

Evaluation of Infant and Young Children Feeding (IYCF) program

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Abstract: Bangladesh has one of the highest rates of malnutrition in the world with six million malnourished children, 41% stunting, and 16% wasting across a population of 156.5 million. Feeding practices clearly impact nutritional status; breastfeeding is generally widespread in Bangladesh but often initiated late. In 2009, Alive & Thrive Infant and Young Children Program (IYCF), developed community based activities that were started to improve breastfeeding and complementary feeding practices. Breastfeeding was common in Bangladesh in the first 2 years of the baby's life but there was delay in initiation, prelacteal feeding, and non-exclusive breastfeeding in the first 6 months.

Background/Literature Review:

Anemia and malnutrition are considered major public health problems in Bangladesh. The prevalence of anemia in Bangladesh is 35% in pregnant women, 64% in children aged 6-23 months and 42% in children aged 24-59 months. It is estimated that there are more than ten million anemic children in Bangladesh [1]. Anemia in Bangladesh is one of the major contributors to low birth weight, low infection resistance, and poor cognitive abilities and work performance, especially among the poor and the low-income population. Bangladesh has one of the highest rates of malnutrition in the world with six million malnourished children, 41% stunting, and 16% wasting across a population of 156.5 million [2]. Feeding practices clearly impact nutritional status; breastfeeding is generally widespread in Bangladesh but often initiated late. A study there concluded that late introduction of complementary food can lead to stunting. Therefore, the major national feeding recommendation is the immediate introduction of breast milk after delivery and to start complementary feeding at six months of age [3]. The Alive & Thrive Initiative developed a program with the aim to increase awareness of the importance of breastfeeding and improve the practice of complementary feeding within 5 years.

Worldwide, anemia has been shown to have major consequences throughout life cycle; it leads to poor immune function, which causes lower resistance to infections and diseases. It also lowers concentration and overall quality of life, and it causes poor school and work productivity.

In children, in addition to the previously mentioned consequences, anemia increases the risk of child mortality and risk of developing iodine deficiency [1]. Also, malnutrition has serious biological effects such as stunting, which not only affects the height of children but also reduces immunity, school achievements and lifetime earnings [4].

One of the programs supported by Bangladesh Rehabilitation Assistance Committee (BRAC) is the Bangladesh Sprinkles Project and since 2003, multiple

studies have been done to examine the project's effectiveness toward lowering the prevalence of anemia among children 6-24 months old. Sprinkles were given to children either daily or weekly in a certain dose. One study examined the difference between daily versus weekly doses of sprinkles to young children. The study found that both doses significantly improved anemia status and iron level among children. Moreover, children who used the sprinkles and got treated for anemia stayed non-anemic for significantly longer time in both weekly and daily doses groups. Families and caregivers preferred adapting the flexible weekly regimen [5]. Other programs that were supported by BRAC included the Jampular Women's Project (1975), Child Malnutrition Rehab Center and Prevention Program (1978), Oral Therapy Extension Program (1979), and many others. BRAC's long history of developing programs gave them a wealth of experience and resources to cultivate the Alive & Thrive model, which also targeted the same high-risk population as the past programs. [5]

Program Description:

BRAC was founded in 1972 with the aim of improving nutrition. Prior to Alive and Thrive program, BRAC implemented programs to improve children and pregnant women nutrition by providing supplementary feeding. In 1995, Bangladesh Integrated Nutrition Project (BINP) was initiated and funded by World Bank. The project then developed into the National Nutrition Program (NNP) in 2003. With the expansion of BRAC's programs, it recruited volunteer community health workers to visit program beneficiaries in their homes. In these programs, BRAC was the major Non-Governmental Organization (NGO) implementing the program throughout Bangladesh. In 2007, The Mainstreaming Nutrition Initiative (MNI) was initiated as a second BRAC effort to reduce malnutrition by supporting appropriate feeding practices in BRAC's existing maternal, newborn, and child health (MNCH) program. In 2009, Alive & Thrive Infant and Young Children Program (IYCF), developed community based activities that were started to improve breastfeeding and

complementary feeding practices. Breastfeeding was common in Bangladesh in the first 2 years of the baby's life but there was delay in initiation, prelacteal feeding, and non-exclusive breastfeeding in the first 6 months [5].

The Alive & Thrive program was conducted in Bangladesh and targeted 5.4 million infants and children less than 2 years. The program missions are 1) to increase the percentage of exclusive breastfeeding from 43 to 65% in the 1st 5 months of baby's life, 2) to reduce stunting prevalence from 43% to 39% among children less than 5 years, 3) to reduce prevalence of anemia from 50% to 45% among children 6-23 months within 5 years, and 4) to reach 8.5 million mothers of children under 2 years of age with intensive community interventions and mass media campaigns [5].

Bangladesh's National Communication Framework and Plan focused on the WHO four high-impact actions when delivering IYCF services. The four impacts are: 1) breastfeeding should start within first hour of life, 2) exclusive breastfeeding in the first 6 months of life, 3) focus on quality of complementary food and appropriate feeding practices, and 4) increase awareness of hand washing during food preparation and feeding child. Alive and Thrive research indicated that mothers' perceptions had the main role in child nutrition, so they use mass media, message, and materials to correct and improve mothers' perceptions [5].

Project Design

Alive & Thrive with BRAC staff created a community-based model for IYCF with 4 core interventions to overcome barriers and improve practices, which are home visits, antenatal and postnatal care sessions, health forum, and community mobilization sessions. First year was spent in preparation of the strategies of interventions, including reviewing existing resources, hiring program organizers to supervise the cascade of IYCF activities at the field level and organize the home visits and households with children under 2 years of age program. Also, IYCF basic training provided 3 days training lectures to the frontline workers before they went to the field.

The staff was divided into 3 groups: Shasthya Shebikas (SSs) who were responsible for home visits, Pushti Kormis (PKs) who were promoters of infant and young child feeding, and Shasthya Kormi (SKs) who were responsible for improving feeding and breastfeeding practices through health forum. [5]

There were five main stakeholders

1. Government of Bangladesh: the government was represented by the Ministry of Health and Family Welfare, which oversaw the 2003 -2010 Health, Nutrition, and Population Sector Program. IYCF was one of the nutrition intervention programs the ministry provides as a part of the Essential Services Package. Ministry of Local Government and the Institute of Public Health Nutrition participated in overseeing this program. [6]
2. Health professionals in Bangladesh including

Bangladesh Pediatric Association and the Obstetrical and Gynecological Society of Bangladesh, which both were a huge support and a rich resource for breastfeeding initiatives.

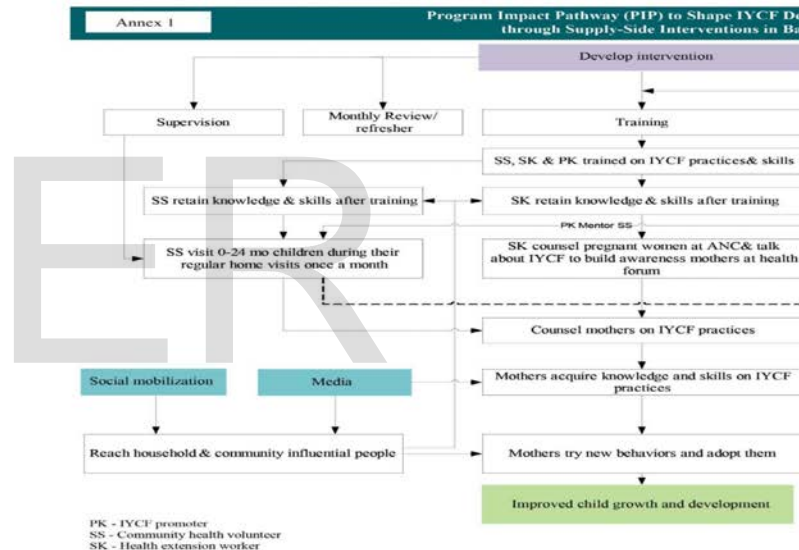
3. Research and training institutes. [6]
4. Non-governmental organizations: BRAC was responsible for implementing the community-based IYCF activities under the Gates-funded Alive & Thrive five-year program beginning in 2009. [6]
5. International organizations: UNICEF has been an essential backbone in the development and initiation of the IYCF activities instrumental to the development of the national IYCF strategy [6]. Also, the World Bank is the primary funder of the National Nutrition Program.

• Timeline of the program

- 2009-2014

• Program impact pathway

Example of a program impact pathway of one component



Program Evaluation:

The Alive & Thrive model filled gaps in the MNCH program in management of breastfeeding problems and promotion and support for improved breastfeeding and complementary feeding practices. IYCF programs have new communication channels provided by BRAC, which provided a card with PK contact information to effectively enhance communication between households and field workers. Program continuous monitoring followed volunteers/workers dropout and messages delivery to households. The Program held routine monthly meetings and refresher sessions to volunteers and workers to improve the quality of services.

The IYCF organization evaluates the effectiveness of their programs at all levels (communities, service providers, and project manager) by making detailed reports and discussing these reports routinely at national and

district levels to improve the impact of their programs. The effectiveness of the programs was evaluated by 4 key-behaviors based on communication objectives and evaluation and monitoring indicators: 1) time of initiation of breastfeeding immediately after birth with no pre or post lacteal food, 2) exclusive breastfeeding within first 6 months of life, 3) age appropriate nourishing and complementary feeding (quantity, quality, diversity, and responsive) for children from 6-24 months, and 4) hand washing with soap before preparing and feeding complementary foods [6-7].

Table 1. Some Key Behaviors Objectives and Indicators in IYCF Program

Communication Objectives
<p>Key Behaviour 2 - Exclusive breastfeed</p> <p>By the end of 2013,</p> <ul style="list-style-type: none"> Mothers exclusively breastfeeding their infants 0-6 months of age increased from 43% to 60% in programme areas At least 50% of communities have trained CHWs or volunteers support mothers to exclusively breastfeed for 6 months (including position, attachment, how to express breastmilk and how to assess and maintain milk supply, and dangers of BMS), in programme areas
Communication Objective
<p>Key Behaviour 3 - Age appropriate n (quantity, quality, diversity and resp</p> <p>By the end of 2013,</p> <ul style="list-style-type: none"> At least 50% of mothers and caregivers of 6-24 months of age are consuming age-appropriate quantity of diversified (at least 4 food groups) semi-solid or solid family foods in programme areas At least 50% of communities have trained CHWs or volunteers who support mothers to feed age-appropriate quantity of diversified (at least 4 food groups) semi-solid or solid family foods to children 6-24 months of age in programme areas An additional 10% of mothers and caregivers of 6-24 months of age feed animal foods at least once daily in programme areas

Source: Institute of Public Health Nutrition, Directorate General of Health Services, Ministry of Health and Family Welfare. (2009). National Communication Framework and Plan for Infant

and Young Child Feeding in Bangladesh [6]

The program could be considered successful to a great extent. Around two million mothers with children under 2 successfully received educational and counseling sessions provided by IYCF in Alive & Thrive Program. Table 2 shows the nutritional improvement in Bangladesh between 2007 and 2011.

Strengths and weaknesses of the program

Compared to previous programs, IYCF through the Alive and Thrive Program actually improved infants' and children's feeding practices in Bangladesh in areas covered under the program. Also, funds were continuously available, which helped the program improve and expand. Moreover, this validated intervention program was strengthened by technical support and problem solving ideas. On the other hand, the program evaluation did not include any measurements of the iron deficiency anemia prevalence although it was one of the main goals and was an important outcome of the program.

Table2: The difference in some important nutritional indicators in Bangladesh between 2007 and 2011.

Population
Population under 5 years of age (0-59 months)
Prevalence of stunting among children under 5 (0-59 months)
Prevalence of underweight among children under 5 (0-59 months)
Prevalence of wasting among children under 5 (0-59 months)
Prevalence of anemia among children aged 6-59 months
Prevalence of anemia among women of reproductive age (15-49 years)
Prevalence of thinness among women of reproductive age (15-49 years)
Prevalence of children aged 0-5 months exclusively breastfed
Prevalence of breastfed children aged 6-23 months receiving a minimum a

Source: USAID (2014). Bangladesh: Nutrition Profile.

Retrieved

from: https://www.usaid.gov/sites/default/files/documents/1864/USAID-Bangladesh_NCP.pdf [8]

Cost-effectiveness

Breastfeeding is one of the most cost-effective practices worldwide. Poor breastfeeding practices lead to a higher healthcare and health services costs due to lower child immunity and higher risk of morbidity. Moreover, the added costs of not breastfeeding include the cost of long-term consequences including obesity and other chronic diseases. The higher risk of developing diseases among infants who are not breastfed means that more attention will be required from mothers or caregivers, which will lower the quality of their work.

Various studies have shown high cost-benefits for such programs. However, only small amount of money is allocated to them. UNICEF has a budget with a total of \$270,490,000 for its 2006-2010 country programs, and nutrition programs represent only 23% of this amount. It is important to know that IYCF is funded with a small

percentage of UNICEF's total nutrition budget: around \$72,000/year, or only 2% of the budget related to nutrition programs and interventions. [7-8]

Future Directions And Conclusion:

The key points to determine the success of the program include the program input, output, and outcomes and impact. The input determines the quantity of services provided while the output determines the coverage and quality of services. The outcomes and impacts shows the changes in IYCF practices, standard and indicators as well as the nutritional status in Bangladesh.

Developing an emergency plan for infants' and children feeding is of paramount importance to improve effectiveness of the program. Other important changes that might improve effectiveness include: 1) recruiting more volunteers and workers to be able to expand coverage areas and serve more communities, 2) Providing incentives to volunteers linked to good performance, and 3) using the results and outcome measurement as guidance for making revisions to the program.

Because nutrition and poverty in Bangladesh are widespread and closely linked, Bangladesh should be striving towards a universal social protection system by progressively scaling-up programs in line with financial and administrative capacity. Sustaining support for Improved IYCF program will involve several factors: Government and BRAC cooperation is one of the most important factors where government implements nutritional policies and expand coverage and BRAC helps with the funding. The other important factor is involving the community in delivering the program. The community may provide the required human resources as volunteers to deliver the program. Also, population demand and acceptance of the services are of paramount importance. Table 3 shows the current nutritional projects in Bangladesh.

Table 3: Current Nutritional Projects in Bangladesh

Communication Objectives	Monitori
Key Behaviour 2 - Exclusive breastfeeding thr	
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Source: USAID (2014). Bangladesh: Nutrition Profile. Retrieved from: https://www.usaid.gov/sites/default/files/documents/1864/USAID-Bangladesh_NCP.pdf [8]

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