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## Milk supplementary feeding programs and the Brazilian food and nutrition security agenda

*Programas de suplementação alimentar com leite e a agenda de segurança alimentar e nutricional brasileira*

### Abstract

The aim of the current study is to describe milk supplementary feeding programs held in Brazilian states and capitals, as well as to discuss their pertinence and compliance with the national food and nutrition security agenda. **Methods:** the current programs were mapped (through government websites) and described (through electronic forms sent to public administration bodies). Reflections about the herein described programs were based on the II National Food and Nutrition Security Plan and on the National Food and Nutrition Policy. **Results:** In total, 14 state and 5 municipal programs were mapped. Six (6) programs were described, in total: 4 state programs (*PAA-Leite* in Minas Gerais and Pernambuco; *VivaLeite* in São Paulo; *Provisionamento Alimentar Institucional* in the Federal District) and 2 municipal programs (*Leve Leite* in São Paulo; *Leite do Meu Filho* in Manaus). These programs were evaluated based on the use of social registry databases for planning and monitoring purposes; on the convergence towards public policies focused on family farming; and on the convergence towards the agenda for the promotion of adequate and

health eating among children younger than 2 years. **Conclusions:** *PAA-Leite* and *Provimento Alimentar Institucional* are the closest programs to the assumptions and challenges set by the food and nutrition security agenda. *VivaLeite*, *Leve Leite* and *Leite do Meu Filho* are the farthest programs from this agenda.

**Keywords:** Supplementary Feeding. Food and Nutrition Programs and Policies. Food and Nutrition Security. Child Nutrition.

### Resumo

O presente trabalho descreve os programas de suplementação alimentar com leite nos estados e capitais brasileiras e discute sua pertinência e adequação perante a agenda brasileira de segurança alimentar e nutricional. **Métodos:** Realizou-se mapeamento (via *websites* dos governos) e descrição (via formulário eletrônico a órgãos da administração pública) dos programas existentes. À luz de recortes do II Plano Nacional de Segurança Alimentar e Nutricional e da Política Nacional de Alimentação e Nutrição, foram feitas reflexões acerca dos programas descritos. **Resultados:** Foram mapeados programas em 14 estados e cinco capitais. Foram descritos seis programas, quatro estaduais (PAA-Leite, em Minas Gerais e Pernambuco; VivaLeite, em São Paulo; Provimento Alimentar Institucional, no Distrito Federal) e dois municipais (Leve Leite, em São Paulo; Leite do Meu Filho, em Manaus). Estes foram avaliados quanto ao uso de bases de cadastro social no planejamento e monitoramento; aproximação das políticas de incentivo a agricultura familiar; aproximação da agenda de promoção da alimentação adequada e saudável às crianças menores de dois anos. **Conclusões:** O PAA-Leite e Provimento Alimentar Institucional são os que mais se aproximam dos pressupostos e desafios da agenda de segurança alimentar e nutricional. O VivaLeite, Leve Leite e Leite do Meu Filho são os que mais se distanciam desta.

**Palavras-chave:** Suplementação Alimentar. Programas e Políticas de Nutrição e Alimentação. Segurança Alimentar e Nutricional. Nutrição da Criança.



## INTRODUCTION

Social policies focused on food and nutrition (FN) and on food and nutrition security (FNS) issues define supplementary feeding programs as the ones aimed at providing food to complete (with calories and/or specific nutrients) the diet of a given population group in order to recover its nutritional status and/or to avoid nutritional deficiencies.<sup>1,2</sup> The first social programs focused on supplementary feeding in Brazil were launched in the 1940s, when the federal government launched the Social Security Food Services (SAPS - *Serviços de Alimentação da Previdência Social*), whose first experiences mainly focused on the Brazilian working class within a context of intense development of labor policies in the so-called '*Era Vargas*'.<sup>3,4</sup>

A specific model of supplementary feeding program emerged in the international and national scenarios back in the 1950s, namely: milk distribution programs focused on mothers and children. These programs were rapidly incorporated by the Brazilian State, which was significantly influenced by international food aid agencies that donated or traded US and Canadian milk production surpluses.<sup>5,6</sup> The School Snack Campaign (in 1955) and the Food Assistance and Education Program for Pregnant and Nursing Women (in 1956) stood out among these programs, which were exclusively, or not, focused on milk distribution.<sup>6-8</sup>

Milk supplementary feeding programs remained in the Brazilian public agenda until the late 1990s, since the national scenario was marked by the intensification of social inequalities and by the prevalence of hunger and malnutrition in the population. The Health Nutrition Program (from 1975 to 1985), the National Milk Program for Poor Children (from 1986 to 1991), the 'Milk is Health' Program (from 1993 to 1997) and the Program to Combat Nutritional Deficiencies (from 1998 to 2001) stood out during this period.<sup>7,9</sup> State and municipal milk distribution programs were expanded in parallel to actions taken at federal level; these programs also focused on mothers and children.<sup>9</sup>

Since the beginning, most of these programs shared a common feature, namely: the scarcity of monitoring and evaluating actions to allow the identification of their real impacts as social policies focused on FN and FNS. Among the initial experiences, it is worth mentioning a study focused on evaluating programs implemented in São Paulo City in the 1980s, which had positive impact on the mean milk intake by beneficiary children, as well as significant coverage among children younger than 1 year who were born in families presenting lower socioeconomic status.<sup>10</sup> In addition, the study focused on evaluating the 'Milk is Health' Program, which was implemented in Rio de Janeiro City in the 1990s, has found positive impacts on the weight recovery of beneficiary children, mainly among the ones who recorded the highest initial deficits.<sup>11</sup>

The FNS perspective started playing a leading role in defining the Brazilian public agenda in the 2000s due to the wide civil society movement that had started in the 1980s.<sup>12</sup> The federal milk supplementary feeding programs developed until then were replaced by conditional cash transfer programs.<sup>7</sup> There was also the implementation of the Food Acquisition Program in the form of Incentive to Milk Production and Consumption (*PAA-Leite*), mainly in the Northeastern Region and in Minas Gerais State. This program was based on an intersectoral policy focused on encouraging the purchase of products produced by family farming in order to combat poverty in rural environments and to promote the human right to adequate food.<sup>13</sup>

Despite the transformations observed at national level, state and municipal milk supplementary feeding programs still seem to be part of local social policies, which makes it possible to question their alignment with the national FN and FNS agenda.

In light of the foregoing, the aim of the current study was to investigate how milk supplementary feeding programs are related to food and nutrition (FN) and food and nutrition security (FNS) policies implemented in Brazil. The following specific aims were adopted: describing the occurrence, as well as operational and management elements, of milk supplementary feeding programs developed in Brazilian states (including the Federal District) and state capitals; and addressing the pertinence and adequacy of these programs in the current Brazilian FNS agenda.

## METHODS

Two methodological axes were herein adopted: (1) original research based on primary data about state and municipal programs; and (2) documentary analysis of milk supplementary feeding programs based on the current national FNS agenda.

The first methodological axis was composed of 4 stages (Figure 1). The first stage comprised the elaboration of an electronic form (in the Google Forms tool), whose items aimed at gathering information about operational and program management aspects, in compliance with the Law on Access to Information (N. 12.527 / 2011). A standard e-mail, which made a brief presentation of the research and had the link to enable participants to fill the form out, was prepared to be sent to potential respondents.

The second stage consisted in searching for information about the incidence of milk supplementary feeding programs at the official websites of the governments of each of the 27 Brazilian states (including the Federal District) and 26 state capitals to enable mapping the

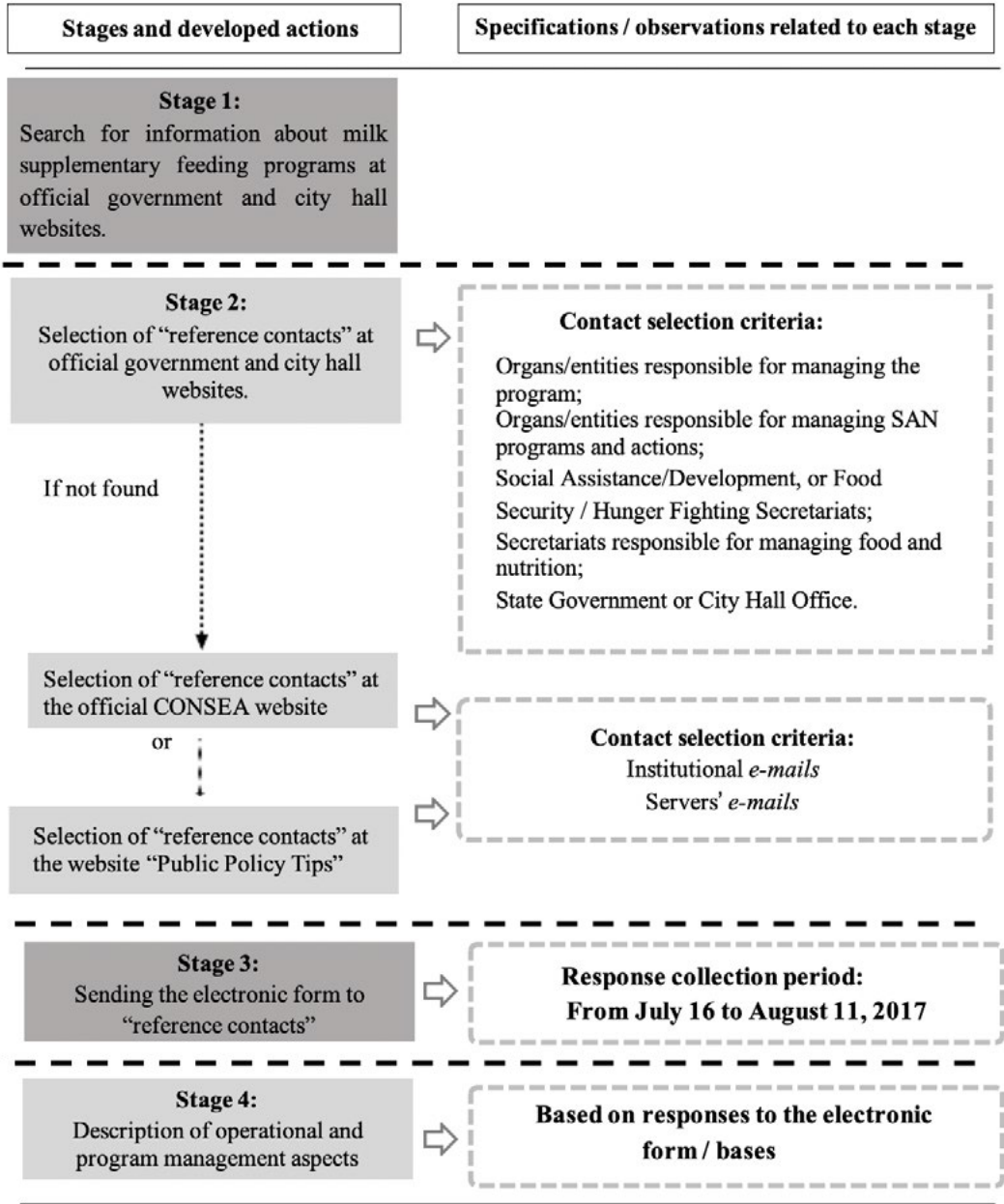


existing state and municipal programs; as well as in identifying public administration contacts who managed the programs in order to send them the electronic form, based on criteria described in Figure 1. Two additional tools were used when it was not possible finding the aforementioned contacts at the official sites, namely: the contact list of the State FNS Councils at the official website of the National Council for Food and Nutrition Security (CONSEA - *Conselho Nacional de Segurança Alimentar e Nutricional*); and the public managers' contact database available at the website '*Dicas de Políticas Públicas*' (Public Policy Tips).

The third stage consisted in sending the electronic forms and in collecting the information provided by the herein selected reference contacts. A different reference contact of the state or county in question was selected (in compliance with criteria described in Figure 1) whenever the first e-mail bounced. The e-mails were sent to the selected responders and their responses were collected from July 16 to August 11, 2017.

The fourth and final stage comprised the description of operational and management aspects of the programs, based on information collected through the electronic form. The normative bases mentioned by respondents (one of the items that composed the electronic form) were analyzed to investigate whether they were updated, as well as the consistency of participants' responses. The search was conducted at official electronic portals of national, state and municipal legislations.

**Figure 1.** Methodological route adopted to collect information about the incidence, as well as about operational and management aspects of milk supplementary feeding programs developed in Brazilian states and capitals.

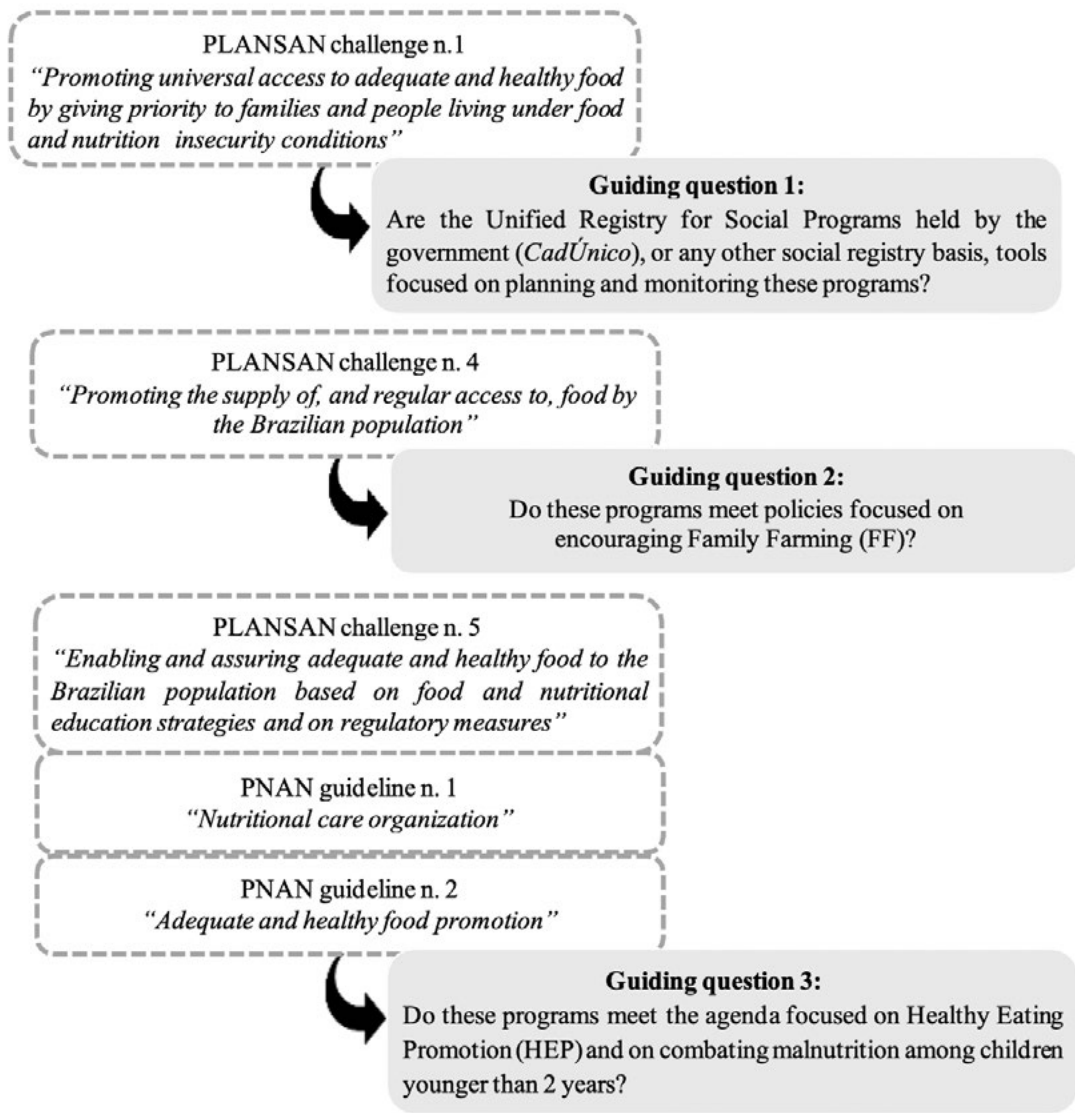


With respected to the second methodological axis, it is necessary explaining that the meaning of the herein adopted term “agenda” was based on Secchi’s definition of “institutional agenda” within the scope of public policies; the term is understood as the set of topics to be addressed by the public power.<sup>14</sup> Such adoption is justified by the fact that the references (described below) selected in the documentary analysis derived from official documents that presented commitments and actions already taken by the federal government in FN and FNS policies.

The second methodological axis was composed of 2 stages. The first stage comprised the selection of 2 documents to compose the “clipping” of the current Brazilian FNS agenda: the II National Plan for Food and Nutrition Security (PLANSAN 2016-2019) and the National Food and Nutrition Policy (PNAN).<sup>215</sup> The II PLANSAN was selected because it is the main instrument used to plan, implement and manage the National Policy on Food and Nutrition Security (PNSAN), as well as because it was the legislation in force at the time the current study was developed. On the other hand, PNAN was selected because it acknowledges and adopts the interface between the FN and FNS agendas implemented in the Brazilian Unified Health System (SUS) and in the national territory, respectively.

Specific topics in each of these documents, which, *a priori*, were seen as close to the milk supplementary feeding programs, were selected in the following stage. Three (3) out of the 9 major challenges (challenges 1, 4 and 5) proposed by PLANSAN 2016-2019, as well as 2 out of the 9 PNAN guidelines (guidelines 1 and 2), were herein selected. Three (3) “guiding questions” were formulated based on these five documentary clippings; these questions were used to guide the reflections about the adequacy and pertinence of the herein described programs to the current Brazilian FNS agenda (Figure 2). These reflections will be presented in the discussion section of the current manuscript.

**Figure 2.** Guiding questions, based on 2016-2019 PLANSAN challenges and on PNAN guidelines, used in reflections about the adequacy and pertinence of milk supplementary feeding programs.



RESULTS

Searches performed at official state government websites have found information about supplementary feeding programs in 14 out of the 27 national federative units (Rio Grande do Norte State alone had 2 different programs). Eleven (11) states (9 in the Northeastern Region, as well as in Minas Gerais and Tocantins states) presented reference to programs developed based on the Food Acquisition Program in the form of Incentive to Milk Production and Consumption (*PAA-Leite*). Reference to programs developed based on specific models was found in other 3 states (São Paulo, Paraná and Federal District).

Information about milk supplementary feeding programs implemented in five capitals (Belém, Boa Vista, Manaus, São Luís and São Paulo) was found at the official websites of their respective city halls. Unlike state programs, which are mostly concentrated in the Northeastern region, these programs mainly focus on the Brazilian Northern region and appear to adopt specific models.

Twenty-one (21) participants responded to the electronic form, 11 were public administration servers at state level, whereas 10 were public administration servers at municipal level (from the state capitals). Two (2) responses referring to the states (one reported a program focused on meeting special dietary needs and the other one was responded in duplicate) and 3 referring to state capitals (two reported programs aimed at meeting special dietary needs and the remaining one was responded in duplicate) were initially excluded from the study. Next, 5 other responses referring to the states and 5 referring to state capitals were also excluded, since servers of their respective national units reported lack of municipal milk supplementary feeding programs.

At the end of this process, 6 responses indicated the implementation of milk supplementary feeding programs: 4 at state level (Paraíba, Minas Gerais, Federal District and São Paulo) and 2 at state capital level (Manaus and São Paulo). Descriptions of state and municipal programs (based on responses given to the electronic forms and on the normative bases in place) are presented in Tables 1 and 2, respectively. Critical reflections about the current Brazilian FNS agenda were based on these programs.



**Table 1.** Characteristics of state milk supplementary feeding programs whose information were collected through the electronic form. Information fully provided by respondents are highlighted in *italics*. The remaining information were collected by consulting the normative program bases currently in force.

State	Paraíba	Minas Gerais	São Paulo	Federal District
Program Name	Leite da Paraíba - Paraíba's Milk (PAA-Leite)	Leite pela Vida - Milk for life (PAA-Leite)	Projeto Estadual do Leite - State Milk Project (VivaLeite)	Provimento Alimentar Institucional: Pão, Leite e Derivados - Institutional Food Supply: Bread, Milk and Derivatives
Body in charge	<i>State Secretariat for Human Development (SEDH – Secretaria de Estado do Desenvolvimento Humano)</i>	<i>State Secretariat for the Development and Integration of Northern and Northeastern Minas Gerais State (SEDINOR -Secretaria de Estado de Desenvolvimento e Integração do Norte e Nordeste de Minas Gerais);</i>  <i>Institute for the Development of Northern and Northeastern Minas Gerais State (IDENE - Instituto de Desenvolvimento do Norte e Nordeste de Minas Gerais).</i>	<i>State Department of Social Development (SEDS – Secretaria Estadual de Desenvolvimento Social).</i>	<i>State Secretariat of Labor, Social Development, Women, Racial Equality and Human Rights (SEDESTMIDH - Secretaria de Estado de Trabalho, Desenvolvimento Social, Mulheres, Igualdade Racial e Direitos Humanos); Subsecretariat for Food and Nutrition Security (SUBSAN - Subsecretaria de Segurança Alimentar e Nutricional).</i>
Launching year	1997	2004	1993	2011
Normative bases currently in force	Answered as nonexistent	<b>Law:</b> nº 10.696/03. <b>Decree:</b> nº 7.775/12. <b>Resolutions:</b> CONAB nº37/09; <i>GGPAA nº 44/11, nº 74/15 e nº 72/15.</i>	<b>Decrees:</b> nº 44.569/99; nº 45.014/00; nº 51.679/07; nº 55.053/09; nº 55.620/10 e nº 57.225/11. <b>Resolutions:</b> SAA nº 24/00; SS nº 12/07 e SEDS nº13/15.	<b>Law:</b> nº 4.601/11. <b>Decree:</b> nº 33.329/11. <b>Resolution:</b> SEDEST nº 51/12
Beneficiaries	<i>Families living under nutritional and food conditions, who are beneficiaries of Bolsa Família; priority is given to elderly individuals, to disabled persons and to children up to the age of 7</i>	<b>Consumer beneficiaries:</b> Families registered in <i>CadÚnico</i> . Priority is given to those whose profile meet the criteria required by <i>Bolsa Família</i> ; Individuals are assisted by the receiving units of the program (According to GGPAA Resolution n. 72/15). <b>Supplier Beneficiaries:</b> Farming families, agrarian reform settlers, foresters, indigenous people and members of remnant communities of rural quilombos and of other traditional peoples and communities who comply with Law 11.326 / 06; Cooperatives / organizations that hold the Declaration of Aptitude (DAP) to the National Family Agriculture Program (PRONAF), or other required documents.  Women must comprise at least 30% of the suppliers (GGPAA Resolution n. 44/11).  Priority is given to (I) cooperatives and organizations that provide pasteurized milk; and (II) persons registered in <i>CadÚnico</i> , women, organic or agroecological producers, traditional peoples and communities (SESAN Resolution n. 74/15).	<i>Low-income children in the age group 6 months to 5 years and 11 months, whose families are registered in CadÚnico (SEDS Resolution n. 13/15); Low-income elderly individuals older than 60 years registered in CadÚnico (SEDS Resolution n. 13/15).</i>  Priority is given to children in the age group 6-23 months and to elderly individuals older than 65 years (Decree n. 45.014 / 00).  Priority is given to families whose monthly per capita income corresponds to up to one quarter of the minimum wage (SEDS Resolution n, 13/15).	<b>Consumer beneficiaries:</b> Individuals living under social vulnerability or food insecurity conditions, who are registered in <i>CadÚnico</i> and are served by entities and programs focused on both producing and regularly providing meals to users (Law n. 4601 / 11, Decree n. 33.329 / 11).  Units and programs must be registered in the Social Assistance Council (CAS - <i>Conselho de Assistência Social</i> ) or affiliated to the FD Department of Education (SEDEST Resolution n. 51 / 12).  <b>Supplier Beneficiaries:</b> Farming families whose products are acquired in compliance with Law n. 4.752 / 12, which launched the Agricultural Production Acquisition Program (PAPA-FD).  The acquisition of family farming products by the program is preferential (non-mandatory) (Decree n. 33.329 / 11).
Distributed product	<i>Whole pasteurized milk.</i>	<i>Non-fortified fluid milk.</i>	<i>Fluid milk fortified with iron, and vitamins A and D (Decree n. 44.569 / 99).</i>	<i>Non-fortified fluid milk; fortified fluid milk; milk formula; dairy products.</i>

**Table 1.** Characteristics of state milk supplementary feeding programs whose information were collected through the electronic form. Information fully provided by respondents are highlighted in *italics*. The remaining information were collected by consulting the normative program bases currently in force.

State	Paraíba	Minas Gerais	São Paulo	Federal District
Use of monitoring / evaluation indicators	<i>No</i> Normative bases do not clearly refer to the use of monitoring and evaluation instruments and/or indicators.	<i>No.</i> Normative bases do not clearly refer to the use of monitoring and evaluation instruments and/or indicators.	<i>Anthropometry.</i> The program advocates for the evaluation of beneficiary children, under the supervision of health professionals, every four months (Decree n. 44.569 / 11).	<i>Technical visits are payed to the units that prepare and distribute meals in order to check whether, or not, they serve the population in a proper way (SEDEST Resolution n. 51/12).</i>
Evaluation actions / experiences	<i>Quarterly workshops</i> (not described or detailed by the respondent).	"Evaluation of the Milk Acquisition Program and of Dairy Milk Consumer Beneficiary Families" (2011). It results from the cooperation between MDS and IDB. New program impact assessment is in progress (carried out by UFMG).	<i>Unknown.</i>	<i>Evaluation of optimal acceptability by the served population (not described or detailed by the respondent).</i>

**Table 2.** Characteristics of municipal milk supplementary feeding programs whose information were collected through electronic form. Information fully provided by respondents are highlighted in *italics*. The remaining information were collected by consulting the normative program bases currently in force.

City	Manaus	São Paulo
Program Name	Programa de Nutrição Infantil Leite do Meu Filho - My Child's Milk Nutrition Program	Programa Leve Leite – Take Milk Program
Body in charge	Municipal Health Office (SEMSA - Secretaria Municipal de Saúde)	Municipal Education Department (SME - Secretaria Municipal de Educação)
Launching year	2011	1995
Normative bases in force	<b>Decrees:</b> n° 845/11; n° 1.155/11; n° 3.089/15.	<b>Decree:</b> n°57.632/17.
Beneficiaries	<i>Children in the age group 0 to 4 years and 11 months. Beneficiary children must be registered in the municipal health network (Decree n. 845/11).</i>	<i>I)Children enrolled in the Municipal Education Network: Age group between 4 months and 6 years, whose families are registered in CadÚnico; With disability, until the 5th year of Elementary School  I) Children who are not enrolled in the Municipal Education Network: Age group between 4 months and 6 years, whose families are registered in CadÚnico (this service has not yet started, it remains under construction.)</i>
Distributed product	<i>I) 0-6-month-old children: baby formula type 1; II) 6-36-month-old children: baby formula type 2; III) Children in the age group 36 months to 5 years: instant whole milk.</i>	<i>I) Children in childcare and preschool age: 4-12-month-old babies: baby milk formula; Children older than 1 year: whole milk powder.  II) Children with disabilities, who are enrolled from the 1st to the 5th year of Primary School: whole milk powder (Decree n. 57.632 / 17)</i>
Use of monitoring / evaluation indicators	<i>Yes (not described or specified by the respondent).</i> Normative bases do not provide clear indication of the use of monitoring and evaluation instruments and/or indicators.	<i>No.</i> Normative bases do not provide clear indication of the use of monitoring and evaluation instruments and/or indicators.
Evaluation actions / experiences	Not answered.	<i>We do not have record of any previous study. Inspired by this new Decree, we intend to make partnerships to develop a longitudinal study focused on medium/ long-term evaluations.</i>



DISCUSSION

The use of CadÚnico or other databases as planning and monitoring tools

*CadÚnico* was implemented in 2003 based on the unification of cash transfer programs in the *Bolsa Família* Program. It was broadly consolidated by the ‘Brazil Without Extreme Poverty’ Plan in 2011; thus, it is the main instrument used to identify and characterize Brazilian families living under vulnerability conditions.<sup>16</sup> Besides income, *CadÚnico* also incorporates other poverty, food and nutrition insecurity (FNI) determinants such as access to basic services, schooling, gender, and membership in traditional and specific population groups.<sup>17</sup> It is the main database supporting the elaboration, implementation and articulation of more than 20 social programs. In addition, according to PLANSAN 2016-2019, *CadÚnico* is one of the main mechanisms used to elaborate and monitor FNS policies in the national territory.<sup>15</sup>

Three (3) state program models (*PAA-Leite*, *Viva Leite* and *Provimento Alimentar Institucional*) and the program developed in São Paulo City (*Leve Leite*) adopt *CadÚnico* as instrument to select their beneficiary consumers. However, only *PAA-Leite* and *Provimento Alimentar Institucional* focus their normative guidelines on GPTEs (target audience); thus, they are close to the broadest perspective of vulnerability acknowledged in challenge 1 proposed by PLANSAN 2016-2019. *Leite do Meu Filho* program appears to be the furthest away from the assumptions of the current FNS agenda in this regard, since it does not use any social register instrument, or even social vulnerability indicators, to select its beneficiaries; thus, it ends up mostly assuming the biological vulnerability paradigm as determining factor for child malnutrition.

A second aspect of *CadÚnico* lies on the possibility of using it as instrument to evaluate the impact of the programs. The technical study entitled “Mapping of Food and Nutrition Insecurity” (MAPAINSAN) was developed by the Interministerial Chamber of Food and Nutrition Security (CAISAN). The aforementioned study crossed information about *CadÚnico*, and about the Food and Nutrition Surveillance System (SISVAN) of the Ministry of Health, in order to map territories and population groups living under significant vulnerability conditions in different Brazilian counties.<sup>18</sup>

None of the programs included in the present study adopts *CadÚnico* as evaluation instrument. None of the programs adopt other evaluation instruments or procedures in their normative bases, except for *VivaLeite*, which performs quarterly anthropometric evaluations of beneficiary children. Although the herein reported studies about *PAA-Leite* in Minas Gerais State produced evidence of program management processes, they also depend on external agencies to enable evaluation activities. The scarcity of intrinsic and systematic evaluation actions can be understood as a challenge to the knowledge about impacts of milk supplemen-



tary feeding programs on the FNS agenda, mainly if one takes into consideration the large volume of resources allocated to the implementation of such programs.

### Approach to policies focused on encouraging family farming

The concept of “healthy and sustainable food systems” adopted by PLANSAN 2016-2019 clearly mentions the need of broadly acknowledging the dimensions of, and actors involved in, the FNS. Besides food supply, which was strongly prioritized by FN policies developed up to the late 1990s, FNS programs and actions have also incorporated food production and distribution as key dimensions to be addressed. The relevance of this topic is made explicit in PLANSAN 2016-2019, since it is associated with 3 of the plan’s challenges (3, 4 and 5), which make up the macro-challenge known as “Promotion of Healthy and Sustainable Food Systems”.<sup>15</sup>

The food production model based on family farming (FF) started playing a leading role in the national FNS agenda, since it is associated with most topics related to this macro-challenge. FF accounts for approximately 70% of the staple food consumed in the country, for 75% of the labor force and for 85% of the total agricultural establishments; however, it accounts for only 25% of the national agricultural area and for less than 20% of federal resources allocated to the farming sector.<sup>12</sup>

The high FNI indices found in rural environments result from the intense disproportion in land distribution and resource allocation between FF and agrobusiness models. According to data from the 2013 National Household Sample Survey (PNAD), approximately 35% of the investigated rural households live under FNI conditions (14% moderate or severe), whereas 20% of the urban households presented some FNI level (6.8% moderate or severe).<sup>19</sup>

Among different FF-development policies that help promoting FNS in rural environments, agricultural marketing policies based on public procurement stand out in Challenge 4 proposed by PLANSAN 2016-2019. If one takes into consideration that all milk supplementary feeding programs evaluated in the present study are based on the public food procurement model, it is worth reflecting about the contribution of each of these programs to encourage local FF and to promote FNS in rural environments.

Only models such as *PAA-Leite* and *Provimento Alimentar Institucional* aim at encouraging FF and productive inclusion in rural areas. Both models understand farming families as direct beneficiaries, fact that overcomes the exclusive acknowledgement of final consumers as the program’s target audience. However, some operational differences between the two models should be taken into consideration. *PAA-Leite* advocates for the public procurement of milk coming from FF alone, whereas the Institutional Food Supply gives preference, but not exclusivity, to farming families in supplier selection processes. The failure in acknowledging



producers as beneficiaries, as well as the lack of any mechanisms to enable (or to make exclusive) the public procurement of food coming from FF, allow identifying significant misalignment among programs such as *VivaLeite*, *Leve Leite* and *Leite do Meu Filho*, if one takes into consideration challenge 4 proposed by PLANSAN 2016-2019.

### Approach to the agenda focused on promoting adequate and healthy food for children younger than 2 years

Breastfeeding (BF) and complementary feeding (CF) are widely acknowledged as strategies focused on promoting health, as well as on coping with child malnutrition and mortality issues. According to estimates, breastfeeding can avoid 13% of deaths resulting from preventable causes among children younger than 5 years, whereas adequate and healthy CF can prevent 6% of these deaths. These effects appear to be even more significant if one takes into consideration the group with the lowest socioeconomic status, whose lack of BF increases by more than 7 times the risk of death among children younger than 1 year.<sup>20</sup> BF and CF also play an important protective role in several cases, since they have direct impact on children’s health, as well as on the development of several chronic non-communicable diseases in adulthood.<sup>21</sup>

Based on the World Health Organization (WHO) and UNICEF guidelines set in the 1970s, the Ministry of Health advocates for the practice of exclusive BF until the baby turns 6 months old, as well as for continued BF until the baby is at least 2 years old, along with the introduction of quality CF, as basic assumptions for healthy eating promotion (HEP) among children.<sup>21</sup> A series of strategies adopted by SUS to promote, protect and support BF and CF have been implemented in different fronts; among them, one finds the regulation of food and product marketing and the qualification of actions focused on Basic Health Care.<sup>21-24</sup>

Despite the great advances made since then, the Brazilian BF and CF scenario remains far away from the recommended one. According to the II Survey on Breastfeeding Prevalence in Brazilian Capitals and in the Federal District (2009), the national mean exclusive BF time was 54 days after the baby was born, and the mean likelihood of maintaining this practice at the 180<sup>th</sup> day of life was close to 10%.<sup>25</sup> Based on the history and on the herein presented national panorama, it is necessary thinking about the adequacy and contributions of milk distribution programs to HEP and FNS agendas focused on children younger than 2 years.

Among the herein evaluated programs, *Leve Leite* and *Leite do Meu Filho* appear to be the furthest from this agenda. The indiscriminate supply of baby formulas to children younger than 6 months can be understood as an action taken to discourage BF and even healthy CF, since these formulas can be seen as substitutes of breast milk and of preparations recommended by the Food Guide for Children Younger than 2 years.<sup>23</sup>

It is worth emphasizing that the early and inadequate food introduction in children's diet is associated with increased risk of having these children developing health issues such as diarrhea, respiratory infections, food allergy, micronutrient deficiency and malnutrition.<sup>20</sup> In the case of *Leve Leite*, attention should be paid to the focus of the program on children belonging to the lowest socioeconomic level (low income), since the protective effects of BF on child morbimortality seem to be even stronger in this population.

Another important aspect specifically associated with the program implemented in Manaus refers to the fact that it is managed by the Municipal Health Department and developed within the framework of Basic Health Units - the same health sector and facilities responsible for implementing the Brazilian Breastfeeding and Feeding Strategy at 3 governmental spheres. In response to municipal projects focused on the massive distribution of artificial formulas and milks to children younger than 2 years, the Ministry of Health published a technical note in 2014, which disapproved such practice and supported the application of the national HEP agenda in this population.<sup>26</sup>

Although *Viva Leite* does not advocate for the distribution of breast-milk substitutes and is not focused on children younger than 6 months, it is necessary reflecting about the program. Based on secondary data about the quarterly monitoring of more than 25,000 children from 2003 to 2008, Augusto and de Souza have shown that the beneficiary children recorded the highest mean weight-for-age z-scores, as well as that the higher the initial weight deficit, the more intense the weight recovery.<sup>27</sup> Although it is possible identifying the positive impacts of the program on acute malnutrition indicators, it is essential questioning whether this program (as well as the two programs mentioned above) can discourage the practice of continued BF until the child turns 2 years old, or even if it can be less effective than other HEP actions focused on this population.

Similarly, it is worth reasoning about the allocation of milk distributed by *PAA-Leite* and by *Provisionamento Alimentar Institucional* to school units that serve children younger than 2 years old in the public education system (in the case of the first program) and in daycare centers associated with the Secretariat of Education or accredited to the Board of Education (in the case of the second program). It is also possible questioning whether milk distribution by such programs would not discourage the practice of BF and CF in these places and go against HEP and FNS agendas focused on this specific age group.

The present study has limitations that should be taken into consideration at the time to analyze the results and the herein held discussions. The first limitation refers to the fact that, for several aspects of interest, the information collected in participants' responses to the electronic form presented low detail level or were even outdated. Such condition may be due to respondents' low level of involvement with the operationalization and management of local



programs, or to possible flaws in form structure. This limitation could be minimized by consulting the updated normative bases of each program.

Another important limitation, which can also be taken into consideration as a reflection about the transparency of, and respect for, the provisions of the Law on Access to Information, refers to the great difficulty in collecting information about FN and FNS programs and actions at the official state government and city hall websites, which lack structural standardization. Similarly, the difficulty in finding the contacts of public administration bodies and agents has significantly affected the description of a larger number of milk supplementary feeding programs.

Despite its limitations, the present study provides subsidies to decision makers focused on developing FN and FNS policies, mainly to the ones who are directly involved with supplementary feeding programs, as well as encourage the debate about the alignment of these programs with such agendas. The aforementioned debate should include the possible contradictions presented by these programs towards the agenda focused on healthy eating promotion in the Brazilian population; as well as the scarcity of actions focused on evaluating the impact of these programs on target populations, since such impact is a fundamental aspect of the public policy cycle.

## CONCLUSION

Based on descriptions and reflections made in the present study, it is possible concluding that, among the evaluated milk supplementary feeding programs, *PAA-Leite* and *Provisionamento Alimentar Institucional* (in the Federal District) are the programs that best meet the challenges proposed by the current food and nutrition security agenda, whereas the state program *VivaLeite* (in São Paulo) and the municipal programs *Leve Leite* (in São Paulo) and *Leite do meu Filho* (in Manaus) are the farthest models from it.

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**Collaborators**

Vessoni AT and Jaime PC participated in all research stages, from study design to the revision of the final version of the manuscript.

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