Logframe Model as analytical tool for the Brazilian Breastfeeding and Feeding Strategy

modelo lógico como ferramenta de análise da estratégia amamenta e alimenta brasil

josivânia santos tavares1 0000-0003.3210-9687
daniele de souza vieira² 0000-0002-5747-9513
tayanne kiev carvalho dias² 0000-0002-6184-9281
mauren teresa grubisch mendes tacle³ 0000-0001-8928-3366
neusa collett⁴ 0000-0002-4795-0279
altamira pereira da silva reichert⁴ 0000-0002-4295-6698

abstract

objective

this study aimed to analyze the implementation of the brazilian breastfeeding and feeding strategy in a brazilian northeast capital.

1 prefeitura municipal de recife, estratégia saúde da família. recife, pe, brasil.
2 universidade federal da paraíba, centro de ciências da saúde, programa de pós-graduação em enfermagem. av. cidade universitária, s/n., castelo branco, 58051-900, joão pessoa, pb, brasil. correspondência para/correspondence to: ds vieira. e-mail: <daniele.vieira2015@gmail.com>.
3 universidade estadual de londrina, departamento de enfermagem, programa de pós-graduação em enfermagem. londrina, pr, brasil.
4 universidade federal da paraíba, departamento de enfermagem em saúde coletiva, programa de pós-graduação em enfermagem. joão pessoa, pb, brasil.

article based on the dissertation of js tavares, entitled “análise da estratégia amamenta e alimenta brasil em uma capital do nordeste”. universidade federal da paraíba, 2016.

como citar este artigo/how to cite this article

Methods
This exploratory research uses a qualitative approach that was served with five tutors and three managers related to the strategy. The approach elaborated a graphic representation of the problem tree of the Brazilian Breastfeeding and Feeding Strategy, and subsequently, a diagram with the strategy structure was developed per the components of Logframe model.

Results
The study identified weaknesses on the information shown in official documents from this strategy as well as principal issues in the implementation. Using the Logframe Model, the research proposed actions to modify this reality.

Conclusion
The Logframe Model is an important management instrument that can contribute to strengthening and expanding the Brazilian Breastfeeding and Feeding Strategy. Therefore, it can increase breastfeeding and healthy complementary feeding rates to reduce infant mortality and morbidity.

Keywords: Breast feeding. Child health. Complementary feeding. Primary health care. Program evaluation.

R E S U M O

Objetivo
Este estudo tem por objetivo analizar a implementação da Estratégia Amamenta e Alimenta Brasil em uma capital do Nordeste brasileiro.

Métodos
Trata-se de pesquisa exploratória, com abordagem qualitativa, realizada com cinco tutores e três gestores envolvidos com a referida Estratégia. Elaborou-se uma representação gráfica da árvore de problema da Estratégia Amamenta e Alimenta Brasil e, com isso, construiu-se o diagrama com a estruturação da Estratégia de acordo com os componentes do Modelo Lógico.

Resultados
Foram identificadas fragilidades nas informações dos documentos oficiais da Estratégia, bem como problemas na sua implementação. A partir do Modelo Lógico foi possível propor ações para a modificação dessa realidade.

Conclusão
O Modelo Lógico é uma importante ferramenta de gestão, que pode contribuir para fortalecer e expandir a referida Estratégia, a fim de aumentar os índices de aleitamento materno e alimentação complementar saudável, com vistas à redução da morbimortalidade infantil.


I N T R O D U C T I O N

Healthy eating during childhood has benefits that impact the child’s growth and development as well as disease prevention. Thus, providing the child with adequate nutrition is extremely important to avoid problems with health and nutrition [1,2].

Worldwide, millions of children die before they reach the age of five years, especially in developing countries. There are a number of causes, and most can be avoided with simple, inexpensive, and feasible strategies. Therefore, one of the objectives of the Millennium Declaration proposed by the United Nations in 2000 was to increase breastfeeding rates to reduce the rate of child mortality by two-thirds [3].

According to the World Health Organization (WHO), less than 40.0% of children are breastfed exclusively up to six months of age. About half of the deaths of children under five years old are directly or indirectly related to malnutrition;
25.0% of these are underdeveloped and 6.5% are overweight or obese [4].

In 2015, the Política Nacional de Atenção Integral à Saúde da Criança (PNAISC, National Policy for Holistic Attention to Child Health) was established under the Sistema Único de Saúde (SUS, Unified Health System). Its purpose is to guide and improve child health services through seven main strategies. Among these are the promotion, protection, and support of breastfeeding. The Estratégia Nacional para Promoção do Aleitamento Materno e Alimentação Complementar Saudável (National Strategy for the Promotion of Breastfeeding and Healthy Complementary Nutrition) in the SUS – Estratégia Amamenta e Alimenta Brasil (EAAB, Brazilian Breastfeeding and Feeding Strategy), [5] deserves special consideration.

The EAAB proposes to transform professional practices based on critical reflection focusing on the work process [6]. To improve quality of care for children under two years of age, the EAAB aims to include the promotion of healthy nutrition practices in the routine of Unidades Básicas de Saúde (UBS, Basic Health Units), encouraging activities to promote breastfeeding and healthy complementary nutrition skills, and prioritizing the competency and abilities of health professionals. Its implementation is geared toward efficiently reaching the objectives of the proposal, through such initiatives as training of facilitators and tutors in the UBS and in workplaces, monitoring and follow-up, and certification in the strategies described above [7].

To assess the implementation of this strategy and to describe its interventions, a Logframe Model (LM) was considered and proposed to organize the components of the program and to link them to the expected results through the formulation of hypotheses and ideas that support intervention. The development of the program LM is useful in that it clarifies the underlying theories. It is also essential for organizing a system to evaluate the effectiveness of the program, because it allows for the identification of deficiencies or problems that may interfere in performance [8].

Considering that the fundamental character of the EAAB is to encourage and support breastfeeding and healthy complementary nutrition in the UBS, and the relevance of these initiatives to reduce infant morbidity and mortality, this study aims to analyze the implementation of the Brazilian Breastfeeding and Feeding Strategy in a capital city in the Northeast of Brazil, through the creation of an LM based on the perceptions of tutors and managers involved in the program.

**METHODS**

This exploratory study used a qualitative approach, conducted between April and July 2016, with tutors and managers involved with the EAAB program in the city of Recife, Pernambuco, Brazil, which has four health units in the program that are certified by the Ministry of Health [9].

To understand the implementation of the EAAB program, an LM was created with reference to the technical information from other LM programs [8], with adaptations to the characteristics of the EAAB. Empirical data were collected in three stages: documentary analysis, interviews with managers and tutors, and workshops with managers for the building and revision of the LM.

Documentary analysis consisted of surveying and critically reading all of the official documents related to the program, which are available on the website of the Ministry of Health. These include Administrative Rule nº 1,920, dated September 5, 2013, which establishes the National Strategy for the Promotion of Breastfeeding and Complementary Healthy Nutrition in the Unified Health System-Breastfeeding and Nutrition Program in Brazil [6]; EAAB 2015 Implementation Manual [7]; EAAB
technical notes on certification in 2015 [10]; and Instructions for the 2015 EAAB deployment plan [11].

The second stage consisted of interviews with three managers and five tutors. The managers participating in the study were those who were directly responsible for the implementation of the EAAB at the municipal level. Their positions corresponded to the coordination of Política de Saúde da Criança (Child Health Policy) as well as the Política de Aleitamento Materno e da Área Técnica de Alimentação e Nutrição (Policy on Maternal Breastfeeding and the Technical Field of Diet and Nutrition). A semi-structured interview script was used with the managers, as suggested by Cassiolato & Gueresi [8]. In both the analysis of official documents and the interview script for managers, the questions utilized were related to identifying problems, describing the program strategy (objective, target audience, and activities) that aims to tackle the problem identified and the expected results, and analyzing the context that may affect program performance. This approach aimed to identify the components of the elements present in the LM.

For the five tutors, a script was formulated based on the EAAB Implementation Manual [7], as well as the following guiding questions: In your opinion, what are the weaknesses and potentialities that can be identified in the EAAB? Talk about them. How does the EAAB contribute to your professional practice? The interviews were recorded and then transcribed in full. Tutors and managers who were on leave or vacation during the period of data collection were excluded; data collection was completed according to the criterion of sufficiency of information [12]. The empirical material was systematized and analyzed using topical analysis [13].

The importance of carrying out these initial steps as preparation for building the LM should be highlighted, taking into account that the analysis of the official Ministry of Health documents identified shortcomings related to the goals of the Program Strategy and the factors that can influence the pursuit of the desired results. Therefore, the interviews made it possible to advance the construction of the LM by filling these gaps.

In the third stage, a workshop was held with managers to discuss possible solutions to the problems that had been identified. The same managers who participated in the second stage participated in the third stage, with the goal of gaining the information necessary to complete construction of the LM. This stage was operationalized based on the following components [8]:

1) Explaining the problem and of the basic references. The necessary elements for the construction of the LM were presented, based on the identification of these elements and the comparison between the information extracted from the analysis of the official EAAB documents and the interviews with tutors and managers. Based on this, the central problems were defined, and possibilities were suggested for solving them, taking into account their causes and consequences. Subsequently, the objectives, target audience, and beneficiaries of the program were defined and used to design a problem tree (Figure 1).

2) Structuring the program to achieve results. The identified elements were organized to structure them and visualize the reach of the expected results through a diagram. Parallel columns were created, as structured in Figure 2, to point out the activities (third column) proposed by the official documents and managers. For each activity that was agreed upon, a product was created (fourth column) that could be offered to the beneficiaries of the Program in the form of goods or services. Intermediate expected results (fifth column), which should lead to changes in the causes of the problems, were then identified for each of these products. Finally, the building phase of the LM was concluded, allowing the
Figure 1. Graphic of challenges affecting the EAAB. Recife (PE), Brazil, 2016. 

Note: SISVAN: Sistema de Informação de Vigilância Alimentar e Nutricional.
intermediate results to lead to the final result (last column), which should be directly related to EAAB’s objective and reflected in the solution to the problem.

3) Defining the contextual factors. To finalize the construction of the LM, the relevant contextual factors, based on the interviews, were identified and analyzed as to whether they favor or jeopardize the development of the activities of the EAAB program in the municipality.

To analyze the consistency of the logical linkages of the components of the LM, the Logic Model Consistency Test was used [8]. According to this test, each proposed activity was analyzed along with the associated products geared toward the EAAB beneficiaries, and subsequently, the intermediate and final results. Thus, it was possible to identify the consistency of each activity proposed in the LM.

The research was approved by the Research Ethics Committee of the Universidade Federal da Paraíba under opinion 005/16, and it was conducted according to the required ethical standards. The participants signed the Terms of Informed Consent.

RESULTS

The three managers interviewed were all female: two doctors and one nutritionist. The five tutors interviewed were female nurses. Regarding their education and training, two said they had more than 10 years of experience, and the others said they had more than 20 years. Most had worked in Basic Care for between 10 and 16 years, and only one had worked for more than 20 years. Regarding the duration of work in the same Family Health Unit (FHU), three reported having worked in the same unit for between five and eight years, and two had been working in the same unit for more than 10 years. Thus, the tutors interviewed were experienced with the issue of breastfeeding and complementary nutrition, which was favorable for the beneficiaries of the EAAB.

Preparation and analysis of the EAAB Logframe Model

The LM that was constructed is a graphical representation of the structure of the EAAB program in the municipality under study. Through the LM, it is possible to visualize the program’s potential to fit the reality on the ground regarding the execution of the program strategies.

To build the LM, it was necessary to first develop the EAAB problem tree (Figure 1), to identify the main problems encountered in the implementation of the program in the municipality.

At the center of the figure, it can be observed that these problems were, namely, the low prevalence of exclusive maternal breastfeeding among children under six months old, the short duration of the total period of breastfeeding, and the premature introduction of food and unhealthy food habits. In addition, the failure to record data in the Sistema de Informação de Vigilância Alimentar e Nutricional (SISVAN, Food and Nutrition Information System) was identified as a central problem.

According to the analysis, the target audience of the EAAB includes children, and direct beneficiaries are children under two years old.

The diagram described in Figure 2 explains the structuring of the EAAB, to present the results and linkages of each component of the LM. Six elements have been structured into columns: resources, operations, activities, products, intermediate results, and final results. Their respective components, as identified in the phase of data collection for the construction of the LM, are also shown.

DISCUSSION

The EAAB aims to promote reflection regarding health care practices for children from
Figure 2. Logframe Model of the EAAB in Recife (PE), Brazil, 2016.
Definition of goals
Definition of partners
Social Facilities

Accompaniment and support of the Basic Health Units

Fulfilment of the NBCAL

Evaluation of work processes

Reduction in practices that decrease breastfeeding and complementary nutrition

Identification of obstacles to the work process in localities

Reduction in the use of pacifiers and in the premature introduction of infant formula

Children receiving exclusive maternal breastfeeding up to six months old and supplemented breastfeeding up to two years old, with a healthy diet

Monitoring system

Regular updating of the SISVAN

Monitoring of the Program Strategy

Continual updating of the information System of the Basic Care program

Access to indicators about the population

Improved quality of service and of work processes

Improved quality of information in the system

Self-monitoring by the team

Reflection by the team about their work processes

Critical analysis of the Basic Health Unit and visibility indicators

Reflection by the team about their work processes

Figure 2. Logframe Model of the EAAB in Recife (PE), Brazil, 2016.

birth to two years old, and train professionals through an exchange of experiences toward transforming professional practices, based on a critical look at the work process [6].

For this, it is necessary to understand the reality of the working process of professionals, to identify existing problems and the way by which the people involved implement activities in promoting breastfeeding and healthy supplementary nutrition in health care for children. Thus, the problem tree is a useful tool for the evaluation of the implementation of EAAB through LM.

The issue of the maintenance of Exclusive Maternal Breastfeeding and the introduction of healthy complementary foods were present in all the analyses carried out to build the LM, and were much discussed in the workshops, demonstrating that the promotion of breastfeeding is still fragile in Basic Care [14].

Nutrition during childhood influences biopsychosocial development and is an important indicator of childhood health [15]. Thus, the monitoring of a child's nutritional status and the factors that influences it are important and must be discussed by all the people who are involved in the child's care, considering the alarming negative results related to childhood nutrition.

A study [2] identified a low rate of exclusive maternal breastfeeding in infants younger than six months old, and that found these infants are more likely to be affected by diarrhea. Therefore, it is important to evaluate the strategies developed by the Ministry of Health that aim to improve the nutritional status of children through health services, and to seek solutions for the problems that have been identified.

It is worth mentioning that several root causes related to the central problems affecting breastfeeding were identified in the workshops. However, other issues that may interfere with breastfeeding have been pointed out in literature, such as the use of pacifiers, bottles, and water [2]; the socioeconomic profile of the mother [16]; and the lack of training of professionals in the promotion of breastfeeding [17].

A study found that there is a high consumption of foods that are not recommended (coffee, soda, biscuits/snacks). This raises concern because it has both an immediate impact on children's health and a long-term impact throughout life [18]. Another study found that the premature introduction of food occurs in an inappropriate way for several reasons, such as family beliefs, insufficiency of breast milk, and advice from professionals themselves [19]. Therefore, there are complex factors causing the problems identified, including the political commitment of the leaders of the municipality, the support of professionals, and the lack of program financing.

Regarding the consequences of the problems that were identified, it is important to point out that child malnutrition is related directly to the quality of food; the lack of access to indicators relating to infant nutrition in the SISVAN makes it impossible to monitor the nutritional status of children.

The lack of access to indicators because of the absence of data in the SISVAN, which is a problem that was identified by managers but that was not included in the official EAAB documents, has a direct impact on the program. This is because the SISVAN allows for an analysis of the dietary and nutritional situation of the population registered in the FHU, as well as perform follow-up; therefore, it is characterized as a collaborative tool for activities to promote health [16].

Research that analyzed the Brazilian Breastfeeding Network, a precursor of the EAAB, identified the SISVAN as a complicating factor, because the majority of the municipalities evaluated there were no typists to record the data in the system [14]. Another study found that the system is not being used in all its potentiality [16].
These concerns are corroborated by a study that evaluated the use of the SISVAN in Primary Health Care. The study found that those responsible for this information system recognize its significant contribution to the monitoring of the nutritional health of children, but also identified certain difficulties in its operationalization, such as insufficiency and the lack of equipment maintenance, work overload, and the lack of trained professionals to collect and record data [20].

Moreover, there are significant difficulties in gathering information on health services, especially where there is great demand on the provider and a lack of access to a computer to compile the data. The literature also highlights the unevenness in reliability of information, underreporting, and errors in data collection, recording, and data entry [21].

Therefore, it is necessary for managers and professionals to take responsibility for collecting and entering the data into the system, as adequate monitoring can generate consistent information on the dietary and nutritional situation of children under two years old. The literature is emphatic in stating that to strengthen the SISVAN, it is necessary to invest in training for Unified Health System managers and professionals regarding their importance to the program [22].

A study [15] confirms this assertion by reporting that when training was conducted for the operationalization of the SISVAN web, FHU nurses were thereafter committed to using the system data in their practice.

Regarding the representation of the LM of the EAAB and its components, it is noted that the necessary resources, including non-budgetary ones, to carry out the proposed activities depend on the budget, principally with regard to training workshops for the tutors and in the Basic Health Units. However, all projects depend on municipal planning to make them feasible, in terms of the presence of coordinators, tutors, management support, and interaction/linkages between municipal policies and program strategy. It is also necessary for the availability of resources related to setting goals and investing in partnerships, social facilities, and consistent recording of information.

To implement the EAAB in a municipality, managers must develop a Plan for Implementation of the Program Strategy. This must be done prior to the training workshops for tutors and must follow certain steps such as selecting an EAAB coordinator, making a situational diagnosis, defining which health units must be prioritized and choosing Basic Care health professionals, workshop planning, proposals for monitoring the performance of tutors, organizing the certification process, and presenting the plan to the municipal manager [7].

According to the participants of this study, it is necessary that there are regular meetings between managers and tutors, to determine what obstacles may interfere in the process of implementing the EAAB. These meetings are also necessary in defining strategies and addressing problems. Other suggestions were the creation of a plan for childcare, staff involvement, and the coordination of activities that promote, protect, and support breastfeeding and healthy complementary nutrition.

Thus, these activities can improve indicators, prevent chronic diseases, reduce morbidity, and improve the care provided by the team. These elements are consistent with those involved in the organizational dimension of the work, through the definition of flows and guidelines regarding service and other aspects of the work shared by all members of the professional team [23].

Activities to evaluate work processes were also proposed, to identify barriers at the local level and improve the quality of care and work at Basic Care. This is important because self-assessment and planning help promote self-reflection on the work process and its various elements, and identify problems and formulate strategies to help improve practices
and relationships within Basic Care [24]. These activities have the potential to achieve the intermediate results mentioned above when implemented and integrated into health services. The results are a fundamental step in reaching the final intended result of the EAAB, that is, to increase the exclusive maternal breastfeeding indices for infants up to six months old and healthy supplementary nutrition indices for children up to two years old.

One limitation of the study is related to the absence of higher level city managers with greater decision-making power related to issues surrounding the EAAB, in the area under study. An example is the Basic Care manager. There is also a shortage of literature on Logframe Models related to the present topic.

**CONCLUSION**

The Logframe Model that was built made it possible to analyze the EAAB, in the city under study. The Logframe Model uncovered fragility in the information contained in the official documents covering with the program strategy, as certain fundamental elements, such as the products that the proposed activities should generate, which were needed to structure the LM were not found.

The main problems identified in the EAAB were the low rates of exclusive maternal breastfeeding for children under six months old; short duration of total breastfeeding; premature introduction of food and unhealthy eating habits; and a lack of inputting of data into the SISVAN. The main causes of these problems and the primary factors that compromised the development of the activities planned by the health teams and, consequently, the implementation of the EAAB in the city were a lack of support from management and an inadequate infrastructure within health facilities.

Therefore, it is necessary to develop activities in Basic Care that address these challenges. It is hoped that the results may contribute to the strengthening and expansion of the EAAB in the municipality studied here, as well as serve as a reference for the consolidation of this strategy in other Brazilian municipalities, to increase the rates of breastfeeding and healthy complementary nutrition among children under two years old.

**CONTRIBUTORS**

JS TAVARES and APS REICHERT also participated in all stages of preparation of the manuscript, from the conception and design to approval of the final version for publication. N COLLET and MTGM TACLA collaborated in the conception, analysis, and interpretation of the data and the approval of the final version for publication. DS VIEIRA and TKC DIAS collaborated in the analysis and interpretation of the data, as well as revision and approval of the final version for publication.

**REFERENCES**


Received: May 23, 2017
Final version: November 9, 2017
Approved: April 10, 2018