions were held with fathers. Twelve community group meetings were also held to cover all the project areas, which also provided insight into men's perceptions and attitudes to the suggested IYCF practices.

Results

Project evaluation showed that, at baseline, there were no significant differences in the socio-demographic characteristics of families in the Training and Assistance for Health and Nutrition Foundation intervention areas compared to the neighboring comparison areas (based on factors such as the mother's age and education, number of children in the household, type of house, family income and assets owned). The project led to a marked impact on important IYCF practices, which is evident from the figures below.

Figure 10. Breastfeeding practices in Training and Assistance for Health and Nutrition Foundation Intervention and Comparison Areas, July 2011

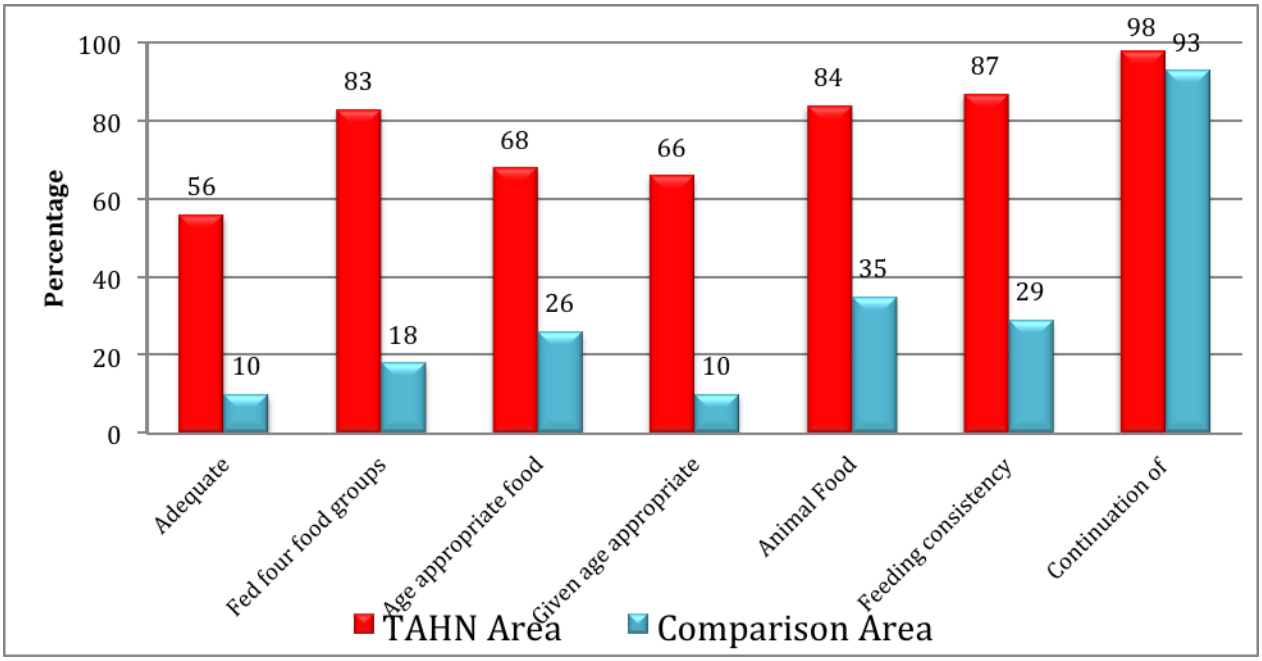


Peer Counseling Led to Improved Breastfeeding Practices: Corroborating the earlier work of Training and Assistance for Health and Nutrition Foundation's Chairperson (Haider, 2000) this project also found that peer counselors have a positive impact on breastfeeding practices (Figure 10). For most indicators, the prevalence of desired breastfeeding practices was about 40 percent

higher in intervention areas than in comparison areas. Most women already practiced feeding of colostrum in the comparison and intervention areas.

Peer Counseling Led to Improved Complementary Feeding Practices: Adequate complementary feeding is defined as a child who is breastfed, given recommended frequency of feeds, and consumes food from at least four food groups (WHO, 2004). The effect of peer counselors on complementary feeding practices showed even greater impact in intervention areas than in comparison areas than the effect of peer counselors on breastfeeding indicators. The prevalence of adequate complementary feeding practices was only 10 percent in comparison areas, markedly lower than 56.4 percent in the intervention areas. In terms of the specific components of complementary feeding, low prevalence was seen in the comparison area for feeding the child from the four recommended food groups (only 18.3 percent) and for feeding age-appropriate amounts (only 10 percent). In contrast, due to peer counseling, intervention areas showed a high prevalence of these two practices: 82.8 percent and 65.5 percent, respectively. Other indicators of complementary feeding also showed a high prevalence, as evident in Figure 11. The continuation of breastfeeding beyond six months was common in both the intervention and comparison areas.

Figure 11. Complementary Feeding Practices in Training and Assistance for Health and Nutrition Foundation Intervention and Comparison areas, July 2011



End-line interviews with adolescent girls (who were part of adolescent peer groups) revealed that 77 percent could correctly state 3 to 4 current IYCF recommendations and had promoted appropriate IYCF practices among at least five household members. Community support groups established in each peer counselor's area and comprised of mostly male members, helped to

increase awareness about the project, but they did not actively take any steps to promote it. The project established referral links between mothers and relevant health facilities and NGOs, which facilitated prompt service for Training and Assistance for Health and Nutrition Foundation's beneficiaries and discounts on health services whenever possible.

Challenges

Involvement of caregivers not reached by the project: Infants and young children are often cared for by older siblings, relatives or neighbors; as a result, adherence to the messages provided to mothers or grandmothers during counseling visits by peer counselors is often difficult. It was important to involve in-house relatives and close neighbors in counseling sessions whenever possible.

Firmly-rooted cultural practices and norms inhibit caregivers: In particular, grandmothers found it difficult to accept the recommended IYCF behaviors. It was crucial to obtain their support by recognizing their contributions and explaining patiently how any existing detrimental practices would harm their grandchildren.

Many private medical practitioners provide guidance that is not in line with IYCF recommendations; given the credibility that these medical practitioners have in the community, their guidance often takes precedence over the peer counselor's advice. The medical practitioners' professional associations need to be updated and they also need to be more involved in the active promotion of nationally recommended IYCF practices. There should be a mechanism in place to monitor and report any deviations from these recommendations.

Monetary constraints: Poor families were not always able to feed their children animal-source foods on a daily basis. Some efforts were made during the project to link poorer families with organizations providing training for income generation activities, but much more effort will be required in order for their economic situation to change enough to improve IYCF practices.

Mothers and/or peer counselors cannot easily recognize changes in the nutritional status of young children: The provision of weighing scales and growth cards to the peer counselors (which commenced mid-way through the project) helped both the mothers and the peer counselors to identify if the infants were eating enough, and further enabled the counseling process and the receptivity of the counseling.

Peer counselors were challenging to work with: For example, repeated training and individual support was required for peer counselors to be effective; regular monitoring and feedback was therefore essential to identify their weaknesses. The peer counselors were reluctant to visit mothers who did not follow their suggestions, and so timely decisions were required to determine the appropriateness of dropping such mothers from the project. Although discouraged to do so during the project, peer counselors in urban areas were often involved in other income generating activities and therefore tended to neglect visiting and counseling mothers. In addition,

turnover was also high among peer counselors in urban areas, which remains a challenge since their work experience as peer counselors gives them the confidence to apply for regular jobs with higher pay.

Lessons Learned

More effort, time and resources are needed to improve complementary feeding practices, as compared to those required to improve breastfeeding practices. Fortunately, even in resource-poor communities, effective nutrition education through household contacts can improve complementary feeding practices in a large number of families, since faulty practices are mainly due to erroneous traditional beliefs rather than the lack of food in the family. However, where there is significant poverty and food insecurity, it is necessary to link IYCF interventions with income generating programs

Recommendations

Peer counselors, who are adequately trained and supported women drawn from the community, should be included as important supportive change agents in nutrition improvement programs carried out by government departments and NGOs. Peer counselors can carry out the required outreach and regular household-level contacts essential for improving family practices related to child feeding and healthcare.

Programs using peer counselor should build in adequate supervision and monitoring mechanisms in order for them to be effective educators and communicators. Peer counselors should also be trained to focus on family counseling, as opposed to individual mother counseling, since mothers who work often leave their infants in the care of grandmothers or older siblings. Similarly, peer counselors should also encourage the involvement of men in the care and feeding of infants.

In addition to family members, peer counselors and other project staff should also reach out to local health service providers (local practitioners). Local practitioners' advice carries a lot of weight in the community; however, they are often not adequately up to date with recent child feeding and healthcare recommendations. Engaging health practitioners as change agents also helps to ensure that consistent, non-conflicting messages reach the community.

Micronutrient Initiative

Glimpses from the Field

Peer counseling in process…women listen attentively.

5.5: Technology aids nutrition improvement: cell phones help improve breastfeeding practices in India

Lata Medical Research Foundation, India

Introduction

Exclusive breastfeeding, along with timely initiation of complementary feeding, prevents up to 19 percent of deaths worldwide, according to Lancet Child Survival Series (2003). India's rates for optimal breastfeeding practices are dismal. According to the third round of the National Family Health Survey (NFHS-3), in India, early initiation of breastfeeding is only 23.5 percent; exclusive breastfeeding declines sharply from 70 percent in the first month to 27 percent in the sixth month. There is an urgent need for innovation to promote timely initiation and exclusive breastfeeding for infants aged zero to six months.

The SAR DM project was implemented by Lata Medical Research Foundation, which is dedicated to community development through health research. Besides health research, the strength of this organization is in the support it provides to the government in implementing policy through improved program strategies based on well-conducted research studies. The Lata Medical Research Foundation team consists of a group of highly qualified medical service providers, researchers and social workers. It has been a recipient of many grants including funding from the U.S. Department of Health and Human Services, National Institutes of Health and National Institute of Child Health and Human Development, WHO, Wellcome Trust, UNICEF, USAID, International Clinical Epidemiology Network and India Clinical Epidemiology Network. The Foundation has published over 40 health-related papers in high-impact international journals, based on research relevant to government policies and programs.

Project Description

Project Objectives

The objective of the project was to improve exclusive breastfeeding, antenatal visits and complementary feeding practices in two urban hospitals in Nagpur, India.

Project Strategy

The project used cell phones as an innovative and feasible strategy to improve infant feeding practices, given the penetration of this technology even among vulnerable sections of society.

Project Activities

Lata Medical Research Foundation implemented the project in partnership with two government hospitals located in Nagpur, India: the Indira Gandhi Government Medical College hospital and

Daga Hospital. Both hospitals serve poor, urban patients and see approximately 9,000 deliveries annually per hospital. The Indira Gandhi Government Medical College hospital was the intervention arm of the project while the Daga Hospital was the control arm. Both the intervention hospital and the control hospital have been recertified for the Baby Friendly Hospital Initiative to promote appropriate breastfeeding practices and timely initiation of complementary feeding to improve child growth and reduce morbidity in infants.

The project enrolled 150 pregnant women in their third trimester at each hospital. The women were of poor socioeconomic status and approximately 40 percent live below the poverty line. Women were excluded based on factors that could interfere with exclusive breastfeeding including obstetric, medical and surgical complications, HIV, and their willingness to deliver and follow up at the same hospital until the infant is six months old. The women visited the health facility twice in the third trimester, at the time of delivery, and in the postnatal period at six, 10, and 14 weeks, at the sixth month and a week after the sixth-month. During these visits, face-to-face counseling, regarding optimal breastfeeding and complementary feeding practices, was provided to the mother and data was collected by trained lactation counselors using structured questionnaires and standardized data collection forms. Data was collected on IYCF practices, illnesses of mother and child necessitating hospitalization, maternal satisfaction regarding IYCF counseling and costs.

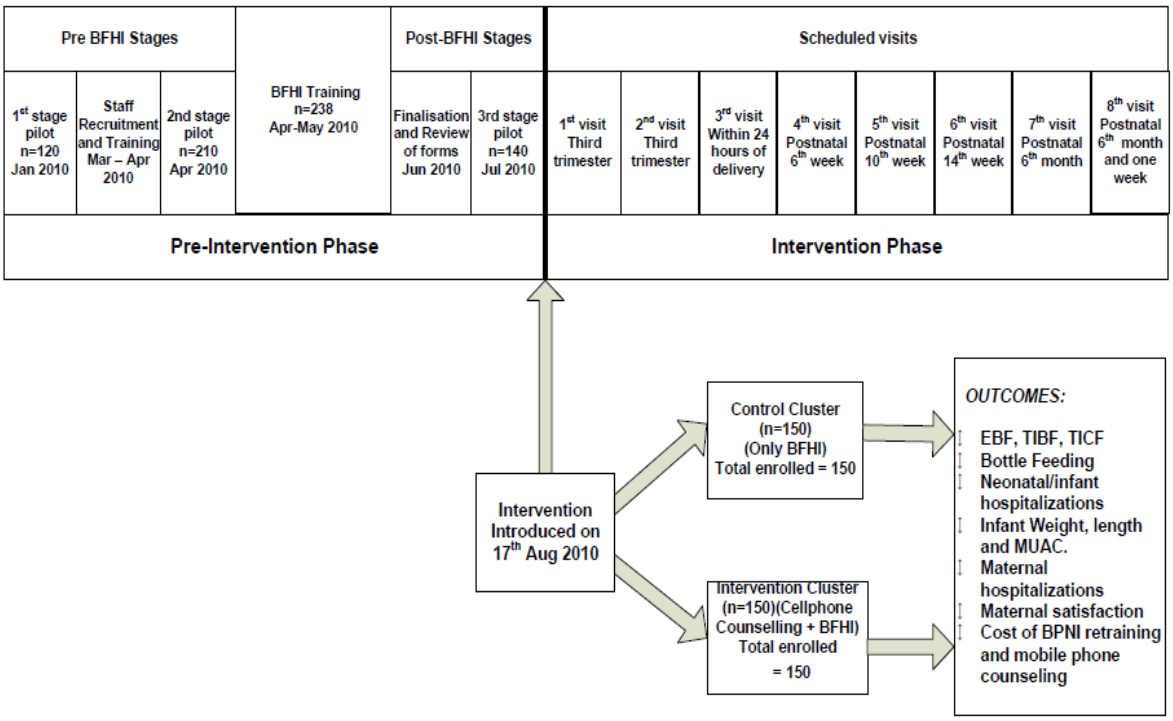
Besides the counseling mentioned above, beneficiaries in the intervention hospital also received a free cell phone for scheduled weekly tele-counseling by lactation counselors, who were motivated women with personal breastfeeding experience, a diploma in nursing, and trained by authorized Vodafone trainers. The calls began from enrolment until their last scheduled visit. The beneficiaries also received short messages in vernacular language to promote breastfeeding and adherence to the visit schedules and ringtones to encourage breastfeeding. Additionally, the mothers could also call the lactation counselors when they had difficulties in feeding the infant or could also give a missed call; the lactation counselors then called them back. The handsets of all the lactation counselors had call transfer facility to reduce response time, increase response rate and reduce indispensability of a given lactation counselor.

The project obtained institutional review board permissions from both the hospitals, since personal information was collected from pregnant women visiting the participating hospitals. During the first phase, of six-month duration, staff at the two hospitals, and lactation counselors, were retrained on the Baby Friendly Hospital Initiative in partnership with the Breastfeeding Promotion Network of India. Data collection tools included structured questionnaire, mechanisms for cell phone counseling, logs for cell phone activity and data management systems. The tools were refined through three rounds of pilot testing during the first six months of the project. During the first (January 2010) and second (April 2010) round, a cross section of 120 and 210 women, respectively, at different stages of pregnancy/age of the infant, were interviewed. These interviews were followed by the Baby Friendly Hospital Initiative training

(June 2010), after which the third round of pilot testing of the tools was undertaken (July 2010). The data from the three phases of the survey served as the baseline data of the project, as well as demonstrated the impact of Baby Friendly Hospital Initiative training on key infant feeding indicators. Formative research was also conducted during the piloting of the questionnaire. The issues emerging during these three rounds helped to develop the communication messages for the project.

In the intervention hospital, Vodafone helped set up a data system to record conversation, consultation frequencies and duration. Calls were recorded on the mobile, voice data was then transferred from the handset to the computer and later transcribed. Data was collected at both hospitals after each visit from participant mothers regarding IYCF practices, illnesses of mother and child necessitating hospitalization, and maternal satisfaction regarding IYCF counseling, using standardized data collection forms. A data management system captured the data for analysis. Figure 12 gives an overview of the project flow of activities.

Figure 12. The Project Phases at a Glance



Monitoring and Evaluation

The project developed a detailed M&E framework, comprised of pre and post evaluation of the Baby Friendly Hospital Initiative training in the control hospital and control hospital, evaluation of the training in lactation counseling (by the Breastfeeding Promotion Network of India) and tele-counseling, monitoring of infant feeding and anthropometric indicators from delivery until

the infant is six months old, monitoring of key activities of the project such as daily recruitment, follow-up visits, daily calls, daily SMSs, data entry and tracking non-compliant patients using specially designed registers and logs, and monitoring mother's satisfaction on counseling and information received.

The indicators of the project's M&E were:

- Infant feeding indicators, as per the WHO definition
- Timely initiation of breastfeeding in the first hour after birth
- Exclusive breastfeeding rates (at six, 10, 14 weeks, and at six months, corresponding to the visits to the health facility by the mother)
- Timely initiation of complementary feeding
- Anthropometric measures of the child: weight, length and head circumference gains between four postnatal visits
- Hospitalization of infants and their cause
- Reasons for failing to initiate or continue exclusive breastfeeding or initiate complementary feeding
- Mother's satisfaction for exclusive breastfeeding support and
- Compliance of mother to scheduled visits

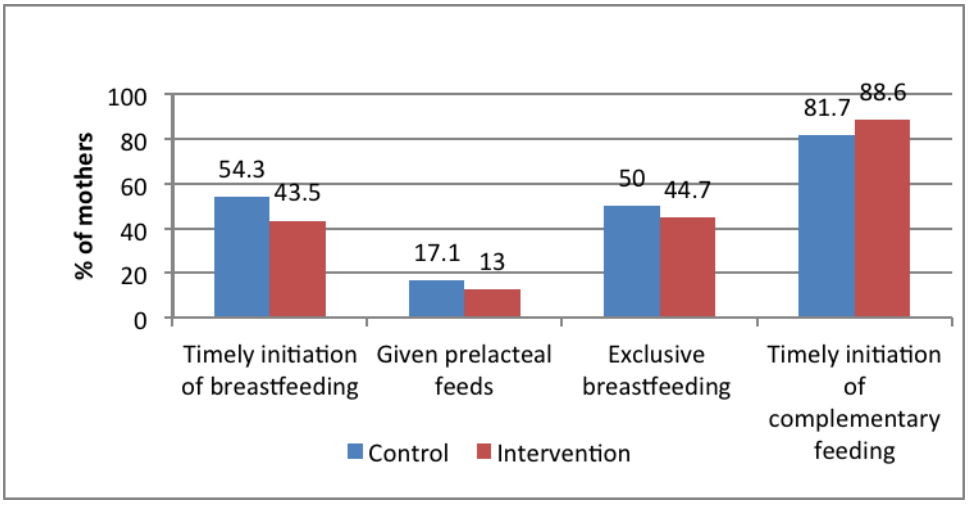
The data on the above indicators were collected in a Client Record Form (CRF) that was maintained in the hospital and updated each time the mother visited the hospital in line with the scheduled visits. The data was fed into a database using data-entry software, which also incorporated several data validation checks to ensure quality of the data.

The evaluation design that followed was a cluster randomized control trial, designed to demonstrate differences in key infant feeding outcomes between control hospital and control hospital.

Results

Overall, the mobile phone intervention showed that information technology could be put to good use for nutrition-health interventions. As shown in Figure 13 below, infant feeding indicators at baseline were similar in both control hospital and control hospital. Further, there was no significant improvement in knowledge regarding key infant feeding practices among staff as a result of Baby Friendly Hospital Initiative certification training in both the hospitals; over 50 percent were already aware of these practices.

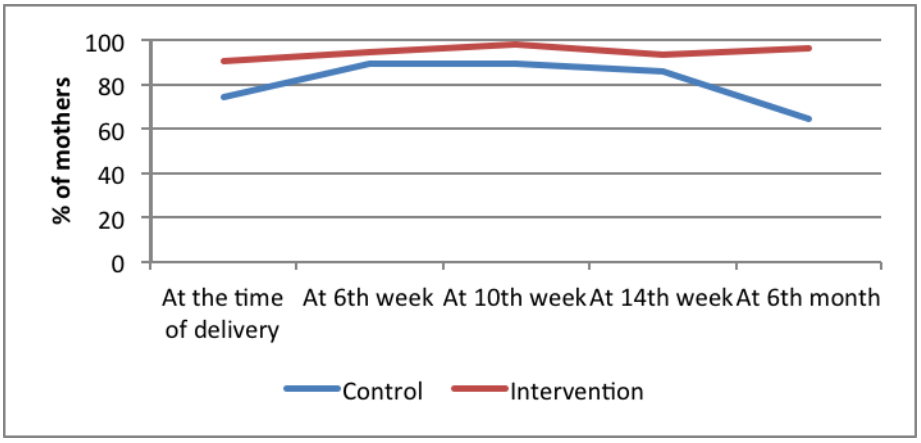
Figure 13. Key infant feeding indicators at baseline in intervention and control hospitals



Exclusive breastfeeding rates improved and were sustained: The most important indicator that the project tried to impact is the proportion of mothers that exclusively breastfed the child (Figure 14). There is a considerable increase in the proportion of exclusive breastfeeding after initiation of counseling for breastfeeding in both intervention and control sites.

However, the mothers who had the additional benefit of counseling through cell phones reported sustained higher rates of exclusive breastfeeding till the sixth month than women in the control group. The rates were higher for the control hospital group at all ages but the gap widened after the fourteenth week, when there was a sharp decline in the mothers exclusively breastfeeding their child at the control hospital.

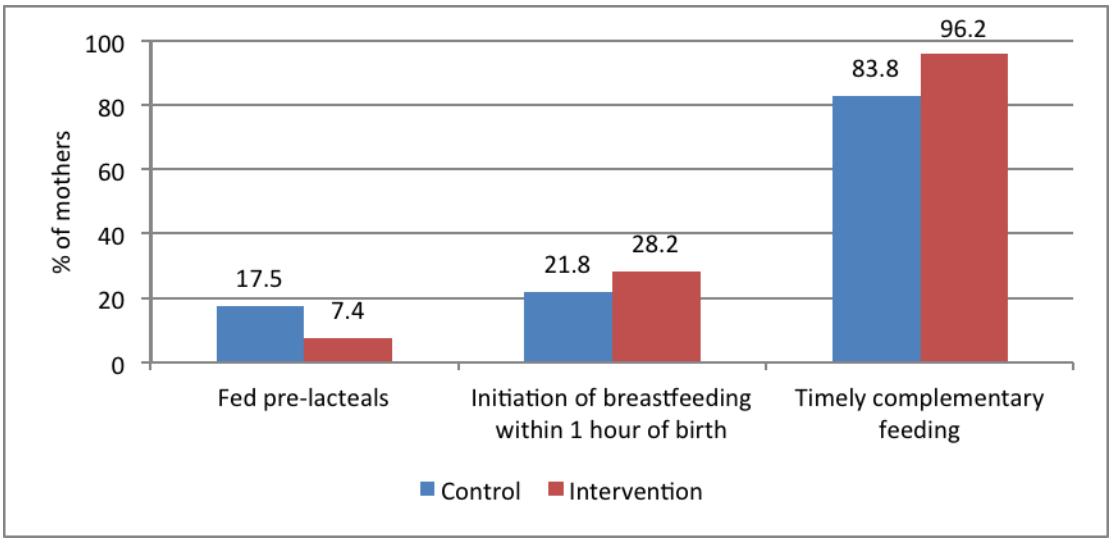
Figure 14: Proportion of mothers exclusively breastfeeding (last 24 hours) in intervention and control hospitals



Other IYCF practices improved: As with exclusive breastfeeding, other infant feeding practices were also better in the control hospital group as compared to the control hospital group (Figure

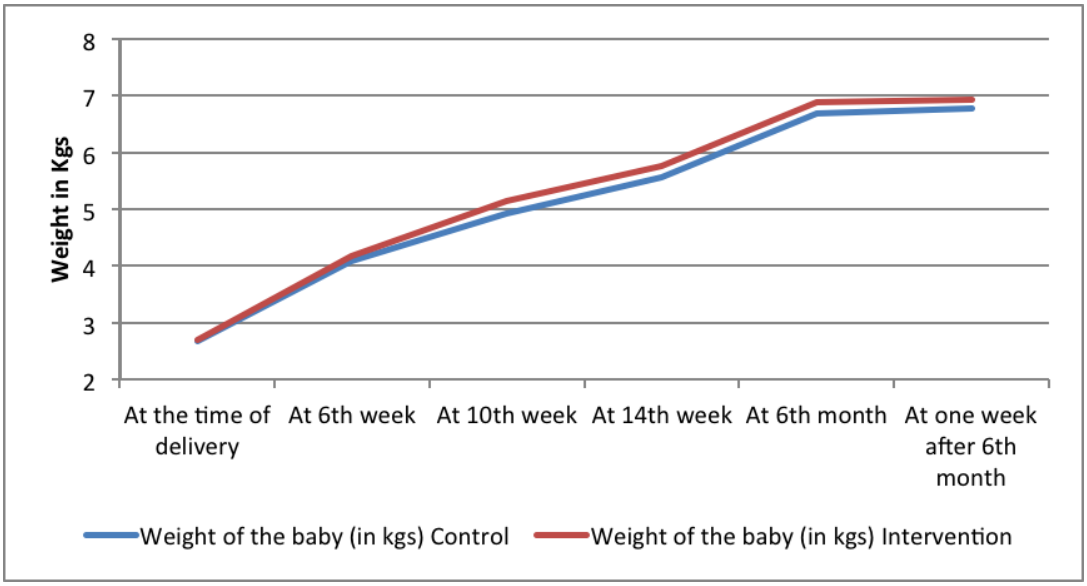
15). While 17.5 percent of mothers in the control group reported giving their newborns prelacteal feeds, the corresponding Figure in the intervention hospital was 7.4 percent. Timely initiation of complementary feeding was also significantly higher in the intervention group (96.2 percent) as compared with the control group (83.8 percent).

Figure 15. Infant feeding practices in intervention and control sites



Growth of infants improved: Figure 16 shows that the mean weight of the infant was higher at all ages in the control hospital group compared to the control hospital group. This was observed for other anthropometric indicators as well: length of the baby, head circumference and mid upper arm circumference, where the infants in the control hospital fared better than in the control group.

Figure 16. Mean weight of babies by age at intervention and control hospitals



Mothers found the counseling provided helpful to improve IYCF practices: Data presented in Table 5 (below) was collected in weekly random interviews of beneficiaries at the time of their routine visits to hospital for immunization, regarding the support they receive on phone for lactation. It is evident that mothers were completely at ease in interacting over the phone and felt free to ask questions of the lactation counselor. Further, the satisfaction levels and the perceived usefulness of the information provided in regards to breastfeeding was significantly higher in the control hospital as compared to the control hospital. Also, with time, the proportion of mothers reporting the benefits of cellphone counseling in control hospital progressively increased, while this trend was not seen in the control hospital group.

Table 5: Satisfaction and ease of interaction with health care providers and lactation counselors in intervention and control sites

	Control N=149 (%)	Intervention N=150 (%)
Free in asking questions to health care provider / lactation counselor	99.3	100.0
Completely satisfied by contacting the health care provider / lactation counselor	98.0	100.0
All of the information obtained from the health care provider / lactation counselor helped in breastfeeding	98.6	99.3

Challenges

Regulations governing mobile companies and mobile use: It is mandatory to have proof of identification for activating cell phone connection. As most of the target population was recent migrants, without identity and address proofs, there were considerable delays in the enrollment at the intervention site. Providing special ringtones and caller tunes required polyphonic (which supports play MP3 sound clips) instruments. Such instruments were costlier with higher activation charges.

Cooperation of the hospital authorities and staff: Training of faculty members was delayed due to inadequate staff members at one of the hospitals and their resistance towards updating their knowledge on optimal IYCF practices. Even after the training, the medical superintendent was not willing to give time for breastfeeding counseling, due to the shortage of doctors and other staff members.

Participation of community women and families: Participants required permission from the head of the family, or their husbands, before giving their informed consent. Convincing family

members was also a challenge for enrolling participants. Some mothers refused to come to the same study site for follow-up during immunization visits, as they preferred to take their infants to health/Anganwadi centers nearby. Because of the need for follow-up in this project, they were not enrolled, thus increasing the time period needed to enroll women in the project.

Often phones were not answered by participants, were switched off, or were sometimes not with the participant. This led to repeated calling, which added pressure on the staff time.

Lessons Learned

Using cell phone technology is an effective medium to spread nutrition messages and in particular, clarify doubts and dissolve anxieties of recipient groups through one-on-one contact whenever the need arises. However, the program needed to respond to the technical blocks related to use of cell phones by non-literate groups not accustomed to the use of such technologies.

Recommendations

Cell phone counseling has distinct advantages over personal counseling; the latter is expensive, has poor feasibility and sustainability. Cell phones provide the mothers flexibility to call when they most needs help. Frequent reminders, promotion messages and ring tones for enhancing and adhering to desired health behavior are possible using cell phones, in addition to counseling by lactation counselors. The use of cell phones provides timely expert consultation, early detection of problems, improved adherence, reduces chances of being misguided by others, and eliminates the need for transportation to hospital which may be an impediment for receiving help. This project has thus demonstrated the feasibility of using cell phones to improve breastfeeding practices among a vulnerable population.

The robust monitoring and evaluation systems of the project also provided strong evidence of the impact that this intervention has on nutritional outcomes. Given the high penetration of cell phones in the world, even among the economically deprived sections in developing countries, the experiences and lessons learned from implementing this project can potentially be replicated – not only for improving breastfeeding practices but for other health and nutrition interventions as well. The tools and resources developed by the project, such as training modules, checklists, monitoring formats and communication materials, will prove very valuable in these replicating efforts.

PART III: Project Summaries of the SAR DM Nutrition Projects

CHAPTER 6: Project Summaries

6.1 Afghanistan

6.1.1 Care of Afghan Families

Background

Project Title: Baby friendly village – creating an enabling environment

Location: Kabul, Afghanistan

Implementing Organization: Care of Afghan Families

Project Goal: To improve the nutrition status of young children by improving practices of mothers and creating an enabling environment for optimal IYCF practices.

Target Audience: Infants and their mothers, family members, traditional healers, religious leaders and health workers selected under the study.

Primary Approach: Interpersonal counseling of mothers and family members, establishing counseling centers in health facilities, and creating community support groups at the village level.

Project Description

Community practices in the region were counter-productive to good infant feeding practices. For example, families would discard colostrum and provide butter to a newborn, and infants up to six months were given gripe water, sugar water and paper containing religious messages mixed with water.

The concept of a baby friendly village recognizes that improper IYCF practices among mothers are due to a lack of knowledge, as well as a lack of an enabling environment. Mothers-in-law, male members of the families, and health workers have important roles in household decision making and influence how mothers feed their children. Most efforts in the past have targeted the primary beneficiary group (mothers); however, equally important second-level influencers (family members) and tertiary but important influencers (community leaders), have been neglected.

To address these gaps, the project aimed to improve IYCF knowledge and practices of 100 pregnant and lactating mothers, and of 100 fathers and mothers-in-law. The project also aimed to establish eight community support groups of community health workers, traditional birth attendants, local religious leaders and traditional healers in the targeted villages, and to establish breastfeeding counseling centers in four health facilities in the target areas to provide individual counseling services.

Midwives and community health supervisors provided counseling to pregnant and lactating women (PLW). The midwives received 11 days of intensive training and community health supervisors received four days of training. Each midwife or community health supervisor conducted over 3,000 breastfeeding sessions over the course of the project. In addition, these officers trained 200 PLWs in a two-day intensive course on IYCF, which included theoretical and practical elements. The PLW's knowledge of optimal feeding practices was measured after their attendance in the course.

A total of 40 breastfeeding support groups were established in the targeted villages; each comprised of 10 members drawn from community health workers, grandmothers, grandfathers, village health committee members, traditional birth attendants, women of reproductive age, local religious leaders and traditional healers. The BFSGs were trained in IYCF and given standard nutrition-health education materials to share with the community during community gatherings and other events. The BFSGs conducted periodic education sessions and were able to visit over 20,000 households, focusing on households with pregnant or lactating women. They referred cases to health facilities for further follow up.

Religious leaders, as key influencers in the villages, were provided with information on IYCF; they in turn transferred these messages to their communities during religious sessions at Friday prayers. An awareness campaign was also conducted in the villages as part of the project and IEC materials (posters and flip charts) displaying specific breastfeeding messages were put up at health facilities.

Measurement Strategy

Data was collected via two mechanisms in the course of the project: project activity reports from project sites, and M&E conducted by Care of Afghan Families. The project activity report was filled out each quarter; it tracked key activities and included variance analysis to ascertain potential issues. Project staff then verified the reports. The Care of Afghan Families Provincial Focal Point, community health supervisors and community mobilizers conducted over 100 monitoring visits, using a specific checklist to ensure quality and consistency of data collected. In addition, Care of Afghan Families headquarters conducted six evaluation sessions and baseline and end-line surveys were conducted in three provinces.

Results

Over 3,000 women received one-on-one counseling at the breastfeeding support centers, and over 200 took part in an intensive workshop conducted in health facilities. Community support groups had a particularly strong reach, with over 20,000 people contacted, in addition to wide distribution of IEC materials on IYCF practices, and other varied activities. Additionally, there were linkages between the breastfeeding support centers and community support groups, with cross-referrals for either critical or long-term community follow-up.

The Care of Afghan Families project demonstrated impressive changes at end-line versus baseline on all indicators. Although the sample size was insufficient to determine statistical significance, nearly all indicators improved by 100 percent over baseline. For example, early initiation of breastfeeding was 86 percent at end-line, up from 42 percent at baseline, reported exclusive breastfeeding up to six months was 79 percent at end-line, up from 47 percent at baseline, and complementary feeding after six months nearly tripled from 27 percent at baseline to 60 percent at end-line.

Challenges

The project was implemented in a difficult and insecure environment; however, this did not impede the project activities.

Replicability and Sustainability

Anecdotal case study information demonstrated that lay people could be trained and effectively integrated into a comprehensive community-based program to deliver key nutrition-health messages. For example, a 44-year-old male member of a breastfeeding support group in Khoja Ghar District had two female cousins as guests at his home. Both women had children under six months, and one of them indicated that her child needed more than breast milk at four months. He took this opportunity to discuss breastfeeding and pass on the knowledge he had received. Since the message was coming from a trusted source, it was well received and the women modified their behavior. Instances like these demonstrate that it is likely that there will be sustainability for some, if not all, of the educational activities, especially as learned messages continue to be passed on.

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6.2 Bangladesh

6.2.1 HIV/AIDS and STD Alliance, Bangladesh

Background

Project Title: Comprehensive nutrition care for extremely vulnerable infants and young children.

Location: Dhaka, District Town of the Mymensingh District and Nagori union, Kaligonj Upzilla in Gazipur District, Bangladesh.

Implementing Organization: HIV/AIDS and STD Alliance, Bangladesh

Project Goal: To improve the nutritional status of malnourished infants and young children (up to 10 years) of sex workers and families of People Living with HIV (PLHAs).

Target Audience: Infants and their mothers, family members, and community members selected from three wards of Kurigram.

Primary Approach: Training of Trainers; community participation; partnership building; snowball effect to improve the IYCF practices of mothers of children under two years.

Project Description

The project aimed to improve the nutritional status of 100 malnourished infants and young children (up to 10 years) of socially excluded families (sex workers and PLHAs) who are given scant attention by both government and non-government-led initiatives. The project sought to determine the underlying causative factors of the children's malnourishment, and provide education on nutrition and treatment support to the target community. It also sought to develop a sustainable Nutrition Care model for extremely vulnerable infants and young children.

The project worked at two geographical locations: Mymensingh, a district town where an established brothel with more than 300 sex workers is situated at the heart of the town, and Nagari Union. A total of 600 children (including some children of sex workers and PLHAs) were assessed and registered from the Mymensingh brothel and Nagori Union and formed a baseline to establish incidence and magnitude of malnutrition.

The project's key activities included training of the trainers and the establishment of Community Nutrition Centers (CNC). The project trained 16 members – Project Officers, community volunteers and other relevant NGO staff – on nutrition, through a five-day training workshop. Two CNCs were established in the two cities. A supplementary feeding program was conducted at each CNC, where severely and moderately malnourished children under two years were provided with food packets. Food was prepared using the formula approved by the National

Nutrition Program and was procured from community women or other local service providers. Each CNC held nutrition education sessions and demonstrations on optimal breastfeeding and IYCF practices, balanced diet and locally available less expensive foods. In addition to these educational activities, each CNC offered monthly Growth Monitoring and Promotion (GMP) sessions, distributed Iron Folic Acid supplements to PLW and provided postpartum Vitamin A supplementation, and regularly weighed newborns. Each CNC also established referral linkages with health service providers to allow for access and service at free or decreased cost.

Community volunteers visited the target families at regular intervals. Community vigilance teams were formed in both areas, comprised of community leaders, local-level influencers and elected representatives, to provide supportive supervision and monitoring. Additionally, a series of formal and informal advocacy and social mobilization meetings were held with relevant stakeholders in both areas. In total, 64 nutrition education sessions were held with the targeted mothers and 43 nutrition group meetings were conducted.

Measurement Strategy

The project conducted baseline and end-line surveys and process monitoring was conducted throughout the project.

Results

The project provided supplementary feeding to 188 children under two years, for 12 months. The project had earlier proposed to target children under five years, but this was changed to focus resources on younger and more vulnerable children. There was a definite shift in children's malnutrition status following the project intervention. At the beginning of the project, 16 children were severely malnourished and 25 were moderately malnourished; however, by the end of the project, only two children were severely malnourished and nine were moderately malnourished.

From baseline to end-line, a shift towards increased knowledge and improved practices among targeted mothers was noticed in some key nutrition-related areas, such as knowledge that good nutrition provides energy, assists in protection from diseases and helps in child growth. The mothers were also better able to identify the consequences of Vitamin A, iron and iodine deficiencies, food sources for iron and Vitamin A, the importance of iodized salt, adequate birthweight, and hygiene care during cooking. However, a few nutrition-related areas, such as knowledge related to complementary foods after six months, and the importance of vaccination, did not meet the target of 50 percent set at the beginning of the project.

Challenges

The project had a very ambitious target of 30 percent of children improving their underweight status. Trends indicate that if the project had a longer timeframe this target would have been met.

Initially, the project had planned to focus only on the children of sex workers and PLHAs, but to mainstream these children, and to avoid stigmatization, the project subsequently included other children in the vicinity of the mentioned target groups.

Replicability and Sustainability

The project has yet to attract funding for scale-up, nor have its key activities been replicated; however, HIV/AIDS and STD Alliance Bangladesh continues to advocate with Bangladesh's national Nutrition Programme to include the project's key activities in its work in the future; the organization is also talking to other donors working in the area of HIV to scale-up the project's key components.

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6.2.2 International Center for Diarrheal Diseases Research, Bangladesh

Background

Project Title: Promoting better infant and child feeding practice in the slums through performance based payment

Location: Slums in Mohakhali, Dhaka, Bangladesh

Implementing Organization: International Center for Diarrheal Diseases Research, Bangladesh

Project Goal: To improve the rates of appropriate BF and CF for infants and children under two years living in Dhaka slums.

Target Audience: Mothers and family members of children (under two years) from selected slums of Mohakhali.

Primary Approach: Performance-based incentive scheme for traditional birth attendants.

Project Description

Children living in urban slums show much more profound growth deficiencies than children living in non-slum areas. According to the Bangladesh Urban Health Survey (2006), wasting among infants under six months living in slums was 31 percent compared to 5 percent in non-slum areas. Traditional birth attendants play a key role in health delivery in slum areas and are ideally placed to deliver and reinforce key nutrition messages to mothers of young children.

Previous programs used traditional birth attendants for delivery of services and messages; however, attrition was high because their salaries were not competitive in the market. Use of performance-based incentives could mitigate this issue. International Centre for Diarrheal Diseases Research, Bangladesh had earlier used this type of incentive scheme successfully in a safe motherhood program.

The objectives of the project were to increase the rates of breastfeeding initiation within one hour of birth, to increase the rates of exclusive breastfeeding, to improve the quality and quantity of complementary foods introduced to infants aged six months and older, and to create a market for nutrition education within the community and the health system.

Traditional birth attendants received training on IYCF so that they could provide specific messages to mothers, and detect and refer cases of severe and moderate undernutrition. They maintained a register of mothers with whom they interacted, for which they later received remuneration for each ideal practice the mothers verifiably demonstrated to International Centre for Diarrheal Diseases Research, Bangladesh staff. The traditional birth attendant network supported the nutrition volunteers as they worked to spread nutrition messages.

Community networks – outside the program – were used to monitor the nutrition volunteers. They built relationships with the mothers, and attempted to address their grievances in relation to the nutrition volunteers. In addition, the vouchers submitted by the nutrition volunteers were verified by talking to the beneficiaries. Monitoring data was fed back to these groups in order to augment the support provided by community members to traditional birth attendants/nutrition volunteers.

Traditional birth attendants were in touch with a nutritionist and a public health doctor through cell phones for any emergencies and for problem solving. A nutrition fair was organized mid-term that helped disseminate information to traditional birth attendants/nutrition volunteers, other community based organizations working in the field, and the community at large.

Measurement Strategy

Baseline and end-line surveys were conducted in two slum areas (Shattala and Begunbari), with the latter being used as a comparison/control area. Once every three months a sample-based survey, based on Lot Quality Assurance (LQA) methodology, was conducted among randomly selected program participants to assess the coverage of key feeding indicators. Community volunteers living in program areas conducted these surveys using a mobile phone with a pre-downloaded questionnaire. Later, project supervisors verified the quality of the data. Qualitative information was collected through in-depth interviews and focus group discussions with key informants. A total of 23 in-depth interviews and five focus group discussions were conducted with mothers from the program area and control area.

Results

Overall, the program achieved its goals. Initiation of breastfeeding within one hour of birth increased by 14 percent over baseline, as compared to the target of 20 percent increase, and giving prelacteal feeds was reduced by 33.4 percent. There were also increases in exclusive breastfeeding rates at two, four and six months; the increase ranged from 21 percent to 38 percent over baseline. Rates at two months were higher than at six months, indicating that exclusive breastfeeding is higher when the infant is younger.

Challenges

Obtaining consent from traditional birth attendants was a lengthier process than initially planned. Additionally, when community mobilization and recruitment was initiated, it was discovered that the number of eligible children was quite low. This necessitated a mapping exercise, which led to an increase in the project area and the recruitment of one additional staff.

Consultations with the community revealed that the project did not generate as much interest as had been hoped due to suspicion about performance-based payment to traditional birth

attendants. As a result, the project team realized that community mobilization was needed in the program and the planned incentive structure had to be changed.

Replicability and Sustainability

International Centre for Diarrheal Diseases Research, Bangladesh has begun to develop funding proposals for this project and several funding organizations have approached them to learn more about the project. However, no funding has yet been secured to take the project forward.

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6.2.3 Concern Worldwide, Bangladesh

Background

Project Title: Community-local government partnership to combat child malnutrition

Location: Kurigram Municipality, Bangladesh

Implementing Organization: Concern Worldwide, Bangladesh

Project Goal: To improve Infant and Young Child Feeding (IYCF) practices among mothers of children under two years.

Target Audience: Children under two years and their mothers, family members, and community members selected from three wards of Kurigram.

Primary Approach: Training of Trainers, community participation, partnerships between municipal and other key stakeholders.

Project Description

Kurigram is one of the most food-insecure districts in Bangladesh, with annual seasonal hunger related to scarce livelihood opportunities. Some residents have been pushed into extreme poverty after losing all their assets due to severe river erosion. Weak or non-functional health systems exacerbate the problem.

In order to improve IYCF practices of the mothers of children under two in three wards of Kurigarm the project strengthened the institutional capacity of the local municipality, fostering partnerships between community stakeholders and health departments, NGOs, the private sector, and other government departments. The project also promoted practical solutions at the ward level, facilitating local women's leadership and ensuring accountability for demand-driven services for the poor. Communities developed the project activity plan jointly with the municipal mayor, counselors, health and project staff.

The project undertook a variety of awareness and motivational activities to increase mothers' interest in making improved choices for the health and nutrition of their children, such as the formation of mother's clubs, kitchen gardening, cooking demonstrations, and clay pot banks (savings for mothers to buy food for children). Three Ward Health Committees (WHCs) were formed, comprised of religious leaders, social leaders, community organizations, rural medical practitioners and others. After receiving training on IYCF, WHCs in turn trained selected Community Health Volunteers (CHVs), largely students and housewives ,to disseminate IYCF messages to mothers.

The WHCs analyzed information collected by the CHVs and used it to modify ward-based action plans to ensure buy-in and support. In turn, this information was further shared with municipal authorities and other relevant planning forums. WHCs raised funds from their community members and established a WHC fund to support activities for mothers and children. It was also used for voucher schemes or seed exchanges.

CHVs supported between 50 and 60 households to develop an action plan to track progress on indicators developed by the community. CHVs also developed household profiles and maintained them through regular visits. The project also organized a campaign to encourage mobilization of fathers to save a "pot of money" – actual clay pots with money saved for the mothers to spend on nutritious food for their children. The project covered 288 children.

Measurement Strategy

The project developed a detailed M&E plan, including a plan to disseminate M&E data to program managers and other stakeholders. Both baseline and end-line surveys used LQA designs. The organization's senior M&E specialist oversaw an M&E specialist for urban programs and field-based project officers. Reporting formats for CHVs, WHCs and municipal health departments were developed for information collection, compilation, review and decision making. The project also conducted monthly, quarterly and annual progress reviews.

Results

The project successfully established a sustainable partnership model between the urban municipality, NGOs, the community, and local service providers. Changes observed in IYCF practices at the household level included a marginal increase in the rate of exclusive breastfeeding for the first six months (from 70 percent at baseline to 75 percent at end-line), and a marked increase in complementary feeding of children aged 6 to 23 months (from 19 percent at baseline to 73 percent at end-line). By the end of the project, 70 percent of mothers had an increased control over their children's nutrition, and over choices of health and nutritional services, through the use of money saved in the clay pot.

At end-line, the proportion of underweight children was reduced only marginally from 25 to 23 percent. However, all six of the severely malnourished children who were followed during the course of the project showed improvement in their nutritional status, with none remaining in the severely malnourished category.

Challenges

Some of the qualitative information collected at the end of the project related to self-reported intentions. For example, the fathers' groups expressed interest in saving money to buy nutritious food for their families. It is difficult to know if these types of statements would translate into action. Actual growth monitoring only took place for six children. While Concern Worldwide

was not extrapolating the results from these six children to their final sample, this small sample is indicative of success when children are closely followed.

Replicability and Sustainability

The project established community schemes like poultry rearing and kitchen gardening, which have continued after the program. The project also expanded the reach of health and nutrition services in municipal areas through partner NGOs, such as the Smiling Sun Franchise Program, Terre des Hommes International Federation and Mary Stopes Clinic Society. Kurigram Municipality has entered into a partnership with Terre des Hommes International Federation to scale-up child nutrition interventions to all wards of the municipality. The results of this scale-up will hopefully motivate other local self-government bodies to take up this important initiative.

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6.2.4 Training and Assistance for Health and Nutrition

Background

Project Title: Peer counseling as a communication strategy to improve complementary feeding practices in rural and urban Bangladesh

Location: Badda, an urban slum of Dhaka, and Anowara rural communities of Chittagong district, Bangladesh.

Implementing Organization: Training and Assistance for Health and Nutrition.

Project Goal: To improve the nutritional status of children under two years by promoting early and exclusive breastfeeding and appropriate complementary feeding.

Target Audience: Pregnant and lactating mothers with children under two years.

Primary Approach: Counseling of mothers through peer counselors, adolescent girls groups, and men's advocacy groups.

Project Description

Bangladesh has the second highest rates of child malnutrition in South Asia (41 percent). The prevalence of underweight children is also a serious issue, with 33 percent of children in urban areas underweight and 43 percent of children underweight in rural Chittagong. Health workers do not support appropriate IYCF practices, because cultural norms generally support mixed breastfeeding and bottle-feeding.

Peer counselors were selected from the community and trained to conduct home visits with pregnant women from the third trimester until the infants were one year old. Peer counselors identified and registered households with pregnant women for follow-up. The project enrolled 1,180 mothers (746 in rural Anowara and 434 in an urban slum of Dhaka), of which 81 percent (a total of 952 women, 592 in Anowara and 362 in Badda) remained enrolled until the end of the project.

The project developed a communication strategy to increase awareness regarding nutrition among women, children and adolescents, and to improve early initiation of breastfeeding, exclusive breastfeeding and appropriate complementary feeding practices. Peer counselors also demonstrated the preparation and responsive feeding of micronutrient-rich foods, and encouraged good hygiene practices and appropriate health-seeking behaviors.

In addition to peer counselors, adolescent girls were trained to lead peer groups of between 8 and 10 members. In each group, one girl was given a computer as an incentive to support ongoing

meetings. Further, men's advocacy groups were formed to empower fathers, by providing them with information about the project and to increase their support and buy-in by building their knowledge about nutrition issues.

Measurement Strategy

Peer counselors collected monthly data during household visits, and adolescent girls collected data during group meetings. Project staff reviewed the separate registers and also provided supportive supervision throughout the course of the project. Comparisons were made at midterm and at end-line among project areas, and also between project and non-project areas.

Results

The project achieved some marked results. In the intervention area, initiation of breastfeeding within one hour of birth was 79 percent, compared to 42 percent in the control area. Adequate complementary feeding was seen in 56 percent of cases in the project area, compared to only 10 percent in the control area. Similarly, appropriate frequency of feedings differed at 68 percent in the project area, compared to 27 percent. Appropriate amounts of food and the use of four food groups in meals were also significantly better in the project group.

Challenges

The high rates of staff turnover in the urban areas caused program delays. There was also a tendency among the peer counselors to work for other NGOs who were implementing similar activities in the community, and therefore receive remuneration from several organizations.

Replicability and Sustainability

Training and Assistance for Health and Nutrition Foundation has been successful in embedding this intervention in a broader nutrition program, such as the Alive and Thrive project. Similarly, International Centre for Diarrheal Diseases Research, Bangladesh, with USAID funding, will implement a scaled-up version of the SAR DM project in the Mirpur slums of Dhaka. The experiences and tools of the SAR DM project (training modules, monitoring tools and checklists) will be used by the above-mentioned projects. The Foundation is also planning to publish its findings in scientific journals for wider dissemination and to advocate the peer counselor strategy among policy makers in Bangladesh and in the South Asia region.

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6.3 India

6.3.1 Deepak Foundation

Background

Project Title: Community involvement in promoting neonatal and infant nutrition practices in tribal and rural areas

Location: Vadodara, Gujarat, India

Implementing Organization: Deepak Foundation

Project Goal: To improve neonatal and infant nutrition practices.

Target Audience: Pregnant and lactating women, newborns, and children under years from the community, and health functionaries under the government's National Rural Health Mission program and national Integrated Child Development Services program.

Primary Approach: Identification and referral of low birthweight babies through a culturally acceptable tool (the horoscope), convergence of inter-departmental governmental services, and community participation.

Project Description

The SAR DM-funded component of this nutrition project was part of a larger Safe Motherhood and Child Survival program implemented by Deepak Foundation in all the villages of Vadodara district. In a subset of about 300 villages, a more intensive program was implemented, using horoscopes in a creative and innovative way. The horoscope is a culturally prized possession of most Indian families – they were adapted to include not just the date, time and other astrological information surrounding a child's birth, but also to add nutrition-relevant information, such as birthweight and time of initiation of breastfeeding after birth.

The project was linked to the government's initiative of Nutrition-Health Days as well as Deepak Foundation's Anemia Control Program, where grassroots functionaries – ASHAs, AWWs and ANMs – offer nutrition-health services and conduct BCC campaigns on key health and nutrition issues. In addition to their ongoing activities, the ASHAs also collected information for the newborns' horoscopes, including the time of birth, birthweight, and time of initiating breastfeeding.

Deepak Foundation installed software to generate the horoscope and develop MIS for data entry in each block. Staff and government functionaries in selected blocks were trained on this software. Sensitization meetings and workshops for local practitioners and government health functionaries were conducted to train them on correct documentation of birthweight in cases of

institutional deliveries. Horoscope distribution took place during 'birth celebration events' organized during the Nutrition-Health Days, and nutrition messages were integrated so that they reached the beneficiary families on these Nutrition-Health Days and during home visits. Babies with low birthweight were referred for further care.

At the birth celebrations on Health-Nutrition Days, VHSCs distributed horoscopes to eligible newborns, and AWWs and ANMs raised awareness about the correct recording of birthweight and provided counseling on correct breastfeeding and complementary feeding practices. AWWs also recorded health-nutrition indicators of children under three years and ANMs conducted clinics to offer health checkups and referrals of high-risk infants. The events also provided opportunities to distribute fortified complementary food premix and iron-Vitamin A supplements, and demonstrate recipes for iron-rich diets and complementary foods. The Water and Sanitation Management Organization also shared the results of their water testing work.

Measurement Strategy

A project had a strong monitoring system that tracked each pregnancy and birth that took place in the project area, and also monitored essentials of antenatal, postnatal and newborn care. A well-trained MIS officer and their supervisors ensured effective data entry and management at the block level, and checked the quality of data submitted by the ASHAs. Deepak Foundation conducted random quality checks of computer entered and analyzed data. Data compiled from all blocks was used for feedback at monthly meetings and to plan for corrective action.

Results

The project achieved most of its objectives. Horoscopes were distributed for 58 percent of all births taking place during the project period (4,000 horoscopes). As a result, registration of births and tracking/referrals of low birthweight babies improved. Several newborn feeding practices improved, such as initiation of breastfeeding within one hour of birth, and utilization of government services by families. However, the overall prevalence of children in the normal weight category did not improve; perhaps due to the short duration of the project and factors like infections. However, many children would have moved to higher grades of nutritional status.

There was remarkable improvement in the convergence of services and joint functioning of relevant government departments such as the Department of Health and Integrated Child Development Services, in particular the attendance of government officers at the Nutrition-Health Days. Interest was generated in maternal-child nutrition-health issues among local community leaders, such as members of the VHSCs, many of whom also gave time and monetary support for the programs.

Challenges

Many women were not adequately aware of the valuable information related to child nutrition and health contained in the horoscope, indicating a need for more intensive nutrition education efforts. The ASHAs could not attend 100 percent of targeted deliveries, due to factors such as the migration of beneficiaries, night-time deliveries, the cultural practice of pregnant women moving to natal homes for delivery.

It was a challenge to mobilize government functionaries; in almost 50 percent of targeted campaigns, where many government functionaries were not present, Deepak Foundation staff conducted the educational sessions and other activities themselves. In addition, government supplies of food and/or micronutrients were often erratic, leading to poor distribution to beneficiaries even when demand had been generated.

Replicability and Sustainability

The innovation of integrating an existing culturally acceptable product (like the horoscope) in a government program is replicable and helps sustain interest of the community in the program.

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6.3.2 Dr. Reddy's Foundation

Background

Project Title: Improving nutritional health of mobile, migrant children living on construction sites in Hyderabad

Location: Hyderabad, Andhra Pradesh, India

Implementing Organization: Dr. Reddy's Foundation

Project Goals: To reduce malnutrition in mobile, migrant children living on construction sites.

Target Audience: Migrant children, their mothers and family members at construction sites in urban Hyderabad.

Primary Approach: Advocacy through education related to feeding practices to mothers, and food supplementation to children (Poshana) at ECCE centers.

Program Description

As India undergoes decades of rapid growth, a concomitant building boom is also underway. Construction sites are staffed by migrant workers, who bring their families to live on the job site with them. Migrant laborers work long hours for little pay, with a virtual absence of access to education, health, sanitation and nutritional services. Frequently, both parents are working, leaving the children in the care of other children, most often female siblings.

The project's main objective was to improve nutrition and health of children from these marginalized households. It did so by establishing ten ECCE centers at construction sites, and fostering innovative public-private partnerships between construction companies, government and NGOs working on ECCE issues for marginalized populations.

The ECCE centers were staffed with ECCE teachers and assistants. Food security was established for the children through the provision of two nutritious meals and snacks each day, including a locally produced cereal/pulse/oil seed-based food supplement called Poshana for children under three years. A visiting pediatrician conducted regular counseling for mothers and caregivers on health and hygiene. At twice-weekly community meetings, the pediatrician promoted good IYCF practices and spoke to parents about the preparation of affordable, nutritious food from local markets. ECCEs also carried out deworming and growth monitoring of children. Regular meetings with parents were held, where matters related to growth and development of the child were discussed.

A health coordinator was appointed early in the project to establish links with primary health care centers and to ensure immunization coverage. In addition advocacy was directed at

construction site owners to encourage builders to be aware of conditions on their sites, their obligations to follow government laws, and the overall benefits of providing an improved living environment for their workers.

Measurement Strategy

The project aimed to improve weight and height gains of 100 percent of the children at the end of a 12-month period, and set a target that 80 percent of mothers who participated in community meetings would introduce complementary feeding to breastfed infants at six months, and report improvement in their family meal pattern. Additionally, all mothers were expected to be aware of health issues like how to manage diarrhea and other nutrition-related illnesses following the intervention. To evaluate impact, baseline and end-line, surveys were conducted for all participating children. Additionally, qualitative interviews were conducted with the mothers to understand and detail their knowledge, attitudes and behavior changes.

Results

The prevalence of underweight children amongst the target group declined from a baseline of 70 percent to an end-line of 50 percent. However, the prevalence of severely underweight children did not decline significantly since the ECCE centers were not equipped to address severe acute malnutrition. The project was very successful in its advocacy efforts with builders and construction companies were willing to continue running the ECCE centers even after the conclusion of program support.

Challenges

Dr. Reddy's Foundation, while they have excellent capacity in the area of education, overlooked some elements in the initial project design and implementation regarding nutrition, particularly IYCF practices. The Foundation mitigated this by providing detailed IYCF training to teachers and their assistants, providing continual supportive supervision, and bringing in medical experts to deal with health matters. This allowed them to increase the breadth and scope of the nutrition and health activities during the course of the implementation.

Replicability and Sustainability

The ECCE model provides a reasonable model of the type of high-quality and low-cost facilities that builders can replicate on their other sites. Dr. Reddy's Foundation organized a national workshop on "Improving Nutritional Health of Under Five Children of Mobile, Migrant Communities", in collaboration with the National Institute of Nutrition, in November 2011 in Hyderabad to share lessons learnt with other groups who may want to work with similar migrant or marginalized communities.

The construction companies have invited Dr. Reddy's Foundation to assist them to set up ECCEs at new construction sites, at their own cost. The Foundation was also able to leverage the support

of urban health centers to issue immunization cards and organize monthly health checkups for all children. Research scholars at Hyderabad Central University have also requested the Foundation assistance in establishing an ECCE center on their campus where construction work is ongoing.

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6.3.3 Aga Khan Health Services

Background

Project Title: Social capital: a catapult for improving infant feeding

Location: Keshod, Junagarh district, Gujarat, India

Implementing Organization: Aga Khan Health Services

Project Goal: To improve knowledge, attitudes and practices related to infant feeding.

Target Audience: The primary audience was pregnant and lactating women; the secondary audience was grandmothers and adolescent girls from selected villages of Junagarh district, Gujarat.

Primary Approach: Providing correct knowledge about IYCF to mother, grandmothers and adolescent girls, and creating social structures (groups) to advocate, promote and sustain optimal breastfeeding practices in the community.

Project Description

Exclusive breastfeeding continues to be low in the state of Gujarat, though breastfeeding itself is well accepted. Additionally, breastfeeding in the first hour of delivery and complementary feeding are also low (less than 30 percent). The project area was comprised of seven villages in Malia block of Junagarh district in Gujarat. These villages fared poorly on end-line surveys of an earlier health project called *Chaaya.*

The project's objectives were to improve the knowledge, attitude and behaviors of mothers and grandmothers, to ensure breastfeeding within one hour of birth in at least 80 percent of the infants, to provide information to future mothers (adolescent girls), and to create a forum of the three generations of women to share correct knowledge, their views and experiences.

The project built on the social capital existing in these networks of women, and established communication channels for sharing norms and reinforcing existing or new behaviors. This social capital was particularly relevant to the issue of breastfeeding, since it is influenced by traditional beliefs and cultural norms as much as medical recommendations. The project was staffed by CHPs, mostly ASHAs or AWWs, who were socially active women recruited from the community; sector coordinators supervised the CHPs. CHPs trained three groups (one group each of mothers, grandmothers and adolescents) in each of the seven project villages. In total, 125 infants were followed-up with twice a month through the course of the project.

The main target group was PLW. Since grandmothers exert considerable influence in the care of newborns and children, they formed the secondary audience. The mother and grandmother groups met together every month and also separately. Topics specifically covered were myths associated with breastfeeding, appropriate feeding practices and techniques, common breastfeeding problems and their solutions, complementary feeding and general nutrition for households. Folk media was used to highlight and demonstrate optimal feeding practices in all intervention villages.

Adolescent girls were also included as a secondary target group to sensitize future mothers as well as reinforce practices among young mothers in their communities. Two-day training sessions were conducted with the adolescent girls on promoting good IYCF practices, and related topics such as communication skills. These girls worked in pairs and adopted 5 to 10 infants to monitor their feeding practices, growth and health components such as immunization. They kept a Baby Diary to record all the information.

Measurement Strategy

The Aga Khan Health Services team conducted a baseline evaluation and set targets for all input, output and outcome indicators. CHPs conducted a baseline mapping survey to identify beneficiaries and provide a database of each household in the project area. Any household that included a PLW was revisited, and a structured interview was conducted to assess their knowledge, attitude and behaviors. As the total number of potential beneficiaries was small, the full set/sample was included in the study. In addition, interviews were also conducted with the adolescent girls to assess their knowledge, attitude and behaviors. In total, 1,427 grandmothers and mothers of infants participated in the survey with an additional 240 mothers taking part in one-on-one interviews. A control group was also defined comprising six villages with similar characteristics.

The CHPs filled a monthly monitoring document that tracked their activities, such as their participation in the Village Health Committee meetings, number of household visits, ongoing practices and other related tasks. Project staff analyzed the data and provided feedback to them. These reports were consolidated to generate monthly reports at the project area as a whole.

Results

The community readily accepted the CHPs and adolescent girls, and there appeared to be a positive correlation between the number of contacts with these CHPs/adolescent girls and good feeding practices. A total of 33 adolescent groups, 27 mothers groups and 33 grandmothers groups were established. At the end of the project, more mothers from both control and intervention areas initiated breastfeeding in the first hour (a change from 48 percent at baseline to 74 percent at end-line), which indicated that there might be other factors influencing behaviors apart from the advocacy efforts of the project.

Exclusive breastfeeding did not increase very much in the intervention group (only increasing from 63 percent at baseline to 66 percent at end-line), and there was a delay in introduction of semi-solid foods (on average, it was introduced in the fifth month). However, in the control group 36 percent of mothers introduced top milk within one month on grandmothers' advice, in the belief that the child needs more milk and that breast milk was inadequate.

A very small percentage of mothers were giving newborns prelacteal feeds of honey, water or jaggery at end-line; the percentage of mothers doing this declined substantially over the course of the project. Awareness about appropriate feeding practices improved over the course of the project and, with the exception of breastfeeding within the first hour, program areas performed substantially better than did the control areas.

Challenges

The relatively short time frame of the project allowed Aga Khan Health Services to demonstrate only modest improvements in feeding behaviors. There needs to be sustained and widespread advocacy efforts put in place, since feeding practices are not a focus in any of the extensive monitoring or evaluation activities implemented by the government.

While on one hand involving the CHPs/adolescent girls in surveys and data collection (such as interviews) led to a wider acceptance among the community and larger sample size, on the other hand, it also gave rise to issues related to quality of information gathered, and difficulties in maintaining the quality of trainings.

Replicability and Sustainability

Aga Khan Health Services found that a substantial level of supervision and assistance by the program staff was required for effective functioning of the local field staff. Therefore, unless there is adequate funding support for supervisory level of program implementers, the quality of implementation by local grassroots workers will be difficult to guarantee.

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6.3.4 Child in Need Institute

Background

Project Title: Universalizing supplementary nutrition for under-two children: a social business model of Nutrimix production

Location: South 24 Parganas District, West Bengal, India

Implementing Organization: Child in Need Institute

Project Goal: To improve the nutritional status of children under two years.

Target Audience: Children under two years, residing in approximately 100 villages in Bishnupur, Amtala and Falta blocks of South 24 Parganas district of West Bengal.

Primary Approach: Provision of a supplementary food called Nutrimix.

Project Description

Improving access to affordable ready-to-use supplementary foods for toddlers and preschool children can help mitigate undernutrition and improve growth in this vulnerable group. When the strategy includes women from impoverished communities to produce such food mixes, there is additional benefit to the women engaged in such income generating activities.

The project's objectives were to provide sustainable local solutions to improve early childhood nutrition through Nutrimix, to improve individual and household-level child feeding and caring practices, and to develop a replicable social business model for rural women to produce Nutrimix.

The project held community sensitization meetings with gatekeepers, especially members of local self-governments, elders and other influential individuals. Women leaders from the community were identified and trained for project activities, including forming community working groups, disseminating information regarding improved childcare and feeding practices, producing and distributing Nutrimix, collecting Nutrimix sales and consumption data, and other details of the project. Women also conducted the baseline survey including assessments of the height and weight of children.

Nutrimix is a low-cost supplementary food made from locally available ingredients that has been successfully tested for its efficacy in improving the nutritional status of children attending the Nutritional Rehabilitation Centre and Child in Need Institute clinic. It is a ready-to-cook preparation, has a long shelf life and can be taken in solid or semi-solid forms, and in sweet or

salty variants, depending on the child's preferences. It is packaged in single-serve sachets of 20g each and sold for INR 2 per sachet or INR 5 for three sachets.

Child in Need Institute set up production plants locally and empowered village women to produce package and distribute Nutrimix. Child in Need Institute also developed distribution channels for Nutrimix: it was distributed to 61 Community Nutrition Sales Points (CNSP) through Child in Need Institute supervisors and then to the community through the CNSP personnel. The CNSPs received a one-day orientation on the product and issues related to IYCF.

Community awareness meetings and demonstration camps on child feeding and caring practices were held regularly with women's groups. Recipes and cooking methods using Nutrimix were demonstrated to mothers of children under two at these camps.

Measurement Strategy

A baseline survey was conducted in three blocks over two months. A total of 1,073 families were interviewed in 12 Panchayats (local self-governments). The nutritional status of children was obtained from AWW records and data on breastfeeding. Information about IYCF practices, current illnesses, knowledge about Nutrimix, and services provided by Integrated Child Development Services was collected through interviews. As part of her fieldwork, a social work student also carried out an awareness and opinion survey on Nutrimix. While conducting the survey, the student discussed feeding practices and disseminated useful information to surveyed families to improve IYCF practices.

Results

Child in Need Institute was able to produce, distribute and sell Nutrimix successfully by mobilizing village women at the production plant, as distributors and as sellers of the powder at community outlets. During the duration of the project, new flavors of Nutrimix were introduced, as monitoring feedback indicated that the monotony of taste was an issue for some children. Child in Need Institute was able to convince at least one Panchayat to purchase and distribute Nutrimix at no cost for malnourished children, by demonstrating its sustainability.

Challenges

Challenges related to production of Nutrimix, its shelf life quality, and the inadequate tracking of sales and other activities by the CNSPs, were addressed during the course of the project. The production plant was established and was fully functional; however, the roasting machine was inoperable for some time, which affected production capacity, and manual roasting had to be instituted. The product also had some quality issues related to moisture content, which required additional machinery for processing, causing further delay.

CNSP sales to the consumer were to be recorded in the CNSP sales register on a daily basis; however, there were no checks on regular maintenance of the register by CNSPs. Data generated

from the CNSPs was not collated or analyzed and therefore could not be effectively used. There were no records of the promotional activities conducted by supervisors or CNSPs. The number of mothers reached through such activities was also not tracked systematically. The incentive structure caused some problems as the CNSPs received a 30 percent incentive and supervisors received no incentive for sales.

The project's objectives of reducing the prevalence of mild/moderate malnutrition and improving child feeding practices were highly ambitious, given the short project duration of 18 months and a slower than expected rate of implementation.

Replicability and Sustainability

Child in Need Institute has generated demand for Nutrimix from other NGOs that have a nutrition component in their projects. Institutional sales account for nearly 50 percent of Nutrimix production. Child in Need Institute has also recently applied to the state government's Department of Health and Family Welfare to supply Nutrimix to Anganwadi centers across the state. Child in Need Institute is working on improving the taste and flavor of Nutrimix and has also developed new products such as Nutribisk with a local baker and a sweet called Nutriball. They are seeking funding to increase their production and build larger supply networks

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6.3.5 The Society for Elimination of Rural Poverty

Background

Project Title: Behavior change campaign to improve nutrition during pregnancy and infant feeding practices in tribal communities of Andhra Pradesh through community-driven nutrition daycare centers

Location: Visakhapatnam District, Andhra Pradesh, India

Implementing Organization: The Society for Elimination of Rural Poverty

Project Goal: To improve nutrition as well as nutrition-seeking behaviors among pregnant and lactating women and children under three years.

Target Audience: Pregnant and lactating women and children attending the community-based Nutrition Day Care Centres (NDCC).

Primary Approach: Provision of meals/snacks and BCC inputs to pregnant and lactating women and their children, provided through NDCCs and linked with ongoing government-sponsored programs.

Project Description

The Society for Elimination of Rural Poverty implemented the concept of a one-stop shop for five community-managed NDCCs in Visakhapatnam district in the state of Andhra Pradesh. The NDCCs offered pregnant and lactating mothers, and their children, nutritious and balanced meals and snacks. At the same time, the beneficiaries received BCC messages related to nutrition from Community Resource Persons (CRPs). The CRPs at each NDCC were resource persons trained in nutrition and household gardens; cooks were also trained at the NDCCs.

The project linked essential nutrition elements to existing government-sponsored programs, such as the Integrated Child Development Services program, where children receive preschool education coupled with supplementary feeding and health and referral services. The beneficiaries of the NDCCs received health checks, vaccinations and growth monitoring, antenatal care and access to health risk funds (through a credit scheme). Ensuring that a CRP supervised the food supplementation program helped to maintain quality, and the direct nutrition intervention coupled with BCC interventions helped to meet both short-term and long-term goals.

Measurement Strategy

The project team assessed outcome indicators such as weight gain during pregnancy, anemia rates, body mass index, birthweight and growth monitoring of the newborn. NDCC villages were compared with non-NDCC villages, and beneficiaries of NDCCs were compared with non-

beneficiaries within NDCC areas. The SAR DM project was linked to a larger Society for Elimination of Rural Poverty program, with the additional input in the SAR DM project of a comprehensive monitoring system.

Vital data for each beneficiary was procured from the basic registers and entered into a software package that tracked, among other things, the BCC training output indicators and details involving health risk funds. District-level reports were collated from manually recorded data and uploaded online for state-level analysis and discussions. Mobile phones were also used for data collection and the messaging function provided useful data reminders. This was particularly helpful where literacy was a problem.

Results

The project's integrated approach demonstrated considerable impact on nutrition parameters. All the pregnant women registered in the five NDCCs gained more than 10kg during the course of their pregnancies. In addition, the birthweight of all newborn beneficiaries was over 2.5 kg, with 50 percent of babies having a birthweight of more than 3 kg. Compared to the goal for child beneficiaries – that less than 20 percent would have prevalence of wasting, stunting or underweight – it was satisfying to note that by the end of the project less than 10 percent of the registered children exhibited poor growth indicators.

Challenges

The development of the software for use in laptops and mobiles and its field-testing was a lengthier process than originally thought. This caused some delays in the original timelines. In addition, the training of village-level data entry operators, who were often illiterate, was a challenge and caused delays in implementing the electronic monitoring system.

Replicability and Sustainability

The availability of the software package and the provision of laptops to 5,000 villages (including those beyond the SAR DM funded project) for data maintenance, coupled with the availability of systematic data in the base registers, offer a unique opportunity to study the impact of future interventions. The sustainability of the NDCCs will depend on factors such as numbers of women enrolled, repayment of the health risk revolving fund, and improved nutrition status.

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6.3.6 Institute of Home Economics, University of Delhi

Background

Project Title: Reducing maternal stressors and improving nutrition practices during pregnancy to enhance birthweight and infant survival: designing an innovative intervention package

Location: New Delhi, India

Implementing Partners: Nutrition and Human Development Departments, Institute of Home Economics, University of Delhi

Project Goal: To enhance the nutrition and health status of pregnant women, and infant birthweight and survival.

Target Audience: Pregnant women from the selected site (a local slum area) in New Delhi.

Primary Approach: Implementing a set of multiple interventions to reduce stress, develop a positive state of mind and improve self-esteem of women during pregnancy.

Project Description

Maternal psychosocial stressors may have an adverse impact on fetal growth that could result in low birthweights. The proposed innovation, HAPPI (Healthy and Positive Pregnancy Initiative), was designed to reduce stress during pregnancy. Specific objectives of the project were to assess the sociocultural, health and nutrition profiles of pregnant women, maternal personal resources, and prenatal stressors, to develop and implement a multiple intervention package of activities to reduce stress and promote well-being, and to assess the effectiveness of the program in terms of pregnancy outcomes and socio-demographic parameters.

This project was run in one selected slum area. Camps were organized three times at different sites where services were delivered to pregnant women. The intervention package was comprised of multiple activities and approaches, such as theater, role-plays, developing jingles, yoga, meditation, and traditional Indian wisdom, all designed to build up a sense of well-being and optimism in the pregnant women. HAPPI also developed IEC materials on nutrition, health and psychosocial well-being during pregnancy.

There were two groups involved in the project: an intervention group, which consisted of pregnant women who attended the camps and received the full package of interventions, including stress reduction activities, and a control group which included pregnant women from the same area who received only antenatal care services (no stress reduction activities).

Nutrition and health education sessions were conducted using flash cards that carried messages about the importance of antenatal checkups and immunization, and the benefits of a balanced

diet rich in fruits and vegetables. Interpersonal counseling was provided for those subjects deemed extremely stressed at the start of the study.

Additional activities included role-plays that focused on household workload during pregnancy, gender discrimination related to preferences for male children and health issues for pregnant women from poorer households. HAPPI camps were organized three times at all four selected locations to cover all three trimesters of pregnancy. Yoga sessions were held weekly to increase compliance for the HAPPI camps.

Measurement Strategy

A rigorous monitoring plan was designed to track the frequency of exposure to the intervention over the course of the project. In the study group, pre-evaluations were conducted with 70 pregnant women and post-evaluations with 40 pregnant women. In the control group, pre-evaluations were conducted with 64 pregnant women and post-evaluations were conducted with 44 pregnant women. These evaluations included assessments of the women's health and nutritional profile, 24-hour food intake and prenatal stressors.

Results

Baseline findings were that most pregnant women (75 percent) were non-vegetarian, but they did not consume animal products frequently and their food intake was below recommended levels. Most women had also not registered for antenatal checkups. Over 80 percent reported moderate to severe depression and 67 percent of the control group and 77 percent from the study group reported moderate to severe stress levels. Stress was related to either financial or personal/family problems. Women tried to cope up with stress by watching television, sleeping or crying alone.

End-line data indicated that significantly more pregnant women from the study group received antenatal checkups. Study group women also had an improved diet, with increased consumption of fruits and vegetables at end-line compared to the control group. Observations and informal feedback showed that within the intervention group pregnancies were detected earlier and the number of home deliveries increased. While there were no significant changes in levels of self-esteem pre- and post-intervention, there was a shift in depression levels that became less pronounced in the women participating in the HAPPI program. Significantly fewer women from the study group reported high stress levels at end-line, as compared to baseline, although both groups did show a decline over the pregnancy period. Program leaders felt that women's self-confidence had increased over time, and they were taking a greater interest in self-care, evidenced by their interest and attendance at yoga classes.

Qualitative analysis showed that the HAPPI camps had a positive impact. A positive correlation was found between higher birthweights and the number of camps attended (either HAPPI or yoga). Government officers reported that registrations for antenatal care increased, the number of home deliveries decreased, women came for pregnancy detection at an earlier stage, and more

women reported increased self-confidence and awareness of health and nutrition issues. However, pregnancy outcomes, such as birthweight and miscarriages, were similar between the two groups, perhaps because stress reduction strategies need to start prepregnancy or immediately in the pregnancy, or the frequency of interventions need to be higher.

Challenges

The researchers had originally intended to conduct a mid-term evaluation; however, due to the late registration of pregnant women and the short time frame of the entire study, exposure to the interventions was insufficient to warrant this analysis. Additionally, women registered later in their pregnancies than initially envisaged. Most women enrolled in the third or fourth month, and therefore they had less exposure to the interventions than originally hoped for.

Through the course of the project, the control group infrequently received some counseling on messages intended for the study group. This would have affected the final results, minimizing the differences between the two groups and lessening the chances of showing statistically significant differences. Finally, due to the multiplicity of activities, it was not feasible to ascertain which of the activities were superfluous, if any were. It is likely that a subset of these program activities accounted for the bulk of the positive outcomes and some may have had no affect at all.

Replicability and Sustainability

The HAPPI concept was fully adopted into the control area and is carried out by key government functionaries including Medical Officers and ANMs. The Institute of Home Economics developed a comprehensive modular package, so that anyone wishing to scale-up could do so with parts, or all, of the package. In addition, the Institute of Home Economics developed a short film and CD with practical demonstrations of these modular elements.

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6.3.7 Seva Mandir

Background

Project Title: Addressing iron deficiency anemia through iron fortification of flour at the village level in Rajasthan

Location: Kharawada Block, Udaipur, India

Implementing Organization: Seva Mandir

Project Goal: To reduce anemia in the target population by increasing the dietary iron.

Target Audience: Pregnant women and children (aged 0 to 24 months) from 22 villages of Kharawad Block, Udaipur.

Primary Approach: Fortification of wheat flour with iron at the village level, using a decentralized delivery system – the village *chakkis (*local flour mills).

Project Description

Previous efforts to provide iron supplementation had not been successful: IFA tablets provided by the government had low utilization and centralized fortification was not practical where households consumed and/or milled their own grains. One of the key innovations of the project was its decentralized delivery system – facilitating wheat flour fortification by millers at local flourmills (*chakkis)* so that iron-rich wheat or maize could reach even the poorest households.

Fifty millers from 22 villages were enrolled in the project following a mapping exercise. Seva Mandir trained the millers at a one-day training session and provided the equipment necessary to fortify the flour. The fortification equipment (a hand-operated blender) was designed at the local level to be easy to handle and involved simple technology. The millers were provided with the mineral premix powder containing the iron on a fixed date every month. Seva Mandir conducted bimonthly meetings with the millers to discuss their views and problems related to milling. Millers received incentives for the actual quantity of flour fortified, uptake of 80 percent or more in the milling of fortified flour, and for their participation in the meetings.

A two-day training workshop was organized for 30 volunteers about educating and counseling pregnant women and mothers of children (aged 0 to 24 months) on topics related to nutrition during pregnancy, IYCF practices and the benefits and use of fortified wheat flour. Two-thirds of the volunteers were village traditional birth attendants; nine were selected for the program. Bi-monthly meetings were held by the volunteers, for a total of six meetings with the beneficiaries. Over 500 pregnant women and 800 children were covered over the course of the intervention period in these meetings.

Seva Mandir ensured early acceptance of the product by distributing chapattis made with the iron-fortified flour during initial village-level meetings. This allowed the residents to try the product and avoid any false impression of the taste. To ensure sustained use of fortified flour, specially printed bags were distributed to those households who indicated their willingness to have their flour fortified. The villagers were encouraged to use only those bags whenever they went to have their grains milled. The millers were also informed to fortify the flour of all those people who brought grains in those bags without asking for permission to fortify. Millers would only ask people who did not have these specific bags if they wanted fortified flour.

Measurement Strategy

Millers were given a register to record the names of customers, the quantity of flour produced (fortified or non-fortified) and the quantity of premix added. Copies of the registers were submitted to Seva Mandir every two months, where the data was entered into a spreadsheet (MS Excel).

Seva Mandir conducted regular and random checks of the mills to check for adequate fortification with the use of spot checkers (semi-qualitative assessments which demonstrate the presence or absence of iron in the flour). Random checks at mills also included observations to ensure whether the equipment was working correctly, if the process of fortification was done properly (premix was mixed in the post-milling phase in this program), and records were also checked to ascertain if the amount of wheat milled tallied with the amount of iron premix used. They used these monitoring tools to take corrective measures when there were any discrepancies. Random checks of flour were also done at the household level. In addition, an end-line survey was conducted at the household level in seven randomly selected villages (of the 22 in the project) to assess household use of the fortified flour.

Results

Ninety percent of millers were able to fortify the grain, as per the quality requirements, with no problems and only slight supervision. Nearly 800 houses had their flour tested and, of these, only 45 percent used fortified flour. This was lower than expected and the reasons given indicated that villagers often milled flour at home when they had small amounts of grains, or when there were electricity supply breaks. In addition, it appeared that households were not loyal, or attached, to any particular miller and new millers established themselves quite frequently.

Challenges

Many challenges were faced and lessons learned on the way. Seva Mandir realized that a one-time training session with millers was insufficient. The initial project plan was to train only the millers under the program area; however, during the course of the project new millers entered the market and they also required training. Training and follow-up then became an ongoing activity to maintain continuity and to sensitize the new millers who enter the market frequently.

There were technical problems in dealing with multiple small processors. Equipment failures were common due to irregular electrical supply. During fortification, the grains were ground and then mixed with the premix, requiring an extra step for the millers. Technologies/equipment, such as feeders for the premix, can be used to solve this problem; however, there will inevitably be other equipment-related challenges. Despite the additional processing element, millers were enthusiastic to take up fortification if it would increase the number of customers.

Also, whether or not families would sustain the added cost of flour fortification would depend on the perceived or actual changes in their health and well-being related to consumption of iron-fortified flour. Effective advocacy is needed to sensitize millers and communities on the requirement of iron for vulnerable groups and the ease of using fortified flour. Fortification of flour may be used as just one tool in increasing iron consumption and is not adequate as a stand-alone anemia activity because of its slow acceptance.

Replicability and Sustainability

Seva Mandir did not feel that the program would have significant impact on anemia levels and so phased it out at the close of the SAR DM period. To make this type of work sustainable it would require fairly rigorous investments in automated machinery that would eliminate the reliance on hand mixing – essentially extra work for the miller. Further, more advocacy would be needed so that even if households change their miller, they will still ask for fortification, helping to ensure that demand for the fortified flour is high. Finally, it is essential to set up an ongoing training mechanism to ensure new millers will receive training on fortification techniques.

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6.3.8 Calcutta Kids

Background

Project Title: Coupling diarrhea treatment and behavioral change communication to reduce severe malnutrition among children (aged 0 to 24 months) in an urban Indian slum

Location: Urban slums, Calcutta, India

Implementing Organization: Calcutta Kids

Project Goal: To reduce malnutrition, and treat diarrhea, among children (aged 0 to 24 months.

Target Audience: Children (under two years) and their mothers attending diarrhea treatment centers.

Primary Approach: Diarrhea treatment for ill children and BCC counseling to mothers to prevent and treat diarrhea and reduce severe undernutrition.

Project Description

Diarrhea is the second biggest killer of children under five years in India. Every day, 1,000 children die from dehydration related to diarrhea. Even if caregivers are aware of oral rehydration salts (ORS), and most are not, they are not providing them to children with diarrhea. Zinc, which has been shown to decrease the severity of diarrhea episodes and decrease future episodes for a short period after consumption, is rarely if ever used. Culturally, in the slums of Calcutta, saline is the preferred option, which is insufficient to combat mortality related to diarrhea. There is a virtual absence of messaging related to other good health practices that can reduce diarrhea such as washing hands after defecation and before meals.

Based on a successful diarrhea treatment model developed by International Centre for Diarrheal Diseases Research, Bangladesh, Calcutta Kids set-up a comprehensive Diarrhea Treatment Center (DTC) in an urban slum area. Calcutta Kids had previously worked within the Calcutta slum community with micro-health insurance and maternal child health programs and was able to spread awareness about the DTC through these programs. The specific objectives of the project were to understand the causes, prevention and management of diarrhea, and related feeding and care practices for children under two years, to reduce the recurrence of diarrhea among treated patients during the following six months, and to reduce the prevalence of malnutrition induced by severe diarrhea, as well as reduce diarrhea treatment-related expenditures.

At the DTC, at least 750 children under two years were treated with ORS and/or zinc. Upon arrival at the DTC, children went through a triage process to determine the treatment course of action. During the triage process, demographic information, health information and illness

history were entered into the MIS system. This triage process included elements such as thirst, appearance of eyes, presence of symptoms of dehydration on the skin (called skin turgor), pulse and mental status. The computer program analyzed the severity of the episode based on these indicators, and determined whether or not a child should be admitted.

Admitted patients were given a "cholera cot" – a cot covered with a thick layer of plastic with a hole in the middle and a clear bucket with measuring indicators below. The patient began receiving oral rehydration therapy administered by a trained health worker with assistance from the mother/caretaker. At this point, intensive education was initiated using a variety of media including flip charts, photographs, film, animation and personal counseling. Zinc was provided along with ORS during and after the rehabilitation process, following WHO guidelines.

If the child was not admitted to the DTC, a community health worker counseled the mother/caretaker and helped her administer ORS/zinc to the child so the treatment could continue at home. Within one week of discharge, and again within six months, a community health worker visited the child to ensure full recovery; during these visits they continued to promote and evaluate the impact of BCC messages.

Measurement Strategy

The project developed a high quality MIS system that was used as a tracking mechanism to schedule tasks, track liquid intake/output, record medications, and document the number of BCC sessions. It also functioned as a quality assurance mechanism to ensure standardization and consistent quality of treatment, for example ensuring ORS checkups every 15 minutes through an alarm system, and tracking side effects of ORS in a consistent manner across patients. The MIS system was also used to ensure that all the elements of BCC were properly covered, using a drop-down menu containing all BCC topics, such as complementary feeding during illness, importance of hand washing, purification and proper storage of drinking water, and baby care.

A thorough conceptual framework was developed before project implementation with a number of key indicators such as the percentage of community health worker-referred children who attended the DTC, the percentage of admitted children successfully rehabilitated without the use of IV saline, the prevalence of diarrhea and malnutrition in children aged 0 to 24 months, and the reduction in growth faltering and malnutrition within nine months. Baseline and end-line household surveys were conducted to assess changes in diarrhea prevalence, and knowledge and behaviors related to the prevention and treatment of diarrhea.

Results

Calcutta Kids effectively demonstrated to the community that treatment of diarrhea was effective without the use of IV saline. Of the 254 patients treated, 245 were discharged with some or moderate dehydration. However, addressing dehydration through the safer and better method of ORS administration increased the time in treatment, which increased over the course of the

implementation period: from 44 minutes in-clinic to above 120 minutes. Based on tracking of referral slips, more mother/caregivers brought their ill children to DTC, whether specifically referred (which may be indicative of effectiveness and esteem for community health workers within the community itself) or self-referred (which may be indicative of awareness of the need to treat diarrhea in the community).

The prevalence of diarrhea over the six-month implementation period ranged from 16 percent to 29 percent. The prevalence of malnutrition in children enrolled in the project (assessed through various weight-for-height, weight-for-age, and height-for-age scores) was lower in 2011 that it had been in 2010, although this cannot be attributed directly to the activities of the project.

Challenges

Delivery of services was delayed as there were substantial challenges related to acquiring premises for the project. This, in turn, affected the duration of the implementation period and limited the assessment time. In addition, the population dynamics of the slum was skewed – very few children were present because the community is disproportionately made up of migrant laborers. The demographic profile, combined with the reduced timeline for implementation, meant that only 250 children were treated instead of the 750 initially planned for. The delayed start time meant that reduction in growth faltering and malnutrition within nine months could not be assessed, nor could improvement in the knowledge of mothers after attending BCC sessions.

Calcutta Kids decided to eliminate charging for services, which led to curtailment of the planned change agent activity (mothers/caretakers of the children discharged would hold a once-a-week information dissemination session with friends/neighbors for an incentive). This modification was made to ensure reach to the poorest women, to create no barriers to seeking treatment and to align with other free services already provided by Calcutta Kids in the community.

Replicability and Sustainability

To sustain the program, Calcutta Kids initiated a partnership with the Joklona Foundation, which works with nonprofits to support impactful projects. This foundation provided a mechanism for Calcutta Kids to solicit donations for diarrhea treatment at the DTC (www.jolkana.com).

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6.3.9 Lata Medical Research Foundation

Background

Project Title: Evaluation of the effectiveness of cell phone technology as a community-based intervention to improve exclusive breastfeeding and reduce infant morbidity

Location: Nagpur, India

Implementing Organization: Lata Medical Research Foundation

Project Goal: To increase rates of exclusive breastfeeding and to reduce infant morbidity.

Target Audience: Pregnant and lactating women visiting urban hospitals for ante-natal and post-natal care.

Primary Approach: Using cell phones to spread nutrition awareness and change pregnancy care and breastfeeding practices.

Project Description

Exclusive breastfeeding rates have not improved substantially in India despite the existence of programs that promote IYCF, and the efforts of the 1990s such as the Baby Friendly Hospital Initiative. Exclusive breastfeeding declines as from 0 to 6 months, especially after three months. There is little availability of counseling and support, and a strong presence of breast milk substitutes. Home visits and one-on-one counseling have their limitations.

The objective of this project was to improve rates of exclusive breastfeeding and the timely introduction of complementary feeding. Cell phone counseling was chosen as a sustainable model because it is relatively inexpensive, allows for frequent reminders, and enables breastfeeding women to be in more easily touch with counselors when they need advice.

An intervention hospital and a control hospital were recertified as baby friendly hospitals through training and a pre- and post-assessment of the lactation counselors. A total of 300 pregnant women were enrolled in the last trimester of pregnancy (150 in each hospital). Excluded from either group were women with complicated pregnancies or preexisting conditions such as preeclampsia or sickle cell anemia. Counseling on BF-CF was provided by lactation counselors to women in both hospitals during antenatal and postnatal visits (two visits), and thereafter at regular intervals until the child was six months old. At the intervention hospital, lactation counselors used mobile phones and weekly SMS messages to provide ongoing encouragement during pregnancy and postpartum until about 26 weeks.

Measurement Strategy

The project developed and pretested data entry software that tracked the use of the cell phones and their effectiveness. In addition, baseline and end-line surveys were conducted to assess the impact of the project on BF-CF practices.

Results

The project was successful in showing a marked improvement in key BF-CF indicators in the intervention hospital as compared to the control hospital. For example, exclusive breastfeeding rates of infants aged 0 to 6 months improved; so did other practices such as not giving prelacteal feeds and initiating complementary foods at the correct age of six months. Consequently, the mean weight gain of the infants in the intervention hospital remained higher than that observed in infants in the control hospital.

Challenges

Some of the key challenges were related to the cell phone technology, securing support of hospital authorities, and issues of permission and accessibility to the phones in the participating families. While cell phones are ubiquitous in India, with over 50 percent of the population owning one, the registration process to obtain a phone requires paperwork. This paperwork was particularly troublesome for newlyweds whose various documents don't provide the required information, so phones must be registered to the husband. In one of the hospitals, cooperation from the authorities was not as desired, leading to delays. Other problems included a lack of response from women who did not respond to the calls, or did not have the phone with them.

Replicability and Sustainability

The Alive and Thrive project is funding replication of this strategy in two additional hospitals in Nagpur city. Lata Medical Research Foundation is in discussions with other organizations, such as the Vodafone Foundation, to fund further replication. There is also significant potential for other donor-funded health and nutrition programs to integrate this strategy into their programs. As experienced in HIV/AIDS and other family planning programs, commercial call centers can also be contracted to provide information and counseling.

The lessons learned and results of this project have been shared widely at several national and international forums and scientific conferences. The Lata Medical Research Foundation is advocating for national and state-level policy makers to integrate this strategy into government health and nutrition programs.

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6.4 Nepal

6.4.1 MaxPro Pvt. Ltd.

Background

Project Title: Development of a community-based distribution network for the distribution of the two-child logo adequately iodized salt

Location: Parsa district, Nepal

Implementing Organization: MaxPro Pvt. Ltd.

Project Goal: To ensure an adequate intake of daily iodine requirements by pregnant and lactating women and children aged 6 to 24 months.

Target Audience: Families in the remote Terai regions of Nepal and the salt producers who produce the 2CL salt.

Primary Approach: Strengthening the supply, demand and distribution networks of iodized salt with 2CL logo through advocacy, BCC campaigns, and social mobilization of rural networks.

Project Description

Iodine, which occurs naturally in food, is essential for normal growth and brain. Iodine deficiencies, which can lead to an average of 13 IQ point loss, occur when food is grown in iodine-deficient soil, making Iodine Deficiency Disorders (IDDs) mainly a geographic, rather than an economic or social issue. The Ministry of Health in Nepal initiated a Universal Salt Iodization Program with a goal of over 90 percent of households consuming adequately iodized salt. The symbol of this campaign is a “Two Child Logo”, otherwise known as 2CL, which is placed on all packages of salt containing the requisite amounts of iodine.

The government of Nepal, in partnership with UNICEF and the Salt Trading Corporation, the sole agency authorized by the government to import and distribute salt in the country, initiated a social marketing campaign to target areas of low consumption. In Nepal, it is difficult to ensure consistent supplies of 2CL salt to small, isolated markets that are unattractive to traders due to prohibitive transportation costs on small orders. The remote Terai region on the Nepal-India border accounts for 50 percent of the country’s population but has the lowest use of 2CL salt. The project’s aim was to increase consumption of 2CL salt in the Central Terai districts of Parsa, in 20 village development councils, especially by PLW and children aged 6 to 24 months in rural areas. Activities were conducted to generate the demand needed to reach a volume equivalent of 10g/day/person, which would allow trade of 2CL salt for these community groups in a sustainable manner, without subsidies from the Salt Trading Corporation or any external support.

MaxPro used a two-pronged strategy to increase consumption. First, it worked to increase the demand for 2CL salt among the targeted population through a vigorous BCC campaign at the community level. Second, MaxPro sought to ensure regular supply of 2CL salt to these rural markets through the development of new channels of distribution involving community based organizations to act as bulk buyers and distributors of 2CL salt in their communities. The project identified 15 bulk buyers, covering 83 village development councils, and established a network was to enable regular supply of 2CL salt to them.

A district advisory meeting was conducted to sensitize district-level stakeholders and garner support for the project. This meeting helped send strong initial advocacy messages to create a quick demand. In addition, various awareness activities were undertaken, such as Iodine Test Demonstrations (ITD), discussions about iodine deficiencies, wall paintings, IEC/BCC materials distribution, and school-based promotion activities (all conducted in Parsa). UNICEF's 30-minute documentary, the "Video on Wheels", effectively disseminated messages.

Measurement Strategy

MaxPro developed a combined M&E plan and logical framework matrix. A well-developed monitoring system was put in place to track progress at field level. Regular monitoring was conducted on monthly salt sales from dealers to retailers, monthly salt sales of bulk buyers (groups, cooperatives, clubs), and salt sales at the district Salt Trading Corporation depot. Monitoring documents were developed to capture data collected by the District Coordinator, which were then sent to MaxPro's central office to compile and analyze on a monthly basis.

To evaluate the project, a baseline survey with 15,000 respondents and an end-line survey with 12,800 respondents were conducted at the household level in all 20 project village development councils, using the WHO/UNICEF designed cluster survey. Community mobilizers from MaxPro's local partner collected the survey data. Questionnaires were kept brief, with questions on types of salt consumed, source of the purchase and reasons for not consuming iodized salt. The data was entered and analyzed centrally. Formative research was used to develop targeted IEC during an initial survey at each village development council level. Messages and visual aids such as posters and stickers were printed and used in the BCC campaigns.

Results

The project established an effective distribution network of retailers, cooperatives and community groups to ensure distribution and consumption of 2CL salt. The availability of 2CL salt in rural markets of all remote village development councils increased. Community groups were helpful in pressuring local suppliers to stock 2CL salt in the more remote areas. These local retailers would buy from district-level bulk buyers who could afford to keep stock.

An increasing trend of 2CL salt sales by the dealers, retailers, and bulk buyers during the program period was observed through dealer and retailer tracking. According to the end-line

retail survey, 40 percent were found to be selling 2CL salt exclusively and 72 percent of retailers were found to be selling 2CL salt together with other types of salt. Monitoring helped analyze the trends and stock levels over the implementation period, which allowed for mitigation of any stock-outs. Monitoring also showed an increased salt stock at the Salt Trading Corporation over the course of the project.

The community-based BCC/social marketing campaign was very successful, as demonstrated in the table below. However, it is difficult to ascertain the relative strengths and weaknesses of the individual activities themselves.

Table 6: Increase in Use of 2CL Salt

	Baseline (%)	End-line (%)
Use of 2CL salt	14	71
Household awareness of the importance of iodized salt	51	85
Retailers exclusively stocking iodized salt	8	50

Challenges

The challenge with this project is its long-term sustainability. Merely setting up the channels for distribution will not be sufficient to maintain local availability in remote areas. Local retailers often need credit extended to them to keep stock levels adequate. Their periodic late payments make the bulk buyers mistrustful and less likely to deal with the small quantities these local retailers require. Without a credit solution, consumer demand at the local level will not be a sufficient pull mechanism. The concept of buying associations/credit unions/microfinance loans for local retailers should be considered. MaxPro is running other programs in the same project areas and can therefore monitor how sustainable this short-term project will be.

Replicability and Sustainability

MaxPro worked on developing a supply network in previously unreached areas. It is in the interest of the Salt Trading Corporation to continue working with these groups as they ensure greater market reach.

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6.4.2 Vijaya Development Resource Centre

Background

Project Title: Enhanced infant and young child feeding practices linked with micronutrient sprinkles supplementation through a school-based promotion and monitoring approach

Location: Nawalparasi/Makawanpur Districts, Nepal

Implementing Organization: Vijaya Development Resource Centre

Project Goal: To reduce anemia and malnutrition in young children in two districts of Nepal.

Target Audience: Preschool children under 24 months reached through school children in primary schools of the selected districts.

Primary Approach: School-based promotion and monitoring of preschool children to consume a micronutrient-rich powder (Baal Vitaa) to reduce micronutrient malnutrition.

Project Description

The government of Nepal, with support from UNICEF, is implementing a pilot project on the distribution of a multimicronutrient powder (Baal Vitaa) to infants and young children aged 6 to 23 months. Two distribution models are being tested: one using community health volunteers, and one using health facilities. The project was an additional component in two of the six districts (Makawanpur and Palpa) in which the Baal Vitaa pilot project was taking place.

In schools involved in the project, students were oriented on IYCF practices and the benefits of Baal Vitaa. The project then mobilized a core group of students in each school involved in the project to carry out household visits in their area to identify preschool children eligible to receive Baal Vitaa. The students then helped distribute Baal Vitaa to them, tracked mothers' use of the supplement, and cross-verified consumption by reviewing the compliance card provided to each child. The students also played motivational and counseling roles to encourage mothers to give Baal Vitaa to their young children. The students reported Baal Vitaa usage to community health volunteers, provided details of the houses where compliance was poor, and informed the community health volunteers about any problems associated with feeding. This information was useful for follow-up visits by community health volunteers to provide further counseling and constructive encouragement to the mothers. Baal Vitaa was distributed in three rounds (for a total of 180 sachets), over the 18 months of program implementation.

Measurement Strategy

Children's clubs, comprised of a group of school children, maintained records of eligible children (aged 6 to 23 months) for Baal Vitaa, in which they recorded the child's name, the

parent's name, the sex of the child, and the child's date of birth. They also maintained registers of the name of child, date of Baal Vita distribution round, date of monitoring, status of Baal Vitaa usage (yes/no), cause of non-usage (if any), perception of mothers on Baal Vitaa, whether Baal Vita consumption is regular, and whether compliance cards are used. District Supervisors collected the data from the registers of the children's club and compiled it on a monthly basis; they also visited health facilities, schools, children's clubs, households and community health volunteers to monitor the consumption of Baal Vitaa on a monthly basis, and prepared summary reports. The summary reports were sent to the Vijaya Development Resource Centre, where data was entered into an Excel sheet.

Results

Results were stronger at the start of the project than they were by its end. Initially, Vijaya Development Resource Centre project officers were able to give Baal Vitaa sachets to all eligible children in round one of distribution; thereafter, the coverage varied from 2 to 70 percent. Similarly, more than half of the households self-reported full compliance in round one of distribution, which then dropped to 30 percent of households having full compliance in one district, and 65 percent in Makwanpur district, though this represented only 10 of 17 observations. Finally, while mothers did report initiating complimentary feeding after six months, they did not report the desired frequency of provision of semi-solid foods in a day as part of complementary feeding.

Challenges

It is not clear if the reasons for the diminishment of tempo and interest as time passed rested with the school children, or rested with the community health workers, who may not have reinforced messages adequately or made adequate efforts to keep up the enthusiasm of the students. In one of the districts, Vijaya Development Resource Centre staff found that acceptance and compliance in using the Baal Vita was low. Staff decided to use local role models (mothers who were vigilant in providing the micronutrient powder to their child) to encourage and motivate others. This was a very successful concept that resulted in quick improvements in compliance.

Replicability and Sustainability

It would not appear that this is a model that could be replicated before first understanding the reasons why the initial high coverage and compliance could not be sustained over the relatively short life of this project. While trained personnel have remained in place towards the end of project, there may be some residual nutrition knowledge that could be passed on to new children and mothers. However, the actual product would not be available without additional funding by the government or other donors.

6.4.3 Helen Keller International, Nepal

Background

Project Title: Action against malnutrition through agriculture

Location: Kanchanpur district, Nepal

Implementing Agency: Helen Keller International, Nepal

Project Goal: To improve food security/year-round availability of micronutrient-rich fruits and vegetables and to improve the nutritional status of pregnant and lactating women and children.

Target Audience: Rural poor families, in particular, pregnant/lactating women and children under two years. Equally important target groups were farmers (male and female), government grassroots functionaries and senior officials.

Primary Approach: Supporting the development of village model farms and homestead gardens/poultry raising, and improving awareness and practices in the area of Essential Nutrition Actions (ENA) through BCC interventions.

Project Description

Helen Keller International implemented the Action Against Malnutrition through Agriculture project in Kanchanpur while it was also implementing a similar project in Kailali and Baitadi districts with support from USAID. The project was launched in all districts in close succession.

Large numbers of rural families in Nepal do not have year-round food security, nor do they follow optimal child feeding practices. Helen Keller International addressed both issues in its project by supporting and facilitating the set-up of village model farms and implementing BCC activities and nutrition education sessions to promote the acceptance of ENA.

The project's main innovation was the establishment of village model farms that acted as local agriculture resource centers. Helen Keller International built the capacity of farm owners, and that of the homestead food production beneficiary families, to improve farming practices. Each village model farm had under its umbrella two groups of 20 homestead food production units and their beneficiaries; the farm supplied them with items such as seeds, saplings and chicks. They developed home gardens and raised poultry and were encouraged to improve IYCF practices. The village model farm owners trained and monitored the homestead food production beneficiaries.

Helen Keller International worked with Nepali Technical Assistance Group a local NGO, who provided field-level technical support to the project, especially in training, awareness creation,

monitoring and supervision. Formative research was carried out to assess IYCF knowledge and behaviors of mothers, through five focus group discussions with mothers/caretakers of children under two years. The project built on existing USAID-funded Action Against Malnutrition through Agriculture materials, and refined them to address the gaps noted in the formative research and the best practices identified in USAID-supported sister projects.

The project also sensitized government officials in relevant departments, conducted BCC activities focused on counseling and negotiation skills, and produced nutrition educational materials/visual aids. The ENA promoted under the BCC component included breastfeeding, complementary feeding, maternal nutrition, nutrition for sick children and provision of micronutrients. Family Community Health Volunteers (FCHVs), a part of the community-based health system in Nepal, received training on ENA and counseling skills. They conducted home visits to help mothers improve IYCF practices.

Measurement Strategy

The monitoring system operated at several levels. At village model farms, owners maintained registers for the farm and homestead food production beneficiary activities that recorded monthly information, such as the technical and input support provided by village model farms, quantity of vegetables cultivated, consumed, and sold, number of chickens reared, consumed and sold, and so on. Project field staff visited all village model farms once in a month and provided feedback during monthly homestead food production beneficiary group meetings. Field supervisors and project coordinators carried out random checks at village model farms and homestead food production units and administered structured questionnaires. The data was maintained at the field office and reports were analyzed at Helen Keller International's head office. For continued government sensitization, Helen Keller International field staff met district government counterparts on a quarterly basis to provide program updates.

A baseline was not conducted considering the very small project area (only three wards of one village development council). However, the larger program outside of the SAR DM-supported component had conducted a baseline in a neighboring district and, as timing was similar, this was used to establish baseline at the SAR DM sites. Project teams used a combination of qualitative and quantitative methodology, including anthropomorphic mini-surveys, lot quality assurance sampling and Geographic Information System (GIS) mapping, to measure the results and outcomes. In-depth interviews, focus group discussions and ethnographic methods comprised the qualitative component.

Results

Both the process and outcome indicators showed satisfactory results and the training and monitoring activities were carried out as planned. Over the course of the project, exclusive breastfeeding rates, dietary diversity and micronutrient consumption, and illness management for children all improved, as demonstrated in Table 7 below.

Table 7: Improvements in Exclusive Breastfeeding, Micronutrient Consumption and Management of Childhood Illnesses

	Baseline	End-line
Exclusive breastfeeding rates in children under six months	79	100
Dietary diversity (minimum of four food groups)	21	82
Children who received homemade fluids or ORC during diarrhea	11	58

Challenges

As Helen Keller International could build on the earlier formative research and useful lessons of the USAID-funded Action Against Malnutrition through Agriculture program, there were no serious challenges reported during the implementation of this program.

Replicability and Sustainability

Even after termination of the project, village model farms continue to provide technical assistance to homestead food production beneficiaries. It is hoped that the strong networking and advocacy with government partners will help to sustain this model and support its expansion to other areas.

6.4.4 Equal Access Nepal

Background

Project Title: Nutrition through knowledge

Location: Bara district, Nepal

Implementing Organization: Equal Access Nepal

Project Goal: To raise awareness of infant and young child feeding requirements, empower women to address malnutrition, and engage men as stakeholders within the family.

Target Audience: Rural poor families of Bara district in Nepal, with a focus on both mothers and fathers of infants and children under five years and men in the community.

Primary Approach: Using mass media (radio) to spread awareness regarding child nutrition and development, supported by radio listeners' groups for interpersonal communication and face-to-face interaction.

Project Description

In the interior areas of Nepal, maternal-child nutrition practices are unsatisfactory and it is a challenge to reach poor families in these areas to promote good nutrition and spread awareness. The project aimed to raise awareness among parents about infant and young child nutrition and its importance for the overall development of children, to empower Nepali women to address various sociocultural determinants of malnutrition at the household level, and to engage men as well as women as key stakeholders and agents of change within families.

This project focused on producing and broadcasting radio programs that would spread awareness among radio listeners about various aspects of child malnutrition and its control in children under five years. Thirty-two FM radio stations in Nepal broadcast a series of 26 programs (of 30-minute duration) on a weekly basis. Programs were translated into three local languages (Tamang, Bajiika and Bhojpuri) and broadcast locally in three districts, Makwanpur, Rautahat and Bar. The districts for the project were chosen because they were under-serviced with widespread nutrition-health problems. Over one-third of people sampled in the project studies had reported that they had suffered from food scarcity in the previous 12 months.

Producers based at each local FM radio station were trained on creative radio formats, and participated in familiarization sessions on IYCF, gender sensitization, and basic evaluation techniques for measuring program impact. Produced in a radio-magazine format, the broadcasted programs highlighted various aspects of knowledge and practices related to nutritional improvements in children and invited experts to discuss representative cases. The radio shows' format included monologues, voices of members of the various communities where the programs

were broadcast, and expert interviews. An attempt was made to ensure that the concerns of the community were addressed. Every program episode included success stories of male parents who had contributed to and/or played a role in the nutritional well-being of their child.

Field visits were undertaken to collect field-level audio material for incorporation into the central version of the radio program, and to monitor broadcast and listening sessions in project districts. Quality control of the content of the radio messages was ensured through content advisory group meetings. Staff members of Equal Access Nepal reviewed the content for local language versions of the programs.

A radio listening group, comprised of men and women, was formed in each project district, though, in practice, mostly only women attended (above 90 percent). The groups met each week at predetermined times to listen to the radio messages together, hold discussions and receive further clarifications related to the content aired on the radio from a group facilitator. The facilitator was trained for this task by Equal Access Nepal, including skills required for facilitating group discussions related to radio content. Equal Access Nepal also provided audiotapes of all 26 episodes and distributed them to the listening groups. This had a corollary affect of providing opportunities for reinforcing/reviewing episodes through repeat messaging.

Measurement Strategy

A detailed monitoring plan was developed in advance of the project's implementation and a system was put in place to monitor project activities at various levels. For example, the facilitators of the listening groups administered feedback questionnaires after each listening session, which captured the opinion of the listeners on several aspects of the program, including whether or not they liked the radio program, key lessons they learned, how they would change their behavior, and their suggestions for further improvement. The completed forms were sent on to the headquarters of Equal Access Nepal.

Baseline and end-line surveys were conducted, with samples taken from listening group members who were followed pre- and post-program. Focus group discussions amongst listening groups were also carried out, as were key informant interviews with district health officers, health post in-charges, district nutrient focal points and other stakeholders. Question guides for the key informant interviews and the focus group discussions were developed to ensure consistency and quality.

Results

Despite some problems in the broadcast of the program in the Bhojpuri language, all of the stations were able to complete broadcasting the program by October 2010. Over 30 stations received and broadcast the program. Comparison of the baseline and end-line surveys showed consistent improvement in knowledge and self-reported behaviors. Awareness of IYCF practices and changes in self-reported behaviors consistently improved; these included early initiation of

breastfeeding and exclusive breastfeeding, colostrum feeding, and the initiation of complementary feeding at six months. Similarly, positive shifts in awareness and practices related to diarrhea management were seen, including the use of ORS and zinc. Awareness of the need to hand-wash before cooking, after use of the toilet, before eating, and before feeding a child increased, and so did self-reported use of iodized salt; however, these practices were reportedly high to begin with. From the focus group discussions it became clear that health-seeking behaviors changed more noticeably when respondents were attending radio listeners' groups more regularly.

Equal Access Nepal expected written feedback from the listening groups as a demonstration of the fact that radio messages were translating into behavior changes. However, due to poor levels of literacy in the districts, written feedback was not feasible. Hence, group facilitators filled in the feedback forms after each listening session. It was encouraging that 17 letters from parents (including nine letters from male parents) were received, showing interest in matters relating to their young children's health and nutrition.

Challenges

Most challenges occurred early in implementation and were addressed in a timely manner. Staff shortages caused a six-week delay in production of the local language versions of the radio shows. Once new hiring and subsequent training was completed, the production resumed.

In one area the listening groups were located where the FM radio partner did not have broadcast coverage. Hence the project changed to an alternate FM radio station, and listening sessions were then held regularly. In Kathmandu, the listening group could not initially tune-in to the radio program due to electrical power issues. Equal Access Nepal program staff shifted to a different broadcast time and date that was more appropriate for the group members.

Unreliable electricity supply was a constant challenge throughout the project. In Makwanpur and Kathmandu districts, the listening groups were temporarily suspended due to erratic electricity supply and load shedding. Equal Access Nepal provided the listening groups in Makawanpur districts with batteries and chargers to ensure that they could listen to the program during load shedding hours. As a result, all nine listening groups were able to resume regular listening sessions. In Kathmandu, Equal Access Nepal persuaded the FM station to broadcast the program in non-load shedding hours. In Rautahat district, the FM station did not broadcast to areas where the listening groups had been established, necessitating a change in broadcasters.

Replicability and Sustainability

The project may have limitations in terms of long-term sustainability, as structurally it relies upon the radio stations themselves to continue to broadcast. Neither is there any assurance that the listening groups would continue, or that new ones would be formed. However, given that broadcasters have tapes of broadcasted programs readily available at no cost to the station this

may facilitate some future use of the material, and assist in maintaining awareness of the program and helping to spread it to other districts.

6.5 Pakistan

6.5.1 Aga Khan University

Background

Project Title: A randomized controlled trial of a comprehensive community-based intervention to improve linear growth velocity amongst children aged 6 to 18 months in urban squatter settlements in Karachi

Location: Urban squatter settlements in Karachi, Pakistan

Implementing Organization: Community Health Sciences Department of the Aga Khan University, Karachi, Pakistan

Project Goal: To improve the growth and health of infants aged 6 to 18 months.

Target Audience: Infants and their mothers and family members selected from poor slum settlements urban Karachi, Pakistan.

Primary Approach: A food-based strategy to overcome micronutrient deficiencies (iron, zinc), through supplementation of complementary feeds with chicken liver, combined with mobilization of elderly community women as nutrition-educators and change agents

Project Description

In Pakistan, the poor nutrition status of infants is the result of acute infectious diseases and inappropriate IYCF practices. The lady health workers of the National Program for Family Planning and Primary Health Care address these factors through antenatal dietary counseling and iron supplementation, and by promoting appropriate IYCF practices and management of childhood infections. However, these strategies do not address zinc and iron deficiencies in the first year of life.

The project added chicken liver – an accessible, inexpensive and rich source of zinc and iron –to complementary foods of infants to assess its impact on their growth, especially linear growth. Another important aspect of the project was the mobilization of elderly women from the community to act as change agents to promote and support the feeding of chicken liver to children aged 6 to 18 months.

The project was implemented in collaboration with a local NGO, Health and Nutrition Development Society, and the government's National Program for Family Planning and Primary Health Care. The project's beneficiaries were 300 children, aged 5 to 6 months at the beginning

of the project. The key inclusion criteria were that the children were predominantly breastfed and free from apparent congenital abnormalities. The enrolled infants were randomized into groups who were either fed chicken liver (intervened group), or were not (control group).

The lady health workers visited the families of enrolled infants in both the intervened group and control group every week to impart IYCF messages that were based on WHO guidelines. In addition, elderly community women were trained in IYCF counseling (in particular about the benefits of chicken liver for young children), and visited the infants in the intervened group to counsel the mothers/caregivers to feed their children chicken liver as part of complementary foods at least three times a week. They also facilitated the mothers and families in their purchasing, cooking, and feeding of the chicken liver to the infants. Being part of the community, the elderly women had access to the households and could effectively ensure the follow-up needed to increase the intake of chicken liver by the infants. Weekly/monthly follow-ups of all enrolled infants were done for IYCF practices and to report any morbidity. Attractive visual aids (IYCF materials) were used to counsel mothers and family members.

Measurement Strategy

The project conducted baseline and end-line surveys, with well-defined survey methodology and procedures for data collection, processing and analysis. Primary outcome indicators were anthropometry (weight, height, head circumference) at six, 12 and 18 months, and recent morbidity profile. The cohort was followed for one year, from when children were six months until they reached 18 months. The project also developed a number of tools for monitoring activities, especially for monitoring the regularity of the home visits.

Results

The project's results were encouraging. At 18 months, intervened group infants were nearly 720 grams heavier than control group infants. The mean weight of intervened group infants (9.37 kg) was significantly higher than that of control group infants (8.65 kg). The weight-to-age Z-Score (WAZ) was also significantly higher in intervened group infants, as compared to control group infants. Similarly, intervened group infants at 18 months were significantly taller (1.23 cm) than their counterparts. The mean difference in height aged 6 to 18 months was also statistically higher: 11.7cm for intervened group infants, as compared to 10.6cm for control group infants. However, rates of stunting were similar in the intervened group and control group, indicating that linear growth improves, but rates of stunting, or low height for age, require a longer intervention period to show impact.

The incidence of both diarrhea and respiratory tract infections was significantly lower among children in the intervened group compared to those in the control group. Similarly, the incidences of pneumonia and allergy were also lower in the intervened group, but these differences were statistically insignificant. Thus, micronutrient intake through an animal source like chicken liver

appeared to help control respiratory and diarrheal morbidities. Every week, the data collectors visited mothers and asked about the average number of meals the child had last week. For children at six months, it was reported to be 1.7 in a day for infants in the intervened group, and 1.4 in a day for infants in the control group.

Community mobilization through trained elderly community women serving as counselors proved to be an effective strategy to facilitate mothers and their families to feed chicken liver to children aged 6 to 18 months. The strategy demonstrated qualitative improvements in complementary foods of toddlers and also helped to improve linear growth and weight gain, and reduce morbidity, among the intervened group children in urban squatter settlements in Karachi.

Challenges

Aga Khan University faced an early challenge in monitoring schedules, where some information was collected weekly and other information monthly. The issues were resolved quickly and did not affect the implementation in any way. Cultural norms were difficult to change in the short duration of the project. Nevertheless, the innovative use of older women/grandmothers was particularly helpful in breaking some of the barriers, given that these women themselves often perpetuate the norms associated with young child feeding.

6.5.2 Health, Education and Literacy Programme

Background

Project Title: Home-based nutrition rehabilitation of severely malnourished children

Location: Two union councils in Sanghar district of Sindh province, Pakistan

Implementing Organization: Health, Education and Literacy Programme, Sindh, Pakistan in partnership with the government's National Program for Family Planning and Primary Health Care that has lady health workers throughout the country.

Project Goal: To identify severely wasted children (aged 6 to 24 months) and improve their nutritional status, and to build the capacity of government health facilities to stabilize severely malnourished children with complications.

Target Audience: Mothers and family members of severely malnourished children (aged 6 to 24 months).

Primary Approach: Home-based management of severely malnourished children, including supplementation with a high density diet and training of lady health workers on community based primary health care.

Project Description

Of Pakistan's total population of 165 million people, 38 percent of children under five years (an estimated three million children) are moderately to severely underweight, and 9.6 percent of children aged 6 to 24 months are moderately to severely malnourished (National Nutrition Survey, Pakistan 2001). These figures are higher in rural areas due to poverty, illiteracy and lack of awareness of mothers regarding IYCF practices. In addition, health facilities are lacking, and the ones present are located in towns and cities at great distances from the rural areas.

The WHO protocol of Community-based Management of Acute Malnutrition suggests ready-to-use therapeutic foods to manage severe acute malnutrition, which are imported and expensive. Instead, the project used a high density diet made from locally sourced rice, pulses, milk powder, oil and sugar. This high density diet had a shelf life of six months, when appropriately packaged, and was highly cost-effective.

The project trained lady health workers and their supervisors through a three-day workshop that refreshed their existing knowledge of maternal and child health, provided demonstrations on IYCF, and gave detailed instructions on how to treat severely malnourished children with the high density diet. Knowledge was assessed pre and post workshop.

The project then trained the lady health workers on how to identify severely wasted children in their communities. They referred identified children to health facilities for an initial checkup, following which children without complications were started on a high density diet and micronutrients, and were managed by lady health workers at home. Mothers were provided with a one-week stock of high density diet/micronutrients. Children with complications were referred to Taluka Hospital for stabilization, after which they were started on a high density diet and micronutrients at home.

Mothers were counseled regarding IYCF practices by lady health workers during their weekly visits. Lady health workers also formed support groups of target mothers in their catchment areas and provided nutrition-health education. Lady health workers followed-up daily to observe feeding and maintain intake/output charts (DOT method), and they made weekly visits to assess weight gain. Children not gaining weight were referred to health facilities.

In addition to training lady health workers, the project also built the capacity of two health facilities – basic health units and Taluka Hospital. For hospital staff, the project offered a workshop on facility-based management of severely malnourished children, followed by a workshop on establishing a stabilizing center for severely malnourished children. The health facilities were provided with aids for growth and nutrition assessment such as a weighing machine, mid-upper arm circumference (MUAC) measuring tapes, charts and other equipment.

Measurement Strategy

The project used a wide array of M&E methodologies, including monthly monitoring, key informant interviews and baseline/end-line surveys, to test knowledge, attitude and practices. For the baseline survey, trained surveyors, who also identified severely malnourished children, interviewed over 1,800 households. Project officials verified the quality of data at baseline by visiting some randomly selected houses. Knowledge of the surveyors was also tested.

Results

The project had very encouraging results. A total of 123 children were identified as severely malnourished and given a high density diet (plus micronutrients). There was improvement in the weight of 92 percent of the first set of identified severely malnourished children, who reached median target weight by the end of five months. At end-line, the weight of 90 percent of the 123 children had increased, and 75 children (61 percent) achieved their target weight. Thirty-nine children continued with the high density diet supplementation as they were identified later in the program. Knowledge at the household-level of IYCF practices improved over the course of the project.

Due to modifications in program implementation some indicators were not tested, such as tracking anemia levels. Five of the severely malnourished children died; however, verbal autopsies for these children indicated no link to the high density diet.

Challenges

Early in the project, identified children were not being brought to the health facilities, due to distance and a lack of understanding by the parents of the significance of malnutrition. As a result, the program was modified so that the doctors accompanied the lady health workers, verified children with severe acute malnutrition, and distributed a three-week supply of the high density diet.

MUAC was insufficient to classify malnutrition, as in many cases children identified using this method were subsequently reclassified following height/weight calculations. It was suggested that community workers should carry height charts and lightweight weighing scales to prevent such misclassification.

There was no way to know how much of the high density diet was being consumed by identified children since many households reported sharing it amongst all children in the family. This delayed target weight achievement, but did lead to weight gain. Children identified in the early visits needed repeat monitoring visits by the program team and doctors to verify results. Support group meetings were not held as frequently as planned, due to time constraints and inadequate competence of the lady health workers.

Distance, power supply breaks, and lack of mobile access, created problems throughout the project. Distance needs to be a factor when determining the number of staff required for outreach programs where households are contacted. The Health Education and Literacy Programme selected program managers from within the communities themselves, which offset some geographical problems.

Replicability and Sustainability

With the help of donor agencies (MISREOR Germany), the project has expanded and supplied high-density diet supplements for nearly 2,000 children in internal displacement camps after the severe floods in 2010. With USAID funding, and working in partnership with UNICEF and WFP, the Health Education and Literacy Programme implemented a community malnutrition project in one district. Further work with UNICEF and WFP will allow for replication in 25 additional union councils. UNICEF partnership will enable two of the union councils in which they have worked under the SAR DM project to continue their services. The Health Education and Literacy Programme also has plans to patent the high density diet used in this project, which they will then make it available for use at subsidized rates to families beyond the project area.

6.6 Sri Lanka

6.6.1 Sri Lanka Green Friends Environmental Organization

Background

Project Title: Three-generation communication for improved infant and young child feeding

Location: Pelmadula, Sri Lanka

Implementing Organization: Sri Lanka Green Friends Environmental Organization

Project Goal: To promote appropriate feeding practices by catalyzing community groups of adolescents, mothers and grandmothers.

Target Audience: Pregnant and lactating women and mothers of children under two years.

Primary Approach: Forming "village media societies" to disseminate nutrition education through local radio.

Project Description

Traditionally, grandmothers exert considerable influence on IYCF practices of young mothers. As a result, grandmothers became the key component of the media societies, along with other socially active community members of different ages, in addition to health and nutrition service providers. A total of 15 village media societies were formed and trained to produce radio programs, which were then broadcast through commercial radio channels. Key activities conducted in the project included discussions with various stakeholders (government, community representatives and private sector) to assess needs of the community.

A Network Centre (Madya Piyasa) was created to formulate concepts and radio programs based on discussions held with the 15 communication societies. The content of the radio programs was reviewed by a nutritionist and, concurrently, the radio station's staff was also trained. Programs were broadcast from all stations and monthly feedback was given to all societies. Post broadcast knowledge was tested by gathering information on postcards, which were sent to Sri Lanka Green Friends Environmental Organization program staff and analyzed.

Measurement Strategy

A rapid baseline assessment was conducted on the nutrition practices of pregnant and lactating mothers, IYCF practices for children under two years, and anthropometric indicators were collected. Baseline assessment results helped to develop appropriate nutrition messages and radio scripts.

Following the dissemination of each radio broadcast, 100 randomly selected mothers from the program area and 50 randomly selected mothers from a comparison area, were tested for their knowledge on nutrition-related activities. At program inception, 45 to 50 children from each of the 15 villages were selected and followed throughout the project to track their birthweight and change in weight over the course of the project.

Results

The village media societies were able to identity women who had infants at risk (lower birthweight). The average birthweight at baseline was 2,600g, with 24 percent of children underweight, and 3 percent of children overweight. Over the project's course of 18 months the number of underweight children decreased; at end-line only 3 percent remained underweight (92 percent were in the normal range.) While no comparison data was tracked for non-intervention areas, the project team indicated that there were no new interventions in the program villages during the project period that could have influenced impact.

Knowledge and reported practices showed consistent improvement. Although knowledge related to exclusive breastfeeding was already very high at baseline, nearly all mothers at end-line could state advantages for breastfeeding. Knowledge on complementary feeding also improved; the use of strained rice porridge as a first item in complementary feeding was better in the program group. Knowledge related to the optimal quantity of complementary food rose from 3 to 80 percent, and a similar rise was seen in knowledge related to the nutrient content of complementary foods. Knowledge related to the use of animal products increased threefold, and a twofold increase was seen for knowledge related to the use of pulses. Not surprisingly, knowledge in the non-program areas also improved over the course of the program, since radio broadcasts were not limited to just program villages. This further demonstrates how useful radio is as a wide-reaching communications tool.

Challenges

Sri Lanka Green Friends Environmental Organization is a small NGO working at the grassroots level. To implement a good quality nutrition program, they had to build their capacities in a number of areas (nutrition, IEC and M&E). While this necessitated a slower start, there was excellent adaptation and modification of the program during the early stages. Additions to the project included expert consultants in nutrition and communication to ensure quality radio programs, and addition of one staff member who could implement a strong M&E process.

In the early stages, there was no measurement of the reach of the radio broadcast messages to the general public. This was important to ensure that the radio program concept itself was effective rather than just measuring message retention in the beneficiary group themselves. It is imperative to build in more extensive oversight in the early stages with smaller NGOs and provide technical

advice before project implementation. Language is a challenge for national scale-up, where care must be taken to provide the program in different languages for different regional audiences.

Replicability and Sustainability

This project has demonstrated excellent sustainability. The existing radio programs are available on the website of the Medical Research Institute. The 15 societies established at the beginning of the program are still running, and communities are also expressing their intention to continue these societies in the future. The societies are continuously developing similar programs on their own, and a further 24 societies have been developed in other communities. Radio stations have continued to run the programs with a willingness to do so in the future.

Efforts to further scale-up the program, using support received from other funding agencies, has also been successful. Currently, there are two sponsors for the ongoing radio program and further funding from other agencies would increase the reach in the Tamil-speaking areas also.

ANNEXURES

Annexure 1: Site Visit Information

Pre-visit Information Request Checklist and Discussion Guide - Information to be shared before the visit (to be reviewed at visit):

1. Objectives and Goals of the Project
2. Log Frame
3. Indicators
4. Targets
5. Key outcomes, outputs, inputs and activities of the project
6. Monitoring and Evaluation Plan of the Project
7. Main Indicators used for (i) Monitoring (ii) Evaluation
8. Targets committed to World Bank on the above indicators
9. Baseline Survey Methodology (sample size, survey design, who were the respondents, any control area in the design, and so on)
10. Baseline Report, if available
11. Follow-on survey conducted (methodology of the same, and report if possible)
12. Any other secondary sources of data used to complement primary data and strengthen M&E plan.
13. Data Analysis plan
14. Quarterly Reports
15. Data collection procedures for monitoring indicators
16. Data Quality Problems faced and Data Quality Assurance Procedures
17. MIS Registers/Formats
18. Organization structure for monitoring and evaluation functions

19. Any formative / qualitative research done to assess needs/progress/impact of the project
20. Any documentation/dissemination of the innovation of the project planned/conducted so far
21. What would be the nature of the technical assistance on monitoring and evaluation required by grantee?

Micronutrient Initiative

Site Visit Checklist / Guide

1. Goals and Objectives are time bound
2. Goals and objectives are measurable
3. Indicators are clearly linked to program objectives
4. Indicators capture the processes of innovation adequately
5. Indicators capture inputs, outputs and outcomes
6. All indicators have documented definitions (including numerators, denominators)
7. All indicators measuring services delivered have denominator data to estimate coverage of target populations
8. When needed, indicators can be disaggregated by age group, sex, project catchment area, socio economic categories
9. Indicator definitions are compatible with national/international indicator guidelines
10. Technically sound data sources are identified for all indicators
11. Frequency of data collection is identified for all indicators
12. Frequency of data collection is feasible for all indicators.
13. Baseline values are available for all indicators
14. Baseline survey conducted at start of the program
15. Baseline methodology appropriate in terms of sample size, design,
16. Targets are expressed numerically (and in case of percentages, numerators and denominators are identified
17. Input indicators have at least four targets within the 18 month period
18. Output indicators have at least four targets within the 18 month period
19. Outcome indicators have at least two targets within the 18 month period
20. It is clearly stated whether or not targets include baselines (ie target number = baseline + increment, or only increment)

21. Data dissemination plans are developed and implemented
22. Baseline findings were disseminated in a timely manner
23. Monitoring data available within one month of quarter end
24. Mechanisms in place to disseminate information to program managers
25. There are plans to document innovations and lessons learned from the project
26. Dissemination events/site visits are organized to replicate innovations of project in larger government programs where applicable
27. Information products produced by the project are easily accessible.

Annexure 2: SAR DM Regional Exchange Meeting

The World Bank South Asia Regional Development Marketplace on Nutrition, Regional Information Exchange Meeting, Kathmandu, Nepal, November 24-25, 2010

Key Agenda Items

1. Monitoring and Evaluation: separate and distinct functions with program management
2. Project Overviews
3. Log Frames and SMART objectives
4. Thematic small group work
5. Monitoring
6. Evaluation
7. Logical Framework
8. Designing and Implementing Surveys
9. Data Analysis
10. Qualitative Research
11. Costing
12. Evaluation Methodologies
13. Technical Assistance to Individual Grantees

Annexure 3: Questionnaire for SAR DM Grantees

The World Bank South Asia Regional Development Marketplace on Nutrition

Questionnaire for assessment of implementation challenges faced by World Bank SAR DM grantees and possible determinants of outcomes of nutrition interventions

This questionnaire is being sent out to all the grantees of the World Bank's South Asia Regional Development Marketplace on Nutrition, to assess the implementation challenges faced by them and to better understand the possible determinants of outcomes of these innovative nutrition interventions, as part of the evaluation and documentation of the WB SAR DM.

Based on the responses, it is further proposed to group the grantees into thematic areas of further enquiry and conduct group discussions using teleconference/ VoIP technologies in the next few months. We request you to respond to all the questions, as the collective experience of the 21 grantees will help in understanding the implementation challenges in addressing undernutrition. Please indicate if a particular question is not relevant to your site or implementation experience.

This questionnaire uses the Program Assessment Guide[17] and the Program Documentation Guide[18] as reference frameworks for assessing programmatic issues in addressing nutrition.

The identity of the projects making specific responses will not be disclosed in the final evaluation report, while quoting examples, if the grantee so desires. Please do provide all responses as honestly and as comprehensively as possible.

Please send back the completed questionnaire by email to Ms. Melanie Galvin, Regional Director, Asia, Micronutrient Initiative (mgalvin@micronutrient.org) by the 13th of June 2011.

[17]Pelletier, D., Corsi, A., Hoey, L., Houston, R., Faillace, S. Program Assessment Guide. August 2010, A2Z Project, AED, Washington, DC

[18]Pelletier D, Houston R, Faillace S. Program Documentation Guide. August 2010, A2Z Project, AED, Washington, DC.

Micronutrient Initiative

Section A: Identifying Information

1. Name of the grantee:
2. Title of the project:
3. Country of Implementation:
4. Name of person filling up the questionnaire:
5. Designation:
6. Contact Details:
7. Email:
8. Phone:
9. Skype id:

Section B: Laying the Groundwork

1. Clarifying the problem and the solution

1.1 What is the strength of prior scientific evidence for the intervention undertaken by your project?

❒ Strong Global Evidence ❒Strong Regional / local evidence ❒Some evidence from studies ❒ Weak / no evidence

Please cite some references of the evidence in favour of the intervention that you are implementing

1.2 Does you intervention fit within existing national health and nutrition policy?

❒ Yes ❒No ❒ Not Sure

1.3 If yes, are details of the plan of action available and does the current intervention fit into those plans?

❒ Yes ❒No ❒ Not Sure

2. Goals and associated values

2.1 Were the goals of the project realistically achievable in the timeframe and context?

❒ Yes ❒ No ❒ Maybe

2.2 Were the goals of the project agreed upon by the key stakeholders before the initiation of the project?

❒ Yes ❒ No ❒ Not all Goals ❒ Not all stakeholders were consulted/ agreed

2.3 Did the project have specific, measurable, achievable, realistic and time bound objectives?

❒ Yes ❒No ❒ Some objectives meet the above criteria

2.4 Did the project have a sound log frame/ programme model?

❒ Yes ❒No ❒ Partly

2.5 If yes, which level amongst – inputs, activities & outputs was most out of sync with what was planned?

❒ Inputs ❒Activities ❒ Outputs

2.6 Why do you think those were out of sync with what was planned?

3 Delivery systems

3.1 Who are the people or organizations who delivered the solution to the nutritional problem addressed by the project?

3.2 What processes were key to the delivery of the solution?

3.3 Can you provide any specific example of training of functionaries or their supervisors in the delivery system that particularly benefited the project?

❒ Yes ❒ No

Example/s :

3.4 Can you provide any specific examples of how formative research altered the BCC strategy or key messages?

❒ Yes ❒ No

Example/s:

4. Hard to reach populations

4.1Were there any vulnerable and hard to reach groups within the project's target population?

❒ Yes ❒ No

4.2 Did the intervention reach specifically identified vulnerable and hard to reach groups within the target population?

❒ Yes ❒ No

5. People, roles and responsibilities

5.1Who were the key people at each level of the delivery system whose role was crucial for the intervention to reach those who need it?

5.2 What key roles and responsibilities were assigned to these people?

5.3 Were there technical working groups or task forces within the project?

❒ Yes ❒ No

Section C: Building or strengthening the intervention

6. Needs, Inputs, Activities and System changes

6.1 Can you provide any specific examples of problems with programme management due to logistics issues such as lack of computers for data management, storage space etc?

❒ Yes ❒No

Example/s:

6.2 Can you provide any specific examples of problems due to problems with programme delivery due to logistics issues such as non supply of fortificant, IEC material shortage etc?

❒ Yes ❒ No

Example/s:

6.3Can you provide any examples of a good logistic management system that minimized such problems?

❒ Yes ❒ No

Example/s:

7. Action Planning

7.1 Were implementation problems identified and remedial actions taken?

❒ Yes ❒ No

If yes, please give an example of a remedial action which had most impact?

Section D: Building support systems and the enabling environment

8. Monitoring & Evaluation and Quality Improvement

8.1What critical control points (vulnerabilities) in the delivery system were included in the monitoring & evaluation and quality improvement framework?

8.2 Can you provide any specific examples of how data from the project was used to make any important decisions or mid course corrections?

❒Yes ❒ No

Example:

9. Organizing, leading and managing

9.1 Can you share an example of a good financial management practice that this project adopted?

❒Yes ❒ No

Example:

9.2 Can you share an example of a good human resource management practice that this project adopted?

❒ Yes ❒ No

Example:

9.3 Can you share an example of how advocacy efforts by the project have led to systemic/ policy change in the given context?

❒Yes ❒ No

Example:

9.4 Has the project helped build any new alliances for tackling undernutrition?

❒ Yes ❒ No

9.5Has any new donor funded any aspect of the project or its scale up?

❒ Yes ❒ No

9.6 Has any other organization already taken up key elements of the project strategy for implementation?

❒Yes ❒ No

– End of questionnaire –

Thank you for taking time out to fill the questionnaire. We will get back to you if we need any further information or clarifications. We plan to hold thematic discussions using teleconference/ VoIP technologies in the next few months to understand the implementation issues better. Your participation in these discussions will enrich the contextual knowledge of the implementation challenges in addressing undernutrition, particularly in the South Asian context.

Annexure 4: Thematic Issues Synthesis

Questions For Thematic Discussions

1. Questions for supply side questions

1.1 Building coalitions of buyers - was this a lengthy process? Longer or shorter than you planned or anticipated?

1.1 Do you feel that these are sustainable now that the project is complete?

1.2 What motivates the millers/salt distributers in your opinion?

1.3 What advice would you give someone who wants to start a similar project?

1.4 If there is time, discuss the advocacy for this, what worked, what did not work?

2. Questions for Incentives

2.1 Had you ever implemented a project using incentives before SAR DM? If so, what was your experience and what lessons did you bring to this SAR DM program?

2.2 If no, how did you go about deciding at what level you had to put the incentive?

2.3 What worked well in the incentive process?

2.4 What did not work so well in the incentive process?

2.5 If you had to do this again what would you change about the incentive aspects of the program?

3. Questions for Radio

3.1 How familiar were you with media before you did this program?

3.2 Scripts: How long did it take to decide on content? Write the scripts? Review scripts?

3.3 What was the quality control process?

3.4 Were you able to get the information you needed from radio on broadcast times, reach, other broadcast info?

3.5 What in your opinion was the most difficult element in terms of radio work?

3.6 What are the pluses and minuses of working in a radio based dissemination project?

3.7 Comment on the sustainability of this type of project?

3.8 Listening groups: do you feel they are necessary to the success of using radio to deliver messages?

4. Questions for Government Partnerships

4.1 What were the Pros? Cons?

4.2 Had you planned sufficient time for working with government? Did it take as much time, more time or less time than expected to work together?

4.3 Are there any lessons you would share with others on how to plan for working with government partners optimally?

4.4 In your opinion, was potential sustainability of the program enhanced by working from the outset with government partners?

5. Questions for Men's Involvement /Family Centered Approaches

5.1 How easy was it to involve men in planning/activities/groups?

5.2 What do you feel they added that was unique?

5.3 What were the benefits to the program in getting men involved?

5.4 Do you think their involvement increased sustainability of the program?

5.5 What advice would you give to others who are planning programs with men?

These questions can be adapted for grandmother's involvement as required.

6. Questions for Community Mobilization setting up new structures

6.1 How were participants selected?

6.2 Did the process of setting up this group take as much time, more time or less time than you expected?

6.3 What were the Pros? The cons ? Of using existing groups or developing new ones?

6.4 Were these groups supervised in any way?

6.5 What was most challenging?

6.6 What worked well?

6.7 What advice would you give to others who are planning programs through developing new community structures?

6.8 Do you feel these new groups will be sustainable after the program end?

6.9 Outreach Activities

6.9.1 Did you use existing staff for outreach or train entirely new staff?

6.9.2 What were the biggest challenges for you in using outreach as a tool?

6.9.3 Did you supervise the outreach in any way?

7 Questions related to BCC / IPC (Behavior Change Communication / Inter-Personal Communication)

1.1 Message development: at what stages was the community involved? (example content, visuals, motivation issues etc)

1.2 Communication strategies used- which worked?

1.3 Training for communication skills- was this done? Was this effective?

1.4 Was there supervision in implementation? Was quality of counseling checked; if yes, how?

1.5 In your experience which factors contributed to effective change in behavior?

1.6 What were the biggest challenges related to use of interpersonal communication?

1.7 What advice would you give to someone who wanted to use outreach activities as part of a program?

8 Questions related to developing computer monitoring systems

8.1 Did you have computer expertise within the program staff? If not, how did you find it?

8.2 Did the process of developing this take as much time, more time or less time that you anticipated?

8.3 Was there sufficient time for staff training in use of the computer system?

8.4 Did you have to modify the program during implementation?

8.5 What were the challenges of having a computer monitoring system?

8.6 How do you feel your program benefited from this aspect?

8.7 Is this sustainable beyond this particular grant?

8.8 What advice would you give to someone who wanted to develop a computer monitoring system?